Environmental Impact Report

State Clearinghouse (SCH) #2019120515

Patrick Henry Drive Specific Plan
Santa Clara, CA

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MIG

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1. INTRODUCTION

This Draft Program Environmental Impact Report (Draft EIR) has been prepared by the City of Santa Clara in accordance with the California Environmental Quality Act (CEQA)[1] and associated CEQA Guidelines[2] to describe the potential environmental consequences of the proposed Patrick Henry Drive Specific Plan.[3] This Draft EIR is intended to serve as an informational document for use by public agency decision makers and the public in their consideration of the proposed Specific Plan. If the EIR is certified and the Patrick Henry Drive Specific Plan adopted, the EIR will be used by City and agency staff to help implement the Plan.

The Patrick Henry Drive Specific Plan is a "specific plan," which is one of several policy and regulatory tools used by the City of Santa Clara to implement the City's 2010-2035 General Plan. A specific plan implements the General Plan through the establishment of more detailed policies, regulations, and actions specifically focused on the Patrick Henry Drive Specific Plan Area. Because the Plan is a specific plan, State law requires the document to be consistent with the 2010-2035 General Plan, including the goals, policies, objectives, and standards contained in the General Plan. The Draft EIR briefly summarizes or describes specific policies, regulations, or actions proposed by the Patrick Henry Drive Specific Plan where such policies, regulations, or actions are relevant to the environmental analysis as set forth in the EIR.

In practical terms and consistent with its legal status as a specific plan, the Patrick Henry Drive Specific Plan is intended to be an "action plan" and focuses on tools needed to achieve the community's desires for the Plan Area, including updates to zoning and design standards, economic and fee incentives, street and sidewalk enhancements, and infrastructure improvements. To help implement these actions, City staff is investigating potential financing tools that could be applied in the Plan Area during Plan implementation.

In order to avoid repetition and provide a manageable environmental document, this Draft EIR does not duplicate the detailed contents of the Patrick Henry Drive Specific Plan document. The reader is encouraged to review the entire Plan, or the sections that interest the reader, for more detail. Pursuant to section 15150 (Incorporation By Reference) of the CEQA Guidelines, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference.

[1]The California Environmental Quality Act (CEQA) is codified in section 21000, et seq., of the California Public Resources Code.

[2]The CEQA Guidelines are set forth in sections 15000 through 15387 of the California Code of Regulations, Title 14, Chapter 3.

[3]The terms "Patrick Henry Drive Specific Plan," "PHD Specific Plan," "Plan" (when distinguished from any other plan), "Specific Plan," and "project" as used in this EIR all refer to the current draft Patrick Henry Drive Specific Plan.

The entire draft Patrick Henry Drive Specific Plan and this Draft EIR are posted at:[1]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

1.1 EIR PURPOSE AND INTENDED USE

The Plan Area is located within the City of Santa Clara, and the City is the Lead Agency[2] for this EIR, which has been prepared pursuant to all relevant sections of CEQA. The EIR is intended to inform decision makers, other responsible agencies, and the general public of the proposed Patrick Henry Drive Specific Plan and its environmental consequences. The EIR has been prepared by the City of Santa Clara to identify, evaluate, and assist the City in mitigating the potential environmental consequences of the Plan. The EIR is also intended to provide the CEQA-required environmental documentation for the adoption of the Patrick Henry Drive Specific Plan and associated Santa Clara General Plan amendments and zoning code changes.

The EIR is intended to serve as a public information and disclosure document identifying and analyzing those environmental impacts resulting from the Patrick Henry Drive Specific Plan that are expected to be significant, and describing mitigation measures and alternatives that could avoid or reduce significant adverse impacts and increase beneficial effects.[3] Such impacts and needed mitigations are discussed in this EIR to the level of detail necessary to allow reasoned decisions about the project and conditions of project approval. As a result of the information in this EIR, the Santa Clara City Council may act to approve or deny the various project actions, and/or to establish requirements or conditions of approval considered necessary to mitigate identified project impacts on the environment.

As the Lead Agency, and as appropriate under CEQA, the City of Santa Clara also intends the EIR to serve as the CEQA-required environmental documentation for consideration of this project by other Responsible Agencies[4] and Trustee Agencies[5] (e.g., California Department of Transportation, California Department of Fish and Wildlife) which may have limited discretionary authority over future site-specific development proposals facilitated by the Plan. In addition, as a program EIR (see below), the City may rely on this EIR in evaluating and acting on

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

[2]The CEQA Guidelines define the “Lead Agency” as the public agency that has the principal responsibility for carrying out or approving a project.

[3]CEQA Guidelines section 15149(b).

[4]Under CEQA Guidelines, the term "Responsible Agency" includes all public agencies, other than the Lead Agency, which have discretionary approval authority over aspects of the project for which the Lead Agency has prepared an EIR.

[5]Under CEQA Guidelines, the term "Trustee Agency" means a state agency having jurisdiction by law over natural resources affected by the project which are held in trust by the people of California. Trustee Agencies in California include the California Department of Fish and Wildlife (CDFW), State Lands Commission, California Department of Parks and Recreation, and (in limited circumstances) the University of California. (CEQA Guidelines section 15386.)

subsequent, parcel-specific development proposals in the Plan Area, to the extent that such future reliance on this EIR is permitted by CEQA and the CEQA Guidelines.

1.2 PATRICK HENRY DRIVE SPECIFIC PLAN

The Patrick Henry Drive Specific Plan is the culmination of a community-based process designed to transform underutilized office and industrial parks into a compact, pedestrian-friendly, transit-oriented development. This process actively engaged local residents, business and property owners, developers, neighborhood representatives, elected and appointed officials, and others during a two-year planning process.

The approximately 73.59-acre Plan Area encompasses the northwestern part of the City and is generally bounded by the City of Sunnyvale and Calabazas Creek to the west, the San Francisco Public Utility Commission (SFPUC) right of way ("Hetch-Hetchy right-of-way") to the north, Great America Parkway to the east, and Mission College Boulevard to the south. In 2019, the City designated this area as a Priority Development Area (PDA) for inclusion in the Association of Bay Area Governments (ABAG) *Plan Bay Area 2050*, which is the next iteration of *Plan Bay Area* and will be adopted in fall 2021.

As used in this EIR, the terms "Patrick Henry Drive Specific Plan," "Plan" (when distinguished from any other plan), "Specific Plan," and "project" are intended to be synonymous and refer to all aspects of the current draft Patrick Henry Drive Specific Plan,[1] including all the approval actions required to implement the Plan. This definition is consistent with CEQA Guidelines section 15378, which defines a "project" as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."

The following summarizes the major components of the Patrick Henry Drive Specific Plan. A more detailed description is included in Draft EIR chapter 3 (Project Description).

Specific Plan Vision (section 3.2.1)

The overarching vision for Santa Clara City North is to develop as a complete community of distinct, complementary neighborhoods, each with its own unique identity built on placemaking, and an attractive public realm. As one of these distinctive neighborhoods, the Patrick Henry Drive (PHD) Specific Plan Area is set to transform into a new urban residential neighborhood composed of a fiscally sustainable mix of land uses including high-density residential and supportive services complemented by the full provision of necessary infrastructure.

Embraced by both the City and area stakeholders, higher-density residential development can help address the City's housing needs and create a vibrant and diverse community. The PHD Specific Plan targets the development of up to 12,000 residential units at full build-out, with densities ranging from 65 to 250 dwelling units per acre. A minimum of 15 percent of all units within the Plan Area will be affordable by deed restriction to households making at or below 80 percent of the area median income.

[1] March 2021 Public Review Draft Specific Plan.

These land use and density changes will provide a net positive impact on the area's fiscal sustainability. New development will contribute to significant growth in the land value and property tax base and increase sales tax revenue resulting in fiscally positive land uses and reduced per capita service costs. Not only will high-density development, in the form of 5-to 25-story residential and commercial buildings, result in more efficient land utilization, but it will also help protect established neighborhoods from development pressures.

New development will be complemented by an attractive street environment complete with a highly walkable pedestrian realm and innovative mobility options. In this PHD Specific Plan, new parkland and open space standards will be established at 22 percent of the total PHD Specific Plan Area. Full build-out of the site is anticipated to occur over the next 20 years, as the development responds to the fluctuations of local and global market conditions.

Planning Principles (section 3.2.2)

The following summarizes the planning principles that respond to the unique assets and opportunities in the Plan Area that will ensure the future specific plan community will reflect the priorities, values, and vision of the Santa Clara community:

- *Complete Neighborhood* – The PHD Specific Plan Area will evolve into a self-sufficient neighborhood composed of a rich variety of places to live, play, gather, and engage. New land use designations and zoning will provide a mix of core community uses to ensure adequate access to goods and services for the thousands of new residents. Residents will also enjoy easy access to nearby job opportunities.

- *Varied Housing Options* – An array of multi-family residential types will attract a broad range of residents and households, contributing to neighborhood character and a sense of community while meeting demand. Affordable housing units will exceed the City minimum requirement so that the area is accessible to more residents and supports a diverse population.

- *Balanced Multi-Modal Mobility* – The PHD Specific Plan Area will be transformed from an auto-dominated environment into a neighborhood that supports all travel modes including walking, cycling, transit, and driving. Retrofitted and new street design will ensure a welcoming, comfortable, and safe environment for pedestrians and cyclists, while efficiently moving necessary vehicle traffic. Pedestrian-friendly streetscapes will be accessible to all; help activate street frontages; and stimulate use of community amenities. Over time, the new environment will accommodate rideshare, shuttle, and other mobility innovations.

- *Transit-oriented Development* – An improved local mobility and circulation network will support the use of existing and future transit infrastructure, including VTA light rail along the Tasman Corridor, bus transit along Great America Parkway, and multi-use trails along Calabazas Creek and the Hetch Hetchy right-of-way. Plan Area residents will be connected to local amenities as well as regional destinations via transit options.

- *Human-Scale Public Realm* – Community amenities will activate public spaces and create hubs of social activity with a library, parks, plazas, and pathways. Elevated urban and streetscape design will create an active, comfortable pedestrian realm at a human scale and a cohesive neighborhood environment, while accommodating high residential densities.

- *Diverse Open Spaces* – The PHD Specific Plan Area will be served by a connected network of parks, plazas, and open spaces that provide opportunities for passive and active recreation, events, and programs, and informal or structured social gathering. Traditional parks will complement urban plazas and active streetscapes. The open space network will provide a variety of spaces that are flexible enough to accommodate a variety of activities and uses for all ages and abilities.

Urban Design Framework (section 4.2)

The following summarizes the Development Framework for the Patrick Henry Drive Specific Plan that conveys the community's desired vision for the future of the Specific Plan Area:

- Create a human-scaled public realm with a distinctly urban feel.
- Enliven the street environment and create multi-use activity nodes.
- Prioritize the safety and comfort of pedestrians of all ages and abilities.
- Provide diverse parks, plazas, and open spaces.
- Create a fine-grained network of pedestrian paths.
- Transition building heights adjacent to lower-density neighborhoods.
- Accommodate diverse architectural styles.
- Use landscaping to create a comfortable pedestrian realm and contribute color and depth.
- Provide signature architectural elements on buildings at gateways and activity nodes.
- Use signage appropriate in scale and orientation to the primary audience: pedestrians or motorists.

Land Use (section 4.3)

The Specific Plan provides the City's goals of creating a new high-density residential neighborhood, adding housing opportunities and mixed-use environments near regional transit infrastructure and employment centers, and developing complete, self-sustaining communities to reduce auto dependency. Land use in the PHD Specific Plan Area is regulated through land use classifications, policies, and a map.

Affordable Housing (section 4.4)

Providing affordable housing is a high-priority goal of the City of Santa Clara. As one of the City's first high-density residential neighborhoods, Patrick Henry Drive will add thousands of units to better balance the City's jobs-housing ratio, a share of which will be income-restricted to help meet regional and local affordability goals. In recognition of the conversion of employment uses to residential land, the PHD Specific Plan calls for a higher level of affordability than is required by ordinance. Santa Clara City Code (SCCC) Chapter 17.40 (Citywide Affordable Housing Requirements) requires affordable housing to assist in meeting the City's share of

regional housing needs. Chapter 17.40 requires that all new residential and mixed-use construction integrate affordable units or that the developer pay in-lieu and impact fees into the City‘s affordable housing fund.

Parks, Recreation and Open Space (section 4.5)

The PHD Specific Plan Parks, Recreation and Open Space Plan includes policies and requirements to create a diverse network of public parks, green infrastructure, and private recreational spaces that support the physical, social, and environmental health of the neighborhood while integrating with the community-wide City public parks and recreation system. This includes providing adequate park spaces of sufficient size, shape, and location within the PHD Specific Plan Area.

The public parks and private open space recreational amenities should allow for both individual and large group recreational activities, sustainable natural habitat, and opportunities for healthy living throughout the PHD Specific Plan Area.

The goal is to provide adequate park and recreational space to meet the needs of thousands of new residents in an urban, high-density environment while preventing the overburdening of existing parks and community facilities throughout the city. The PHD Specific Plan Area will include a mix of traditional neighborhood parks, community facilities, and recreational amenities, while allowing for urban-style parks and plazas. Greenways and smaller specialized and programmed park spaces will support connectivity throughout the Plan Area.

Mobility, Circulation, and Parking (section 4.6)

The Mobility Framework ensures the PHD Specific Plan Area will provide balanced, multimodal internal circulation as well as easy access to nearby destinations and transit stations. The framework includes policies that support safe, active, and sustainable travel options for residents and visitors. These policies are supported by diagrams and tables that provide specific guidance on meeting City goals and the vision and principles of this Specific Plan.

Sustainability (section 4.7)

The PHD Specific Plan will guide the redevelopment of this low-intensity, auto-oriented area into a high-density mixed-use environment. By providing housing units near employment centers, designing smaller blocks, creating robust pedestrian and bicycle infrastructure, and facilitating access to transit, the PHD Specific Plan will help realize this citywide goal while advancing multiple sustainability objectives. The mixed-use environment will ensure neighborhood services and amenities are within easy reach of residents, minimizing the need for vehicle trips for day-to-day needs.

Design Guidelines (Chapter 5)

The Specific Plan identifies standards and guidelines to ensure that all future development is consistent with the vision, principles, and policies outlined for the PHD Specific Plan Area. The standards establish minimum requirements, and the guidelines provide direction, while also allowing for flexibility. Categories covered include travel ways, pedestrian amenities, street design, parks and open spaces, site layout and design, and building design.

Infrastructure (Chapter 6)

The Specific Plan describes existing conditions, proposed design strategies, and improvements related to the infrastructure needed to support the proposed land use within the PHD Specific Plan Area, including sanitary sewer, potable water, storm drainage, dry utilities (such as electricity, natural gas, and telecommunications), and solid waste management.

Implementation (Chapter 7)

The Specific Plan provides goals and strategies necessary to administer the Specific Plan and subsequent development approvals, and provides recommendations for development phasing, financing, and implementation responsibilities.

1.3 PROGRAM EIR APPROACH AND ASSUMPTIONS

This EIR has been prepared as a program EIR. A program EIR is a type of EIR authorized by section 15168 (Program EIR) of the CEQA Guidelines for use in documenting the environmental impacts of community general plans, specific plans, precise plans, and other planning "programs." As explained in the CEQA Guidelines, a program EIR is useful in evaluating the potential environmental impacts of a project that involves a series of interrelated actions that can reasonably be characterized as a single project. This EIR describes the anticipated areawide and community-wide impacts of the Plan. The EIR describes the cumulative, aggregate effects of the Plan-proposed framework, design standards and guidelines, community facility enhancements, infrastructure improvements, mobility and connectivity enhancements, and associated development capacity assumptions on Plan areawide and community-wide environmental conditions. Such impacts are described at a level of detail consistent with the level of detail provided in the proposed Patrick Henry Drive Specific Plan.

Pursuant to CEQA, this program EIR evaluates the Plan-related impacts and mitigation needs that can be identified at this time. Future individual, site-specific development and infrastructure projects facilitated by the Patrick Henry Drive Specific Plan, but which are not yet described in a design level of detail, will be evaluated for consistency with this EIR when they are proposed. The CEQA-required environmental review of these subsequent development applications and improvement projects will be accomplished when such proposals come before the City. At that time, when the details of the individual project are sufficiently defined, the project will be subject to its own, project-specific environmental determination by the City, in compliance with CEQA requirements.

This program EIR has been prepared in close coordination with the Patrick Henry Drive Specific Plan. For example, many Plan strategies and design standards have been deliberately formulated to address potential CEQA-defined environmental impacts. Each EIR environmental topic chapter (e.g., Aesthetics, Land Use and Planning, Utilities and Service Systems) includes a section titled “Relevant Patrick Henry Specific Plan Components,” which identifies strategies and other Plan features that will avoid or reduce potential environmental impacts for that particular environmental topic.

The program EIR also has been intentionally prepared to streamline future CEQA compliance. For example, the mitigation measures in the EIR are not generalized goals and policies, but instead are detailed actions and performance standards that will be implemented for site-

specific, individual development projects and public improvements. Environmental review of future projects could proceed pursuant to CEQA sections 15168 (Program EIR), 15183 (Projects Consistent With a Community Plan, General Plan, or Zoning), 15183.3 (Streamlining for Infill Projects), 21094 (Later Projects; Tiered Environmental Impact Reports; Initial Study; Use of Prior Reports), 15063 (Initial Study), 15152 (Tiering), 15162 (Subsequent EIRs and Negative Declarations), 15163 (Supplement to an EIR), 15164 (Addendum to an EIR or Negative Declaration), other CEQA streamlining provisions, Public Resources Code section 21155.4 (Implementation of the Sustainable Communities Strategy), or Government Code section 65457 (Specific Plans).

Subsequent individual projects can utilize a previously certified program EIR (such as the Patrick Henry Drive Specific Plan EIR) in a number of different ways. If the City determines that (1) the individual project is within the scope of the program examined in the program EIR, (2) no new effects that are not otherwise examined in the program EIR will occur as a result of the individual project, and (3) no new mitigation measures are required, then no additional environmental documentation will be required for that project. If these conditions are not met and a subsequent EIR or negative declaration is required, the program EIR can (1) provide the basis in an initial study for determining whether the later activity may have any significant effects, (2) be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole, or (3) focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before. (CEQA Guidelines section 15168)

Impact Assessment Assumptions

This program EIR evaluates the likely environmental consequences of development under the Patrick Henry Drive Specific Plan by the year 2040, and identifies mitigation measures and alternatives that could avoid or reduce potentially significant adverse environmental impacts and increase beneficial effects.[1] Based both on projections provided by the Association of Bay Area Governments (ABAG) and on the proposed components of the Patrick Henry Drive Specific Plan, the City has prepared a development capacity analysis for the Plan Area that forecasts anticipated growth between 2020 and 2040 (the horizon year of the Patrick Henry Drive Specific Plan). The development capacity forecast encompasses the entire Plan Area because no site-specific, individual development proposals would be approved as part of the Patrick Henry Drive Specific Plan or this EIR. As explained above, any such individual project would be subject to its own CEQA review, including evaluation for consistency with this EIR.

In accordance with the CEQA definition of a “program EIR” (CEQA Guidelines section 15168), the EIR evaluates the potential environmental impacts of the collective, overall development potential of the entire Plan Area, and not the site-specific impacts of any individual, potential development site.

The Specific Plan would facilitate development in the Plan Area with a range of residential development, a mix of non-residential development, and the possibility of office development. Based on community and property owner feedback, two development “scenarios” have been designed to reflect these two development assumptions (i.e., a maximum residential development assumption and a maximum office development assumption) and to allow evaluation of potential impacts from either one. Because the Specific Plan “High Density Flex”

[1]CEQA Guidelines section 15149(b).

zone allows either residential or office use, it has not been determined at this time which type of development (or combination thereof) would be proposed; therefore, these two scenarios represent two conservative but reasonably foreseeable maximum potential development scenarios that may be facilitated by approval of the Specific Plan, and their evaluation in this EIR is intended to provide full disclosure of potential environmental effects from the maximum development allowed by the Plan.

To differentiate between the two scenarios, this EIR has established two distinct total development capacities for study: (1) Scenario A ("maximum residential development"), allowing up to approximately 12,000 net new residential units and 310,000 net new square feet (SF) of non-residential uses (150,000 SF retail, 90,000 SF flex, and 70,000 SF community facilities) by 2040; and (2) Scenario B ("maximum office development"), allowing up to approximately 10,300 net new residential units, 785,000 net new square feet of office uses, and 310,000 net new square feet of other non-residential uses (150,000 SF retail, 90,000 SF flex, and 70,000 SF community facilities) by 2040. Both the PHD Specific Plan and this EIR assume these numbers represent the maximum capacity for anticipated future development. As such, the City would continuously monitor new development approvals to ensure that there is remaining capacity as new projects are approved.

Under either scenario, development is anticipated to occur in three phases, with up to approximately 5,968 dwelling units reasonably foreseeably built during Phase 1 (i.e., ready for occupancy by 2029); up to an additional approximately 2,919 dwelling units built during Phase 2 (ready for occupancy by 2035); and the remainder of dwelling units built during Phase 3 (ready for occupancy after 2035).

Since Specific Plan-facilitated development would be based on market demand and individual property owner decisions regarding if and when to develop their properties, the development capacity assumptions are forecasts of the maximum development that could occur by 2040 with implementation of the Specific Plan, not mandatory development targets. The PHD Specific Plan does not authorize eminent domain. Chapter 3 (Project Description), section 3.5 (Development Capacity Assumptions) of this EIR provides further details regarding the Specific Plan's development capacity assumptions.

Impact Assessment Baseline

CEQA Guidelines sections 15125(a) and (e) conservatively stipulate that the existing environmental setting (the physical environmental conditions in the project vicinity when the Notice of Preparation [NOP] is published or the environmental analysis begun) normally constitutes the baseline physical conditions for determining whether an impact is significant. The NOP for this EIR was published on December 19, 2019. Consistent with this guideline, all impact evaluations in this EIR use the "Setting" section of each environmental topic chapter (e.g., Air Quality, Noise, Transportation) as the existing physical environmental conditions to describe "what is on the ground now." These existing conditions are the starting point (baseline) from which impacts resulting from the Patrick Henry Drive Specific Plan are identified. Therefore, project effects are added to existing conditions to identify potential impacts resulting from Plan implementation. The environmental baseline is "what is on the ground now," not "what might be on the ground if the Patrick Henry Drive Specific Plan is not adopted."

For the environmental baseline, CEQA and CEQA case law recognize that the inventory of existing conditions is permitted to encompass a reasonable time span. For example, the most

recent, available, and precise data should be used instead of more recent anecdotal or speculative data.

For a comparison of impacts resulting from the proposed Patrick Henry Drive Specific Plan versus the current City of Santa Clara General Plan, see the discussion of Alternative 1 (No Project – Existing City of Santa Clara General Plan) in chapter 21 of this EIR (Alternatives to the Proposed Project).

1.4 EIR SCOPE--SIGNIFICANT ISSUES AND CONCERNS

This EIR addresses the following areas of potential environmental impact or controversy known to the Lead Agency (the City of Santa Clara), including those issues and concerns identified by the City in its Notice of Preparation (NOP) of this EIR (dated December 19, 2019)[1] and by other agencies, organizations, and individuals in response to the NOP. In addition, a public scoping meeting was held during the NOP 30-day review period to solicit input.

These environmental concerns relate to the following topics (listed in the order that they are addressed in this EIR):[2]

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Historical Resources (including Tribal Cultural Resources)
- Geology and Soils
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems

[1]The Notice of Preparation (NOP) is a CEQA-required notice sent by the Lead Agency to notify the Responsible Agencies, Trustee Agencies, and potentially involved federal agencies that the Lead Agency plans to prepare an EIR for the project. The NOP is also used to solicit guidance regarding the necessary and appropriate scope and content of the EIR. The City's NOP for the Patrick Henry Drive Specific Plan, and comment letters received on the NOP, are included in the EIR appendix.

[2]As explained in the NOP, Agriculture and Forestry Resources, Mineral Resources, and Wildfire have been determined not to apply to the Specific Plan, based on the Plan Area's location and characteristics. Further discussion is provided in section 20.5, "Effects Found Not to Be Significant," in chapter 20 (CEQA-Mandated Sections) of this EIR.

1.5 "SIGNIFICANT IMPACTS" AND OTHER KEY EIR TERMINOLOGY

This EIR identifies those adverse environmental impacts that are expected to be “significant” and corresponding mitigation measures designed to avoid or reduce those impacts to less-than-significant levels or, if less-than-significant levels cannot feasibly be achieved, to reduce the significant impacts to the extent feasible. Where the EIR determines that a particular impact cannot be mitigated to a less-than-significant level, the EIR identifies that impact as "significant and unavoidable." EIR section 20.3 (Significant Unavoidable Impacts) lists all significant unavoidable project impacts of the Plan. Identified significant impacts that are not listed in section 20.3 as unavoidable can be mitigated to a less-than-significant level by implementation of the associated mitigation measure(s) identified in this EIR. The individual environmental topic chapters provide more detail.

CEQA Guidelines section 15130 mandates that an EIR consider and discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. A cumulative impact is the result of the combination of the impacts resulting from the project together with other projects causing related impacts (section 15130). EIR section 20.1 discusses cumulative impacts.

The particular EIR terms noted above ("significant," "unavoidable," "mitigation," “cumulative”) and other key CEQA terminology used in this EIR are defined in Table 1-1.

1.6 EIR ORGANIZATION AND CONTENT

Each of the environmental topics presented in chapters 4 (Aesthetics) through 18 (Utilities and Service Systems) include the following subsections:

Setting, which describes relevant existing conditions related to the environmental topic;

Regulatory Setting, which describes federal, State and local laws, regulations and policies relevant to potential impacts for the environmental topic; and

Impacts and Mitigation Measures, including:

- *Significance Criteria*, which identifies the CEQA and other agency-recommended criteria for determining the significance of a potential impact;
- *Relevant Patrick Henry Drive Specific Plan Components,* which describes aspects of the proposed Plan that proactively address potential impacts related to the environmental topic; and
- *Impacts and Mitigations*, which identifies potential project impacts; whether each identified impact is “significant” or “less-than-significant”; mitigation for each identified “significant” impact; and whether each impact would be “significant” or “less-than-significant” after mitigation.

In addition, this Draft EIR includes a chapter evaluating the Plan’s consistency with local and regional plans (chapter 19), a chapter that includes various CEQA-mandated sections (chapter 20), a chapter comparing various alternatives to the proposed Plan (chapter 21), and a chapter

Table 1-1

DEFINITIONS OF KEY EIR TERMINOLOGY

Significant Impact	"Significant effect on the environment" (significant impact) means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. "*An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."* (CEQA Guidelines, section 15382)
Cumulative Impacts	"Cumulative impacts" are defined as *"two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."* (CEQA Guidelines, section 15355)
Significant Unavoidable Impact	"Significant unavoidable impact" is defined as a significant adverse environmental impact for which either no mitigation or only partial mitigation is feasible. If the project is to be approved without imposing an alternative design, the Lead Agency must include in the record of the project approval a written statement of the specific reasons to support its action - i.e., a "statement of overriding considerations." (CEQA Guidelines, sections 15126.2[c] and 15093[b])
Significance Criteria	The criteria used in this EIR to determine whether an impact is or is not *"*significant*"* are based on (a) CEQA-defined "mandatory findings of significance" - i.e., where any of the specific conditions occur under which the Legislature and the Secretary of Resources have determined constitute a potentially significant effect on the environment, which are listed in CEQA Guidelines section 15065; (b) specific criteria that a Resources Agency has determined are "normally" considered to constitute a "significant effect on the environment"; (c) the relationship of the project effect to the adopted policies, ordinances, and standards of the Lead Agency and of responsible agencies; and/or (d) commonly accepted practice and the professional judgment of the EIR authors and Lead Agency staff.
Mitigation Measure	For each significant impact, the EIR must identify a specific "mitigation" measure or set of measures capable of *"(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (e) compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."* (CEQA Guidelines, section 15370)

SOURCE: MIG, 2021.

introducing the mitigation monitoring requirements should the proposed Patrick Henry Drive Specific Plan be adopted (chapter 22).

2. SUMMARY

This EIR chapter provides a summary description of the Patrick Henry Drive Specific Plan, a list of associated environmental issues to be resolved, a summary identification of significant impacts and mitigation measures associated with the Specific Plan, and a summary identification of possible alternatives to the Specific Plan (pursuant to CEQA Guidelines section 15123, Summary).

This summary should not be relied upon for a thorough understanding of the details of the project, its individual impacts, and related mitigation needs. Please refer to Chapter 3 for a complete description of the project, Chapters 4 through 18 for a complete description of environmental impacts and associated mitigation measures, Chapter 19 for a discussion of the Plan's consistency with other local and regional plans, Chapter 20 for CEQA-mandated sections, and Chapter 21 for an evaluation of alternatives to the project.

2.1 PROPOSED PATRICK HENRY DRIVE SPECIFIC PLAN

The Patrick Henry Drive Specific Plan is a "specific plan," which is one of several policy and regulatory tools used by the City of Santa Clara to implement the City's 2010-2035 General Plan. A specific plan implements the General Plan through the establishment of more detailed policies, regulations, and actions specifically focused on the Patrick Henry Drive Specific Plan Area. Because the Plan is a specific plan, State law requires the document to be consistent with the 2010-2035 General Plan, including the goals, policies, objectives, and standards contained in the General Plan. The Draft EIR briefly summarizes or describes specific policies, regulations, or actions proposed by the Patrick Henry Drive Specific Plan where such policies, regulations, or actions are relevant to the environmental analysis as set forth in the EIR.

In practical terms and consistent with its legal status as a specific plan, the Patrick Henry Drive Specific Plan is intended to be an "action plan" and focuses on tools needed to achieve the community's desires for the Plan Area, including new land use frameworks and design standards and guidelines, economic and fee incentives, street and sidewalk enhancements, and infrastructure improvements. To help implement these actions, City staff is investigating potential financing tools that could be applied in the Plan Area during Plan implementation.

The Patrick Henry Drive Specific Plan is the culmination of a community-based process designed to transform underutilized office and industrial parks into a compact, pedestrian-friendly, transit-oriented development. This process actively engaged local residents, business and property owners, developers, neighborhood representatives, elected and appointed officials, and others during a two-year planning process.

2.1.1 Patrick Henry Drive Specific Plan Area

The Patrick Henry Drive Specific Plan covers approximately 73.59 acres and currently contains predominantly commercial uses such as research and development (R&D) and light industrial

(electronics and computer software development). Other commercial uses include offices (professional services, architects, legal, and personnel/employment support) and a restaurant. In addition, there is a church in the southern part of the Plan Area.

The Plan Area is generally bounded by Great America Parkway to the east, the San Francisco Public Utility Commission (SFPUC) right-of-way ("Hetch-Hetchy right-of-way") to the north, the City of Sunnyvale and Calabazas Creek to the west, and Mission College Boulevard to the south.

The Patrick Henry Drive Specific Plan Area, much like the surrounding neighborhood, is characterized by several "superblocks" with ample surface parking, significant setbacks, and significant separation between buildings. The Plan Area is relatively flat and developed with buildings ranging in height from one and two stories in the south and west, to four- and five-story buildings in the east. The building stock was developed primarily in the 1970s and 1980s. The Plan Area is generally underutilized, and some buildings are vacant. There are no residential land uses, public parks, or historic structures located on-site. Private automobiles predominate the suburban streetscape environment that is defined by limited pedestrian and bicycle accessibility. Visible infrastructure on-site includes local streets and utilities, such as streetlights, as well as the Hetch-Hetchy right-of-way that runs along the Plan Area's northern border. Due to the large-lot industrial development pattern and limited number of roadways within the Plan Area, linkages and connectivity across the Plan Area are limited.

As used in this EIR, the terms "Patrick Henry Drive Specific Plan," "Plan" (when distinguished from any other plan), "Specific Plan," and "project" are intended to be synonymous and refer to all aspects of the current draft Patrick Henry Drive Specific Plan,[1] including all the approval actions required to implement the Plan. This definition is consistent with CEQA Guidelines section 15378, which defines a "project" as "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."

A more detailed description is included in upcoming Draft EIR chapter 3 (Project Description).

2.1.2 Basic Project Objectives

The overarching goal of the Patrick Henry Drive Specific Plan is to establish a comprehensive framework ("blueprint") for the Plan Area in the future, which will include a refined vision, goals, policies, and design standards that build on and systematically implement the City's General Plan while also providing for flexibility and encouraging reinvestment in the Plan Area. The development goals listed below are referred to collectively in this EIR as the "basic project objectives" (CEQA Guidelines section 15124[b]). Additional, more detailed development strategies are described in this EIR under the particular environmental topics to which they apply (e.g., land use, public services, utilities):

- Ensure an economically vibrant, safe, healthy, and sustainable neighborhood that supports a range of users, including residents, business owners, and visitors.

- Bring clarity and consistency to the regulation of individual development proposals within the [Patrick Henry Drive] PHD Specific Plan Area boundaries.

[1] March 2021 Public Review Draft Specific Plan.

- Foster strong connectivity, access, and circulation for a mix of travel modes, including walking, cycling, driving, and transit.

- Plan parkland and open space standards consistent with City Code 17.35 to support a high quality of life within an urban environment.

- Provide community amenities and public facilities to support a "complete" neighborhood.

- Adopt infrastructure and funding plans to ensure infrastructure will adequately support planned densities and intensities.

- Support the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).

- Engage the entire community in robust, creative, and ongoing participation processes.

2.1.3 Development Capacity Assumptions

Based on the proposed components of the Patrick Henry Drive Specific Plan, the City has formulated a development capacity for the Plan Area that forecasts anticipated growth between 2020 and 2040 (the horizon year of the Patrick Henry Drive Specific Plan). The development capacity forecast encompasses the entire Specific Plan Area because no site-specific, individual development proposals would be approved as part of the Patrick Henry Drive Specific Plan or this EIR. Any such individual project would be subject to its own CEQA review, including evaluation against this EIR (see chapter 1, Introduction).

The Specific Plan would facilitate development in the Plan Area with a range of residential development, a mix of non-residential development, and the possibility of office development. Based on community and property owner feedback, two development "scenarios" have been designed to reflect these two development assumptions (i.e., a maximum residential development assumption and a maximum office development assumption) and to allow evaluation of potential impacts from either one. Because the Specific Plan "High Density Flex" zone allows either residential or office use, it has not been determined at this time which type of development (or combination thereof) would be proposed; therefore, these two scenarios represent two conservative but reasonably foreseeable maximum potential development scenarios that may be facilitated by approval of the Specific Plan, and their evaluation in this EIR is intended to provide full disclosure of potential environmental effects from the maximum development allowed by the Plan.

To differentiate between the two scenarios, this EIR has established two distinct total development capacities for study, which are shown in Table 3-1 in chapter 3 (Project Description) of this EIR: Scenario A ("maximum residential development"), allowing up to approximately 12,000 net new residential units and 310,000 net new square feet (SF) of non-residential uses (150,000 SF retail, 90,000 SF flex, and 70,000 SF community facilities) by 2040; and Scenario B ("maximum office development"), allowing up to approximately 10,300 net new residential units, 785,000 net new square feet of office uses, and 310,000 net new square feet of other non-residential uses (150,000 SF retail, 90,000 SF flex, and 70,000 SF community facilities) by 2040. Both the PHD Specific Plan and this EIR assume these numbers represent

the maximum capacity for anticipated future development. As such, the City would continuously monitor new development approvals to ensure that there is remaining capacity as new projects are approved.

As shown in Table 3-2 in chapter 3 (Project Description) of this EIR, under either scenario, development is anticipated to occur in three phases, with up to approximately 5,752 dwelling units reasonably foreseeably built during Phase 1 (i.e., ready for occupancy by 2029); up to an additional approximately 2,604 dwelling units built during Phase 2 (ready for occupancy by 2035); and the remainder of dwelling units built during Phase 3 (ready for occupancy after 2035).

2.2 REQUIRED APPROVALS

Implementation of the Patrick Henry Drive Specific Plan would require, but is not limited to, the following discretionary approvals by the City of Santa Clara:

- Certification of the Final Environmental Impact Report
- Adoption of a Mitigation Monitoring and Reporting Program
- Adoption of the Patrick Henry Drive Specific Plan
- Adoption of General Plan amendments and zoning changes as necessary to ensure consistency between the Patrick Henry Drive Specific Plan and the City of Santa Clara 2010-2035 General Plan and current zoning code
- Discretionary review as necessary, including CEQA review, for future individual public and private development proposals in the Plan Area

Other Government Agency Approvals

Future individual public and private development proposals in the Plan Area would be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- Santa Clara Valley Transportation Authority (VTA)
- Santa Clara Water & Sewer Utilities Department
- Silicon Valley Power (SVP)
- County of Santa Clara Department of Environmental Health
- Santa Clara County Airport Land Use Commission (ALUC)
- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Bay Area Air Quality Management District (BAAQMD)

- Department of Toxic Substances Control (DTSC)
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- United States Fish and Wildlife Service (USFWS)

2.3 ENVIRONMENTAL ISSUES

As required by the CEQA Guidelines, this EIR addresses the following areas of potential environmental impact or controversy known to the Lead Agency (the City of Santa Clara), including those issues and concerns identified by the City in its Notice of Preparation (NOP) of this EIR (dated December 19, 2019) and by other agencies, organizations, and individuals in response to the NOP. These environmental concerns relate to the following topics (listed in the order that they are addressed in this EIR):[1]

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Historical Resources
- Geology and Soils
- Greenhouse Gas Emissions and Energy
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems

2.4 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

For each of the 15 environmental topics listed above, any ***"significant"*** project or cumulative impact and associated mitigation measure or measures identified in this EIR are summarized in Table 2.1, the SUMMARY OF POTENTIALLY SIGNIFICANT IMPACTS AND RECOMMENDED

[1]As explained in the NOP, Agriculture and Forestry Resources, Mineral Resources, and Wildfire have been determined not to apply to the Specific Plan, based on the Plan Area's location and characteristics. Further discussion is provided in section 20.5, "Effects Found Not to Be Significant," in chapter 20 (CEQA-Mandated Sections) of this EIR.

MITIGATION MEASURES, which follows.[1] The summary chart has been organized to correspond with the more detailed impact and mitigation discussions in chapters 4 through 18 of this EIR. The chart is arranged in five columns: (1) impacts, (2) significance without mitigation, (3) mitigation measures, (4) the entity responsible for implementing each mitigation measure, and (5) the level of impact significance after implementation of the mitigation measure(s).

[1]Additional discussion of cumulative impacts is provided in chapter 20, CEQA-Mandated Sections, of this EIR, with the exception of chapter 5 - Air Quality, chapter 9 - Greenhouse Gas Emissions and Energy, and chapter 18 - Utilities and Service Systems (which discusses, on a cumulative basis, water supply sufficiency; wastewater generation, collection, and treatment capacity; and water, wastewater, and storm drainage infrastructure needs). These environmental topics are analyzed in their respective chapters due to the inherently cumulative nature of impacts related to regional and/or global conditions or City-wide capital improvement planning implications.

Table 2.1
SUMMARY OF POTENTIALLY SIGNIFICANT IMPACTS AND RECOMMENDED MITIGATION MEASURES

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
AESTHETICS				
Impact 4-1: Project Effects on Scenic Vistas	LS	N/A	N/A	N/A
Impact 4-2: Project Impacts on Existing Visual Character and Quality	LS	N/A	N/A	N/A
Impact 4-3: Project Light and Glare Effects	LS	N/A	N/A	N/A
AIR QUALITY				
Impact 5-1: Conflict with 2017 Clean Air Plan	LS	N/A	N/A	N/A
Impact 5-2: Result in a Cumulatively Considerable Net Increase in Criteria Pollutants for which the Region is Non-Attainment. Implementation of the Patrick Henry Drive Specific Plan could result in growth in the Plan Area that exceeds the level of growth accounted for in the City's General Plan and, therefore, could generate a cumulatively considerable net increase in criteria air pollutants for which the region is in non-attainment. This represents a ***potentially significant impact.***	S	**Mitigation Measure 5-2A: Implement BAAQMD Basic Construction Mitigation Measures.** The City shall require new development projects occurring under implementation of the Patrick Henry Drive Specific Plan to implement the BAAQMD's Basic Control Mitigation Measures to address fugitive dust emissions that would occur during earthmoving activities associated with project construction. These measures include: 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.	City; Individual project applicants	SU

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and		

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		determined to be running in proper condition prior to operation. 8. Post a publicly visible sign with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. **Mitigation Measure 5-2B: Require a Project-level Construction Assessment for New Development Proposed Under Implementation of the Patrick Henry Drive Specific Plan.** The City shall require applicants to submit a quantitative project-level construction criteria air pollutant and toxic air contaminant emissions analysis for future development proposed under implementation of the Patrick Henry Drive Specific Plan. The estimated construction criteria air pollutant and toxic air contaminant emissions shall be compared against the thresholds of significance maintained by the Bay Area Air Quality Management District (BAAQMD) and, if emissions are shown to be above BAAQMD thresholds, the City shall require the implementation of mitigation to reduce emissions below BAAQMD thresholds or to the maximum extent feasible. Mitigation measures		

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		to reduce emissions could include, but are not limited to: ▪ Selection of specific construction equipment (e.g., specialized pieces of equipment with smaller engines or equipment that will be more efficient and reduce engine runtime); ▪ Requiring equipment to use alternative fuel sources (e.g., electric-powered and liquefied or compressed natural gas), meet cleaner emission standards (e.g., U.S. EPA Tier IV Final emissions standards for equipment greater than 50-horsepower), and/or utilizing added exhaust devices (e.g., Level 3 Diesel Particular Filter); ▪ Minimizing the idling time of diesel-powered construction equipment to two minutes; ▪ Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM; ▪ Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines; and ▪ Application of Low-VOC paints to interior and/or exterior surfaces (e.g., paints that meet SCAQMD Rule 1113 "Low-VOC" or "Super-Compliant" requirements).		

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		Mitigation Measure 5-2C: Use Low- and Super Compliant VOC Architectural Coatings. The City shall require the use of Low- and Super-Compliant VOC Architectural Coatings in maintaining buildings in the Patrick Henry Drive Specific Plan Area through Covenants Conditions and Restrictions (CC&Rs) and Ground Lease. Developed parcels shall require within their CC&Rs and/or ground leases requirements for all future interior spaces to be repainted with architectural coatings that meet the "Low-VOC" or "Super-Compliant" requirements. "Low-VOC" refers to paints that meet the more stringent regulatory limits of South Coast Air Quality Management District AQMD Rule 1113. "Super-Compliant" refers to paints that have been reformulated to levels well below the "Low-VOC" limits.		
		Mitigation Measure 5-2D: Implement TDM Program. Proposed residential, retail, commercial, and office land uses within the Patrick Henry Drive Specific Plan Area shall prepare and implement Transportation Demand Management (TDM) programs consistent with the requirements outlined Section 7.3 of the Patrick Henry Drive Specific Plan. Projects shall achieve a minimum reduction in vehicle miles traveled (VMT) of 20 percent compared to baseline conditions (i.e., without internal or external reductions		

S = Significant
LS = Less than significant
SU = Significant unavoidable impact
NA = Not applicable

See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		accounted for, such as geographic location, land use interconnectivity, etc.), with at least 10 percent of the reduction coming through project-specific TDM measures (e.g., transit subsidies, telecommuting options, etc.). Even with implementation of Mitigation Measures 5-2A through 5-2D, this impact would remain ***significant and unavoidable.***		
Impact 5-3: Generate Toxic Air Contaminant Emissions that Expose Sensitive Receptors to Substantial Pollutant Concentrations During Construction. Implementation of the Patrick Henry Drive Specific Plan would result in construction activities over the next approximately 20 years that generate toxic air contaminant emissions and could expose sensitive receptors to substantial pollutant concentrations. These activities represent a ***potentially significant impact.***	S	**Mitigation Measure 5-3A:** Implement **Mitigation Measure 5-2B.** Even with implementation of Mitigation Measure 5-3, this impact would remain ***significant and unavoidable.***	City; Individual project applicants	SU
Impact 5-4: Expose Sensitive Receptors to Substantial Operational Pollutant Concentrations	LS	N/A	N/A	N/A
Impact 5-5: Odors	LS	N/A	N/A	N/A
BIOLOGICAL RESOURCES				
Impact 6-1: Impacts on Riparian Habitat, Sensitive Natural Communities, Wetlands,	LS	N/A	N/A	N/A

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
Fish and Wildlife Corridors, and Fish and Wildlife Nursery Sites				
Impact 6-2: **Potential Impacts on Threatened and Endangered Habitat.** Development facilitated by the Patrick Henry Specific Plan could degrade the habitat of rare, threatened, or endangered species[1] (also referred to as "special-status") potentially present on a project site, and conflict with Policy 5.10.1-P1 of the Santa Clara General Plan (see "Regulatory Setting" above). The absence of City evaluation of the need for further biological resource surveys would be in violation of City policy and is therefore considered a ***potentially significant impact.***	S	**Mitigation 6-2.** In order to keep current the biological resource evaluation prepared for the Patrick Henry Drive Specific Plan EIR, upon receiving applications for site-specific projects within the Specific Plan Area, the City shall evaluate the need for a specific biological resource survey of the project site and adjacent area that may be indirectly impacted by project work. If no biological resources are determined to be at risk as determined by a qualified biologist, no further survey shall be required. However, if the City determines that biological resources within the project area require further analysis, the project proponent shall be required to conduct a biological resource survey of the habitat and special-status species that may be impacted by project activities, either directly or indirectly. A report shall be provided to the City detailing survey methods, results, and avoidance and minimization measures required to protect any special-status species with potential to be impacted, in accordance with the regulatory protocols of the responsible jurisdictional agencies for the resource in question, including, but not limited to: USFWS, CDFW, and USACE. If no further surveys/investigation is requested by a	City; Individual project applicants	LS

[1]Special-status species with potential to occur within the Specific Plan Area include: Congdon's tarplant, arcuate bush mallow, burrowing owl, white-tailed kite, pallid bat, and Townsend's big-eared bat; as well as nesting birds and roosting bats protected by the MBTA and CFGC.

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		permitting or other regulatory agency upon receipt of biological survey report, work may proceed as planned. Implementation of this measure would reduce the impact to a ***less-than-significant*** level.		
Impact 6-3: **Potential Impacts on Special-Status Plants.** There is a low potential for Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*; California Rare Plant Rank 1B.2) and arcuate bush mallow (*Malacothamnus arcuatus*; California Rare Plant Rank 1B.2) to occur within the Specific Plan Area, especially if the area is left undisturbed for a long period of time (i.e., a year or longer). Without a proactive mitigation procedure in place, Plan implementation could inadvertently result in the removal of special-status plants. This is considered a ***potentially significant impact.***	S	**Mitigation 6-3.** Before any project work within the Specific Plan Area, a qualified botanist shall conduct site-specific, focused surveys according to CDFW guidelines to determine presence or absence of special-status plant species on the individual project site and any adjacent potential area of disturbance. A comprehensive, site-wide survey should be conducted within May to September before project work begins, to encompass the Congdon's tarplant and arcuate bush mallow's blooming periods. Following the completion of the surveys, a survey results report shall be prepared and provided to the City. This report should include, but should not be limited to, the following: (1) a description of the survey methodology; (2) a discussion of the survey results; and (3) a map showing the survey area and the location of any special-status plants encountered. If no rare plants are found, then no further mitigation would be required. If rare plants are found during the survey, the number of individuals present shall be documented and the limits of population shall be marked with flagging. The flagged border of the population shall be avoided by construction	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		personnel for the duration of the project. If the species cannot be avoided or may be indirectly impacted, the applicant shall notify CDFW to discuss avoidance, minimization, and mitigation measures as appropriate for each species population, including measures to be taken and protocols to be followed if special-status plants are inadvertently disturbed during construction activities. CDFW may require the preparation and implementation of a mitigation plan that details avoidance, preservation, and/or compensation for the loss of individual special-status plant species. Mitigation may include the purchase of mitigation bank credits, preserving and enhancing existing on-site populations, creation of off-site populations through seed collection and/or transplantation and monitoring these populations to ensure their successful establishment, and/or preserving occupied habitat off-site in perpetuity. Specific amounts and methods of mitigation and/or credits shall be determined in formal consultation with CDFW and USFWS. Implementation of this measure would reduce the impact to a ***less-than-significant level.***		
Impact 6-4: **Potential Impacts on Nesting Birds or Roosting Bats.** The Federal Migratory Bird Treaty Act and California Fish and Game Code sections 3503, 3503.5, 3513,	S	**Mitigation 6-4.** The demolition of any buildings, disturbance of gravel substrate, and/or removal of trees, shrubs, or weedy vegetation shall be avoided during the	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
3800, and 4150 protect migratory and nesting birds, as well as roosting bats. Although the Patrick Henry Drive Specific Plan does not specify which trees or buildings might be removed under individual projects facilitated by the Plan, trees (potential nesting and roosting habitat) or buildings could be disturbed or removed by Plan implementation. The possibility of removing trees and/or buildings that contain nests or roosting bats is identified here as a potentially significant impact. Any direct removal of trees or indirect disturbance by construction or operational activities during the nesting season that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take." There is a low potential for burrowing owl (*Athene cunicularia*; California species of special concern), white-tailed kite (*Elanus leucurus*; California Fully-Protected Species), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*; California species of special concern) to utilize the landscaped habitat within the Specific Plan Area for roosting and/or nesting, especially if the area is left undisturbed for a long period of time. In addition, many common bird species without a special status, though protected by the MBTA, MBPA, and California Fish and Game Code		February 1 through August 31 bird nesting period to the extent possible. If no demolition, gravel disturbance, vegetation, or tree removal is proposed during the nesting period, no further action is required. If it is not feasible to avoid the nesting period, the project applicant shall retain a qualified wildlife biologist to conduct a survey for nesting birds at most 14 days prior to the start of removal of trees, shrubs, grassland vegetation, or buildings, including prior to grading or other construction activity. If demolition of buildings, disturbance of gravel substrate, or vegetation removal efforts do not begin within the 14 days following the nesting bird survey, another survey shall be required. The area surveyed shall include all construction sites, access roads, and staging areas, as well as reasonably accessible areas within 150 feet outside the boundaries of the areas to be cleared or as otherwise determined by the biologist and dependent on species' life history requirements. If an active nest is discovered in the areas to be directly physically disturbed, or in other habitats within the vicinity of construction boundaries and may be disturbed by construction activities (as determined by the qualified biologist), clearing and construction shall be postponed until the qualified biologist has determined that the young have fledged (left the nest), the nest fails, or the nest is		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
(CFGC), may utilize buildings, gravel substrates, and the landscaped vegetation within the Plan Area for nesting, foraging, and roosting. Common bat species protected by the CFGC may also rarely utilize vegetation within the Specific Plan Area for individual roosting. Without a proactive mitigation procedure in place, Plan implementation could inadvertently result in the removal of existing trees containing nests or eggs of migratory birds, raptors, or bird species during the nesting season, or roosting bats, which would be considered unlawful take under the MBTA and the CFGC (see Regulatory Setting above). This is considered a ***potentially significant impact.***		otherwise determined to be inactive by the biologist (i.e. predation). To avoid impacts to roosting bats that may rarely utilize the Specific Plan Area vegetation and/or vacant buildings for day roosting, the project applicant shall retain a qualified wildlife biologist to conduct a survey for roosting bats at most 14 days prior to the start of demolition of any vacant buildings left with entry and egress points accessible to bats or removal of suitable bat roosting vegetation. If roosting bats are detected, the biologist shall enact a minimum of a 150-foot no-work buffer and confer with CDFW to determine potential roost protection or roost eviction practices. After conferring with CDFW, the protective buffer may be adjusted based on specific roost needs. Once bats have been suitably protected by a buffer and/or safely evicted from roosting sites (as approved by CDFW), construction may resume outside the buffered area. A nesting bird and roosting bat survey report prepared with the methods and results of the pre-project survey will be submitted to the City for review and approval prior to commencement of construction activities. Any additional construction monitoring, as determined through any necessary coordination/discretionary approvals with the resource agencies, will be documented per		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		requirements set forth in an approved mitigation monitoring and reporting program. Implementation of this measure would reduce the impact to a ***less-than-significant level.***		
Impact 6-5: Impacts on Protected Trees, Plants, and Shrubs	LS	N/A	N/A	N/A
CULTURAL AND HISTORIC RESOURCES				
Impact 7-1: Destruction/Degradation of Historic Resources. There may be one or more properties or features within the Specific Plan Area, now or in the future, that meets the CEQA definition of a historic resource, including properties or features eligible for listing in a local, State, or Federal register of historic resources. Future development projects that are otherwise consistent with the proposed Patrick Henry Drive Specific Plan may cause substantial adverse changes in the significance of one or more such historic resources. Substantial adverse changes that may occur include physical demolition, destruction, relocation, or alteration of one or more historic resources or its immediate surroundings such that the resource is "materially impaired." The significance of a historic resource would be considered	S	**Mitigation 7-1.** For any individual project within the Patrick Henry Drive Specific Plan Area that the City determines may involve a property that contains a potentially significant historic resource, the resource shall be assessed by a professional who meets the Secretary of the Interior's Professional Qualifications Standards to determine whether the property is a significant historic resource and whether or not the project may have a potentially significant adverse effect on the historic resource. If, based on the recommendation of the qualified professional, the City determines that the project may have a potentially significant effect, the City shall require the applicant to implement the following mitigation measures: (a) Adhere to at least one of the following Secretary of the Interior's Standards:[1]	City; Individual project applicants	SU

[1]Under the CEQA Guidelines (section 15064.5[b][3]), a project's adverse impact on a historic resource generally can be mitigated to a less-than-significant level by following either of these standards.

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
potentially "materially impaired" when and if an individual future development project proposes to demolish or materially alter the physical characteristics that justify the determination of its significance (CEQA Guidelines section 15064.5[b]). Such adverse changes in the significance of a CEQA-defined historic resource would be a ***significant impact.***		▪ Secretary of Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*; or ▪ Secretary of Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. The qualified professional shall make a recommendation to the City as to whether the project fully adheres to the Secretary of the Interior's Standards, and any specific modifications necessary to do so. The final determination as to a project's adherence to the Standards shall be made by the City body with final decision-making authority over the project. Such a determination of individual project adherence to the Secretary of the Interior's Standards will constitute mitigation of the project historic resource impacts to a ***less-than-significant level*** (CEQA Guidelines section 15064.5). (b) If measure (a) is not feasible, the historic resource shall be moved to a new location compatible with the original character and use of the historic resource, and its historic features and compatibility in orientation, setting, and general environment shall be retained, such		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		that a substantial adverse change in the significance of the historic resource is avoided.[1] Implementation of measure (b) would reduce the impact to a ***less-than-significant level.***		
		If neither measure (a) nor measure (b) is feasible, then the City shall, as applicable and to the extent feasible, implement the following measures in the following order:		
		(c) Document the historic resource before any changes that would cause a loss of integrity and loss of continued eligibility. The documentation shall adhere to the Secretary of the Interior's *Standards for Architectural and Engineering Documentation*. The level of documentation shall be proportionate with the level of significance of the resource. The documentation shall be made available for inclusion in the Historic American Building Survey (HABS) or the Historic American Engineering Record (HAER) Collections in the		

[1]One example of a substantial adverse change would be the loss of eligibility for listing on the California Register. The State Historical Resources Code encourages the retention of historic resources on-site and discourages the non-historic grouping of historic buildings into parks or districts. However, it is recognized that moving a historic building, structure, or object is sometimes necessary to prevent its destruction. Therefore, a moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was moved to prevent its demolition at its former location and if the new location is compatible with the original character and use of the historic resource. A historic resource should retain its historic features and compatibility in orientation, setting, and general environment.
(California Office of Historic Preservation, *California Register and National Register: A Comparison,*
Technical Assistance Series 6; Sacramento, CA: California Department of Parks and Recreation, 2001)

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		Library of Congress, the California Historical Resources Information System (CHRIS), and the Bancroft Library, as well as local libraries and historical societies. (d) Retain and reuse the historic resource to the maximum feasible extent and continue to apply the Secretary of the Interior's Standards to the maximum feasible extent in all alterations, additions, and new construction. (e) Through careful methods of planned deconstruction to avoid damage and loss, salvage character-defining features and materials for educational and interpretive use on-site, or for reuse in new construction on the site in a way that commemorates their original use and significance. (f) Interpret the historical significance of the resource through a permanent exhibit or program in a publicly accessible location on the site or elsewhere within the Specific Plan Area. Implementation of measures (b), (c), (d), (e), and/or (f) would reduce a significant impact on historic resources, but not to a less-than-significant level. Without knowing the characteristics of the potentially affected historic resource or of the future individual development proposal, the City cannot determine with certainty that measure (a) or (b)		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		above would be considered feasible. Consequently, this impact is currently considered ***significant and unavoidable.***		
Impact 7-2: Potential for Disturbance of Buried Archaeological Resources, Including Human Remains, and Tribal Cultural Resources. Development facilitated by the Patrick Henry Drive Specific Plan could disturb unrecorded sensitive archaeological resources or tribal cultural resources in the Plan Area. This possibility represents a ***potentially significant impact.***	S	**Mitigation 7-2.** During the City's standard project-specific review process for all future, discretionary, public improvement and private development projects in the Patrick Henry Drive Specific Plan Area, the City shall determine the possible presence of, and the potential for new or substantially more severe impacts of the action on, archaeological resources and tribal cultural resources. The City shall require individual project applicants or environmental consultants to contact the California Historical Resources Information System (CHRIS) to determine whether the particular project is located in a sensitive area. Future discretionary development projects that CHRIS determines may be located in a sensitive area - i.e., on or adjoining an identified archaeological site - shall proceed only after the project applicant contracts with an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards, to conduct a determination in regard to cultural values remaining on the site and warranted mitigation measures, as described directly below. In general, to make an adequate determination in these instances, the archaeologist shall conduct a preliminary field inspection to (1)	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		assess the amount and location of visible ground surface, (2) determine the nature and extent of previous impacts, and (3) assess the nature and extent of potential impacts. Such field inspection may demonstrate the need for some form of additional subsurface testing (e.g., excavation by auger, shovel, or backhoe unit) or, alternatively, the need for on-site monitoring of subsurface activities (i.e., during grading or trenching). In addition, the City shall continue to notify the Native American tribes traditionally and culturally affiliated with the Specific Plan Area of the discretionary, public improvement and private development projects if those proposed improvements or projects are subject to a CEQA Negative Declaration (including Mitigated Negative Declaration) or Environmental Impact Report (EIR), in accordance with California Assembly Bill 52, and if a Native American tribe requests consultation, conduct a good faith consultation. Following field inspection and completion of all necessary phases of study as determined by the archaeologist and the City, damage to any identified archaeological resources shall be avoided or mitigated to the maximum extent possible. Preservation in place to maintain the relationship between the artifact(s) and the archaeological context is the preferred manner		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		of mitigating impacts on an archaeological site. Preservation may be accomplished by: ▪ Planning construction to avoid the archaeological or tribal cultural site; ▪ Incorporating the site within a park, green space, or other open space element; ▪ Covering the site with a layer of chemically stable soil; or ▪ Deeding the site into a permanent conservation easement. When in-place mitigation is determined by the City to be infeasible, a *data recovery plan*, which makes provisions for adequate recovery of culturally or historically consequential information about the site (including artifacts discovered on the site), subject to review and approval by the City, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be submitted to the CHRIS Northwest Information Center. If Native American artifacts are indicated, the studies shall also be submitted to the Native American Heritage Commission (NAHC). CHRIS and NAHC are recognized as experts in their respective disciplines.		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		Identified cultural resources shall be recorded on form DPR 422 (archaeological sites). Mitigation measures recommended by these two groups (CHRIS and NAHC), as reviewed and approved by the City, shall be undertaken prior to and during construction activities. Although the precise details of the mitigation measures would be specific to the particular project site, the measures shall be consistent with the avoidance and mitigation strategies described above in this programmatic mitigation measure. A *data recovery plan* and data recovery for a historic resource shall not be required if the City determines that testing or studies already completed have adequately recovered the necessary data, provided that the data have already been documented in an EIR or are available for review at the CHRIS Northwest Information Center (CEQA Guidelines section 15126.4[b]). Resource identification training procedures shall be implemented for construction personnel, conducted by an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards. In the event that subsurface cultural resources are otherwise encountered during approved ground-disturbing activities for a Plan Area construction activity, work within 50 feet shall		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		be stopped and a qualified archaeologist retained to evaluate the finds following the procedures described above. Project personnel shall not collect cultural resources. Although work may continue beyond 50 feet, the archaeologist shall be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to archaeological resources. If human remains are found, the rules set forth in State Health and Safety Code section 7050.5 and CEQA Guidelines section 15126.4(b) apply and shall be followed. Implementation of this measure would reduce the impact to a ***less-than-significant level.***		
GEOLOGY AND SOILS				
Impact 8-1: Effects of Strong Seismic Ground Shaking	LS	N/A	N/A	N/A
Impact 8-2: Potential Soil Erosion and Loss of Topsoil	LS	N/A	N/A	N/A
Impact 8-3: Potential Ground Instability Impacts. The potential for ground instability can depend on specific, highly localized underlying soil conditions. Determination of differential settlement, liquefaction, lateral spreading, and subsidence potential in the Specific Plan Area would require site-specific geotechnical studies for future individual	S	**Mitigation 8-3.** Subject to City review and approval, complete and implement the geotechnical mitigation recommendations identified in the required individual project- and site-specific geotechnical investigations and engineering studies for site-specific proposals, in coordination with City grading permit and building permit performance standards. Such	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
development proposals. Possible ground instability conditions, if not properly engineered for, could result in associated significant damage to project buildings, other improvements, and adjacent property, with direct or indirect risks to life or property, representing a ***potentially significant impact.***		recommendations shall address design- and construction-level details regarding engineering issues and solutions such as the type of building foundation, the extent of subsurface excavation, the details of retaining structures, and any need for subsurface water extraction. Incorporation of this mitigation requirement would reduce this impact to a ***less-than-significant level*.**		
Impact 8-4: Potential for Disturbance of Paleontological Resources. Development facilitated by the Patrick Henry Drive Specific Plan could disturb unrecorded paleontological resources in the Plan Area. This possibility represents a ***potentially significant impact.***	S	**Mitigation 8-4.** For all public improvement and private development projects in the Patrick Henry Drive Specific Plan Area, the following measures shall be implemented: *(1) Education Program.* Project applicants shall implement a program that includes the following elements: ▪ Resource identification training procedures for construction personnel, conducted by a paleontologist who meets the Secretary of the Interior's Professional Qualifications Standards; ▪ Spot-checks and monitoring by a qualified paleontologist of all excavations deeper than seven feet below ground surface; and ▪ Procedures for reporting discoveries and their geologic context.	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		(2) Procedures for Resources Encountered. If subsurface paleontological resources are encountered, excavation shall halt within a buffer area of at least 50 feet around the find, where construction activities will not be allowed to continue until the project paleontologist evaluates the resource and its stratigraphic context. Work shall be allowed to continue outside the buffer area; however, the paleontologist shall be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. During monitoring, if potentially significant paleontological resources are found, "standard" samples shall be collected and processed by a qualified paleontologist to recover micro vertebrate fossils. If significant fossils are found and collected, they shall be prepared to a reasonable point of identification. Excess sediment or matrix shall be removed from the specimens to reduce the bulk and cost of storage. Itemized catalogs of material collected and identified shall be provided to a local museum repository with the specimens. Significant fossils collected during this work, along with the itemized inventory of these specimens, shall be deposited in a local museum repository for permanent curatorship and storage. A report documenting the results of the monitoring and		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		salvage activities, and the significance of the fossils, if any, shall be prepared. The report and inventory, when submitted to the City, shall signify the completion of the program to mitigate impacts on paleontological resources. Implementation of this measure would reduce the impact to a ***less-than-significant level.***		
GREENHOUSE GAS EMISSIONS AND ENERGY				
Impact 9-1: GHG Emissions and Plan Consistency	LS	N/A	N/A	N/A
Impact 9-2. Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources	LS	N/A	N/A	N/A
Impact 9-3. Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency	LS	N/A	N/A	N/A
HAZARDS AND HAZARDOUS MATERIALS				
Impact 10-1: Project-Related Potential Impacts Due to Hazardous Materials Transport, Use, Storage, and Disposal	LS	N/A	N/A	N/A
Impact 10-2: Potential Exposure to Existing Hazardous Materials Contamination	LS	N/A	N/A	N/A
Impact 10-3: Project-Related Potential Asbestos and PCB Exposure	LS	N/A	N/A	N/A

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
Impact 10-4: Project-Related Potential Lead-Based Paint Exposure	LS	N/A	N/A	N/A
Impact 10-5: Potential for Hazardous Materials Near Schools	LS	N/A	N/A	N/A
Impact 10-6: Protocols for Government Code Section 65962.5 Sites	LS	N/A	N/A	N/A
Impact 10-7: Consistency With San Jose Airport Comprehensive Land Use Plan	LS	N/A	N/A	N/A
HYDROLOGY AND WATER QUALITY				
Impact 11-1: Construction Period and Post-Construction Water Quality Impacts	LS	N/A	N/A	N/A
Impact 11-2: Long-Term Water Quality Impacts from Project Operation	LS	N/A	N/A	N/A
Impact 11-3: Effects on Groundwater Recharge and Groundwater Management	LS	N/A	N/A	N/A
Impact 11-4: Drainage Patterns and Risk of Flooding	LS	N/A	N/A	N/A
LAND USE AND PLANNING				
Impact 12-1: Project Effects on the Physical Arrangement of the Community	LS	N/A	N/A	N/A
Impact 12-2: Project Consistency with Land Use Plans, Policies, and Regulations Adopted for the Purpose of Avoiding or Mitigating Environmental Effects	LS	N/A	N/A	N/A

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
NOISE				
Impact 13-1: Plan-Related Temporary Construction Noise Levels. The implementation of the Patrick Henry Drive Specific Plan could result in construction and development activities in the Plan Area that generate noise levels above City standards and/or otherwise result in a substantial, temporary increase in ambient noise levels in the vicinity of the Plan Area. This represents a ***potentially significant impact.***	S	**Mitigation 13-1: Reduce Construction Noise Levels**. To reduce potential noise levels from Specific Plan related construction activities, the City shall ensure future development projects within the Plan Area: *1) Notify Residential and Commercial Land Uses of Planned Construction Activities.* This notice shall be provided at least one week prior to the start of any construction activities, describe the noise control measures to be implemented by the Project, and include the name and phone number of the designated contact for the Applicant/project representative and the City of Santa Clara responsible for handling construction-related noise complaints (per Section 8). This notice shall be provided to: A) The owner/occupants of residential dwelling units within 500 feet of construction work areas; B) The owner/occupants of commercial buildings (including Mission College) within 200 feet of construction work areas or within 400 feet of construction work areas if pile driving equipment will be used; and C) Mission College when construction work areas are within 500 feet of College athletic fields. *2) Notify Calaveras Creek Trail Users of Construction Activities.* Prior to the start of construction activities within 500 feet of	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		Calaveras Creek Trail, signs shall be posted along the trail warning of potential temporary elevated noise levels during construction. Signs shall be posted within 250 feet of impacted trail segments (i.e., portions of the trail within 500 feet of a work area) and shall remain posted throughout the duration of all substantial noise generating construction activities (typically demolition, grading, and initial foundation installation activities). *3) Restrict Work Hours*. All construction-related work activities, including material deliveries, shall be subject to the requirements of City Municipal Code Section 9.10.230. Construction activities, including deliveries, shall occur only during the hours of 7:00 AM to 6:00 PM, Monday through Friday, and 9 AM to 6 PM on Saturday, unless otherwise authorized by City permit. The applicant/project representative and/or its contractor shall post a sign at all entrances to the construction site informing contractors, subcontractors, construction workers, etc. of this requirement. *4) Control Construction Traffic and Site Access*. Construction traffic, including soil and debris hauling, shall follow City-designated truck routes and shall avoid routes (including local roads in the Plan Area) that contain residential dwelling units to the maximum		

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See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		extent feasible given specific project location and access needs. *5) Construction Equipment Selection, Use, and Noise Control Measures*. The following measures shall apply to construction equipment used in the Plan Area: A) To the extent feasible, contractors shall use the smallest size equipment capable of safely completing work activities; B) Construction staging shall occur as far away from residential and commercial land uses as possible; C) All stationary noise-generating equipment such as pumps, compressors, and welding machines shall be shielded and located as far from sensitive receptor locations as practical. Shielding may consist of existing vacant structures or a three- or four-sided enclosure provide the structure/barrier breaks the line of sight between the equipment and the receptor and provides for proper ventilation and equipment operations; D) Heavy equipment engines shall be equipped with standard noise suppression devices such as mufflers, engine covers, and engine/mechanical isolators, mounts, etc. These devices shall be maintained in accordance with manufacturer's recommendations during active construction activities; E) Pneumatic tools shall include a noise suppression device on the compressed air exhaust; F) The applicant/project representative and/or their contractor shall		

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SU = Significant unavoidable impact
NA = Not applicable

See Table 1.1 for definitions.

Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		connect to existing electrical service at the site to avoid the use of stationary power generators; G) No radios or other amplified sound devices shall be audible beyond the property line of the construction site. *6) Implement Construction Activity Noise Control Measures*: The following measures shall apply to construction activities in the Plan Area: A) Demolition: Activities shall be sequenced to take advantage of existing shielding/noise reduction provided by existing buildings or parts of buildings and methods that minimize noise and vibration, such as sawing concrete blocks, prohibiting on-site hydraulic breakers, crushing, or other pulverization activities, shall be employed to the maximum extent feasible; B) Demolition Site Preparation, Grading, and Foundation Work: During all demolition, site preparation, grading, and structure foundation work activities within 500 feet of a residential dwelling unit or 250 feet of a commercial building (including Mission College), a physical noise barrier capable of achieving a minimum 10 dB reduction in construction noise levels shall be installed and maintained around the site perimeter to the maximum extent feasible given site constraints and access requirements. Potential barrier options capable of achieving a 10 dB reduction in construction noise levels could include, but are not limited to: i) A six-foot-high concrete,		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		wood, or other barrier installed at-grade (or mounted to structures located at-grade, such as a K-Rail), and consisting of a solid material (i.e., free of openings or gaps other than weep holes) that has a minimum rated transmission loss value of 20 dB; ii) Commercially available acoustic panels or other products such as acoustic barrier blankets that have a minimum sound transmission class (STC) or transmission loss value of 20 dB; iii) any combination of noise barriers and commercial products capable of achieving a 10 dBA reduction in construction noise levels during demolition, site preparation, grading, and structure foundation work activities; iv) The noise barrier may be removed following the completion of building foundation work (i.e., it is not necessary once framing and typical vertical building construction begins provided no other grading, foundation, etc. work is still occurring on-site); and C) Pile Driving: If pile driving activities are required within 500 feet of a residential dwelling unit or 400 feet of a commercial building (including Mission College), the piles shall be pre-drilled with an auger to minimize pile driving equipment run times. *7) Prepare Project-Specific Construction Noise Evaluation*. Prior to the start of any specific construction project lasting 12 months or more, the City shall review and approve a		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		project-specific construction noise evaluation prepared by a qualified acoustical consultant that: A) Identifies the planned project construction sequence and equipment usage; B) Identifies typical hourly average construction noise levels for project construction equipment; C) Compares hourly average construction noise levels to ambient noise levels at residential and commercial land uses near work areas (ambient noise levels may be newly measured or presumed to be consistent with those levels shown in Table 13-2 and 13-3 of the Patrick Henry Drive Specific Plan Draft Environmental Impact Report (EIR); and D) Identifies construction noise control measures incorporated into the project that ensure: i) activities do not generate noise levels that are above 60 dBA Leq at a residential dwelling unit and exceed the ambient noise environment by at least 5 dBA Leq for more than one year; and ii) activities do not generate noise levels that are above 70 dBA Leq at a commercial building (including Mission College) and exceed the ambient noise environment by at least 5 dBA Leq for more than one year. Such measures may include, but are limited to: a) The requirements of Sections 4, 5, 6, and 8; B) Additional project and/or equipment-specific enclosures, barriers, shrouds, or other noise suppression methods. The use of noise control blankets on building facades shall be		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		considered only if noise complaints are not resolvable with other means or methods. *8) Prepare a Construction Noise Complaint Plan*. The Construction Noise Complaint Plan shall: A) Identify the name and/or title and contact information (including phone number and email) for a designated project and City representative responsible for addressing construction-related noise issues; B) Includes procedures describing how the designated project representative will receive, respond, and resolve construction noise complaints; C) At a minimum, upon receipt of a noise complaint, the project representative shall notify the City contact, identify the noise source generating the complaint, determine the cause of the complaint, and take steps to resolve the complaint; D) The elements of the Construction Noise Complaint Plan may be included in the project-specific noise evaluation prepared to satisfy Section 7 or as a separate document. *9) Owner/Occupant Disclosure*: The City shall require future occupants/tenants in the Plan Area receive disclosure that properties in the Plan Area may be subject to elevated construction noise levels from development in the Plan Area. This disclosure shall be provided as part of the mortgage, lease, sub-lease, and/or other contractual real-estate		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		transaction associated with the subject property. With implementation of these measures, this impact would be ***less than significant.***		
Impact 13-2: Plan-Related Temporary Construction Vibration Levels. The implementation of the Patrick Henry Drive Specific Plan could result in construction and development activities in the Plan Area that generate vibration levels above City standards and/or otherwise result excessive ground-borne vibration levels. This represents a ***potentially significant impact.***	S	**Mitigation 13-2: Reduce Construction Vibration Levels.** To reduce potential vibration-related structural damage and other excessive vibration levels from Specific Plan related construction activities, the City shall ensure future development projects within the Plan Area: *1) Notify Residential and Commercial Land Uses of Planned Construction Activities*. See Patrick Henry Drive Specific Plan Draft Environmental Impact Report (EIR) Mitigation Measure 13-1, Section 1. *2) Restrict Work Hours*. See Patrick Henry Drive Specific Plan Draft EIR Mitigation Measure 13-1, Section 2. *3) Prohibit Vibratory Equipment if Feasible*. The use of large vibratory rollers, vibratory/ impact hammers, and other potential large vibration-generating equipment (e.g., hydraulic breakers/hoe rams) shall be prohibited within 100 feet of any residential building façade and 50 feet of any commercial building façade during construction activities. Plate compactors and compactor rollers are acceptable, and	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		deep foundation piers or caissons shall be auger drilled. *4) Prepare Project-Specific Construction Vibration Evaluation Plan*. If it is not feasible to prohibit vibratory equipment per Section 3) due to site- or project-specific conditions or design considerations, the City shall review and approve a project-specific construction vibration evaluation that: A) Identifies the project's planned vibration-generating construction activities (e.g., demolition, pile driving, vibratory compaction); B) the potential project-specific vibration levels (given project-specific equipment and soil conditions, if known) at specific building locations that may be impacted by the vibration-generating work activities (generally buildings within 50 feet of the work area); C) Identifies the vibration control measures incorporated into the project that ensure equipment and work activities would not damage buildings or result in vibrations that exceed Caltrans' strongly perceptible vibration detection threshold for peak particle velocity (PPV) of 0.1 inches/ second (in/sec). Such measures may include, but are not limited to: i) the requirements of Sections 1, 2, and 3; ii) the use of vibration monitoring to measure actual vibration levels; iii) the use of photo monitoring or other records to document building conditions prior to, during, and after construction activities; and iv) the use		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		of other measures such as trenches or wave barriers; D) Identifies the name (or title) and contact information (including phone number and email) of the Contractor and City-representatives responsible for addressing construction vibration-related issues; and E) Includes procedures describing how the construction contractor will receive, respond, and resolve to construction vibration complaints. At a minimum, upon receipt of a vibration complaint, the Contractor and/or City representative described in the first sub-bullet above shall identify the vibration source generating the complaint, determine the cause of the complaint, and take steps to resolve the complaint by reducing ground-borne vibration levels to peak particle velocity levels that do not exceed accepted guidance or thresholds for structural damage that are best applicable to potentially impacted buildings (e.g., see Patrick Henry Drive Specific Plan Draft EIR Table 13-6) and Caltrans' strongly perceptible vibration detection threshold (PPV of 0.1 in/sec, see Patrick Henry Drive Specific Plan Draft EIR Table 13-7). With implementation of these measures, this impact would be ***less than significant***.		
Impact 13-3: On-site Noise Levels from Specific Plan Development. The implementation of the Patrick Henry Drive Specific Plan could result in new roadway and	S	**Mitigation 13-3: Control Fixed and Other On-site Noise-Generating Sources and Activities.** To ensure on-site, operations-related equipment and activities associated	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
infrastructure improvements and new residential, office, and other land uses that generate noise from on-site equipment, activities, or other operations in excess of applicable City standards. This represents a ***potentially significant impact.***		with the Specific Plan do not generate noise levels that exceed City standards or otherwise result in a substantial permanent increase in ambient noise levels, future development projects shall submit a project-specific operational noise analysis to the City for review and approval prior to the issuance of the first building permit for the project, or as otherwise determined by the City. The noise analysis shall be prepared by a qualified acoustical consultant and shall identify all major fixed machinery and equipment, non-residential truck docks/dedicated loading zones, waste collection areas, and above ground parking garages included in the final project design/site plan. The noise analysis shall also document how project noise sources and activities will comply with the exterior sound limits established in Municipal Code Section 9.10.040, Schedule A and the noise compatibility guidelines in General Plan Table 8.14-1. Fixed machinery and equipment may include, but is not limited to, pumps, fans (including air intake or exhaust fans in parking garages), compressors, air conditioners, generators, and refrigeration equipment. The control of noise from such equipment may be accomplished by selecting quiet equipment types, siting machinery and equipment inside buildings, within an enclosure (e.g., equipment cabinet or mechanical closets, or behind a parapet wall or other barrier/shielding. Truck		

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
		docks/dedicated loading zones consist of a loading dock or other dedicated area for the regular loading and unloading of retail, commercial, or other non-residential goods from delivery trucks. The control of noise from such truck docks/loading areas, waste collection areas, and parking garages may be accomplished by placing such areas away from sensitive land uses, restricting activities or operating hours for certain areas, or other design means. With implementation of these measures, this impact would be ***less than significant***.		
Impact 13-4: Increases in Traffic Noise Levels from Specific Plan Development. The implementation of the Patrick Henry Drive Specific Plan could generate vehicle trips that substantially increase existing and future No Project traffic noise levels and/or exceed City noise and land use compatibility standards. This represents a ***potentially significant impact.***	S	**Mitigation 13-4.** No feasible mitigation is available.	City	SU
Impact 13-5: Operational Vibrations	LS	N/A	N/A	N/A
Impact 13-6: Exposure to Airport-Related Noise	LS	N/A	N/A	N/A
POPULATION AND HOUSING				
Impact 14-1: Effects on Population Growth	LS	N/A	N/A	N/A

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
Impact 14-2: Population and Housing Displacement Effects	LS	N/A	N/A	N/A
Impact 14-3: Temporary Employment Impacts	LS	N/A	N/A	N/A
PUBLIC SERVICES				
Impact 15-1: Increase in Fire Protection/ Emergency Medical Service (EMS) Demands	LS	N/A	N/A	N/A
Impact 15-2: Increase in Police Service Demands	LS	N/A	N/A	N/A
Impact 15-3: Impacts on Public Schools	LS	N/A	N/A	N/A
Impact 15-4: Impacts on Parks and Recreational Facilities	LS	N/A	N/A	N/A
Impact 15-5: Impacts on Other Public Facilities	LS	N/A	N/A	N/A
Impact 15-6: Construction Period Impacts	LS	N/A	N/A	N/A
RECREATION				
Impact 16-1: Impacts on Parks and Recreational Facilities	LS	N/A	N/A	N/A
Impact 16-2: Construction Period Impacts	LS	N/A	N/A	N/A

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
TRANSPORTATION				
Impact 17-1: Impacts Related to Vehicle Miles Traveled; Conflict With Adopted Policies, Plans, or Programs Regarding Roadways	LS	N/A	N/A	N/A
Impact 17-2: Impacts on Transit	LS	N/A	N/A	N/A
Impact 17-3: Impacts on Bicycle Facilities	LS	N/A	N/A	N/A
Impact 17-4: Impacts on Pedestrian Facilities	LS	N/A	N/A	N/A
Impact 17-5: Hazards Due to Design Features or Incompatible Uses	LS	N/A	N/A	N/A
Impact 17-6: Emergency Access	LS	N/A	N/A	N/A
UTILITIES AND SERVICE SYSTEMS				
Impact 18-1: Specific Plan Inconsistency with General Plan and UWMP Growth Projections. The WSA prepared for the proposed Specific Plan includes development in the Plan Area that has not been identified in the General Plan (i.e., exceeds the General Plan land use projections for 2035, the General Plan horizon year), and therefore, because the 2015 Urban Water Management Plan (UWMP) was based on General Plan buildout projections, this WSA is inconsistent with General Plan and UWMP buildout projections. (In addition, the recently adopted 2020 UWMP was based on 2018 ABAG growth projections	S	**Mitigation 18-1.** Consistent with SB 221 and SB 610, no tentative map, Architectural/Design Review, or development agreement for a proposed, individual project shall be approved until the City of Santa Clara Water & Sewer Utilities Department confirms that water supplies are adequate for each individual project. Such confirmation shall include an updated description of the citywide water supply situation (including any plans for pumping additional groundwater) at that future time, reflecting any progress on City plans for expanding its recycled water program and any City requirements for implementing additional	City; Individual project applicants	LS

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Impacts	Significance Without Mitigation	Mitigation Measures	Mitigation Responsibility	Significance With Mitigation
that also did not include the Specific Plan growth projections.) Until the Specific Plan development exceeding General Plan growth projections is included in the General Plan and UWMP, (the Specific Plan is inconsistent with the General Plan/Urban Water Management Plan, and this inconsistency would represent a ***potentially significant project and cumulative impact.***		"best management practices" (BMPs) related to recycled water use and/or water conservation. These City actions would ensure a continual monitoring of citywide water supply throughout implementation of the Specific Plan. Additionally, incorporation of measures to reduce water demand and, if necessary, identification of alternative water sources to offset project supply shortages would reduce this impact to a ***less-than-significant level.***		
Impact 18-2: Project and Cumulative Need for Water, Wastewater, and Storm Drainage System Infrastructure	LS	N/A	N/A	N/A
Impact 18-3: Wastewater Treatment Capacity Impacts	LS	N/A	N/A	N/A
Impact 18-4: Project Impacts on Solid Waste Disposal and Recycling Service	LS	N/A	N/A	N/A
Impact 18-5: Electricity, Natural Gas, and Telecommunications Infrastructure	LS	N/A	N/A	N/A

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See Table 1.1 for definitions.

2.5 SUMMARY OF ALTERNATIVES

To provide a basis for further understanding of the environmental effects of a proposed project and possible approaches to reducing its identified significant impacts, the CEQA Guidelines require an EIR to also "…describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

2.5.1 Identified Alternatives

Pursuant to these CEQA sections, chapter 21 identifies and evaluates the following five alternatives to the project:

- **Alternative 1: No Project - Existing City of Santa Clara 2010-2035 General Plan**. Under Alternative 1 (No Project), there would be no change in the current land use and zoning controls in the Plan Area. The Patrick Henry Drive Specific Plan would not be adopted, and development would proceed under the current 2010-2035 General Plan. New infrastructure would be maintained or constructed as required to accommodate new development on a project-by-project basis, and not as a planned, integrated set of improvements specifically for the Plan Area. The No Project alternative would continue to allow development under the existing Light Industrial (ML) General Plan designation, which would accommodate manufacturing, distribution, warehousing, and other allowable uses with a maximum Floor Area Ratio (FAR) of 0.60. Because no residential uses would be developed, no new public parks or open spaces would be required. The No Project alternative would result in an increase in uses allowed under the Light Industrial General Plan designation. Uses currently in the Plan Area include general office (500,499 square feet), research and development (207,667 square feet), light industrial (120,900 square feet), data center (214,522 square feet), and a church (29,400 square feet) (from Table 5-5 in chapter 5, Air Quality, of this EIR), for a current total of 1,072,988 square feet. Generally, using the 0.6 FAR for the 73.59-acre (3,205,580 square-foot) Plan Area, development over existing conditions in the Plan Area would increase by up to 2,132,592 square feet, for a total in the Plan Area of 3,205,580 square feet of land uses allowable under the Light Industrial General Plan designation. The frameworks and design standards and guidelines of the proposed Patrick Henry Drive Specific Plan would not be implemented, and no residential units would be developed.

- **Alternative 2: All Commercial Office Development**. Under Alternative 2, a Patrick Henry Drive Specific Plan would be adopted, but all development would be commercial office, which would allow up to be 6,411,161 square feet of commercial office space. No residential, retail, flex, or community development would be included in the Specific Plan. Alternative 2 would result in a net reduction of: 10,300 to 12,000 residential units, 150,000 square feet of retail space, 90,000 square feet of flex space, and 70,000 square feet of community space, with a net gain of approximately 5,551,286 to 6,411,161 square feet of commercial office space.[1] Because no residential uses would be developed, no new public

[1]The office space calculations are based on the gross acreage of the Plan Area (73.59 acres) multiplied by the 2.0 Floor Area Ratio (FAR) allowed in the Specific Plan High-Density Flex land use classification. Specific Plan Scenario B already proposes 785,000 square feet of office use on about ten acres; therefore, the alternative shows a range of net new office space.

parks or open spaces would be required. This alternative does not restrict development to fewer potential development sites or at a lower intensity on individual sites compared to the proposed Patrick Henry Drive Specific Plan. Specific Plan frameworks and design standards and guidelines would be revised/reformulated to apply to only commercial office development. Plan components and uniformly applicable development regulations and performance standards would be implemented on individual development sites. Overall impacts throughout the Plan Area would be expected to be higher, generally due to the single-use (commercial office) aspect of the alternative.

- **Alternative 3: All Residential Development**. Under Alternative 3, a Patrick Henry Drive Specific Plan would be adopted, but all development would be multi-family residential. No retail, flex, office, or community development would be included in the Specific Plan. Alternative 3 would result in a net reduction of: 150,000 square feet of retail space, 90,000 square feet of flex space, 0 to 785,000 square feet of office space, and 70,000 square feet of community space, with a net gain of approximately 4,727 multi-family dwelling units, for a total of 16,727 dwelling units in the Plan Area.[1] This alternative does not restrict development to fewer potential development sites or at a lower density on individual sites compared to the proposed Patrick Henry Drive Specific Plan. Specific Plan frameworks and design standards and guidelines would be revised/reformulated to apply only to residential development – and Specific Plan public parks and open space provisions would remain intact and could be expanded based on the increase in residents. Plan components and uniformly applicable development regulations and performance standards would be implemented on individual development sites. Overall impacts throughout the Plan Area would be expected to be higher, generally due to the single-use (residential) aspect of the alternative.

- **Alternative 4: Reduced Overall Development.** Under Alternative 4, a Patrick Henry Drive Specific Plan would be adopted, but overall development would be reduced by 20 percent. Alternative 4 would result in between 8,240 and 9,600 residential units (a net reduction of 2,060 to 2,400 units); 248,000 square feet of non-residential/non-office development (a net reduction of 62,000 square feet); 628,000 square feet of commercial office (Scenario B only; a net reduction of 157,000 square feet); and between 5.6 acres and 6.5 acres of new public parkland and, similarly, 5.6 and 6.5 acres of new open space (a net reduction of 1.41 to 1.6 acres). This alternative would not restrict development in the Plan Area, and all other Plan frameworks and design standards and guidelines would remain the same. Plan components and uniformly applicable development regulations and performance standards would be implemented on individual development sites. Overall impacts throughout the Plan Area would be expected to be lower.

- **Alternative 5: Alternative Project Location (Considered But Rejected)**. Section 15126.6(a) of the CEQA Guidelines states, “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most

[1]The residential density calculations are based on the gross acreage of the Plan Area (73.59 acres) multiplied by 163 dwelling units (du) per acre (ac), which is the overall density of the proposed number of Specific Plan residential units in Scenario A divided by the gross Plan Area acreage (12,000 du/73.59 ac = 163 du/ac). In addition, using acreages included in the traffic impact analysis (TIA) prepared for the Specific Plan by Hexagon Transportation Consultants, the non-residential development proposed under the Plan could be accommodated on approximately 29 acres. Therefore, with all residential development, this alternative could add from 4,727 (Scenario A) to 6,427 (Scenario B) dwelling units to the units already proposed under Specific Plan, for a total of 16,727 dwelling units in the Plan Area.

of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project[.]" Further, section 15126.6(c) explains, "Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental effects." To help clarify the meaning of "feasibility," CEQA Guidelines section 15126.6(f)(1) (Rule of Reason/Feasibility) states, "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries...and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site….No one of these factors establishes a fixed limit on the scope of reasonable alternatives."

Santa Clara is an incorporated city bordered by the cities of Sunnyvale and Cupertino to the west, San Jose to the south and east, and Milpitas to the northeast. The approximately 73.59-acre Plan Area is almost completely surrounded by existing development (the proposed Kylli mixed-use development is proposed for the parking area adjacent to the northern Plan Area border and is currently under review). The Plan Area has been identified in the adopted Santa Clara 2010-2035 General Plan and designated a Priority Development Area by ABAG as an area of growth due primarily to its location, the presence of nearby employment opportunities, and the availability of infrastructure (e.g., utility systems, transportation network - including light trail and Alameda Corridor Express and freeways). This situation provides an opportunity to accommodate projected growth while allowing the City to preserve its existing single family and other low-density neighborhoods. An alternative location for the Patrick Henry Drive Specific Plan is not feasible primarily because other areas that could accommodate similar high-density residential development are either currently under development review or are the focus of future study. In addition, the CEQA Guidelines note that the alternatives evaluated in an EIR should be selected based on their ability to avoid or substantially lessen the significant impacts of the proposed project. Even if an alternative location for the project could implement the basic project objectives, only those locations that would avoid or substantially lessen any of the significant impacts of the project need to be considered in the EIR.

In the case of identified significant impacts under the proposed Patrick Henry Drive Specific Plan, (1) feasible mitigation measures are available to reduce most impacts to less-than-significant levels (with the exception of air quality, cultural resources, and traffic noise impacts), and (2) transferring these potentially significant impacts to an alternative location still could substantially affect the environment, possibly worse than in the Plan Area, where coordinated infrastructure, services, regulations, plans, and proximity to transit resources already are in place to avoid or reduce significant environmental impacts. The Patrick Henry Drive Specific Plan objectives consist of a range of coordinated frameworks and urban design standards and guidelines intended to improve the area for residents, employees, and visitors – in both the short term and long term. The purpose of the Specific Plan is to create new housing balanced with non-residential development appropriate for the location. An alternative to the Specific Plan that focused on a different location in Santa Clara would not necessarily be able to implement the City's basic objectives for the project.

Because an alternative project location would be infeasible, would not necessarily avoid or lessen the significant impacts of the proposed project and might result in new significant impacts, and would not necessarily be able to achieve the basic project objectives, a project

alternative in a different location was eliminated from further detailed consideration. No further evaluation of alternative project locations is required under CEQA.[1]

2.5.2 Environmentally Superior Alternative

Alternative 4: Reduced Overall Development would result in the least adverse overall environmental impacts and would therefore be the "environmentally superior alternative." This conclusion is based on the overall reduction in the severity of impacts compared to the proposed project (the Specific Plan), as indicated in Table 20-2. In addition, Alternative 4 would meet all of the eight basic project objectives, at least to some degree, though it would be less effective in meeting parkland and open space standards, providing community amenities and public facilities, and developing affordable housing (but would still support the City percentage goals – i.e., 15 percent – for affordable housing) due to the reduced size of development proposed.

As discussed in chapter 21, Alternatives to the Proposed Project, based on the sheer size of the Specific Plan Area (73.59 acres) and the development already allowed under the existing Santa Clara General Plan (No Project), none of the significant unavoidable project or cumulative impacts are expected to be reduced to a level of less than significant under any of the alternatives with the exception that Alternative 4 would be likely to reduce Impact 13-4 to a less-than-significant level.[2]

[1]CEQA Guidelines section 15126.6(c) explains that alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are infeasible, or do not avoid significant environmental effects. CEQA Guidelines section 15126.6(f) indicates that the Lead Agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitation, jurisdictional boundaries, and the proponent's control over alternative sites in determining the range of alternatives to be evaluated in an EIR. With respect to alternative locations, CEQA Guidelines section 15126.6(f) indicates that alternative locations need not be evaluated in every case. The key question in determining whether to evaluate alterative locations is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen significant effects need be evaluated in the EIR. CEQA Guidelines section 15126(f)(2) indicates that alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered.

[2]Reducing Impact 5-3 (related to construction period impacts on sensitive receptors) to a less-than-significant level cannot be assured because when and where construction would occur cannot be definitively determined and thus the risk would remain, as described in the EIR chapter 5 (Air Quality). Reducing Impact 7-1 (related to historic resources) to a less-than-significant level cannot be assured because whether or not an as-yet undefined historic resource may be impacted from demolition activities cannot be determined until a specific development proposal is considered. Reducing Impact 5-2 (related to net increase in criteria air pollutants) to a less-than-significant level would also pose a challenge because as discussed in EIR chapter 5, Air Quality, the existing land use operational emissions projected for 2040 would amount to approximately 62 percent of the BAAQMD threshold without any additional development; therefore, development would necessarily be limited or risk exceeding the threshold. Reducing Impact 13-4 (traffic noise levels) to a less-than-significant level would require a reduction in the amount of development such as proposed by Alternative 4 (although there would be no definitive guarantee that a less-than-significant finding would result without modeling).

2.6 MITIGATION IMPLEMENTATION

For those mitigation measures identified in this EIR that are adopted by each jurisdictional City, a ***mitigation monitoring and reporting program*** will be undertaken by City staff to ensure and verify mitigation implementation. Implementation of most of the mitigation measures recommended in this EIR could be effectively implemented through incorporation into the final version of one or more of the various Patrick Henry Drive Specific Plan components and/or can be implemented (monitored and verified) through the City's standard development review procedures following adoption of these components. Pursuant to CEQA Guidelines Section 15087, adoption of a mitigation monitoring and reporting program will be necessary before the Plan can be adopted by the Santa Clara City Council. Chapter 22 (Mitigation Monitoring) of this EIR provides additional detail.

3. PROJECT DESCRIPTION

This EIR chapter describes the proposed Patrick Henry Drive (PHD) Specific Plan components and actions ("project") addressed throughout the EIR. As explained by CEQA Guidelines section 15124 (Project Description), the project description that follows has been detailed to the extent needed for adequate evaluation of environmental impacts. This description includes: (1) the location and boundaries of the Plan Area; (2) the background leading up to the proposed Plan; (3) the basic objectives of the Plan; (4) the various Plan components; (5) the development capacity assumptions used to evaluate quantitative environmental impacts; and (6) the jurisdictional approvals required to implement the Plan.

To avoid repetition and provide a manageable EIR, this project description, as well as the other EIR chapters, does not duplicate the detailed contents of the Patrick Henry Drive Specific Plan document. As with the "Relevant Plan Components" section of EIR environmental topic chapters (e.g., Public Services, Transportation, Utilities and Service Systems), the reader is encouraged to review the entire Patrick Henry Drive Specific Plan, or the sections that interest the reader, for more detail. The Specific Plan is available at:[1]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

3.1 LOCATION

See Figures 3.1 (Context Map) and 3.2 (Regional Setting). Santa Clara, a city of about 130,000, is located near the southern part of San Francisco Bay, bordered by the cities of Sunnyvale and Cupertino to the west, San Jose to the south and east, and Milpitas to the northeast. Santa Clara is home to a wide range of neighborhoods and businesses, including many technology firms, such as Applied Materials, Hewlett-Packard, Intel, Nvidia, Oracle, and Ericsson. Founded in 1852, "The Mission City" has grown into an internationally diverse community and is also home to Santa Clara University, Mission College, California's Great America Theme Park, the Santa Clara Convention Center, and Levi's® Stadium (home of the San Francisco 49ers). The city is also located adjacent to Norman Y. Mineta San Jose International Airport, a major airport in the San Francisco Bay Area.

The Patrick Henry Drive Specific Plan covers approximately 73.59 acres and currently contains predominantly commercial uses such as research and development (R&D) and light industrial (electronics and computer software development). Other commercial uses include offices (professional services, architects, legal, and personnel/employment support) and a restaurant. In addition, there is a church in the southern part of the Plan Area.

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.



FIGURE 3.1: CONTEXT MAP

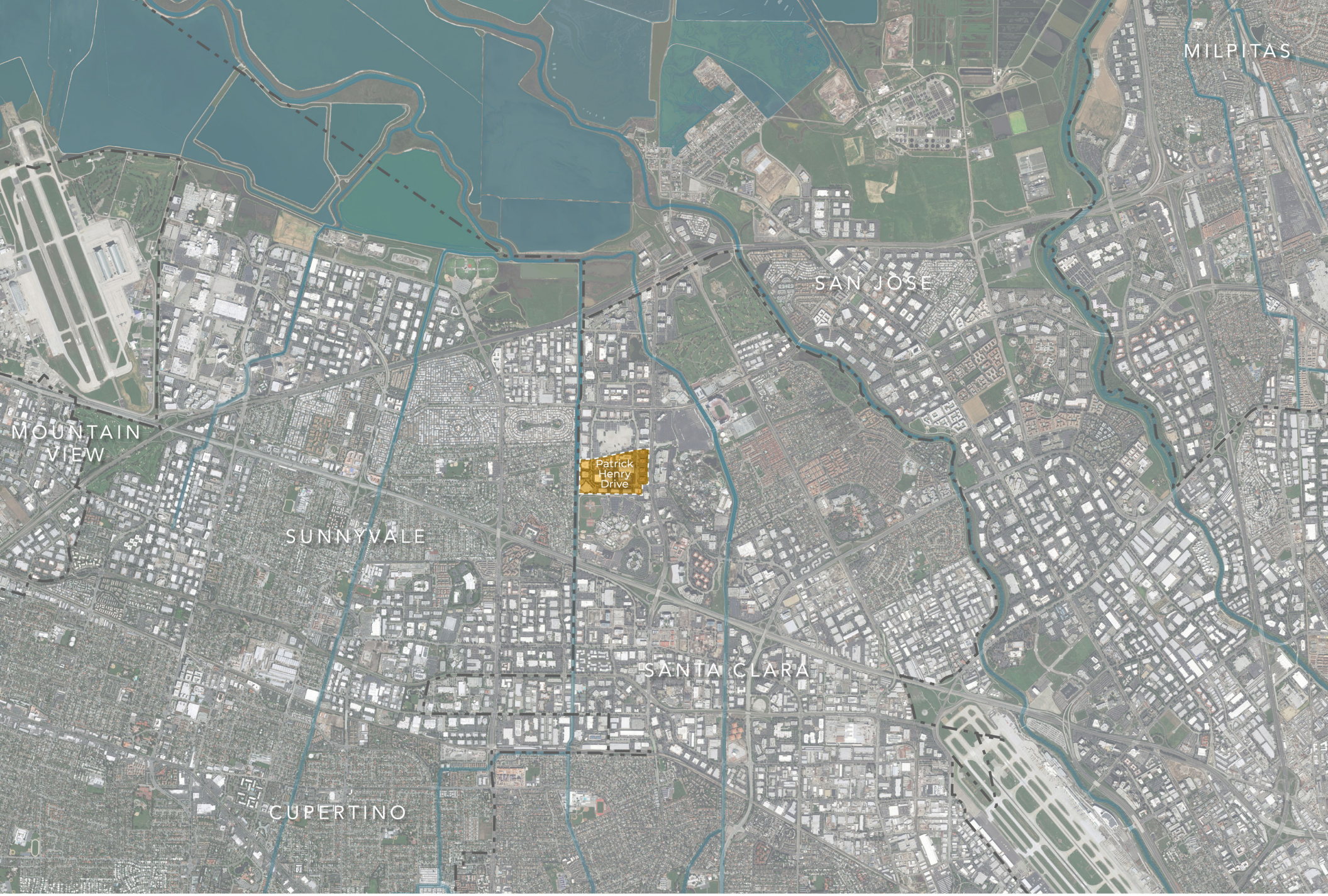


FIGURE 3.2: REGIONAL SETTING

Specific Plan Area

City Boundary

Creeks/Water Bodies

Patrick Henry Drive Specific Plan

N

0 0.5 1 2 Miles

As shown on Figures 3.3 (Plan Area Aerial Base Map) and 3.4 (Aerial Base), the Plan Area is generally bounded by Great America Parkway to the east, the San Francisco Public Utility Commission (SFPUC) right-of-way ("Hetch-Hetchy right-of-way") to the north, the City of Sunnyvale and Calabazas Creek to the west, and Mission College Boulevard to the south.

The following is a brief summary of the existing conditions in the Plan Area. Specific Plan Chapter 2 (Existing Conditions) provides further detail.

The Patrick Henry Drive Specific Plan Area, much like the surrounding neighborhood, is characterized by several "superblocks" with ample surface parking, significant setbacks, and significant separation between buildings. The Plan Area is relatively flat and developed with buildings ranging in height from one and two stories, in the south and west, to four- and five-story buildings, in the east. The building stock was developed primarily in the 1970s and 1980s. The Plan Area is generally underutilized, and some buildings are vacant. There are no residential land uses, public parks, or historic structures located on-site. Private automobiles predominate the suburban streetscape environment that is defined by limited pedestrian and bicycle accessibility. Visible infrastructure on-site includes local streets and utilities, such as streetlights, as well as the Hetch Hetchy right-of-way that runs along the Plan Area's northern border. Due to the large-lot industrial development pattern and limited number of roadways within the Plan Area, linkages and connectivity across the Plan Area are limited.

See Figure 3.5 (Existing Zoning).

3.2 BACKGROUND

The Patrick Henry Drive Specific Plan is the culmination of a robust community-based process designed to transform underutilized office and industrial parks into a compact, pedestrian-friendly, transit-oriented development. This process actively engaged local residents, business and property owners, developers, neighborhood representatives, elected and appointed officials, and others during a two-year planning process. The project team carried out a multi-pronged community engagement strategy that solicited input and feedback from community stakeholders at every phase of planning, including one-on-one and small-group stakeholder interviews, meetings with advisory groups, community workshops, and study sessions with City leadership.

Technical Advisory Committee (TAC) meetings. The TAC is an advisory group representing the diverse perspectives of several City departments and local agencies and was consulted throughout the planning process, providing input on Specific Plan direction, project feasibility, and implementation strategies.

Stakeholder Steering Group (SSG) meetings. The SSG included representatives of developers and/or property owners from the Plan Area. A series of SSG meetings provided feedback on the refined Plan Area concepts, a framework for distributing infrastructure and redevelopment costs equitably, and detailed information about intended development programs.

Community Workshops. Community workshops provided opportunities for community members to learn more about the Specific Plan process and provide input on key concepts. The first workshop was conducted as a joint session with the nearby Kylli projects. A second

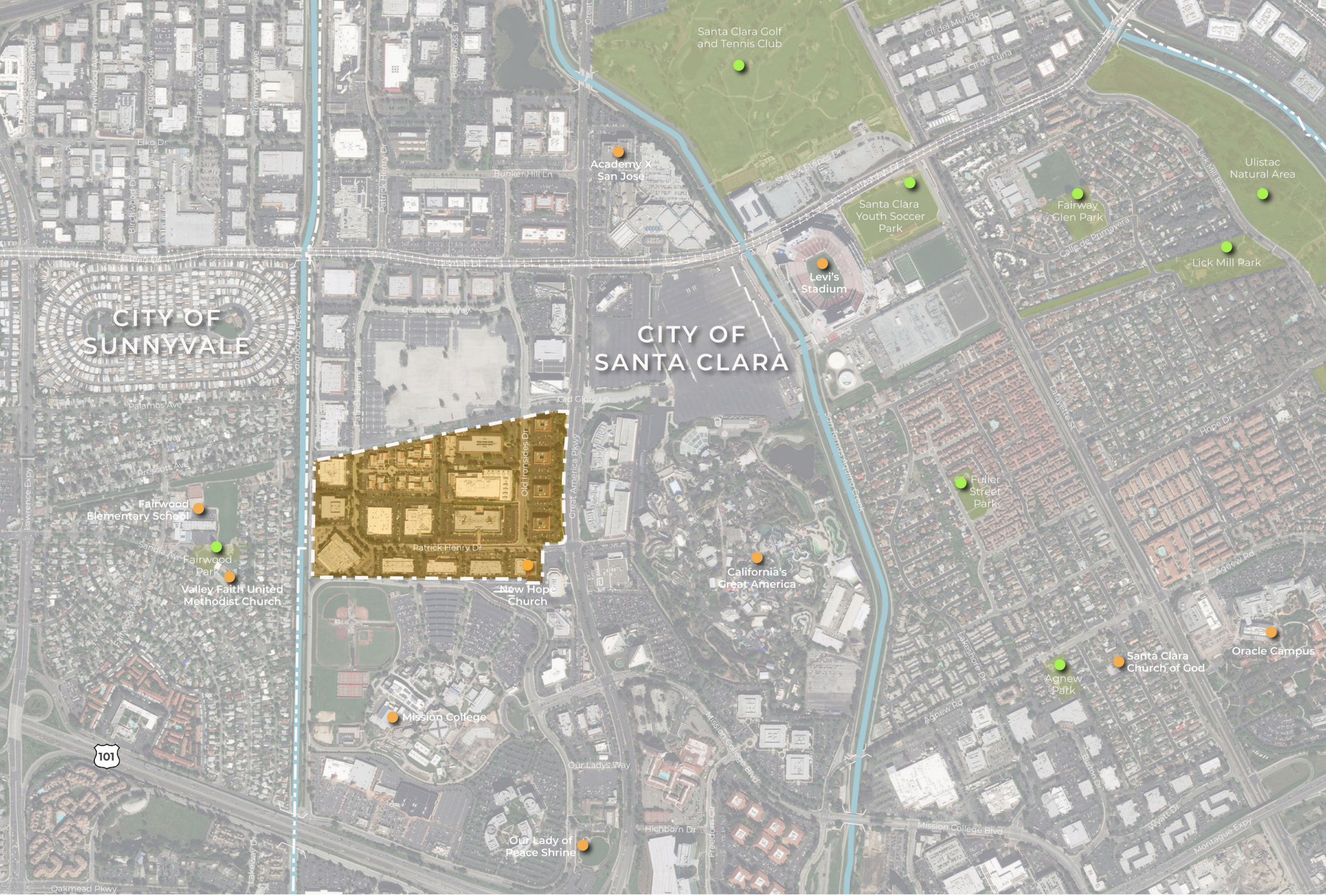


FIGURE 3.3: PLAN AREA AERIAL BASE MAP

Patrick Henry Drive Specific Plan

- Study Area Parcel
- City Boundary
- VTA Light Rail Line
- Park/Open Space
- Creeks/Water Bodies
- Community Destination

N

0 750 1,500 3,000 Feet



FIGURE 3.4: AERIAL BASE

Study Area

Patrick Henry Drive Specific Plan

N

0 250 500 Feet



FIGURE 3.5: EXISTING ZONING

Patrick Henry Drive Specific Plan

- Study Area
- City Boundary
- Creeks/ Water Bodies
- PD - Planned Development
- ML - Light Industrial
- MP - Planned Industrial
- CT - Thoroughfare Commercial
- B - Public/Quasi Public
- A - Agricultural
- CP - Commercial Park

Sunnyvale Existing Zoning

- R0 - Low Density Residential
- RMH - Residential Mobile home
- PF - Public Facilities

N

0 250 500 Feet

community workshop is intended for early 2021. The public draft PHD Specific Plan was released on March 5, 2021.

Study Sessions with the City Council and Planning Commission. City Council and Planning Commission study sessions, led by City staff, provided City leadership the opportunity to shape development of the Specific Plan and provide input regarding land use, density ranges, parkland/open space, and building height as well as provide input to help ensure housing growth and density occur in a sustainable manner.

3.3 BASIC PROJECT OBJECTIVES

The overarching goal of the Patrick Henry Drive Specific Plan is to establish a comprehensive framework ("blueprint") for the Plan Area in the future, which will include a refined vision, goals, policies, and design standards that build on and systematically implement the City's General Plan while also providing for flexibility and encouraging reinvestment in the Plan Area. The development goals listed below are referred to collectively in this EIR as the "basic project objectives" (CEQA Guidelines section 15124[b]). Additional, more detailed development strategies are described in this EIR under the particular environmental topics to which they apply (e.g., land use, public services, utilities):

- Ensure an economically vibrant, safe, healthy, and sustainable neighborhood that supports a range of users, including residents, business owners, and visitors.
- Bring clarity and consistency to the regulation of individual development proposals within the [Patrick Henry Drive] PHD Specific Plan Area boundaries.
- Foster strong connectivity, access, and circulation for a mix of travel modes, including walking, cycling, driving, and transit.
- Plan parkland and open space standards consistent with City Code 17.35 to support a high quality of life within an urban environment.
- Provide community amenities and public facilities to support a "complete" neighborhood.
- Adopt infrastructure and funding plans to ensure infrastructure will adequately support planned densities and intensities.
- Support the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).
- Engage the entire community in a robust, creative, and ongoing participation process.

3.4 PATRICK HENRY DRIVE SPECIFIC PLAN

As described in this EIR's introduction (chapter 1), the Patrick Henry Drive Specific Plan is a "specific plan," which is one of several policy and regulatory tools used by the City of Santa Clara to implement the City's 2010-2035 General Plan. A specific plan implements the General

Plan through the establishment of more detailed policies, regulations, and actions specifically focused on the Patrick Henry Drive Specific Plan Area.

Because the Patrick Henry Drive Specific Plan is a specific plan, State law requires the document to be consistent with the 2010-2035 General Plan, including all goals, policies, objectives, and standards contained in that plan. Therefore, the Patrick Henry Drive Specific Plan was purposely created to be consistent with the General Plan, and the Plan components described below reflect that consistency.

To avoid repetition and help keep the EIR manageable, more details on the Specific Plan components[1] are included in the appropriate environmental topic chapters (e.g., Public Services, Transportation, Utilities and Service Systems) as they apply specifically to that topic. This helps ensure that environmental impacts are evaluated to the level of detail required by CEQA Guidelines sections 15124 (Project Description) and 15126.2 (Consideration and Discussion of Significant Environmental Impacts).

The Specific Plan would facilitate development in the Plan Area with a range of residential development, a mix of non-residential development, and the possibility of office development. Based on community and property owner feedback, two development "scenarios" have been designed to reflect these two development assumptions, which are discussed in more detail in section 3.5, Development Capacity Assumptions, below: Scenario A, a maximum residential development assumption, and Scenario B, a maximum office development assumption. Because the Specific Plan "High Density Flex" zone allows either residential or office use, it has not been determined at this time which type of development (or combination thereof) would be proposed; therefore, these two scenarios represent two conservative but reasonably foreseeable maximum potential development scenarios that may be facilitated by approval of the Specific Plan, and their evaluation in this EIR is intended to provide full disclosure of potential environmental effects from the maximum development allowed by the Plan.

To differentiate between the two scenarios, this EIR has established two distinct total development capacities for study: (1) Scenario A ("maximum residential development"), allowing up to approximately 12,000 net new residential units and 310,000 net new square feet (SF) of non-residential uses (150,000 SF retail, 90,000 SF flex, and 70,000 SF community facilities) by 2040; and (2) Scenario B ("maximum office development"), allowing up to approximately 10,300 net new residential units, 785,000 net new square feet of office uses, and 310,000 net new square feet of other non-residential uses (150,000 SF retail, 90,000 SF flex, and 70,000 SF community facilities) by 2040. Both the PHD Specific Plan and this EIR assume these numbers represent the maximum capacity for anticipated future development. As such, the City would continuously monitor new development approvals to ensure that there is remaining capacity as new projects are approved.

Under either scenario, development is anticipated to occur in three phases, with up to approximately 5,752 dwelling units reasonably foreseeably built during Phase 1 (i.e., ready for occupancy by 2029); up to an additional approximately 2,604 dwelling units built during Phase 2

[1]References in this Draft EIR to Specific Plan components, policies, standards, etc. are directly quoted from the March 2021 Public Review Draft Specific Plan unless otherwise noted (e.g., "summarized"). Text in [brackets] indicates text that has been added to help provide context for the reader or in some instances "notes" directed to the reader.

(ready for occupancy by 2035); and the remainder of dwelling units built during Phase 3 (ready for occupancy after 2035).

The Draft Specific Plan also includes a road connection option, as part of the Specific Plan circulation system described below, to connect the Plan Area to Mission College Boulevard. This option which would construct a road between Patrick Henry Drive in the southern part of the Plan area (on O2Micro's property). The Specific Plan also includes an option where no road connection is constructed on O2Micro's property or on the Mission College Campus.

The following summarizes the major components of the Patrick Henry Drive Specific Plan. Figures 3.6 (Land Use Plan), 3.7 (Urban Design Framework), and 3.8 (Building Height) accompany the text. Each of these figures depicts the new road connection between Patrick Henry Drive and Mission College Boulevard. Figures 3.6-Alt, 3.7-Alt, and 3.8-Alt depict the same respective components (land use plan, urban design framework, and building height) but with the no connection option—i.e., no road connection between Patrick Henry Drive and Mission College Boulevard.

Urban Design Framework (Specific Plan Section 4.2)

The following urban design principles and policies ensure that investment and new development projects in the PHD [Patrick Henry Drive] Specific Plan Area work cohesively to evolve the area into a distinct, vibrant urban neighborhood (see [Specific Plan] Figure 4.2a: Urban Design Framework). The Design Guidelines in [Specific Plan] Chapter 5 provide specific direction to ensure exceptional design while allowing a variety of architectural styles.

Urban Design Principles

The following planning principles draw on community and stakeholder input to articulate the priorities for the built environment.

- Create a human-scaled public realm with a distinctly urban feel.
- Enliven the street environment and create multi-use activity nodes.
- Prioritize the safety and comfort of pedestrians of all ages and abilities.
- Provide diverse parks, plazas, and open spaces.
- Create a fine-grained network of pedestrian paths.
- Transition building heights adjacent to lower-density neighborhoods.
- Accommodate diverse architectural styles.
- Use landscaping to create a comfortable pedestrian realm and contribute color and depth.
- Provide signature architectural elements on buildings at gateway and activity nodes.

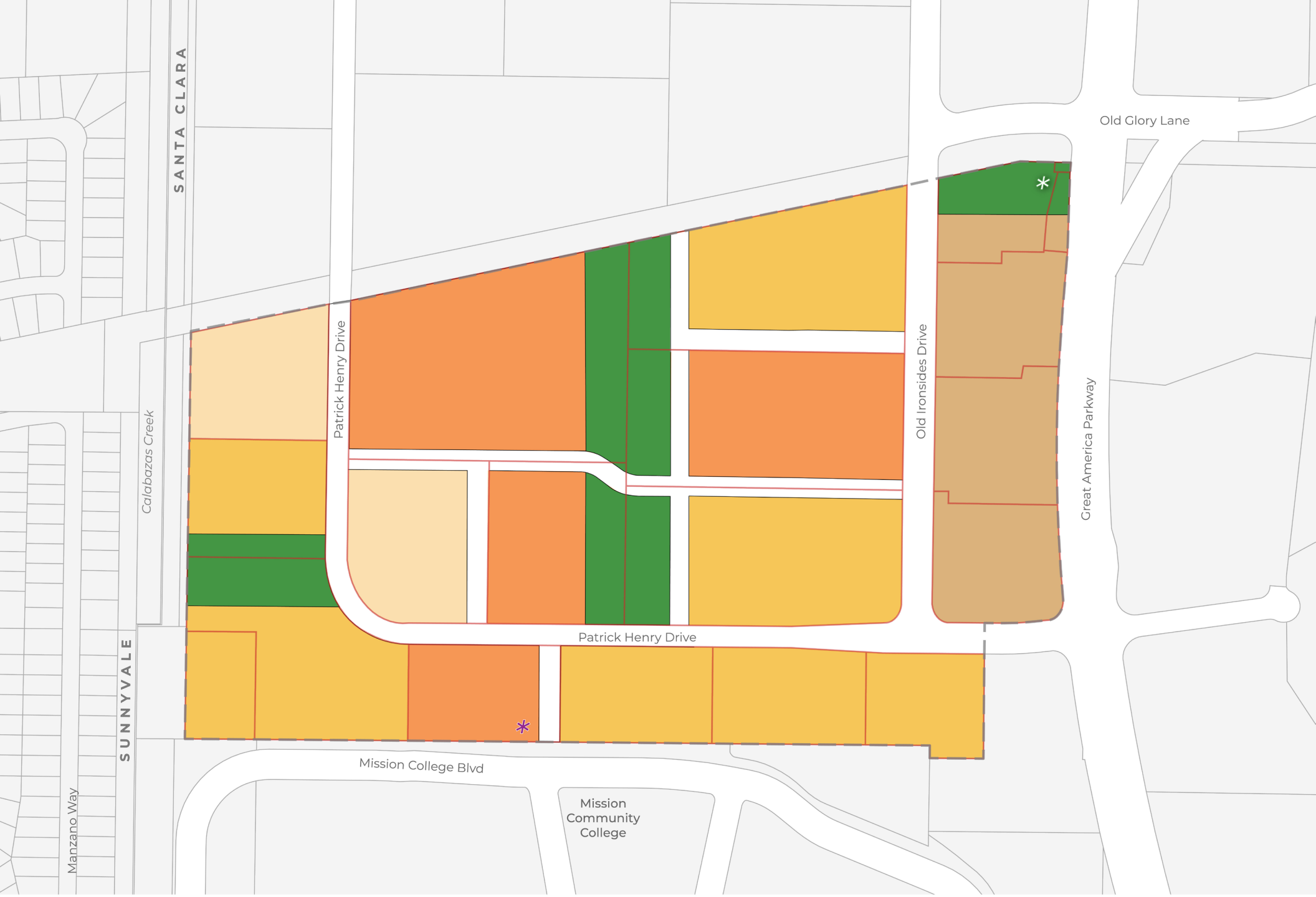


FIGURE 3.6: LAND USE PLAN

Patrick Henry Drive Specific Plan

- Study Area
- Existing Parcel (City of Santa Clara)
- Existing Parcel (Study Area)
- Park/Open Space
- Very High Density Residential (51-99 du/ac)
- Urban Village (100-149 du/ac)
- Urban Center (120-250 du/ac)
- High Density Flex (60-149 du/ac ; 2.0 FAR)

Public parkland only required with residential development

Proposed roadway is based on pending approval from the College

N

0 250 500 Feet

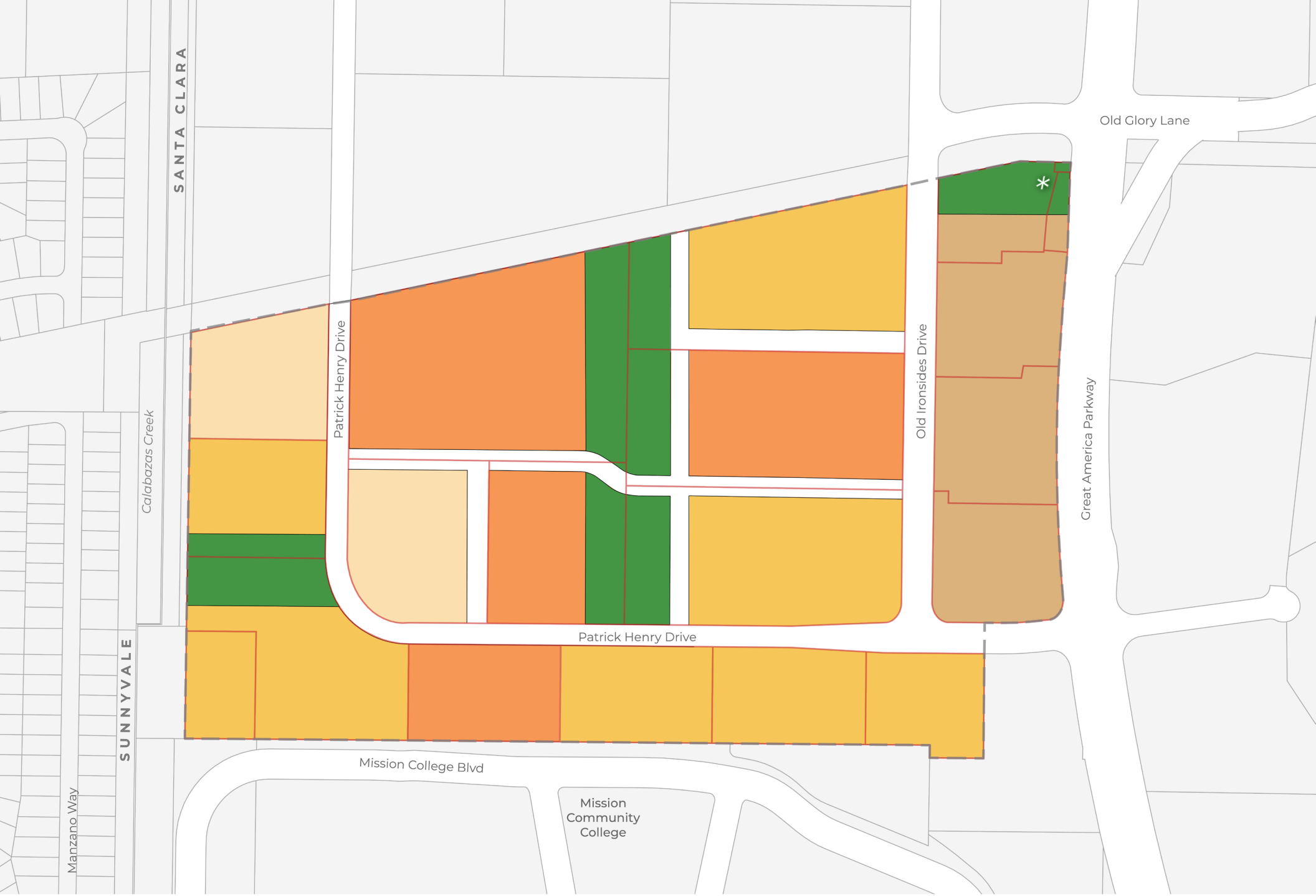


FIGURE 3.6-ALT: LAND USE PLAN - NO CONNECTION TO MISSION COLLEGE BLVD

Patrick Henry Drive Specific Plan

- Study Area
- Existing Parcel (City of Santa Clara)
- Existing Parcel (Study Area)
- Park/Open Space
- Very High Density Residential (51-99 du/ac)
- Urban Village (100-149 du/ac)
- Urban Center (120-250 du/ac)
- High Density Flex (60-149 du/ac ; 2.0 FAR)

* *Public parkland only required with residential development*

N

0 250 500 Feet

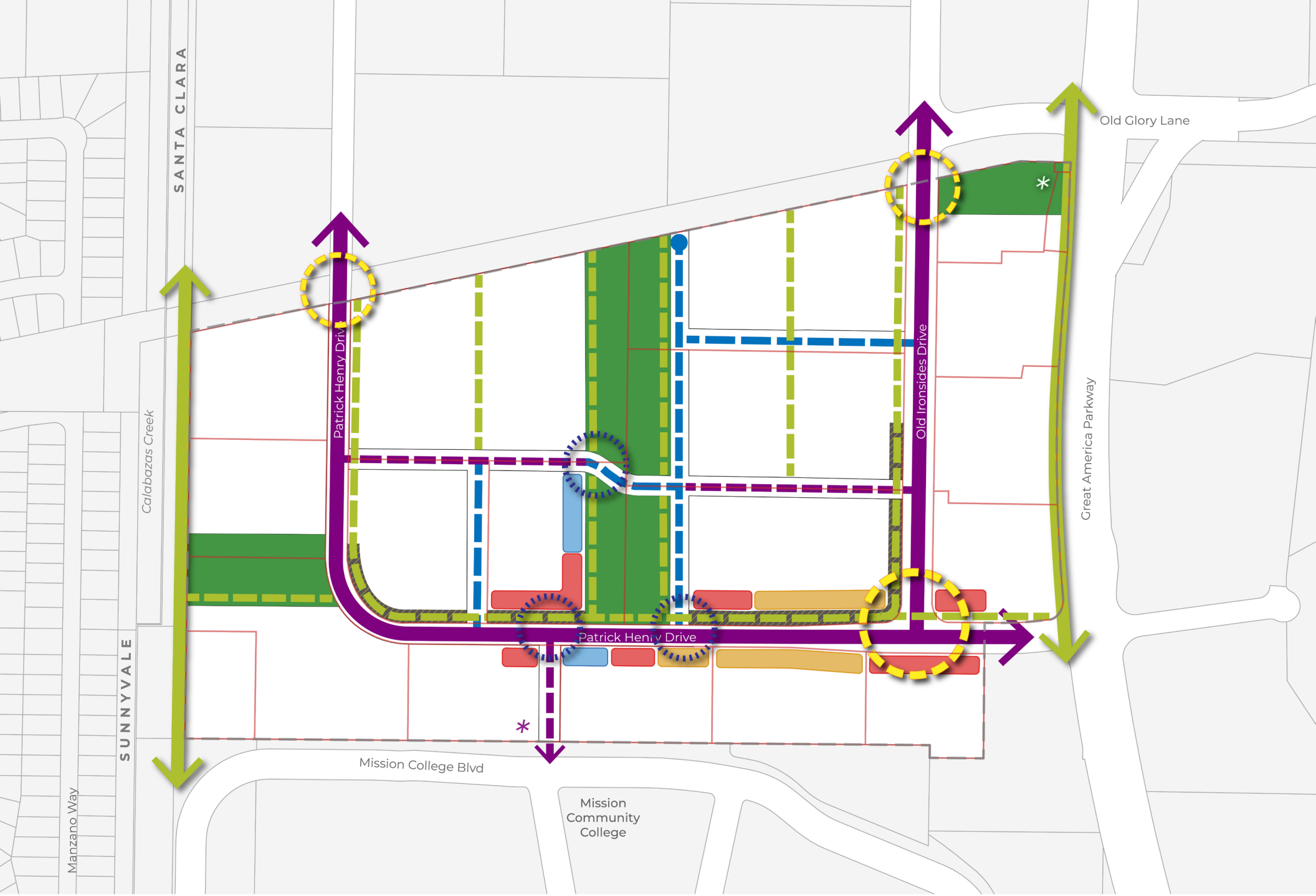


FIGURE 3.7: URBAN DESIGN FRAMEWORK

Patrick Henry Drive Specific Plan

- Study Area
- Existing Parcel (City of Santa Clara)
- Existing Parcel (Study Area)
- Park/Open Space
- Plaza
- Retail
- Community / Civic
- Flex (Office, Retail)
- Existing Greenway
- Proposed Greenway
- Slow Street
- Existing Roadway
- Proposed Roadway
- Potential Roadway Alternatives
- Activity Nodes
- Gateways

❊ *Public parkland only required with residential development*

* *Proposed roadway is based on pending approval from the College*

N

0 250 500 Feet

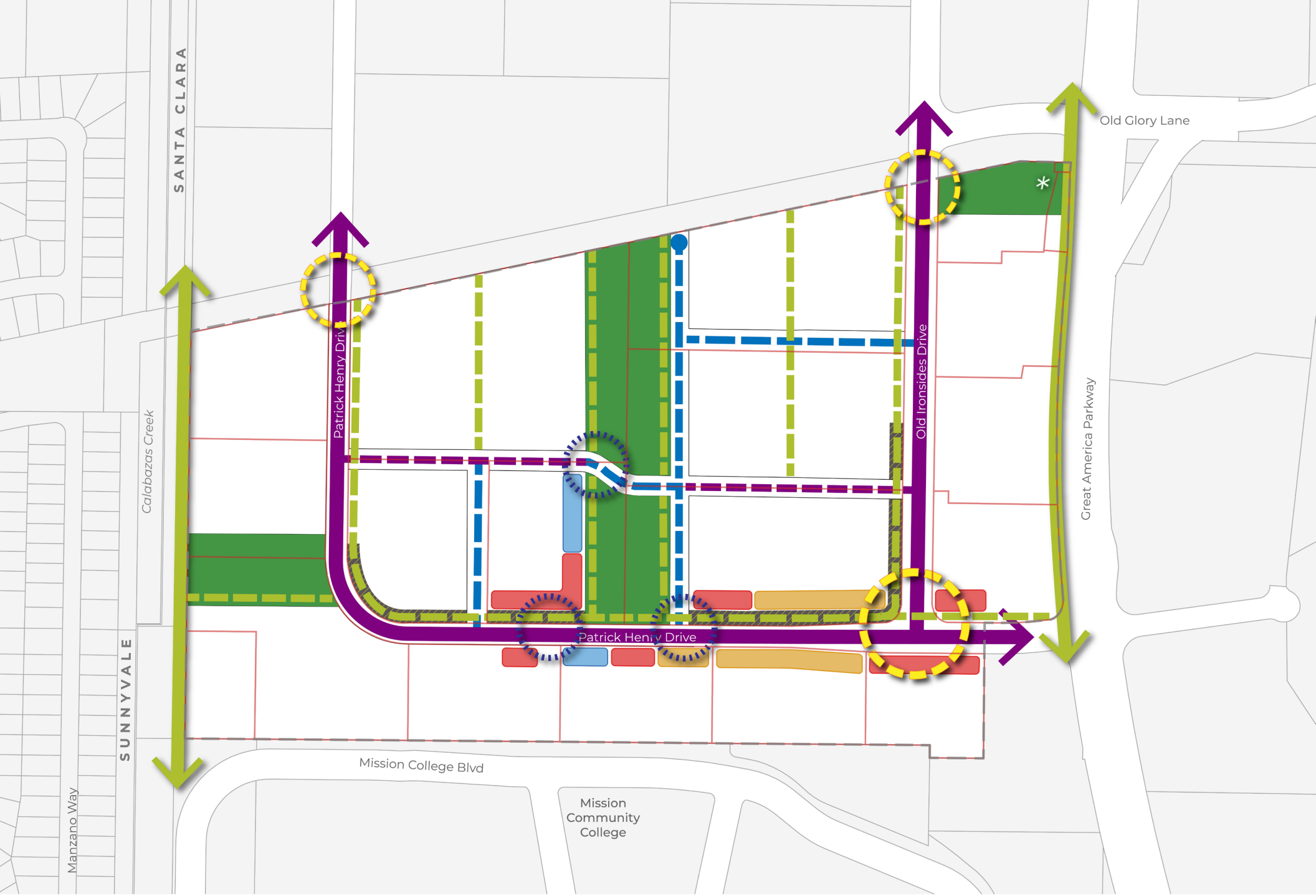


FIGURE 3.7-ALT: URBAN DESIGN FRAMEWORK - NO CONNECTION TO MISSION COLEGE BLVD

* *Public parkland only required with residential development*



FIGURE 3.8: BUILDING HEIGHT

Patrick Henry Drive Specific Plan

- Study Area
- Existing Parcel (City of Santa Clara)
- Existing Parcel (Study Area)
- 5 - 12 Stories
- 12+ Stories

* *Proposed roadway is based on pending approval from the College*

N

0 250 500 Feet



FIGURE 3.8-ALT: BUILDING HEIGHT - NO CONNECTION TO MISSION COLLEGE BLVD

Patrick Henry Drive Specific Plan

- Study Area
- Existing Parcel (City of Santa Clara)
- Existing Parcel (Study Area)
- 5 - 12 Stories
- 12+ Stories

N

0 250 500 Feet

- Use signage appropriate in scale and orientation to the primary audience: pedestrians or motorists.

Activity Nodes

- Cluster retail, flex, and community uses to create activity nodes that include places to socialize, shop, play, and relax.
- Create synergies of use to support the viability of neighborhood-serving retail and community spaces.
- Center activity nodes at intersections with ground-floor retail and where the library opens onto the public park.
- Encourage interaction of people with spaces.

Gateways

- Use architecture, art, and signage to mark neighborhood entries and contribute to local identity and character, inviting visitors and creating a destination.
- Create a major gateway at the intersection of Patrick Henry Drive and Old Ironsides Drive and minor gateways at connections to the Hetch Hetchy right-of-way, and Mission College.

Height, Edges and Transitions

- Ensure building heights respect and respond to the character of areas adjacent to the PHD Specific Plan Area while accommodating high-density development.
- Locate the tallest buildings in the center of the PHD Specific Plan Area so that the overall scale of the area decreases as it approaches the PHD Specific Plan Area edges.
- Use height restrictions and building stepbacks along the Calabazas Creek to ensure a more gradual transition between the single-family residential neighborhoods in the City of Sunnyvale.
- Ensure wide streets and parcels along the eastern and northern edges allow for high-density buildings, while maintaining a human-scale, street-level environment.
- Soften the transition between neighborhoods with open spaces along the west, north, and northeast borders by creating active human-scale environments and variation in the street wall; building height and adjacent to Mission College are mitigated by the surface parking lots and sports fields.

Connections

- Connect residents to destinations, including parks and open spaces with wide sidewalks and bike lanes throughout the PHD Specific Plan Area; a system of greenways adds a finer-grain circulation network.

- Ensure that new roadways allow for better ingress/egress into new development and improve east-west connectivity while maintaining vehicle traffic flow.

- Building new "slow streets" to allow shared space between automobiles, pedestrians, bicyclists, and differently-abled users and create a safe, active environment for all modes.

Character and Architecture

- Accommodate density while creating a distinct, livable, and memorable neighborhood.

- Create visual interest with distinct building design, fenestration, articulation, and transparency for pedestrians; these architectural features also break down the building mass to ensure a human-scale environment.

- Include thoughtful design of ground-floor building entrances in select areas to make them welcoming and engaging.

- Soften the urban environment through setbacks, greenways, and alleys with ample space for landscaping and greenery.

Land Use Framework (Specific Plan Section 4.3)

The Land Use Plan for the PHD Specific Plan Area supports the City's goals of creating a new high-density residential neighborhood, adding housing opportunities and mixed-use environments near regional transit infrastructure and employment centers, and developing complete, self-sustaining communities to reduce auto dependency. Land use in the PHD Specific Plan Area is regulated through land use classifications, policies, and a map (see [Specific Plan] Figure 4.3a: Land Use Plan).

A critical approach to land use in the PHD Specific Plan Area is to provide clear guidance, yet still allow flexibility in construction type, building height, and density. This flexible approach allows property owners to adapt and respond to market conditions while accomplishing City and community goals.

<u>Land Use Policies</u>

- Distribute retail nodes so that all new residential development is within a 10-minute walk of at least 20,000 square feet of neighborhood-serving commercial uses.

- Co-locate active uses—including parks, plazas, retail, flex, and community uses—to enliven the street environment and create neighborhood destinations.

- Identify a location for a new City branch library and publicly accessible community meeting spaces.

- Provide for a range of housing products and residential options at various price points to support the City's housing goals and improve residential opportunities for all households.

- Ensure a portion of residential units are affordable to households with incomes below the area median.

- Create a connected system of diverse parks and open spaces to provide outdoor recreation options for residential areas, facilitate pedestrian mobility, and enable habitat preservation and restoration.

Land Use Plan and Classifications

Properties in the PHD Specific Plan Area have one of five land use classifications:

1. Very High-Density Residential
2. Urban Village
3. Urban Center
4. High-Density Flex
5. Parks and Open Space

A mixed-use overlay can be applied to some parcels to provide neighborhood services and amenities and an active pedestrian environment.

Very High-Density Residential

- Residential Density Range: 51 to 99 du/acre
- Height Range: 5-12 stories

The Very High-Density Residential classification accommodates multi-family residential development at densities ranging from 51 to 99 units per acre. These developments have a distinct urban feel and typically consist of mid-rise to high-rise buildings featuring structured or below-grade parking and shared outdoor spaces proximate to transit.

Urban Village

- Residential Density Range: 100-149 du/acre
- Height Range: 5-12 stories

The Urban Village classification accommodates transit-oriented, multi-family residential development at densities ranging from 100 to 149 units per acre. These urban-scale developments feature pedestrian-oriented facades and frontages. Urban Village developments include structured or below-grade parking and shared outdoor spaces proximate to transit.

Urban Center

- Residential Density Range: 120-250 du/acre
- Height Range: 5-12+ stories consistent with Federal Aviation Administration (FAA) requirements

The Urban Center classification is the densest designation. It accommodates transit-oriented multi-family residential development at densities ranging from 120 to 250 units per acre. No height limits apply except those imposed by the FAA due to flight paths for the San Jose International airport. These urban-scale developments feature pedestrian-oriented facades and

frontages. Urban Center developments include structured or below-grade parking and shared outdoor spaces proximate to transit.

* Densities over 250du/acre may be allowed for the provision of community benefits agreed upon with the City and formalized in a development agreement.

High-Density Flex

- Residential Density Range: 60-149 du/acre
- Maximum Non-Residential FAR: 2.0
- Height Range: 5-12 stories

The High-Density Flex classification applies to four parcels along the eastern edge of the Plan Area. It allows for either residential development between 60 to 149 units per acre or office development up to 2.0 FAR, per the choice of property owners.[1]

Parks and Open Space

This classification applies to sites currently developed with parks, outdoor recreation facilities, and open spaces that will be retained and improved, as well as to properties where new such uses may be established.[2] The goal is to ensure that sufficient outdoor space is available within the neighborhood to respond to the active recreational and leisure needs of residents and visitors. [Specific Plan] Section 4.5 provides detail and specific application.

Mixed-Use Overlay

The Mixed-Use Overlay designation applies to residential developments with required ground-floor retail, flex, or community uses (see [Specific Plan] Figure 4.3B: Ground Floor Activation). It is intended to support active street environments, provide retail and neighborhood services to meet the day-to-day needs of residents, and ensure public amenities to support a high-density residential environment. Additional flex, retail, or community uses may be proposed by property owners and developers and reviewed during the entitlement process and/or review of the Community Development Director.

Affordable Housing (Specific Plan Section 4.4)

Providing affordable housing is a high-priority goal of the City of Santa Clara. As one of the City's first high-density residential neighborhoods, Patrick Henry Drive will add thousands of units to better balance the City's jobs-housing ratio, a share of which will be income-restricted to help meet regional and local affordability goals. In recognition of the conversion of employment uses to residential land, the PHD Specific Plan calls for a higher level of affordability than is required by ordinance.

[1]The floor area ratio (FAR) is a broad measure of building mass and in the Patrick Henry Specific Plan only applies to office development. As the name suggests, FAR is calculated by computing the ratio of floor area to the gross land area and is only applicable to office use in the four parcels on the eastern part of the Plan Area so designated for high-density flex.

[2]Per the City Parks and Recreation Department, currently developed parks, outdoor recreation facilities, and open spaces that will be retained and improved may or may not meet the eligibility requirements of City Code Chapter 17.35.

Santa Clara City Code (SCCC) Chapter 17.40 (Citywide Affordable Housing Requirements) requires affordable housing to assist in meeting the City's share of regional housing needs. Chapter 17.40 requires that all new residential and mixed-use construction integrate affordable units or that the developer pay in-lieu and impact fees into the City's affordable housing fund.

Affordable Housing Policies

Proposed affordable housing requirement is still under development. Specific set-asides or affordability levels have not yet been determined. To help achieve the City's broader affordable housing goals, development within the PHD Specific Plan Area will likely be required to exceed citywide requirements.

Parks, Recreation and Open Space (Specific Plan Section 4.5)

The PHD Specific Plan Parks, Recreation and Open Space Plan includes policies and requirements to create a diverse network of public parks, green infrastructure, and private recreational spaces that support the physical, social and environmental health of the neighborhood while integrating with the community-wide City public parks and recreation system. This includes providing adequate park spaces of sufficient size, shape and location within the PHD Specific Plan Area. The public parks and private open space recreational amenities should allow for both individual and large group recreational activities, sustainable natural habitat, and opportunities for healthy living throughout the PHD Specific Plan Area (see [Specific Plan] Figure 4.5A: Park and Greenways).

The goal is to provide adequate park and recreational space to meet the needs of thousands of new residents in an urban, high-density environment while preventing the overburdening of existing parks and community facilities throughout the city. The PHD Specific Plan area will include a mix of traditional neighborhood parks, community facilities and recreational amenities, while allowing for urban-style parks and plazas. Greenways and smaller specialized and programmed park spaces will support connectivity throughout the area.

The following policies establish the basis for providing parks, open spaces, and greenways in the PHD Specific Plan Area, including dedication requirements. Properties in the PHD Specific Plan Area are subject to City and Specific Plan requirements as described below. Design guidelines for the siting, sizing, design, and programming of open spaces are included in [Specific Plan] Chapter 5: Design Guidelines.

Parks, Recreation and Open Space Policies

- Require 22 percent of total residential developable land to be allocated for public parks and publicly accessible open spaces, including not less than 11 percent of land dedicated to the City in fee title as public parkland.

- Implement Santa Clara City Code 17.35 to provide outdoor public parks and mini parks as well as indoor community facilities which may be connected by publicly accessible private greenways and open spaces that serve the neighborhood.

- Provide one neighborhood public park centrally located within the PHD Specific Plan Area, and one neighborhood park adjacent to Calabazas Creek.

- Distribute and site public parks so all residents can easily access a neighborhood park within a five to ten minute walk.

- Allow public parks to be jointly sited between two or more existing parcels. New public parks will be mapped and dedicated to the City in fee title as new parcels.

- Connect parks and plazas with publicly accessible private greenways to provide safe, comfortable access while supporting connectivity throughout the PHD Specific Plan Area. Parks, plazas and greenways are subject to minimum dimensions and programming.

- Provide connection from public parks to existing and planned trails on the north and west of the PHD Specific Plan Area.

- Collaborate with property owners and the City Parks and Recreation Department to determine park and community space design and programming.

- Site and size public parks and indoor community facilities (e.g., library, gym), their features and amenities, to serve a variety of populations and programs throughout the day, from dawn to 10pm.

[Specific Plan] Table 4.5A: Required Acreage by Park and Open Space Type [1]

	Gross Residential Area (Acres)	Total Required Parkland (Acres)	Neighborhood Parkland (Acres)	Privately Owned (Acres)	
				POPOS [Privately Owned Public Open Space]	Private Open Space
Scenario A	73.59	16.19	8.09	4.05	4.05
Scenario B	63.72	14.02	7.01	3.5	3.5

Parkland Dedication Ordinance

A minimum of 11 percent of the total developable residential land within the PHD Specific Plan Area is required to be dedicated to the City of Santa Clara for use as three public parks. A total of 8.09 acres shall be dedicated under Scenario A or 7.01 acres in Scenario B. The approximate size and location of these parks (shown in [Specific Plan] Figure 4.5A: Parks and Greenways [EIR Figure 3.6]) shall be improved and programmed prior to dedication to the City, except at the discretion of the City. Specific requirements for public parkland size and design are included in [Specific Plan] Chapter 5: Design Guidelines.

All development within the PHD Specific Plan Area is subject to the City's standard Park and Recreational Lands Ordinance requirements. Per the policies established within City Code Section 17.35, each project will have a developed parkland obligation which may be met

[1] As discussed previously and also in more detail below in section 3.5, Development Capacity Assumptions, "Scenario A" represents the maximum residential development assumption and "Scenario B" represents the maximum office development assumption.

through a combination of land dedication, and/or payment of in-lieu fees. Qualifying dedicated private recreational amenities may be eligible for 50% credit against any fees due in lieu of parkland dedication.

The Parks and Recreation Department staff administer the Ordinance and are responsible for evaluating what may qualify as parkland dedication, private open space, recreational amenities, etc., per the criteria established within the Ordinance. Private open space within the project area may be able to meet part of the Ordinance requirements per the staff evaluation. Related to parkland dedication encumbered by an easement, the land value for such dedication may be reduced due to encumbrance and other items required in City Code. The value of dedicated land is determined through the Ordinance and the Supplemental Instructions adopted by Council on June 7, 2016.

Specific Plan Open Space Requirements

In addition to fulfillment of the City's Park & Recreational Land Dedication Ordinance, projects within the Specific Plan area are subject to these requirements:

Land Dedication

Consistent with the Specific Plan Land Use Diagram – projects are required at a minimum to dedicate land areas identified in the Specific Plan as dedicated parkland as part of their fulfillment of the Park & Recreational Land Dedication Ordinance. This area totals [approximately] eight acres* (or a reduced amount if the flex parcel is developed as commercial use), or more than eight acres if the City accepts additional unencumbered public parkland dedicated adjacent to required parkland dedication.

Greenways

Greenways are privately owned, publicly accessible linear open spaces that provide off-road connections for pedestrians, cyclists, scooter riders, and the like while providing additional green space throughout the PHD Specific Plan Area. Projects are required to incorporate publicly accessible greenways into their design consistent with the [Specific Plan] SP Land Use Diagram.

Open Space

Projects must provide at a minimum the specified amount of open space in addition to the minimum land use dedication. This open space is 8 acres, allocated on a proportional basis to each property so that it is provided when that parcel is developed. This requirement applies to both residential and commercial uses. The open space requirement may be satisfied through any of the following:

- Land dedicated specifically as public parkland in excess of and adjacent to the minimum amounts depicted on the land use plan or of sufficient size, shape and acceptable location to be activated as public parkland as determined by City.

- Land designed and designated through easement as a publicly accessible Greenway, plaza, or other accessible open space.

- Private open space designed per criteria established within the Specific Plan. These areas, subject to guidelines in SCCC17.35, may also receive credit if it meets the Ordinance requirements. Up to 50 percent of private space is eligible for credit towards the PHD Specific Plan requirements at the discretion of the Parks and Recreation Department.

Mobility, Circulation, and Parking (Specific Plan Section 4.6)

Introduction and Intent

The Mobility Framework ensures the Patrick Henry Drive (PHD) Specific Plan Area will provide balanced, multimodal internal circulation as well as easy access to nearby destinations and transit stations. The framework includes policies that support safe, active and sustainable travel options for residents and visitors. These policies are supported by diagrams and tables that provide specific guidance on meeting City goals and the vision and principles of this Specific Plan. The following policies establish the basis for circulation, mobility and parking in the PHD Specific Plan area:

- Prioritize the comfort and safety for pedestrians and cyclists
- Retrofit the right-of-way to accommodate all travel modes including walking, cycling, driving, micro-mobility, and transit
- Support access to transit stops on Tasman Drive and Great America Parkway
- Improve infrastructure for pedestrians, cyclists and micro-mobility (e.g., scooters) to mitigate the impact of urban-scale development on traffic congestion
- Improve connections to the Calabazas Creek Trail and other trails and greenways
- Design flexible street environments that allow for innovative transit and ride-share options (e.g., jitneys) as well as emerging technology (e.g., autonomous vehicles)
- Use Transportation Demand Management (TDM) strategies in partnership with area employers and property owners to minimize vehicle miles traveled
- Limit vehicle parking spaces for residences and businesses, and
- Reduce carbon emissions from transportation.

Mobility Plan

The mobility plan (see [Specific Plan] Figure 4.6.2A: Circulation Diagram) is based on Complete Streets principles that ensure safe, comfortable mobility options for people of all ages and create a welcoming street environment. A fine-grained network of streets, roadways, greenways and bicycle paths connect community destinations, break down big blocks, and activate the public realm.

Vehicular Network

There are four types of streets in the PHD Specific Plan Area, and each is designed to accommodate vehicular traffic balanced with other modes (see [Specific Plan] Figure 4.6.2.1A: Street Types and Existing Easement). Specific standards and designs for each street type are included in [Specific Plan] Chapter 5.

Patrick Henry Drive and Old Ironsides are collector streets that provide primary access into and through the PHD Specific Plan area. They are designed to accommodate the highest level of vehicle traffic in the PHD Specific Plan Area as well as generous space for bicycle lanes, sidewalks, and streetscape amenities. Transit stops, signalized intersections, on-street parking, and drop-off/pick-up zones are also accommodated in strategic locations on Patrick Henry Drive and Old Ironsides Road.

New Roadways function as local streets and improve east-west connectivity in the plan area as well as access to residences and the central linear park. New Roadways will contribute significantly to the pedestrian- and bicycle-friendly character of the street environment by providing tree-shaded, traffic-calmed travel ways. The New Roadway design is flexible and will vary based on several factors, including the unique needs of uses fronting the street, smooth traffic regulation, and the amount of through and destination traffic.

[In addition, the Draft Specific Plan includes a new street connection option between Patrick Henry Drive and Mission College Boulevard (on O2Micro's property); alternatively, the Specific Plan also shows a no road connection option in which no road would be constructed on O2Micro's property or on the Mission College Campus.]

Slow Streets are low-traffic-volume roadways designed to calm vehicle traffic and prioritize pedestrians, cyclists, and people using mobility devices and contribute to the neighborhood. The street design encourages abundant street trees, allows a variety of uses and flexible spaces that can be used as spaces for kiosks, outdoor seating, gatherings, and public art.

A series of traffic signals and stop signs (see [Specific Plan] Figure 4.6.2.1B: Vehicular Network) ensures the orderly and efficient movement of automobiles while controlling speeds and providing safe conditions for pedestrians and cyclists crossing the street. As shown in [Specific Plan] Figure 4.6.2.1B, intersection traffic signals are planned at all major intersections and stop signs at minor intersections throughout the PHD Specific Plan Area.

Pedestrian and Bicycle Network

The pedestrian and bicycle network within the PHD Specific Plan Area includes a system of sidewalks and bike lanes in the right-of-way and roadways complemented by off-street trails, greenways and alleys throughout the neighborhood (see [Specific Plan] Figure 4.6.2.2A: Pedestrian and Bicycle Network).

These facilities also accommodate mobility and micro-mobility devices consistent with City and other safety standards and practices.

The 2018 Bicycle Master Plan establishes a strong network of safe bicycle lanes to accommodate riders of all ages and abilities. Each street in the PHD Specific Plan Area includes either a protected (Class IV) bicycle lane or shared (Class III) route, as shown in

[Specific Plan] Figure 4.6.2.2A. Bicycle facilities will connect to infrastructure in adjacent neighborhoods and provide improved connections to area destinations including transit stations on Tasman Drive and the local and regional trail network. Specific standards and guidelines for bicycle facilities and sidewalks are included in [Specific Plan] Chapter 5.

A system of greenways within the PHD Specific Plan area provides additional connections to support a human-scaled environment and easy safe circulation for pedestrians, cyclists and mobility device users. Greenways will connect to residences, parks, activity nodes, the Calabazas Creek trail and other greenways. These spaces also enhance the environment between buildings to support a human-scaled ground-floor experience. Specific standards and guidelines for greenways are included in [Specific Plan] Chapter 5.

Transit Network

VTA's New Transit Service Plan (2019) does not call for transit service within the PHD Specific Plan Area. However, this Specific Plan plans for potential ride-share and transit within the PHD Specific Plan Area to allow for shuttle or other microtransit services provided by VTA, a Transportation Management Agency (TMA), or private provider. [Specific Plan] Figure 4.6.2.1B shows the preferred locations for these bus stops on Patrick Henry Drive and Old Ironsides Drive.

Parking Network

Limiting vehicle parking in the PHD Specific Plan Area is critical to supporting goals for land use, mobility and public realm. The standards in this plan are intended to meet market demand for private parking without adversely affecting building or neighborhood design.

Parking Ratios and Restrictions

- Parking spaces must be provided as per the minimums set forth in Table 4.6.3.1A. For any other uses not listed, private off-street parking shall be provided consistent with the parking standards in the Santa Clara Zoning Ordinance.

- Parking is not allowed as a stand-alone use. All parking must be structured and/or underground and included as an accessory use for residential, mixed-use or office development.

- Surface parking is only allowed as a temporary or interim use.

- Shared parking is encouraged.

- Mechanical parking stackers/lifts and tandem parking may be used to satisfy minimum requirements.

- Parking for public parks should be shared with residential visitor and retail parking. Any on and off-street adjacent to the park should enhance accessibility to public uses.

[Specific Plan] Table 4.6.3.1A: Parking Ratios and Requirements

Use	For Residents / Employees	For Visitors / Customers
Residential	Minimum 1 space per unit for units greater than 550 SF Minimum 0.5 spaces per unit for units less than 550 SF	Minimum 0.05 spaces per unit
Retail / Flex	None required	Minimum 1 space per 1,000 SF
Office	Minimum one space for each 500 SF of gross floor area	Minimum 1 space per 3,000 SF
Community/Civic	None required	None required

Car Sharing

Car sharing programs provide on-demand access to a shared fleet of vehicles on an as-needed basis and has been shown to reduce automobile ownership and vehicle miles travelled (VMT).

Developers/property owners are encouraged to provide car share spaces at a rate of at least one space per 400 residential units, with no more than two spaces per development. Cars should be available and accessible to the general public with dedicated car share vehicles near the building and/or parking structure entrance.

Electric Vehicle (EV) Parking

EV parking shall be provided to meet growing EV usage. On lower parking floors, a large empty conduit should be run to locations where future electrical breaker panels could be located; or exposed conduit could be installed for future charging locations. The actual installation of electrical wiring, chargers, and billing methods could be carried out by an independent operator where the energy used for vehicle charging is paid for by the user.

Bicycle Parking

Convenient and secure bicycle parking encourages bicycle ridership by offering riders the same level of access and security as motorists. On-site bicycle parking shall be provided to include bike lockers, bike cages, or indoor long-term bicycle parking for residents and on-site employees, plus convenient short-term racks for visitors.

Santa Clara's ordinance includes two types of bicycle parking:

- Class One spaces are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and workday bicycle storage. Class One bicycle parking includes bicycle lockers, bicycle rooms or cages where each bicycle can be locked.

- Class Two spaces are located in a publicly accessible, highly visible location intended for short-term use by visitors, guests, and customers.

Short-term and long-term bicycle parking spaces should be provided in prominent and convenient locations in all buildings. Bicycle parking spaces shall be provided as follows:

- Residential developments: One Class One bicycle parking space per two units and one Class Two space per 15 units.

- Mixed-use developments: One Class One space per 30 employees and one Class Two space for every 1,000 square feet of retail, flex or community use.

- Office developments: One space per 6,000 square feet with 75 percent as Class One and 25 percent as Class Two spaces.

Transportation Demand Management

[Note: The following is only an overview provided in the Specific Plan Chapter 4 Development Framework. See Specific Plan Chapter 7, Implementation Plan, for a discussion of TDM program details, and later in this EIR chapter.]

Transportation Demand Management (TDM) involves a suite of policies, programs and projects that reduce vehicle trips, parking demand and VMT. These measures provide incentives and opportunities to choose alternative modes such as walking, bicycling, transit, or ridesharing and apply to residential and employment uses.

The implementation of TDM measures in the Plan Area should be consistent with the requirements outlined in the City of Santa Clara's Climate Action Plan and General Plan. The PHD Specific Plan Area is in the City's Transportation Management District 1 (North of Caltrain) and is required to achieve a minimum VMT reduction of 20 percent, including 10 percent through TDM measures. In addition to the land use, mobility and parking requirements of this Specific Plan, new development will be required to implement a TDM program to reduce drive-alone trips.

[Note: See Chapter 17 (Transportation) of this EIR for more details of the Plan's mobility and connectivity components relevant to evaluating potential environmental effects.]

Sustainability (Specific Plan Section 4.7)

The City of Santa Clara established environmental sustainability as one of its five major strategies in the Santa Clara General Plan. The City adopted its first Climate Action Plan (CAP) in 2013 and began an update in 2020 to assess greenhouse gas emissions (GHG) levels and incorporate new statewide requirements. One of the CAP's primary goals is to establish land uses and transportation options that minimize single-occupant vehicle use.

The PHD Specific Plan will guide the redevelopment of this low-intensity, auto-oriented area into a high-density, mixed-use environment. By providing housing units near employment centers, designing smaller blocks, creating robust pedestrian and bicycle infrastructure, and facilitating access to transit, the PHD Specific Plan will help realize this citywide goal while advancing multiple sustainability objectives. The mixed-use environment will ensure neighborhood services and amenities are within easy reach of residents, minimizing the need for vehicle trips for day-to-day needs.

The CALGreen code establishes statewide standards for sustainable building practices. All development within the PHD Specific Plan Area will be required to comply with the most recent adopted CALGreen code and the following sustainability policies. Individual projects are

expected to consider additional measures to advance sustainability through building and site design, recycled water use, and Transportation Demand Management (TDM).

Design Guidelines (Plan Chapter 5)

This [Specific Plan] chapter identifies standards and guidelines to ensure that all future development is consistent with the vision, principles, and policies outlined for the PHD Specific Plan Area. The standards establish minimum requirements, and the guidelines provide direction, while also allowing for flexibility.

The chapter is divided into the following sections: travel ways, pedestrian amenities, street design, parks and open spaces, site layout and design, and building design.

Travel Ways

Overarching multimodal transportation goals for the PHD Specific Plan Area include the following.

- Create a system of safe, interconnected travel ways for all modes.
- Promote walking and biking.
- Facilitate resident and employee access to and from the PHD Specific Plan Area via transit.
- Promote slow vehicle speeds in residential neighborhoods.
- Improve connections to destinations within and near the PHD Specific Plan Area.
- Provide universal access for all ages and abilities.
- Facilitate provision of emergency services.
- Accommodate emerging transportation and micro-mobility modes.
- Prioritize use of curb space for multifunction and high turnover purposes.

Standards and guidelines to implement these broader goals are organized into topic areas related to vehicle travel ways, on-street parking, bicycle lanes, transit facilities, and intersections. More specific guidance by street and street type (with street sections and plans) is provided in the “Street Design” section of this [Specific Plan] chapter.

Pedestrian Amenities

The following overarching goals will help create a safe, comfortable pedestrian environment throughout the PHD Specific Plan Area.

- Create easily navigable crosswalks.
- Establish well-maintained landscaping and stormwater management features.

- Provide pedestrian amenities.
- Incorporate gateway and wayfinding elements.

Standards and guidelines to implement these broader goals are organized into topic areas related to pedestrian zone, crosswalks, amenity zones that include landscaping, street furniture, and gateway signage and wayfinding, and public-private interface. More specific guidance by street and street type (with street sections and plans) is provided in the "Street Design" section of this [Specific Plan] chapter.

Street Design

Overarching multimodal transportation and street design goals for the PHD Specific Plan Area include the following.

- Facilitate resident and employee access to and from the PHD Specific Plan Area via transit.
- Create a system of safe, interconnected travel ways for all modes.
- Promote walking and biking.
- Facilitate slow vehicle speeds in residential neighborhoods for safety.
- Improve connections to destinations within and near the PHD Specific Plan Area.
- Ensure universal access for all ages and abilities.
- Facilitate provision of emergency services.
- Provide on-street parking for businesses and residents.
- Improve transit service and facilities.
- Accommodate emerging and evolving transportation modes.

All street cross sections and figures shown in this section of the PHD Specific Plan depict the intent and vision for the individual rights-of-way. Should conflicts with utilities or easements make the right-of-way cross sections infeasible, adjustments to cross sections may be approved at the discretion of the Director of Community Development.

Parks and Open Spaces

A robust network of parks and open spaces connected by pedestrian and bicycle pathways will support the PHD Specific Plan Area as it transforms into a high-density residential mixed-use neighborhood (see [Specific Plan] Figure 4.5A: Parks and Greenways). The standards and guidelines in this section support the City's overarching parks and recreation goals and serve future residents by providing diverse outdoor environments and experiences. The open space system includes the following types of facilities.

- Publicly Dedicated Parkland

- Privately-owned public open spaces (POPOS)
- Community Gardens
- Plazas
- Greenways, and Trail Connections

Site Layout and Design

These standards and guidelines shape site layout and design to achieve the following overarching goals:

- Break up large parcels and blocks and thus create an improved pedestrian experience;
- Create active and attractive ground-floor relationships to the pedestrian zone; and
- Take advantage of natural heating and cooling.

Building Design

Building scale, massing, and design define the character and comfort of an area. The following overarching building design goals will help create a dynamic urban experience:

- Requiring welcoming and attractive ground-floor environments;
- Distinguishing the district with high-quality design of lasting quality and style;
- Encouraging cohesive but not monolithic architecture; and
- Balancing density with a pedestrian-oriented street environment.

Infrastructure (Plan Chapter 6)

This [Specific Plan] chapter describes existing conditions, proposed design strategies, and improvements related to the infrastructure needed to support the proposed land use within the PHD Specific Plan Area. The City of Santa Clara and regional utility providers directly control infrastructure systems within the PHD Specific Plan Area, including: sanitary sewer, potable water, storm drainage, dry utilities (such as electricity, natural gas, and telecommunications), and solid waste management.

Implementation of the PHD Specific Plan presents an opportunity to model the latest sustainable development practices. Compliance with the latest green building standards and design principles will enhance environmental, economic, and ecological health. Integrating improved water conservation and low-impact stormwater treatment measures will enable the area to be developed in a sustainable manner, while minimizing environmental and ecological impacts.

Wet Utilities

Domestic Water

The City of Santa Clara Water & Sewer Utilities Department owns and operates water supply and distribution infrastructure within the PHD Specific Plan Area. There is a domestic water main running along the eastern boundary line of the PHD Specific Plan Area project site and mains running through the proposed project site. A 12-inch asbestos cement (AC) City main (installed in 1966) runs along Great America Parkway at the project's eastern boundary line from Old Glory Lane to Patrick Henry Drive. This 12-inch main creates a loop with the 12-inch AC mains (1976) on Old Glory Lane, Old Ironsides Drive, and Patrick Henry Drive. The 12-inch AC main continues west on Patrick Henry Drive beyond the Hetch Hetchy right-of-way. Lastly, there is an 8-inch AC loop (1981) located in an on-site easement at the Great America Technology Park plaza at 4701 Patrick Henry Drive.

New projects within the PHD Specific Plan Area will be required to install distribution mains in new public streets to serve fire and domestic water needs. Additionally, the existing AC water mains within the PHD Specific Plan Area will need to be upgraded and replaced with the City's standard ductile iron pipe (DIP). As the sizing of particular water mains in a certain area is more typically a function of meeting prescribed fire flows than to meet domestic water needs, line sizes may or may not need to be increased. Final sizing of any particular line will be subject to modeling of the system that must rely on water use parameters of any particular project or group of projects. It is expected that new distribution mains in backbone streets will be 10-inch or 12-inch in diameter and distribution mains in local streets will be 8-inch or 10-inch in diameter. A hydraulic modeling analysis will need to be performed based on final land plans, building types, water demands, fire flow requirement, and phasing, to establish final, actual line sizes in each street.

Given the age and material of the water infrastructure in the PHD Specific Plan Area (asbestos cement pipes installed between 1966-1981), water mains that would otherwise remain due to their location within a proposed street, will need to be upgraded to DIP to comply with the current City of Santa Clara Water Utility standards. Developers will need to perform a hydraulic modeling analysis to determine the adequacy of the existing 12-inch pipe to see if it needs to be upsized when replacing the AC pipe with DIP.

Recycled Water

Recycled water is used for certain approved non-potable uses. The City purchases recycled water from South Bay Water Recycling (SBWR). This is highly treated water delivered through separate pipelines. This source makes up about 16 percent of the water sales in the City of Santa Clara. Recycled water offsets the use of potable sources in drought-prone California and is a reliable source for conservation of potable sources.

There are two recycled water mains running through the PHD Specific Plan Area. There is an 8-inch plastic pipe (1997) running south on Patrick Henry Drive that transitions to a 12-inch Yelowmine main (1994), flowing eastward past the street curve towards Great America Parkway. This main splits in two at the intersection with Old Ironsides Drive. It remains a 12-inch Yelowmine main as it continues north on Old Ironsides Drive but transitions back to an 8-inch plastic main as it continues to Great America Parkway.

New projects within the PHD Specific Plan Area will be required to install distribution mains in new public streets to serve domestic and commercial recycled water needs. Developers will need to perform a hydraulic modeling analysis to determine the adequacy of the existing pipe sizes within the PHD Specific Plan Area.

The recycled water infrastructure in the PHD Specific Plan Area may need to be upgraded due to its age and material (PVC and Yelowmine installed in 1994) in order to comply with the current City of Santa Clara Water Utility standards

Sanitary Sewer

The City of Santa Clara Water & Sewer Utility Department is the sanitary sewer infrastructure's owner and is responsible for its maintenance. The Department of Public Works is responsible for infrastructure planning, including master plan, conveyance capacity review, and design and construction of necessary sewer capacity improvements. Sanitary sewer flows in the city are collected and transported to the San Jose/Santa Clara Regional Wastewater Facility (RWF) through more than 270 miles of sewer main by way of six pumping stations.

The existing sanitary sewer system serving the project site consists of 6-inch, 10-inch, and 12-inch vitrified clay pipe (VCP) mains. The main segment within the project site is the 12-inch VCP main which begins in front of the Great America Technology Park plaza at 4701 Patrick Henry Drive, traverses the site eastward, then north along Old Ironsides Drive and continues eastward on Tasman Drive into the Tasman lift station. The 6-inch VCP main's upstream end is on Mission College Boulevard south of the project site and runs along a 10-foot easement between the properties at 3118 and 3200 Patrick Henry Drive. This 6-inch main connects to the 12-inch main on Patrick Henry Drive. The 10-inch VCP main's upstream end is at the southwestern corner of the property at 4701 Patrick Henry Drive and runs south between the properties at 3055 and 2929 Patrick Henry Drive.

The City of Santa Clara hired Woodard & Curran (W&C) to evaluate the potential sanitary sewer capacity impact of the proposed PHD Specific Plan. The Technical Memorandum (May 7, 2020) analyzed the sanitary sewer system in the area under three scenarios. The first scenario analyzed was the PHD Specific Plan Area's current state without any new development. The other two scenarios were analyzed for future conditions with two proposed specific plan development scenarios.

The technical memorandum states that "both development scenarios result in capacity deficiencies along the 12-inch Old Ironsides Drive and 15-inch Tasman Drive sewer (as proposed by CIP P4, Tasman Drive Sewer Improvement). In addition, the Tasman Drive Lift Station will have to be upsized to increase its capacity."

[The City incorporates all of the following sewer improvements into the Specific Plan by reference below and makes them part of the "project" that is the subject of this CEQA evaluation.]

The City of Santa Clara Sanitary Sewer Master Plan Update Final Report (April 2016) prepared by RMC recommends that 600± feet of 12-inch Sewer line in Tasman Drive between Old Ironsides Drive and Great America Parkway be upsized to a 15-inch Sewer line. This sewer line identified to be upsized (CIP P4) conveys sewage to the Tasman Lift Station and serves the PHD Specific Plan Area along with the surrounding regions. However, W&C modeled these

sewer mains on Tasman Drive as 15-inch lines and determined that they will need to be upsized to 24-inch mains in order to convey the proposed development's PWWF.[1] Approximately 1,500 linear feet (LF) of 12-inch VCP sewer mains will have to be upsized on Tasman Drive.

The 12-inch VCP sewer mains on Old Ironsides Drive will also need to be upsized to 21-inch and 24-inch lines. This upgrade will consist of approximately 3,700 LF of sewer upsizing on Old Ironsides Drive from Patrick Henry Drive to Bunker Hill Lane. The technical memorandum did not include the 12-inch VCP sewer mains on Patrick Henry Drive as part of their model, but it is assumed that these lines will also need to be upsized. The upsizing on Patrick Henry Drive will consist of approximately 2,200 LF of sewer mains starting with the main in front of 4600 Patrick Henry Drive and ending at the intersection with Old Ironsides Drive. It is assumed that an additional 1,500 LF of new sanitary sewer main will be installed within the new roadway. It is also assumed that the 6-inch VCP main servicing the Mission College fields (running through Perimeter Road and the 10-foot easement between 3200 and 3118 Patrick Henry Drive) will remain in place and not be upgraded.

The Tasman Lift Station will need improvements in order to increase its current rated capacity of 1.5 mgd to at least 4.23 mgd. The Rabello and Northside Pump Stations will also need improvements in order to handle the new increase in flow. The new combined rated capacity for these pump stations will need to increase from 41 mgd to at least 45.3 mgd.

[In addition to the Specific Plan analysis of sewer system capacity, the City continues to study wastewater system needs and alternatives for the Plan Area. As of the writing of this EIR, no final decision has been reached. However, due to site constraints, additional capacity improvements at the Tasman site may not be sufficient to accommodate future PWWF. In that case, if the City cannot identify an alternative approach, then a new pump station would be necessary to handle Specific Plan wastewater, which ideally would be located within the Plan Area. The infrastructure improvements determined necessary by the City to serve Plan-facilitated development will be incorporated into the Specific Plan (Chapter 6, Infrastructure, and Chapter 7, Implementation Plan).]

[Note: See EIR Chapter 18, Utilities and Service Systems, for further details and analysis of the Specific Plan sanitary sewer infrastructure.]

Final sizing of any particular new line will be subject to modeling of the system that must rely on sewer demand parameters of any particular project or group of projects. It is expected that new collection mains in backbone streets will be 8-inch or 10-inch in diameter. A hydraulic model will need to be performed based on final land plans, building types, sewer demands, and phasing, to establish final, actual line sizes in each street.

Storm Drain

Santa Clara's storm drain system consists of curb inlets that collect and channel surface water into a series of pipelines beneath City roadways. Stormwater is delivered through these underground pipelines to creeks within the city, which then direct flows into the San Francisco Bay. The current network of storm drain pipes in the PHD Specific Area project site all drain to

[1] PWWF stands for "peak wet weather flow," which represents the highest measured hourly flow that occurs during wet weather.

San Tomas Aquino Creek through the Westside Storm Drain Pump Station on Old Mountain View-Alviso Road.

The City of Santa Clara's 2015 Storm Drain Master Plan does not recommend any work (high, moderate, nor low priority improvement projects) be done within the Patrick Henry Drive Specific Plan Area project site. However, flooding does occur in some areas during 2-year, 10-year, and 100-year storm events. *[Note: See EIR Chapter 11, Hydrology and Water Quality, for additional discussion of flooding in the Plan Area.]* It is anticipated that storm drain flows generated by development under the Patrick Henry Drive Specific Plan will be adequately received by existing off-site storm drain systems, although the Plan Area will require construction of a new storm drain system on-site to accommodate proposed land uses.

The PHD Specific Plan Area contained by San Francisco Public Utility Commission's Hetch Hetchy pipeline easement to the North, Patrick Henry Drive to the West, Great America Parkway to the East, and Mission College Boulevard to the South is currently identified by the Federal Emergency Management Area (FEMA) Flood Insurance Rate Maps (FIRM) to be within three Flood Zones; mostly Zone X, some portions of the southern side of Patrick Henry Drive are in Zone AH (EL 17), and the intersection of Old Ironsides Drive and Old Glory Lane in Zone AO (one-foot Depth).

Zone X is defined as an area having a 0.2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than one foot or with drainage areas less than one square mile; and areas protected by levees from 1 percent annual chance flood. Zone AH is defined as an area with flood depths of one to three feet (usually areas of ponding); base flood elevations are determined (base flood elevation of 17 for the Plan Area). Zone AO is defined as an area with flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depth determined (average depth of 1 foot for this area).

Any development projects within Zones AH and AO needs to be carefully considered, whether proposing to install improvements within the flood plain, or whether seeking to raise elevations locally to remove areas from the flood plain. The placement of fill materials to remove particular areas from FEMA's mapped flood plain need to thoroughly evaluate potential downstream and upstream effects.

Any project within the PHD Specific Plan Area must meet the requirements of Section C.3 of the Santa Clara Valley Urban Runoff Pollution Prevention Program's (SCVURPPP) National Pollutant Discharge Elimination System (NPDES) permit with the California State Water Board, the City of Santa Clara requirements, and other applicable local, state, and federal requirements to ensure that stormwater is adequately treated prior to being discharged into the San Francisco Bay. *[Note: See EIR Chapter 11, Hydrology and Water Quality, for a discussion of on-site storm drain systems to accommodate storm water runoff from future projects in the Plan Area.]*

While it is typical for individual, private projects to incorporate applicable treatment systems within their individual sites on a project-by-project basis, provisions for treatment of run-off from either new or newly widened public facilities (such as streets, sidewalks, and bicycle trails/paths) will also be required. As site planning within the PHD Specific Plan Area progresses, a comprehensive, regional approach to stormwater treatment should be considered. A regional approach could include developing standards for public streets that allow stormwater to be treated "at the source" before being captured in drainage inlets, and/or large,

regional facilities that treat run-off from multiple parcels and/or public rights-of-way. In either case, adequate space for these facilities must be programmed into any land planning effort.

Dry Utilities

Gas System Infrastructure

Pacific Gas and Electric Company (PG&E) owns and operates the gas service within the City of Santa Clara, including the PHD Specific Plan Area. PG&E has stated that there are no known capacity limitations within the gas system in the PHD Specific Plan Area. It is likely that gas mains that would otherwise remain due to their location within a proposed street, will need to be upgraded to comply with the current PG&E standards. PG&E will be actively involved throughout the design, construction, and operation of natural gas utilities required for the project to guarantee efficient and reliable utilization of natural gas resources.

Electrical System Infrastructure

Silicon Valley Power (SVP) owns and operates the electric service within the City of Santa Clara, including the PHD Specific Plan Area. SVP will be actively involved throughout the design, construction, and operation of electric utilities required for the project to guarantee efficient and reliable utilization of electric resources.

Implementation (Plan Chapter 7)

The Patrick Henry Drive (PHD) Specific Plan provides a comprehensive framework and set of policies to guide its transformation to a high-density, mixed-use residential community. Following Plan adoption, development will require a range of efforts and actions on the part of the City, property owners, developers and others. These include carrying out the necessary regulatory measures, providing infrastructure improvements, and securing needed financing. In order to meet the City of Santa Clara's climate action goals, property owners and developers must also implement Transportation Demand Management (TDM) strategies. This chapter details the major policies and actions that will ensure effective implementation of the Specific Plan.

Regulatory Implementation

General Plan Amendment

Approval of the Specific Plan includes concurrent approval of a General Plan amendment that reflects the Specific Plan's vision, goals and policies and incorporates the Plan Area's development (buildout) potential in the overall City buildout projections.

Zoning Ordinance

While the General Plan establishes a policy framework, the Zoning Ordinance prescribes standards, rules, and procedures for development. The Zoning Ordinance translates Specific Plan policies into specific use regulations, development standards, and performance criteria that govern development on individual properties. At the time of the Specific Plan approval, City Council shall also adopt Zone Change and Zoning Text Amendments by ordinance.

Project Planning Review and Approval

All development projects within the PHD Specific Plan Area shall be subject to review in accordance with the procedures described in Chapter 18.76 of the Santa Clara Zoning Ordinance. These procedures will ensure development is consistent with the PHD Specific Plan as well as other applicable City ordinances and standards. Specifically, proposals must meet the development standards and substantially conform to the design guidelines in Chapter 5 of the PHD Specific Plan.

Legal Non-Conforming Uses

The lawful use of buildings existing prior to the adoption of this Specific Plan may continue, and none of the other sections of this Chapter shall apply. Such buildings shall operate as though prior zoning of the parcel remained in place, until such time as the existing use (including any expansions) has been discontinued in its entirety for a period of 180 consecutive days or longer, at which time the prior zoning shall become inapplicable and the other sections of this Chapter shall apply from that point forward.

For parcels with legal uses of buildings existing prior to the adoption of this Specific Plan, development standards of the ML: Light Manufacturing district shall apply, and none of the other sections of this Chapter shall apply until such time as the existing use (including any expansions) has been discontinued in its entirety for a period of 180 consecutive days or longer.

Funding for Infrastructure and Services

This section describes the funding approaches and policies for both the one-time and on-going costs of providing the public infrastructure, improvements and services needed to implement the Specific Plan. It is designed to ensure that new development within the Plan Area “pays its own way” and does not put a strain on the City’s limited financial resources.

Funding Requirements and Phasing

While the need to improve and expand public infrastructure and services to and within the Plan area will evolve over time, it is essential to secure adequate funding prior to development. The funding resources will need to be generated by the property owners, developers, and/or tenants within the Plan Area.

The Specific Plan and other City sources provide baseline information on the applicable standards and related requirements.

Project Phasing

Although it is not possible to accurately predict if and when each of the individual properties within the PHD Specific Plan Area will redevelop, the following assumptions have been made with input from property owners and developer representatives for the purposes of infrastructure planning and funding. See [Specific Plan] Tables 7.1 and 7.2. *[Note: In these two tables, “N/A” means that no unit estimates have been provided for the properties identified in Phase 3.]*

[Specific Plan] Table 7.1: PHD Buildout by Address (estimated March 2021)

Address(es)	Phase	Estimated Units
2901 PHD	1	800
2950 PHD	2	350
3000 PHD	1	300
3055 PHD	1	1,200
3105 PHD	1	300
3118 PHD	1	630
3200 PHD	2	888
4590 PHD	1	416
4600 PHD	3	N/A
4701 PHD	1	1,106
4701 PHD	2	1,106
2900 PHD	2	260
4633, 4655, 4677, 4699 OID	1	1,000
4700 OID	3	N/A
Total		**8,356**

[Specific Plan] Table 7.2: PHD Buildout by Phase (estimated March 2021)

Phase	Occupancy	Estimated Units
1	2025-2029	5,752
2	2030-2034	2,604
3	2035 and later	N/A
Total		**8,356**

Funding Tools and Resources

[Specific Plan] NOTE: This section will be updated as the infrastructure cost estimates and fee studies advance. These tools have been identified as the most appropriate based on available information effective March 2021. The discussion below describes each as well as considerations for their implementation.

The public improvement costs will be funded utilizing a variety of funding mechanisms and resources. The appropriate and most effective funding mechanism is based on the nature of the improvement or service being delivered as well as the timing (e.g., when the funds are needed), level and frequency of costs (e.g., on-going versus one-time costs), the primary beneficiaries and responsible parties, and funding availability.

Some degree of flexibility will be required given the uncertainty associated with securing various funding sources, the following tools and mechanisms have been identified as applicable for implementing of the PHD Specific Plan. However, it is recognized that during the buildout of the Specific Plan, other funding sources may be identified and used as appropriate.

While the revenue generated from existing City sources (i.e., taxes and fees) may defray some of the costs associated with Specific Plan area infrastructure improvements and/or service or maintenance requirements, additional funding will be required. Accordingly, the additional financing tools and resources described below are presented as options for addressing this shortfall.

Patrick Henry Drive Area Impact Fee

The City could approve an area development impact fee payable by new development to cover the cost of public infrastructure and other amenities (they cannot be used for public services or maintenance). The fee program would be enacted by the City Council through adoption of an ordinance in a public hearing (without a public vote or landowner approval). The fee levels must be based on a "rational nexus", or a demonstrated relationship between the amount and impact or demand attributable to the development paying the fee. Fees are typically payable at the time of the issuance of the building permit, although other options are available (e.g. certificate of occupancy).

In the case of the PHD Specific Plan, an Area Impact Fee would supplement the existing Citywide development impact fees but focus more narrowly on infrastructure improvements that serve Patrick Henry Drive. Proceeds may be used to reimburse property owners who pay up-front costs for facilities or infrastructure needed to facilitate development on their property. Developers can also be given the option to finance the fees through a Community Facilities District (a CFD, as described below) or, conversely, pay fees in-lieu of participating in a CFD.

A potential deficiency of impact fees is that they are typically collected over time as development occurs. To the extent that funding is needed "up front" for a particular facility, fees may not generate sufficient revenue. Additionally, programmed or expected development that does not occur when expected, or never occurs, exacerbates the initial problem by producing less funding than anticipated when the fee amount was set.

An area impact fee is particularly well suited for park and open space improvements since they can be phased in over time (these improvements are not needed prior to vertical development). An area impact fee can also facilitate a relatively equitable, “pay as you go” approach through a system of credits and reimbursements whereby property owners / developers who dedicate are compensated by those who don’t.

Mello-Roos Community Facilities Districts (CFD)

A Mello-Roos Community Facilities district (CFD) can be authorized to levy a special tax for public facilities and services. A CFD may be initiated by the legislative body or by property owner petition and must be approved by a two-thirds majority of either property owners or registered voters (if there are more than 12 registered voters living in the area).[1]

A key advantage of a CFD is that if they can be used to cover the cost of certain public services as well as infrastructure. The tool is particularly useful for any required up-front improvements such as utility upgrades and transportation improvements since the revenues can be used to secure tax-exempt bond proceeds. However, the facilities must be publicly owned. It could also be used to purchase and improve park land, for example to take advantage of an early site acquisition opportunity at a price below values likely to materialize after successful project development has occurred.

[1]The boundaries of a CFD can be formed to only include “willing” property owners, with annexation requirements triggered by development. An alternative (and usually more optimal) approach is to structure the rate and method of taxation in a way that’s amenable to all parties (e.g., tax is only triggered upon development, not on existing uses).

CFD special taxes are collected annually with property taxes and can be prepaid based on provisions specified in the tax formula. The special tax amount is secured by a lien against the property. While the tax rate is based on a formula that typically takes into account land use type, development intensity, and other factors (but not value), there is no requirement that it be apportioned based on the level of direct benefit each parcel receives. Among other advantages, this provision allows flexibility to alleviate cost burdens on specific classes of development (e.g., retail, affordable housing, or existing uses).

Funding Policies and Implementation Actions

[Note: The policies below are reproduced verbatim from the Specific Plan for this EIR chapter, but the actions are summarized; full details of each action are included in Specific Plan chapter 7.]

The following policies and actions will govern the funding of private and public improvements, infrastructure, and public facilities for the Specific Plan. The policies guide the subsequent actions including requisite studies or findings, formation and adoption of financing entities and mechanisms, and other approaches, approvals and programs.

[Specific Plan] NOTE: The policies and actions outlined below assume the development of a PHD Specific Plan impact fee.

7.2.3.1 Policy: The land uses within the Specific Plan shall pay the full costs of capital facilities, infrastructure improvements, maintenance and public services, and other requirements needed to support and serve the Plan Area and mitigate the impact of development on other parts of the City.

Action: Establish initial cost and phasing assumptions.

7.2.3.2 Policy: A Specific Plan Area Impact Fee shall be established to fund necessary infrastructure and public facilities needed to serve the area. The Impact Fee will be used for costs not typically included in City fees or charges, such as land costs for parks development, a power substation, and area-wide sewer improvements.

7.2.3.3 Policy: The Specific Plan shall expand infrastructure improvements and services in a phased manner such that adequate capacity is provided as development occurs.

Action: Establish Phasing Requirements.

Action: Identify Required Land and Facility Dedications, Easements, and Use Restrictions.

7.2.3.4 Policy: The cost of public infrastructure, and amenities envisioned for the Specific Plan (including land as well as maintenance) shall be allocated among land uses (i.e., property owners, developers, and tenants) in a manner that is fair and equitable, to the extent possible.

Action: Advance equitable cost sharing measures.

Action: Consider creative and flexible financing solutions.

Transportation Demand Management

Transportation Demand Management (TDM) consists of a combination of programs, policies, and infrastructure projects designed to reduce overall vehicle trips and associated parking demand. TDM seeks to provide incentives and options for PHD residents and employees to choose alternative modes such as walking, bicycling, transit, or ridesharing.

The City of Santa Clara's 2010-2035 General Plan Update includes goals and policies related to transportation demand management (TDM) for Specific Plans. These include land use and site design strategies to reduce reliance on automobile trips and reduce VMT. Implementing TDM measures in the PHD Specific Plan Area must be consistent with these General Plan policies and the requirements of the City's Climate Action Plan. This Specific Plan requires a vehicle miles traveled (VMT) reduction of twenty percent over the baseline established in the project traffic analysis, including ten percent through TDM measures.

The PHD Specific Plan includes land use, mobility and site design measures that support walking, biking, transit, and other alternative transportation choices. In addition to the location and mix of uses in the PHD Specific Plan Area, TDM measures must be used to minimize single-occupancy vehicle trips and to reduce VMT by at least 10%.

The PHD TDM program outlined below includes measures that are applicable to the entire PHD Specific Plan Area; parcel-specific requirements; and a menu of optional measures that can be employed to help property owners achieve TDM goals.

Transportation Management Agency

Establish a Transportation Management Agency (TMA) for PHD Specific Plan Area or join in a TMA the City North area (comprising neighborhoods north of Highway 101) led by property owners, employers or other entities. TMA's can implement, coordinate and manage VMT-reduction programs between multiple properties and lead information and marketing campaigns to support behavior change.

Property owners must join or establish a TMA prior to the first Certificate of Occupancy for a PHD residential unit. If this is not feasible, property owners must propose and fulfill other substantial TDM programs or incentives, such as a three-year VTA Smart Pass for all residents.

Required Parcel-Specific TDM Elements

At a minimum, each parcel must provide the following TDM programs and measures. Property owners and/or developers can adopt and implement these on an individual basis, or through collaboration and coordination at the Specific Plan Area level.

TDM Plans

Developers and/or property must submit a TDM Plan that includes mode-share goals, planned TDM programs, tools and processes for monitoring and reporting on travel behavior. The TDM Plan must be approved prior to the issuance of building permits.

Information and Marketing

Each property must provide information and marketing to residents and/or employees to build awareness of TDM programs, amenities (e.g., bike lockers and showers) and incentives. Information on transportation options and/or links to appropriate websites, apps and other resources (e.g., 511) must be:

- Provided to all prospective residents and employees
- Included in resident and employee welcome or orientation materials
- Posted in prominent locations within buildings (e.g., elevators, shared common spaces) and online (e.g., on tenant portals)

Bicycle Parking

Developments must provide both short- and long-term bicycle parking in all buildings as described in Section 5.2.4.6 of this [Specific] plan. Bicycle parking locations must be located in convenient, secure and prominent locations in each building.

Transportation Coordinator

Identify an individual or job classification that will serve as the property's transportation coordinator and if this will be a full or part-time position. All applicants must describe the duties and responsibilities of the transportation coordinator. Typical roles of transportation coordinators include:

- Providing information about transit options and passes
- Marketing TDM programs, including distribution of orientation materials for new residents/employees
- Distributing transportation news and commuter alerts
- Assisting with rideshare matching
- Managing travel surveys to track trends and develop new commute programs
- Coordinating services with vendors, partners and transit providers

Optional TDM Elements

The following is list of optional TDM elements that can be adopted on a parcel-specific or area-wide basis to supplement the required elements listed above and/or to augment efforts if a project is unable to meet its mode-shift goals. Property owners can include these and other preferred options as part of their TDM Plan.

Car Sharing

Car sharing programs allow people to have on-demand access to a shared fleet of vehicles as an alternative to car ownership. Property owners can provide parking spaces for car-share operators and/or memberships for residents or employees.

Transit Pass Subsidies

Property owners can share or cover the cost of transit passes with their employees and residents.

Bike Buddy Programs

A "Bike Buddy" program pairs a beginning or novice bicyclist with an experienced rider who already knows safe routes and riding techniques.

On-site Amenities and Services

Mixed-use buildings can offer on-site amenities such as a café, ATM machine, post office, dry cleaning, pharmacy, as well as other types of retail services to reduce the need for vehicle trips for meeting day-to-day needs. Reducing the need for these types of trips makes using alternative modes of transportation for commuter purposes more feasible.

Rideshare Matching Programs

Employers or property owners can offer carpool / vanpool matching services, subsidies, and priority accommodation to all employees or residents.

Specific Plan Chapter 7 (Implementation Plan) is directly connected to CEQA requirements because many of its specific actions, designed to implement Plan strategies, will proactively avoid or reduce potential environmental impacts. This deliberate approach: (1) lessens the need for reactive, "after the fact" mitigation measures to address environmental impacts; (2) applies the CEQA precepts for program EIRs (see EIR chapter 1, Introduction); and (3) makes this EIR more useful for future, individual public and private development projects.

3.5 DEVELOPMENT CAPACITY ASSUMPTIONS

As discussed previously, the Specific Plan would facilitate development in the Plan Area with a range of residential development, a mix of non-residential development, and the possibility of office development. Based on community and property owner feedback, two development "scenarios" have been designed to reflect these two development assumptions: Scenario A, a maximum residential development assumption, and Scenario B, a maximum office development assumption.

Although Table 3-1 identifies forecasted residential units and non-residential square footage for the Plan Area under two possible development scenarios, the development capacity forecast encompasses the entire Plan Area because no site-specific, individual development proposals would be approved as part of the Patrick Henry Drive Specific Plan or this EIR. Any such individual project would be subject to its own CEQA review, including evaluation against this EIR (see chapter 1, Introduction).

Since Specific Plan-facilitated development would be based on market demand and individual property owner decisions regarding if and when to develop their properties, the development capacity assumptions are forecasts of the maximum development that could occur by 2040 with implementation of the Specific Plan, not mandatory development targets. The PHD Specific Plan does not authorize eminent domain.

As shown in Table 3-1, both Scenario A and Scenario B would allow new residential and non-residential development. However, Scenario B would allow development of office use (in the "High Density Flex" zone), which would essentially replace residential development anticipated under Scenario A and is the primary difference between the two scenarios.

Table 3-1
DEVELOPMENT CAPACITY

	Residential Units	**Non-Residential Uses**		**Parks and Open Spaces[1]**	
Scenario A	12,000	Retail	150,000 SF	Neighborhood Parkland	8.09 ac
		Flex	90,000 SF	POPOS	4.05 ac
		Community	70,000 SF	Private Open Space	4.05 ac
		Office	--	***Total Required Parkland***	***16.19 ac***
Scenario B	10,300	Retail	150,000 SF	Neighborhood Parkland	7.01 ac
		Flex	90,000 SF	POPOS	3.5 ac
		Community	70,000 SF	Private Open Space	3.5 ac
		Office	785,000 SF	***Total Required Parkland***	***14.02 ac***

SOURCE: City of Santa Clara; MIG, Inc., 2021.

Note:
[1] See chapter 15, Public Services, of this EIR for more details on requirements.
POPOS = Privately Owned Public Open Space
SF = square feet
ac = acres

As illustrated on Figure 3.6 (Land Use Plan), the "High Density Flex" zone would be along the east edge of the Plan Area. As also illustrated on Figure 3.6, the highest-intensity uses are anticipated within the core and along the southern border of the Plan Area, with development intensity scaling down to the west approaching the Sunnyvale border. The 310,000 net new square feet of non-residential uses under both scenarios would include retail (150,000 SF), flex (90,000 SF), and community facilities (70,000 SF). As part of the community facilities space, a 45,000 SF library is included in the Specific Plan, which would be located in one of the Specific Plan-identified "community facility" locations and would open onto or be accessed from the park. Additionally, as discussed in the NOP, a potential school site to be located possibly within the Plan Area is being studied; however, this possibility would require the school district to purchase property in the Plan Area and initiate the development process.

Both the Patrick Henry Drive Specific Plan and associated EIR will assume that these numbers represent the maximum capacity for future development. As such, the City will continuously monitor new development approvals to ensure that there is remaining capacity as new projects are approved.

As shown in Table 3-2, under either scenario, up to approximately 5,752 dwelling units could reasonably be foreseeably built during the first Phase 1 of the Plan (i.e., ready for occupancy by

2029), based on owner and developer interest. Up to approximately 2,604 dwelling units, would be projected to be built in Phase 2 (ready for occupancy by 2035), with the remainder projected for Phase 3 (ready for occupancy after 2035). In addition, as discussed previously, other non-residential development would be associated with the residential component under either scenario (i.e., retail, flex, and community), and Scenario B would also allow office development to substitute for some residential.

Table 3-2
ESTIMATED PATRICK HENRY DRIVE BUILDOUT PHASE BY OCCUPANCY YEAR

Phase	Occupancy	Estimated Units
1	2025-2029	5,752
2	2030-2035	2,604
3	2035 and later	N/A
Total[1]		**12,000 (Scenario A)** **10,300 (Scenario B)**

SOURCE: Patrick Henry Drive Specific Plan, March 2021.

N/A = not available

Note:
[1] Total buildout would not exceed 12,000 units for Scenario A or 10,300 units for Scenario B.

As discussed above and in Specific Plan Chapter 6 (Infrastructure, summarized above), development facilitated by the Specific Plan would also likely result in the need for new connections to the stormwater drainage system, installation of water distribution mains in proposed new streets and other upgrades to water mains, wastewater pipe installation and upgrades, recycled water hookups, trenching for electrical power lines, and other infrastructure typically associated with the construction of new buildings. The EIR topic chapters (air quality, biological resources, cultural and historical resources, etc.) address construction-related impacts resulting from new projects, and the analysis and mitigation measures therein would also apply to these and any other City-identified infrastructure needs in the Plan Area.

The road and no road options shown in the Draft Specific Plan apply to either development scenario.

3.6 REQUIRED APPROVALS

City of Santa Clara Discretionary Approvals

Implementation of the Patrick Henry Drive Specific Plan would require, but is not limited to, the following discretionary approvals by the City of Santa Clara:

- Certification of the Final Environmental Impact Report
- Adoption of a Mitigation Monitoring and Reporting Program

- Adoption of the Patrick Henry Drive Specific Plan
- Adoption of General Plan amendments and zoning changes as necessary to ensure consistency between the Patrick Henry Drive Specific Plan and the City of Santa Clara 2010-2035 General Plan and current zoning code
- Discretionary review as necessary, including CEQA review, for future individual public and private development proposals in the Plan Area

Other Government Agency Approvals

Future individual public and private development proposals in the Plan Area would be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- Santa Clara Valley Transportation Authority (VTA)
- Santa Clara Water & Sewer Utilities Department
- Silicon Valley Power (SVP)
- County of Santa Clara Department of Environmental Health
- Santa Clara County Airport Land Use Commission (ALUC)
- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Bay Area Air Quality Management District (BAAQMD)
- California Department of Toxic Substances Control (DTSC)
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- United States Fish and Wildlife Service (USFWS)

4. AESTHETICS

This EIR chapter describes aesthetic and visual effects of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific visual impact concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan result in a substantial adverse effect on a scenic vista, substantially damage scenic resources, conflict with applicable zoning and other regulations governing scenic quality, or create a new source of substantial light or glare that would adversely affect views in the area.[1] The City recognizes the Plan Area as a transit priority area (TPA) because it is within one-half mile of a major transit stop. Pursuant to State law, because the Plan Area has been previously developed, aesthetic impacts of residential, mixed-use residential, or employment center projects that may be developed in the Plan Area would not be considered significant environmental impacts.[2]

4.1 SETTING

The City of Santa Clara is located at the southern part of San Francisco Bay, bordered by the cities of Sunnyvale and Cupertino to the west, San Jose to the south and east, and Milpitas to the northeast. State Route 237 (SR 237) marks the northern City limits. Prominent visual features visible from the City include the Santa Cruz Mountains to the southwest and the Diablo Range to the northeast.

Calabazas Creek flows along the western border of Santa Clara from Scott Boulevard to SR 237. San Tomas Aquino Creek generally flows through the middle of the City from its juncture with Saratoga Creek around Monroe Street to the northern City limits at SR 237. These two creeks empty into the wetlands of the southern Bay. The Guadalupe River flows along the City's eastern border from about Trimble Road near U.S. 101 to SR 237, and then on to Sunnyvale Baylands Park and the Alviso ponds complex at the southern part of San Francisco Bay.

Several major transportation corridors cross the City: SR 237, U.S. 101, and SR 82 from west to east, and the Lawrence, San Tomas, and Montague expressways from south to north. The Valley Transportation Authority (VTA) light rail, in the northern part of the City, follows along Tasman Boulevard. South of U.S. 101, the Caltrain rail line runs west-east through the City.

The City is essentially built out with retail commercial corridors, residential neighborhoods, mainly in the southern part of the City south of U.S. 101, and industrial/office employment centers in the north that characterize the surrounding Plan Area environs.

[1]CEQA Guidelines, appendix G, item I (a through d).

[2]Public Resources Code section 21099(d)(1). However, pursuant to Public Resources Code section 21099(d)(2), this "does not affect, change, or modify the authority of a lead agency to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers provided by other laws or policies."

The Plan Area is located entirely within Santa Clara, in an area in the northwestern part of the City with predominantly industrial and office development and supporting commercial services. Figure 3.1 in chapter 3, Project Description, of the EIR shows the Plan Area boundaries.

4.1.1 Visual Character of the Patrick Henry Specific Plan Area

(a) General Visual Character. The Plan Area is bordered by Great America Parkway to the east, the City of Sunnyvale and Calabazas Creek to the west, the San Francisco Public Utility Commission (SFPUC) right of way ("Hetch-Hetchy right-of-way") to the north, and Mission College Boulevard to the south. Along Patrick Henry Drive are one- and two-story buildings with adjacent parking lots, landscaping (trees, grass, and planting strips), sidewalks on one or both sides of the road, monument signs, utility boxes, and streetlights (see Figure 4.1). Approaching Old Ironsides Drive and Great America Parkway along Patrick Henry Drive, building heights increase, ranging upwards to three and four stories (see Figure 4.2). Farther east, the taller rides in California's Great America amusement park are visible in some view corridors.



Figure 4.1. View of Patrick Henry Drive looking southeast from Old Ironsides Drive. (Source: MIG, Inc.)

Similar commercial development exists along Old Ironsides Drive as it extends north from Patrick Henry Drive to Old Glory Lane (see Figure 4.3). At the juncture of Old Glory Lane and the SFPUC/Hetch-Hetchy right-of-way, westward views include existing commercial development in the northern part of the Plan Area and the SFPUC/Hetch-Hetchy right-of-way and adjacent parking lot, which is the location of the proposed Kylli development (see Figure 4.4).



Figure 4.2. View of Patrick Henry Drive and Old Ironsides Drive, looking northeast; California's Great America "Xtreme Skyflyer" ride in background (to the right). (Source: Google Maps street view)



Figure 4.3. View looking northeast along Old Ironsides Drive. In the background to the right is "Towers @ Great America" across Great America Parkway (not in Plan Area). (Source: Google Maps street view)



Figure 4.4. View looking west from Old Glory Lane and Old Ironsides Drive (northern part of Plan Area on left; SFPUC/Hetch-Hetchy right-of-way and adjacent parking lot, location of proposed Kylli development, on right).
(Source: Google Maps street view)

Views to the east from Old Glory Lane include Levi's Stadium and the distant Diablo Range (see Figure 4.5).



Figure 4.5. View looking east along Old Glory Lane at intersection with Great America Parkway. Levi's Stadium and distant Diablo Range in background.
(Source: Google Maps street view)

In the western part of the Plan Area, views along Patrick Henry Drive include a similar pattern of one- and two-story commercial buildings with parking lots, landscaping (trees, grass, and planting strips), sidewalks on one or both sides of the road, monument signs, utility boxes, and streetlights (see Figure 4.6).

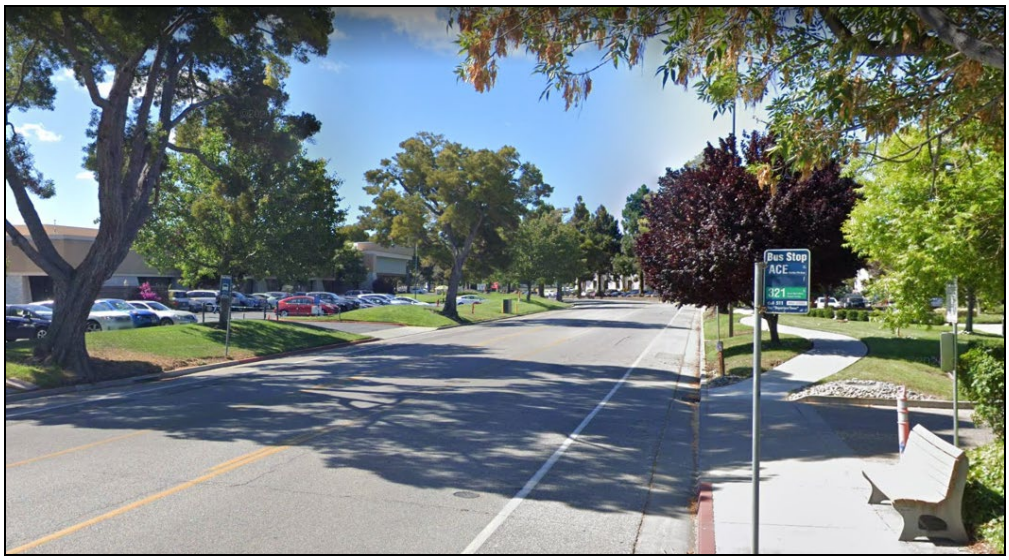


Figure 4.6. View looking southeast along Patrick Henry Drive (in western part of Plan Area). (Source: Google Maps street view)

From the southern part of the Plan Area (see Figure 4.7), distant views of the Santa Cruz Mountains are available; however, in general, vantage points in the Plan Area are blocked by existing structures, trees, and vegetation.



Figure 4.7. View looking south across Mission College ballfields, with distant Santa Cruz Mountains in background. (Source: Google Maps street view)

(b) Prominent Features. As discussed in chapter 12, Land Use and Planning, the Plan Area is built out with light industrial (electronics, software, R&D, etc.) and office (professional services, architects, etc.) uses. There are no vacant parcels in the Plan Area, nor are there any scenic natural resources in the Plan Area. The Plan Area is generally flat, with surface elevations ranging from 15 to 22 feet above MSL (mean sea level). There are no rock outcroppings in the Plan Area. Calabazas Creek, although adjacent to the western Plan Area boundary, cannot be seen from the Plan Area due to a pedestrian/bicycle path, including a separating wall and intervening landscaping (see Figure 4.8).



Figure 4.8. View looking northwest from parking lot in southwest corner of Plan Area. A concrete wall (bike/pedestrian path in front) separates Calabazas Creek from the Plan Area. (Source: Google Maps street view)

4.1.2 Existing Scenic Vistas

Existing, limited vistas within the Plan Area include views of distant hills, but due to the generally flat, urbanized nature of Santa Clara, these vistas are often blocked by buildings, trees, power poles, and walls. Public views of the distant hills occasionally emerge along view corridors created by long, straight roads along the perimeter of the Plan Area (e.g., Great America Parkway) or selectively between buildings and other structures.

4.1.3 Existing Scenic Highways

There are no officially designated State scenic highways within the City, including the Plan Area.[1]

4.1.4 Existing Light and Glare

Existing sources of nighttime light in and around the Plan Area include those common to urban areas (e.g., street lights, parking lot lighting, building lighting, illuminated signs, vehicle

[1]State of California, Caltrans, Scenic Highways, https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed 4/22/20.

headlamps, interior building lighting visible through windows). Existing sources of glare in and around the Plan Area are typical of urban areas, such as reflection of sunlight and artificial light off windows, buildings, and other surfaces in the day, and glare from inadequately shielded or improperly directed light sources at night. In particular, there are several mid-rise office buildings east of the Plan Area that contribute to nighttime light in the area. Also to the east, the rides at California's Great America are typically lit at night, with the taller rides prominent from several vantage points around the amusement park. South of the Plan Area, the Mission College parking lots and sports fields also contain sources of nighttime light. Sources of nighttime light diminish farther west, approaching Calabazas Creek, and also to the north of the Plan Area and the adjacent parking lot.

4.1.5 Existing Shade and Shadow Conditions

Existing development in the Plan Area is comprised of 1- to 3-story buildings with broad setbacks and surface parking lots that generally limit the degree of shadowing of adjacent parcels. Shade and shadow, as they pertain to Plan Area development under the Specific Plan, would involve the blockage of direct sunlight by existing or proposed structures, and associated effects on adjacent properties (e.g., overshadowing), and is relevant to applicable General Plan policies evaluated in section 4.3.3 (Impacts and Mitigations) below.

4.2 REGULATORY SETTING

4.2.1 State

California Solar Shade Control Act. Under the California Solar Shade Control Act (Public Resource Code Sections 25980-25986), no property owner shall allow a tree or shrub to be placed or to grow so as to cast a shadow greater than 10 percent at any one time between the hours of 10:00 AM and 2:00 PM over an existing solar collector used for water heating, space heating or cooling, or power generation on an adjacent property. These limitations apply to the placement of new trees or shrubs, and do not apply to trees and shrubs that already cast a shadow upon that solar collector. The location of a new solar collector is required to comply with local building and setback regulations but must be set back not less than five feet from the property line and must be no less than 10 feet above the ground.[1]

Title 24 Outdoor Lighting Zones. The Building Energy Efficient Standards within Title 24 specify outdoor lighting requirements for residential and non-residential development. The intent of these standards is to improve the quality of outdoor lighting and help reduce the impacts of light pollution, light trespass, and glare. The standards regulate lighting characteristics, such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on U.S. Census Bureau population figures, and the areas can be designated as LZ0 (very low), LZ1 (low), LZ2 (moderate), LZ3 (moderately high), or LZ4 (high). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass. According to the U.S. Census Bureau, the entire

[1]California Codes, Public Resource Code Sections 25980-25986 (https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PRC&division=15.&title=&part=&chapter=12.&article=).

Plan Area is defined as an urban area and is therefore designated as Lighting Zone 4 per the California Energy Commission outdoor lighting zone classification standards.

4.2.2 Local

Santa Clara General Plan. The General Plan contains the following policies that enhance the community character and provide design guidance applicable to the Specific Plan:

- Policy 5.3.1-P3: Support high quality design consistent with adopted design guidelines and the City's architectural review process.

- Policy 5.3.1-P6: Allow planned development only if it is consistent with General Plan land use density and intensity requirements and provides a means to address unique situations to achieve high community design standards that would otherwise not be feasible.

- Policy 5.3.1-P10: Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.

- Policy 5.3.1-P24: Coordinate sign programs for commercial uses to promote continuity, improve streetscape design and reduce visual clutter.

- Policy 5.3.1-P29: Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

- Policy 5.3.4-P7: Use design techniques, such as stepping down building heights, and siting incompatible activities, such as loading and unloading, away from residential uses.

- Policy 5.3.4-P12: Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials and textures and distinctive building massing and articulation.

- Policy 5.9.1-P17: Foster site design for new development so that building height and massing do not overshadow new parks and plazas.

- Policy 5.10.3-P4: Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

Santa Clara City Code. City Code Title 18 has provisions related to building height, exterior lighting, glare, and signs. City Code Chapter 18.76 provides for architectural review of development applications, including authority to require design modification of buildings, parking areas, landscaping, signs, and other facilities and improvements as deemed necessary by the Development Review Officer.

Santa Clara Community Design Guidelines. The Community Design Guidelines establish design criteria for the City in support of the General Plan, to encourage orderly and harmonious

appearance of structures, addressing (among others) aspects such on-site amenities; vehicular and pedestrian circulation; building orientation, height, scale, and bulk; parking and parking structures; equipment location and screening; fencing; setbacks; landscaping; lighting; and signs.

4.3 IMPACTS AND MITIGATION MEASURES

This section describes potential aesthetic and visual resource impacts that could result from the Patrick Henry Drive Specific Plan, and discusses components of the Plan that would avoid or reduce those potential impacts.

4.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to aesthetics and visual resources if it would:

(a) Have a substantial adverse effect on a scenic vista;

(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;

(c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the Plan Area.

Criterion (b) regarding State scenic highways does not apply to the proposed Patrick Henry Drive Specific Plan because the Plan Area is not located adjacent to or in the vicinity of a California state scenic highway. There are no designated State scenic highways in the City of Santa Clara. Therefore, this topic is not discussed further.

4.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan, mainly Chapter 4 (Plan Framework) and Chapter 5 (Design Standards and Guidelines), includes components that would avoid or reduce potential aesthetic and visual resource impacts associated with future development in the Plan Area. Components particularly relevant to the evaluation of potential aesthetic and visual resource impacts are listed below. Note that within the context of the Specific Plan, a “standard” is mandatory, while a “guideline” is not mandatory, but encouraged.

Land Use Plan, Urban Design Framework, and Building Height

EIR Figure 3.6 (Land Use Plan) in chapter 3 (Project Description) illustrates the proposed land use designations within the Plan Area. These designations intentionally relate to each other in

[1] CEQA Guidelines, appendix G, item I (a through d).

terms of their intensity and density, with transitions between neighboring properties. EIR Figures 3.7 (Urban Design Framework) and 3.8 (Building Height), also in the Project Description, illustrate further details of the Specific Plan's coordination of land uses, open space, plazas, greenways, activity nodes, gateways, roadways, and building heights.

Design Standards and Guidelines

Specific Plan Chapter 5 includes the following guidelines and strategies especially relevant to the aesthetics and visual resources significance criteria (see 4.3.1 above):

Specific Plan 5.2.3 Landscaping
Guideline 5.2.3.10 Select tree species that are climate appropriate; emphasize shade; reduce heat gain, light and glare impacts; and minimize future maintenance.

Specific Plan 5.2.4 Street Furniture
Standard 5.2.4.3 Street lighting, including roadway and pedestrian lighting in the public right-of-way, will be installed per the following SVP [Silicon Valley Power] standards. Any deviation or additional lighting shall be handled by special facility agreement with developer(s) for a lighting district where the developer owns and maintains the lighting within public right of way with the approval of SVP.
• SVP street lighting standard is 30-foot pole with 8-foot mast arm with LED fixture.
• Ensure street lighting does not impede access to buses or shuttles at transit stops.

Specific Plan 5.4.2 Privately Owned Public Open Spaces (POPOS)
Guideline 5.4.2.5 Site and design POPOS to ensure direct sunlight at least four hours per day and to minimize shadows from adjacent buildings.

Specific Plan 5.6.1 Building Massing, Height and Scale
Intent: Design building form, mass, and scale to enhance the pedestrian realm and experience, and to provide transitions to adjacent lower-density development and public spaces.

Guidelines 5.6.1.11 Locate the highest parts of buildings to the north to minimize shadows cast on rooftop open spaces.

Specific Plan 5.6.2 Character, Facades, and Articulation
Guideline 5.6.2.9 Mitigate building mass and bulk by using insets, notches, and building features that create shadows.

In addition, chapter 3 (Project Description) of this EIR includes various development and design frameworks relevant to development density, intensity, and physical design components of the Specific Plan which apply to future project proposals in the Plan Area.

The reader is encouraged to review Specific Plan chapters 4 and 5 for more detail. Pursuant to section 15150 (Incorporation By Reference) of the CEQA Guidelines, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference. The Plan is posted on the Patrick Henry Drive Specific Plan website at:[1]

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

4.3.3 Impacts and Mitigations

CEQA requires environmental impacts to be analyzed compared to ***existing conditions on the ground***. Both the Santa Clara General Plan and the Patrick Henry Drive Specific Plan identify the Plan Area as the location of future higher-density, higher-intensity, mixed-use development, which may result in building heights and massing greater than existing conditions. Under the Patrick Henry Drive Specific Plan, heights in the Plan Area (see EIR Figure 3.8, Building Height) would be allowed to reach a maximum of 12+ stories, as long as the height is consistent with Federal Aviation Administration (FAA) flight path restrictions for Norman Y. Mineta San Jose International Airport (see EIR chapter 10, Hazards and Hazardous Materials, for a discussion of FAA and airport requirements).

Currently, almost all the buildings in the Plan Area and immediate vicinity are one or two stories; a few buildings are up to six stories in height (see photos above).

Impact 4-1: Project Effects on Scenic Vistas. Existing, limited vistas within the Plan Area include views of distant hills, but due to the generally flat, urbanized nature of Santa Clara, these vistas are often blocked by buildings, trees, power poles, and walls. Public views of these features occasionally emerge along view corridors created by long, straight roads along the perimeter of the Plan Area (e.g., Great America Parkway) or selectively between buildings and other structures.

As described and illustrated above, the Plan Area does not afford expansive or high quality scenic views. Therefore, Plan impacts on scenic vistas are considered ***less-than-significant*** (see criterion [a] in subsection 4.3.1, "Significance Criteria," above).

Mitigation 4-1. No significant impact has been identified; no mitigation is required.

Impact 4-2: Project Impacts on Existing Visual Character and Quality. Section 4.1 (Setting) describes the existing visual character of the Plan Area and vicinity. Subsection 4.3.2 (Relevant Patrick Henry Drive Specific Plan Components) identifies Specific Plan frameworks, standards, and guidelines which would avoid or reduce potential aesthetic impacts associated with increased development.

New development throughout the Plan Area would include a combination of residential, retail, flex, office, community, and open space uses. Residential uses would be located throughout the Plan Area. New uses could include combinations of, for example, residential, retail, restaurant, and office uses in single or mixed-use buildings.

The parks, open space, and recreation framework for the Patrick Henry Drive Specific Plan (see EIR chapters 15, Public Services, and 16, Recreation) "includes policies and requirements to create a diverse network of public and private spaces that support recreation, gathering, habitat, and healthy living throughout the PHD Specific Plan Area" (Specific Plan Chapter 4, Plan Framework). The reader is encouraged to review the entire Specific Plan chapter for more information.

As discussed below, the Specific Plan would be consistent with General Plan policies governing scenic quality (see section 4.2, Regulatory Setting):

- Policy 5.3.1-P3: Support high quality design consistent with adopted design guidelines and the City's architectural review process.

  No conflict. Approval of the Specific Plan would include adoption of design guidelines and standards that have been formulated based on a community-based vision to enhance form and design in the Plan Area.

- Policy 5.3.1-P6: Allow planned development only if it is consistent with General Plan land use density and intensity requirements and provides a means to address unique situations to achieve high community design standards that would otherwise not be feasible.

  No conflict. Approval of the Specific Plan would require amendments to the General Plan zoning code to incorporate Specific Plan land use densities and associated changes in intensity, including adoption of the Specific Plan design guidelines and standards established to guide future development in the Plan Area.

- Policy 5.3.1-P10: Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.

  No conflict. The Specific Plan design guidelines and standards encourage street trees and landscaping along corridors to beautify the streetscape, act as a buffer between vehicular traffic, pedestrians, and cyclists, and provide for heat island reduction and carbon sequestration benefits. Because the Specific Plan does not specify a tree replacement standard that differs from the General Plan, future development would therefore need to comply with General Plan Policy 5.3.1-P10.

- Policy 5.3.1-P24: Coordinate sign programs for commercial uses to promote continuity, improve streetscape design and reduce visual clutter.

  No conflict. The Specific Plan design guidelines and standards encourage coordinating signage color, shape, and graphic styles with the City's signage system.

- Policy 5.3.1-P29: Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

  No conflict. The Specific Plan has been formulated to create an urban district in the employment-rich northern part of Santa Clara that would be comprised of distinct yet complementary neighborhoods of high-intensity residential, office, retail, and recreational uses. The intent of the Plan is to foster economic vitality and enhance the quality of life for those who live, work, and recreate in the area. In addition, the Plan would help address the City's and State's housing shortage.

- Policy 5.3.4-P7: Use design techniques, such as stepping down building heights, and siting incompatible activities, such as loading and unloading, away from residential uses.

  No conflict. The Specific Plan includes design guidelines and standards for building form, mass, and scale to enhance the pedestrian realm and experience, and to provide transitions to adjacent lower-density development and public spaces. In addition, the design guidelines encourage loading areas (such as garage entrances) to be incorporated within buildings (to minimize impacts on surrounding areas) or otherwise to be screened from adjacent uses with vegetation, landscaping, walls, and structural design.

- Policy 5.3.4-P12: Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials and textures and distinctive building massing and articulation.

  No conflict. The Specific Plan includes design guidelines and standards for pedestrian amenities (such as 10- to 20-foot wide "pedestrian zones" canopied with trees); special pavement design, colors, and materials; and street furniture elements such as benches and seating, bollards, flower stands, kiosks, public art, and similar features. In addition, the design guidelines encourage building elements such as cornices, lintels, sills, balconies, awnings, porches and stoops to enhance building façades, and roof materials that complement the materials and colors of the façades to provide texture or relief.

- Policy 5.9.1-P17: Foster site design for new development so that building height and massing do not overshadow new parks and plazas.

  No conflict. The Specific Plan includes design standards and guidelines that ensure direct sunlight for privately-owned public open spaces, break up building massing, and otherwise ensure that building form, mass, and scale provide transitions to adjacent lower-density development and public spaces.

The Specific Plan proposes new zoning and regulations governing scenic quality and, if approved, the development anticipated by the Specific Plan would be consistent with these new provisions. The Patrick Henry Drive Specific Plan would serve to achieve a coordinated, connected environment within the Plan Area while increasing land use intensity through frameworks and unified, context-sensitive design standards and guidelines, which would result in the efficient use of existing resources and infrastructure. Plan components are purposely designed to achieve and maintain a cohesive, compatible visual identity and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas. Therefore, the impact of the Specific Plan on the existing visual character and quality of the Plan Area and its surroundings is considered ***less-than-significant*** and the Specific Plan would not conflict with applicable zoning or other regulations governing scenic quality (see criterion [c] in subsection 4.3.1, "Significance Criteria," above).

Mitigation 4-2. No significant impact has been identified; no mitigation is required.

Impact 4-3: Project Light and Glare Effects. Implementation of the Patrick Henry Drive Specific Plan would be subject to light and glare requirements described in section 4.2 (Regulatory Setting) of this EIR chapter (e.g., Santa Clara City Code, Title 24 Outdoor Lighting Zones) as well as the design standards and guidelines of the Specific Plan (see subsection 4.3.2, Relevant Patrick Henry Drive Specific Plan Components, above).

Specific Plan lighting characteristics are not expected to represent a source of substantial new light or glare which would adversely affect views and vision. The area is already developed with urban uses that are sources of daytime and nighttime light and glare and does not contain uses sensitive to light or glare. The Specific Plan would not significantly increase daytime or nighttime light or glare in a way that would adversely affect daytime or nighttime views in the area. Therefore, application of the City of Santa Clara standard regulations and Specific Plan components described above would result in ***less-than-significant light and glare impacts*** (see criterion [d] in subsection 4.3.1, “Significance Criteria,” above).

Mitigation 4-3. No significant impact has been identified; no mitigation is required.

5. AIR QUALITY

This chapter examines air quality emissions in the Patrick Henry Drive Specific Plan Area (Plan Area), includes a summary of applicable air quality regulations and policies, and analyzes potential air quality impacts associated with the proposed Specific Plan. The methodologies and assumptions used in the preparation of this section follow the CEQA Guidelines developed by the Bay Area Air Quality Management District (BAAQMD) (BAAQMD 2017a). Information on existing air quality conditions, federal, and State ambient air quality standards, and pollutants of concern was obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and BAAQMD.

This EIR air quality analysis has been closely coordinated with the climate change and energy analyses contained in Chapter 9 of this EIR. As described in Section 5.3, potential project impacts with respect to air quality include conflict with or obstruction of the applicable air quality plan, cumulatively considerable net increases in criteria air pollutants, exposure of sensitive receptors to substantial pollutant concentrations, and other emissions (such as odors) that could adversely affect a substantial number of people.

5.1 SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

5.1.1 Regulated Air Pollutants

5.1.1.1 Topography and Meteorology

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), particulate matter (PM), which consists of “inhalable coarse” PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and “fine” PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The U.S. EPA refers to these six common pollutants as “criteria” pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally based criteria.

CARB has established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility reducing particles. Both the NAAQS and CAAQS are set at levels that are protective of human health.

Regulated air pollutants are described below:

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), also called Reactive Organic Gases (ROG), in the presence of sunlight.[1] Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.

    - **ROGs** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA (CARB 2004).

    - **VOCs** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as methane, ethane, and methylene chloride (CARB 2004).

- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2016a).

    - **PM_{10}**, also known as inhalable coarse, respirable, or suspended PM, consists of particles less than or equal to 10 micrometers in diameter (approximately $1/7^{th}$ the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2016a).

    - **$PM_{2.5}$**, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately $1/30^{th}$ the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2016a).

- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are the single largest source of carbon monoxide in the Bay Area. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2016b).

- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also

[1]United States Environmental Protection Agency (U.S. EPA). 2017. "Ozone Basics." U.S. EPA, Environmental Topics [Air], Ground Level Ozone, What is “good”” versus “bad” ozone. April 5, 2017. Web. August 21, 2017. <https://www.epa.gov/ozone-pollution/ozone-basics#what%20where%20how>

contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016c).

- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as SO_X. Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA 2016d).

- **Sulfates (SO_4^{2-})** are the fully oxidized ionic form of sulfur. SO_4^{2-} are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).

- **Lead** is a metal found naturally in the environment as well as in manufactured products. Mobile sources used to be the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline, and in 1996, lead was banned from gasoline. As a result of these efforts, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically. Lead can adversely affect multiple organ systems of the body and people of every age group. Lead poisoning in young children can cause brain damage, behavioral problems, and liver or kidney damage. Lead poisoning to adults can cause reproductive problems, muscle and joint pain, nerve disorders and kidney disease (CARB 2016a).

- **Visibility Reducing Particles** impact the environment by decreasing visibility (haze). These particles vary greatly in shape, size and chemical composition, and come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of fine PM. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment. Haze not only impacts visibility, but some haze-causing pollutants have been linked to serious health problems and environmental damage as well. Exposure to $PM_{2.5}$ and PM_{10} in the ambient air can contribute to a broad range of adverse health effects, including premature death, hospitalizations and emergency department visits for worsened heart and lung diseases (CARB 2016b).

Common criteria air pollutants, such as ozone precursors, SO_2, and PM, are emitted by many sources and have effects on a regional basis (i.e., throughout the Bay Area). Other pollutants, such as hazardous air pollutants (HAPs") and toxic air contaminants (TACs; see Section 5.1.1.2) are generally not as prevalent and/or emitted by fewer and more specific sources and, therefore, have greater effects on local air quality conditions and local receptors.

5.1.1.2 Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as HAPs and TACs, respectively. These pollutants can cause severe health effects at very low concentrations, and many are suspected or confirmed carcinogens. The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers

particulate emissions from diesel-fueled engines and other substances to be TACs (CARB 2016c).[1]

- **Diesel Particulate Matter (DPM)**. Diesel engines emit both gaseous and solid material; the solid material is known as DPM. Almost all DPM is less than 1 µm in diameter, and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles and numerous organic compounds. Diesel exhaust also contains gaseous pollutants, including VOCs and NO_x. The primary sources of diesel emissions are ships, trains, trucks, rail yards and heavily traveled roadways. These sources are often located near highly populated areas, resulting in greater DPM related health consequences in urban areas. The majority of DPM is small enough to be inhaled into the lungs and what particles are not exhaled can be deposited on the lung surface and in the deepest regions of the lungs where the lung is most susceptible to injury. In 1998, CARB identified DPM as a TAC based on evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (CARB 2016c).

5.1.2 San Francisco Bay Area Air Basin

The U.S. EPA and CARB are the federal and state agencies charged with maintaining air quality in the nation and state, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the state into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions. The City of Santa Clara, in Santa Clara County, is within the southern portion of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB covers all of Alameda, Contra Costa, Marin, Napa, Santa Clara, San Mateo, and San Francisco counties, and portions of Solano and Sonoma counties.

5.1.2.1 Topography and Meteorology

The topography and meteorology of the SFBAAB are characterized by the coast mountain ranges and the seasonal migration of the Pacific high-pressure cell. Regionally, basin airflow is affected by the coast mountain ranges, which create complex terrains consisting of higher elevations, valleys, and bays. The Golden Gate to the west and the Carquinez Strait to the east create gaps in the mountain ranges that allow air to flow into and out of the SFBAAB. In the summer, winds from the northwest are channeled through the Golden Gate and other narrow openings, resulting in localized areas of high wind speeds. Air flowing from the coast inland is called the sea breeze and begins developing in the late morning or early afternoon; air flowing from the inland regions back to the coast, or drainage, occurs at night.

Basin climate is also influenced by the Pacific high-pressure cell, a semi-permanent area of high pressure located over the Pacific Ocean. In the summer, the cell is centered over the northeastern Pacific Ocean, pushing storms to the north and resulting in generally stable conditions within the Bay Area. In the winter, the cell weakens and migrates south, bringing cooler temperatures and stormy conditions.

The SFBAAB is most susceptible to air pollution during the summer when cool marine air flowing through the Golden Gate can become trapped under a layer of warmer air (known as an

[1]Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs.

inversion) and prevented from escaping the valleys and bays created by the Coast Ranges. Air pollution potential is highest along the southeastern portion of the peninsula because this area is most protected from the high winds and fog of the marine layer, the emission density is relatively high, and pollutant transport from upwind sites is possible. Wintertime inversions are weaker and more localized and are the result of rapid heat radiation from the earth's surface.

The Plan Area is located in Santa Clara County, which is south of the San Francisco Bay with San Mateo and Alameda counties bordering it to the north, Santa Cruz County to the west, San Benito County to the south, and Stanislaus and Merced counties to the east. During the summer in Santa Clara County, mostly clear skies result in warm daytime temperatures and cool nights. Winter temperatures are mild, except for very cool but generally frost-less mornings.

Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Wind patterns are influenced by local terrain, with a northwesterly sea breeze typically developing during the daytime. Winds are usually stronger in the spring and summer. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills (BAAQMD 2019a).

5.1.2.2 San Jose International Airport and Moffett Airfield Wind Conditions

The Plan Area is approximately 2.9 miles east of Moffett Airfield and approximately 2.5 miles northwest of San Jose International Airport. As shown in Figure 5-1, the prevailing winds at Moffett Airfield and San Jose International Airport are generally from the north and northwest, respectively, indicating prevailing winds within the Plan Area are likely from the north/northwest.

5.1.2.3 County and Regional Emission Levels

CARB's estimate of emissions generated within Santa Clara County and the SFBAAB in 2012, the most recent year for which data is available, is summarized in Table 5-1.

5.1.3 Ambient Air Quality Standards and Attainment Status

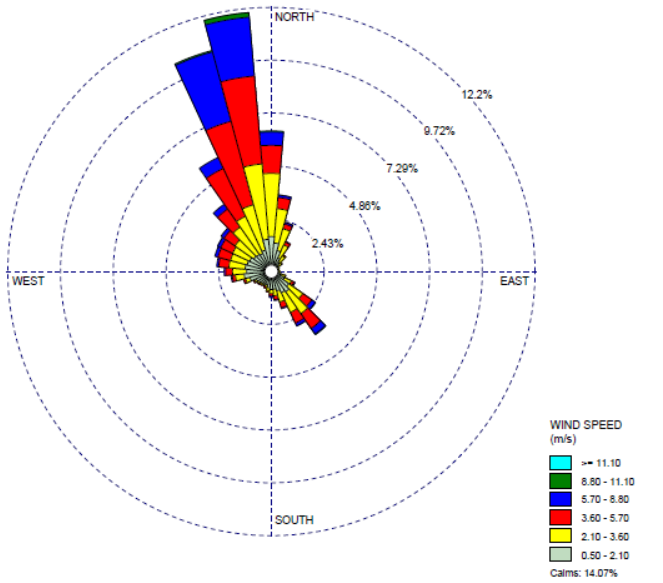
In general, the NAAQS and CAAQS define "clean" air, and are established at levels designed to protect the health of the most sensitive groups in our communities by defining the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment. Air pollutant levels are typically described in terms of concentration, which refers to the amount of pollutant material per volumetric unit of air. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

The U.S. EPA, CARB, and regional air agencies assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories.

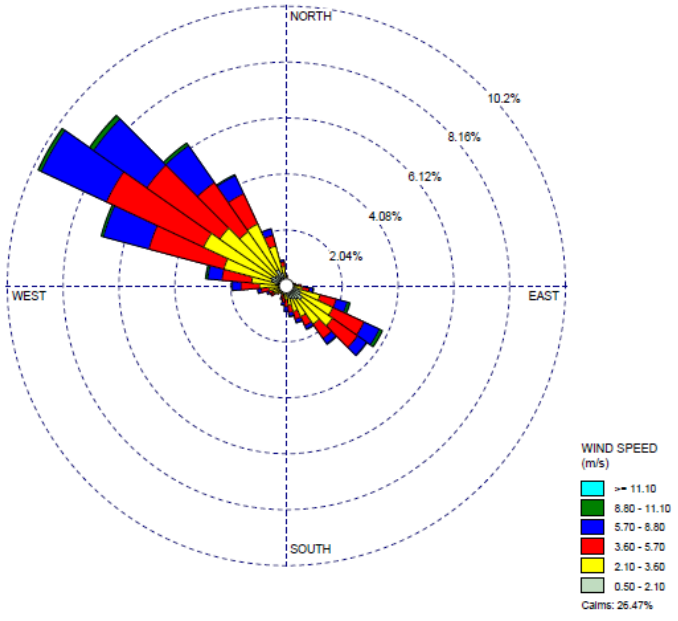
- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.

Figure 5-1
MOFFETT AIRFIELD AND SAN JOSE INTERNATIONAL AIRPORT PREVAILING WIND CONDITIONS

Moffett Airfield Annual Wind Pattern (2013 to 2017)



San Jose International Airport Annual Wind Pattern (2013 to 2017)



Source: BAAQMD 2018a, 2018b
Wind roses depicting prevailing annual wind patterns at Moffett Airfield (first) and San Jose International Airport (second) for the years 2013 to 2017. A wind speed of one meter per second (m/s) is approximately equal to 2.2 miles per hour (mph).

Table 5-1
SANTA CLARA COUNTY / SFBAAB EMISSIONS SUMMARY

Source	Santa Clara County 2012 Pollutant Emissions (Tons Per Day)						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	12.3	11.0	2.8	1.8	1.0	8.3	2.7
Area-wide(B)	17.2	3.5	26.5	14.2	4.3	15.4	0.1
Mobile(C)	25.3	46.0	3.7	3.6	2.2	238.2	0.3
Total(D)	54.7	60.5	33.0	19.6	7.6	238.2	3.1
Source	**SFBAAB 2012 Pollutant Emissions (Tons Per Day)**						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	61.0	39.9	21.1	14.3	10.4	34.9	20.2
Area-wide(B)	69.2	15.2	56.5	56.5	18.5	69.2	0.5
Mobile(C)	112.7	235.8	16.8	16.4	10.5	865.4	3.6
Total(D)	242.9	290.8	142.5	87.2	37.4	696.5	24.3
Source	**Santa Clara County 2012 Pollutant Emissions (Tons Per Year)(E)**						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	4,490	4,015	1,022	657	365	3,030	986
Area-wide(B)	6,278	1,278	9,673	5,183	1,570	5,621	37
Mobile(C)	9,235	16,790	1,351	1,314	803	86,943	110
Total(D)	19,966	22,083	12,045	7,154	2,774	86,943	1,132
Source	**SFBAAB 2012 Pollutant Emissions (Tons Per Year)(E)**						
	ROG	**NO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**	**CO**	**SO_X**
Stationary(A)	22,265	14,564	7,702	5,220	3,796	12,739	7,373
Area-wide(B)	25,258	5,548	20,623	20,623	6,753	25,258	183
Mobile(C)	41,136	86,067	6,132	5,986	3,833	31,5871	1,314
Total(D)	88,659	106,17	34,456	31,828	14,381	353,868	8,870

Source: CARB, 2013a and 2013b.

(A) Stationary sources include fuel combustion in stationary equipment or a specific type of facility such as printing and metals processing facilities.

(B) Area-wide sources include solvent evaporation (e.g., consumer products, painting, and asphalt paving) and miscellaneous processes such as residential space heating, fugitive windblown dust, and cooking.

(C) Mobile sources include automobiles, trucks, and other vehicles intended for “on-road” travel and other self-propelled machines such as construction equipment and all-terrain vehicles intended for “off-road” travel.

(D) Totals may not equal due to rounding.

(E) CARB emissions data is available in tons per day. Tons per year emission estimates are derived by multiplying tons per day data times 365 days per year.

- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and State laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.

- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

5.1.3.1 SFBAAB Attainment Status

Table 5-2 below lists the NAAQS and CAAQS and summarizes the SFBAAB attainment status. The SFBAAB is unclassified or designated attainment for all NAAQS and CAAQS except federal ozone, state ozone, state PM_{10}, federal $PM_{2.5}$, and state $PM_{2.5}$ standards. Ozone is primarily a problem in the summer, and fine particle pollution in the winter.

5.1.3.2 Local Air Quality Conditions

Most of Santa Clara County is south of the cooler waters of the San Francisco Bay and far from the cooler marine air which usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded.

Santa Clara County experiences many exceedances of the $PM_{2.5}$ standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region (BAAQMD 2019a).

The BAAQMD maintains a comprehensive air quality monitoring network consisting of over 30 stations distributed among the nine Bay Area counties in its jurisdiction. Table 5-3 shows the three most recent years' worth of data from the monitor located on Jackson Street in San Jose. The Jackson Street location is the closest station in proximity to the Plan Area with data for all six criteria air pollutants.

As shown in Table 5-3, air quality conditions have generally improved or remained about the same over the 2017 to 2019 time period:

- PM_{10} CAAQS exceedances decreased from 6 exceedances to 4 exceedances between 2017 and 2018 and remained constant at 4 exceedances in 2019;
- $PM_{2.5}$ NAAQS exceedances increased from 6 exceedances to 15 exceedances between 2017 and 2018, but there were no recorded exceedances in 2019; and
- O_3 8- and 1-hour CAAQS and NAAQS are generally on a downward trend over the three years' worth of data.

Table 5-2
AMBIENT AIR QUALITY STANDARDS AND SFBAAB ATTAINMENT STATUS

Pollutant	Averaging Time	CAAQS (A)		NAAQS (B)	
		Standard (C)	Attainment Status (D)	Standard (C)	Attainment Status (D)
Ozone	1-Hour	180 µg/m^3	**N**	--	--
	8-Hour	137 µg/m^3	**N**	137 µg/m^3	**N**
PM10	24-Hour	50 µg/m^3	**N**	150 µg/m^3	U
	Annual Average	20 µg/m^3	**N**	--	--
PM2.5	24-Hour	--	--	35 µg/m^3	**N**(E)
	Annual Average	12 µg/m^3	**N**	12 µg/m^3	A
Carbon Monoxide	1-Hour	23,000 µg/m^3	A	40,000 µg/m^3	A
	8-Hour	10,000 µg/m^3	A	10,000 µg/m^3	A
Nitrogen Dioxide	1-Hour	339 µg/m^3	A	188 µg/m^3	U(F)
	Annual Average	57 µg/m^3	--	100 µg/m^3	A
Sulfur Dioxide	1-Hour	655 µg/m^3	A	196 µg/m^3	A
	24-Hour	105 µg/m^3	A	--	--
Sulfates	24-Hour	25 µg/m^3	A	--	--
H_2S	1-Hour	42 µg/m^3	U	--	--
Vinyl Chloride	24-Hour	26 µg/m^3	--	--	--

Source: BAAQMD 2017b, U.S. EPA 2020 modified by MIG.

(A) Table does not list CAAQS for lead and visibility reducing particles. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24-hour), nitrogen dioxide, suspended PM_{10} and $PM_{2.5}$ are values that are not to be exceeded. The standards for sulfates, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded.
(B) Standards shown are the primary NAAQS designed to protect public health.
(C) All standards shown in terms of micrograms per cubic meter (µg/m^3) for comparison purposes.
(D) A= Attainment, N= Nonattainment, U=Unclassifiable.
(E) On January 2013, the U.S. EPA issued a final rule to determine the Bay Area attains the 24-hour PM2.5 national standard. This EPA rule suspends key State Implementation Plan (SIP) requirements as long as monitoring data continue to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as “non-attainment” for the national 24-hour PM2.5 standard until such time as the Air District submits a “redesignation request” and a “maintenance plan” to EPA, and EPA approves the proposed redesignation.
(F) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.

Table 5-3
LOCAL AMBIENT AIR QUALITY (2017-2019)

Monitoring Station	Pollutant Standard			Exceedances		
	Pollutant	State / Federal	Concentration	2017	2018	2019
San Jose (Jackson Street)	PM_{10} 24-hour	CAAQS	50 µg/m^3	6	4	4
		NAAQS	150 µg/m^3	0	0	0
	$PM_{2.5}$ 24-hour	CAAQS	N/A	--	--	--
		NAAQS	35 µg/m^3	6	15	0
	O_3 8-hour	Both	137 µg/m^3	4	0	2
	O_3 1-hour	CAAQS	180 µg/m^3	3	0	1
		NAAQS	N/A	--	--	--
	CO 8-hour	Both	10,000 µg/m^3	0	0	0
	CO 1-hour	CAAQS	23,000 µg/m^3	0	0	0
		NAAQS	40,000 µg/m^3	0	0	0
	NO_2 1-hour	CAAQS	339 µg/m^3	0	0	0
		NAAQS	188 µg/m^3	0	0	0
	SO_2 24-hour	CAAQS	105 µg/m^3	0	0	0
		NAAQS	N/A	--	--	--
	SO_2 1-hour	CAAQS	655 µg/m^3	0	0	--
		NAAQS	196 µg/m^3	0	0	--

Source: BAAQMD 2018c, 2019b, 2020a

5.1.4 Sensitive Air Quality Receptors

Some people are more affected by air pollution than others. The BAAQMD defines sensitive receptors as “facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses” (BAAQMD 2017a). In general, children, senior citizens, and individuals with pre-existing health issues (e.g., asthmatics) are considered sensitive receptors. Both CARB and the BAAQMD consider schools, schoolyards, parks and playgrounds, daycare facilities, nursing homes, hospitals, and residential areas as sensitive air quality land uses and receptors (BAAQMD 2017a, and CARB 2005).

In general, sensitive air quality receptors in proximity of the Plan Area include:

- Single family homes west of the Plan Area, approximately 180 feet from the Plan Area’s western boundary, along Manzano Way, Prescott Avenue, and Old Creek Way;
- Fairwood Elementary School, approximately 680 feet west of the Plan Area, on Fairwood Avenue;

- Fairway Park, approximately 680 feet west of the Plan Area;
- Individuals recreating along the Calabazas Creek Trail, which is located immediately west of and adjacent to the Plan Area; and
- Potential future residential receptors associated with the Freedom Circle Focus Area Plan, which is located immediately southeast of the Plan Area.[1]

5.1.4.1 Existing Air Pollution-Related Health Risks

Sensitive air quality receptors are usually most affected by local sources of air pollution. The Plan Area is approximately 0.9 miles south of State Route 237 and approximately 0.4 miles north of U.S. Highway 101. Great America Parkway, identified as a major arterial in the City's General Plan, borders the Plan Area to the east. Figure 5-2 (Tentative Air Quality Receptor Areas within the Plan Area) and Table 5-4 depict 13 distinct locations through the Plan Area for which existing health risk and $PM_{2.5}$ concentration information has been compiled. Table 5-4 also provides the locations and health risks associated with the one stationary source within 1,000 feet of the Plan Area.

As shown in Table 5-4 and Figure 5-2, cancer risks and $PM_{2.5}$ concentrations are generally greatest at along the southern and eastern Plan Area boundaries and lowest along the southern and western Plan Area boundaries. The highest location of cancer risk is at Receptor 8. There is one stationary source within 1,000 feet of the Plan Area, located at 2950 Patrick Henry Drive, which has a nominal amount of health risks associated with it.

CalEnviroScreen is a mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. The tool uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. The CalEnviroScreen model is made up of four components – two pollution burden components (exposure and environmental effect) and two population characteristics components. The four components are further divided into 20 indicators.

- **Exposure** indicators are based on the measurements of different types of pollution that people may come into contact with.
- **Environmental effects** indicators are based on the locations of toxic chemicals in or near communities.
- **Sensitive population** indicators measure the number of people in a community who may be more severely affected by pollution because of their age or health.
- **Socioeconomic factors** are conditions that may increase people's stress or make healthy living difficult and cause them to be more sensitive to pollution's effects (OEHHA 2018).

[1]California's Great America is not considered an air quality sensitive receptor since, as opposed to a public park or playground, it is unanticipated that the same receptor would be present day after day during construction and/or operational activities. This is because California's Great America has a cost of admission and spans a large geographic area in which receptors would move about.

Table 5-4
EXISTING HEALTH RISKS AND $PM_{2.5}$ CONCENTRATIONS IN THE PLAN AREA

Receptor / Source Location	Cancer Risk (Per Million Population)	$PM_{2.5}$ Concentration ($\mu g/m^3$)	Chronic Hazard Index(A)
Mobile Sources			
Receptor 1	25.3	0.5	--
Receptor 2	26.0	0.5	--
Receptor 3	33.1	0.6	--
Receptor 4	24.1	0.4	--
Receptor 5	27.4	0.5	--
Receptor 6	23.5	0.4	--
Receptor 7	24.8	0.4	--
Receptor 8	45.5	0.9	--
Receptor 9	23.2	0.4	--
Receptor 10	26.4	0.5	--
Receptor 11	22.5	0.4	--
Receptor 12	23.6	0.4	--
Receptor 13	39.1	0.7	--
Stationary Sources			
2950 Patrick Henry Drive	0.0000	0.0000	0.0002

Source: BAAQMD 2020b
(A) The Chronic Hazard Index is a unitless measurement.

Each census tract receives scores for as many of the 20 indicators as possible, and the scores are then mapped so that different communities can be compared. Percentiles are assigned to each census tract based on the census tract's score in relation to the rest of the state. An area with a high score is one that experiences a much higher pollution burden than areas with low scores (e.g., a census tract with a pollution indicator of 90 percent has a higher pollution burden than a tract with an indicator of 20 percent). For example, if a census tract has an indicator in the 40th percentile, it means that indicator's percentile is higher than 40 percent of the census tracts in the state.

According to the CalEnviroScreen 3.0 Map, the Plan Area is in census tracts 6065044522, 6065044518, 6065044517, 6065044509, 6065044507, 6065044510, 6065044515, and 6065044516 and has pollution indicator percentiles ranging from 1 percent to 40 percent. These numbers indicate relatively low health risks in the Plan Area, as compared to other areas of the state. As defined SB 535, a disadvantaged community is defined as the top 25 percent scoring areas from CalEnviroScreen's indicators (i.e., 75th percentile and up), along with other areas with high amounts of pollution and low populations. Based on the Plan Area's pollution indicator percentiles, the Plan Area is not located in a disadvantaged community (as designated by SB 535 or the BAAQMD Community Air Risk Evaluation (CARE) program),[1] nor is it exposed to high amounts of pollution.

[1]The BAAQMD CARE Program identifies communities that experience higher pollution levels than others. These communities are generally near pollution sources (such as freeways, busy distribution centers, and large industrial facilities) and negative impacts on public health in these areas are greater. The CARE Program aims to reduce these health impacts linked to local air quality.

Figure 5-2
MAP OF RECEPTOR LOCATIONS FOR ASSESSING EXISTING HEALTH RISKS



5.1.5 Existing Emissions Levels in the Plan Area

As described above in Sections 5.1.3.1 and 5.1.3.2, air quality in the region has generally been improving over the last three years; however, the region is still designated as non-attainment for several pollutants at the state and federal level, including ozone, PM_{10}, and $PM_{2.5}$. The Santa Clara County sub-region is particularly prone to ozone exceedances in the summer, because of ozone precursors (e.g., those generated by vehicular activity) being carried southward from the north, and $PM_{2.5}$ exceedances in the winter, because of various human activities (e.g., wood smoke, traffic, etc.) and poor meteorological conditions. Other human activities, such as ground disturbance during the site preparation and grading phases of construction, can also lead to the entrainment of particulates in the air.

The existing non-residential land uses in the Plan Area generate emissions from the following sources:

- **Small "Area" Sources.** Existing land uses generate emissions from small area sources including landscaping equipment and the use of consumer products such as paints, cleaners, and fertilizers that result in the evaporation of chemicals to the atmosphere during product use.

- **Energy Use and Consumption**. Existing land uses generate emissions from the combustion of natural gas in building water and space heating equipment, as well as industrial processes.

- **Mobile Sources.** Existing land uses generate emissions from vehicles travelling to and from the Plan Area.

Existing land uses in the Plan Area are summarized in Table 5-5. Existing emissions were estimated using the California Emissions Estimator Model, or CalEEMod, Version 2016.3.2. The existing emissions were estimated using default data assumptions within CalEEMod, with the following project-specific modifications:

- **Land Use Development:** The default acreage and square footage for each existing, modeled land use within the Plan Area was adjusted to reflect existing development conditions.[1]

- **Energy Use and Consumption:** The non-residential default electrical energy intensity, light energy intensity, and natural gas energy intensity values were adjusted upwards by a factor of 1.05, 1.02, and 1.01, respectively, to reflect lower energy efficiency requirements of the 2013 energy code (CAPCOA 2017). This is appropriate as most buildings in the Plan Area were constructed prior to the adoption of both the 2013 (modeled energy efficiency) and 2016 (CalEEMod default assumption) Title 24 building energy efficiency standards.

[1]Although the Plan Area is identified as approximately 73.59 acres, the CalEEMod project file estimates emissions for approximately 76 acres. This provides a conservative assessment of emissions, because the modeled area is larger than the Plan Area (thereby resulting in more emissions estimated), and is consistent with the analysis conducted for the proposed Specific Plan in Section 5.3 of this EIR.

- **Mobile Sources:**

  - The default, weekday trip generation rates for existing land use types, were replaced with the trip generation rates contained in the "Existing Plus Project Trip Estimates for the Patrick Henry Drive Specific Plan" memorandum prepared for the Specific Plan (Hexagon 2020a).[1] In addition, the default weekend trip generation rates for the various land uses accounted for in CalEEMod were adjusted downward, consistent with the trip reduction credits taken in the traffic analysis for employment near light rail and a major bus stop (Hexagon 2020a). According to CalEEMod, the existing land uses generate approximately 6,778 total daily vehicle trips per weekday. As estimated using CalEEMod, the existing land uses in the Plan Area generate approximately 13,474,142 annual vehicle miles travelled, or VMT (see Appendix 25.2).[2]

  - The annual vehicle emission factors were updated based on derived EMFAC2017 emission rates for Santa Clara County, consistent with the methodology described in the CalEEMod User's Guide Appendix A (CAPCOA 2017b). The derived emission factors for year 2040 were further adjusted consistent with implications to the model under the implementation of the U.S. EPA Safe Affordable Fuel-Efficient (SAFE) Vehicle Rule Part One and Final Rule.[3, 4]

Table 5-5
EXISTING LAND USE BUILDING SPACE

Land Use	Square Feet
General Office Building	500,499
Research and Development	207,667
Light Industrial	120,900
Church	29,400
Data Center	214,522
Source: Hexagon 2020c, SSL Law Firm 2020.	

[1]Some of the trip generation rates used in CalEEMod were modified slightly based on different existing building square footages used between the Traffic Impact Analysis (TIA) and CalEEMod. Whereas the TIA evaluated trip generation based on the current occupancy of the buildings within the Plan Area, the CalEEMod inputs reflect the total building square footage to accurately capture imbedded energy consumption associated with energy (e.g., heating and cooling) and area sources (e.g., landscaping) which are anticipated to remain relatively unchanged regardless of building occupancy. Although the CalEEMod emission estimates reflect the natural gas emissions associated with the full building, the mobile sources reflect current occupancy, consistent with TIA assumptions.

[2]The project's trip distance in CalEEMod is based on model defaults. In reality, the Specific Plan's location in an urbanized setting and proximity to transit could result in fewer VMT than that accounted for in the modeling due to shorter trip distances associated with operation of the existing land uses.

[3]On November 20, 2019, CARB released the EMFAC Off-Model Adjustment Factors for criteria air pollutants emissions associated with Light Duty Vehicle operation to account for the impact of the SAFE Vehicle Rule Part One (CARB 2019).

[4]On June 26, 2020, CARB released the EMFAC Off-Model Adjustment Factors for carbon dioxide emissions associated with Light Duty Vehicle operation to account for the impact of the SAFE Vehicle Final Rule (CARB 2020).

The emissions generated by current land uses in the Plan Area are shown in Table 5-6. The emissions are shown for two scenarios:

- **Year 2019 (Current Conditions)**, which are based on Year 2019 vehicle fleet characteristics (e.g., vehicle type, age, emission rates), and represent the emissions levels that existed at the time the Notice of Preparation was released for this EIR.

- **Year 2040 (Future Conditions)**, which are based on Year 2040 vehicle characteristics and represent the projected emissions that the existing land uses would generate in the future (assuming no change in land uses). This scenario provides an estimate of how emissions would change in the Plan Area as a result of regulations that would reduce motor vehicle emissions in the future (i.e., how emissions in the Plan Area could look, absent implementation of the Specific Plan).

Table 5-6
EXISTING LAND USE CRITERIA AIR POLLUTANT EMISSIONS ESTIMATES

Emissions Source	Maximum Daily Pollutant Emissions (Tons per Year)						
	ROG	NOx	CO	PM_{10}		$PM_{2.5}$	
				Dust	Exhaust	Dust	Exhaust
Existing Land Use Operational Emissions in Year 2019 (Current Conditions)							
Area Sources	5.0	<0.0[A]	<0.0[A]	0.0	<0.0[A]	0.0	<0.0[A]
Energy Sources	0.1	1.1	0.9	0.0	0.1	0.0	0.1
Mobile Sources	2.8	5.1	22.6	5.0	0.1	1.3	0.1
Year 2019 Total[B]	7.9	6.2	23.5	5.0	0.1	1.3	0.1
Existing Land Use Operational Emissions in Year 2040 (Future Conditions)							
Area Sources	5.0	<0.0[A]	<0.0[A]	0.0	<0.0[A]	0.0	<0.0[A]
Energy Sources	0.1	1.1	0.9	0.0	0.1	0.0	0.1
Mobile Sources	1.0	2.3	10.9	4.9	<0.0[A]	1.3	<0.0[A]
Year 2040 Total[B]	6.1	3.4	11.9	4.9	0.1	1.3	0.1
Emissions Source	**Maximum Daily Pollutant Emissions (Pounds per Day)**						
	ROG	**NOx**	**CO**	**PM_{10}**		**$PM_{2.5}$**	
				Dust	**Exhaust**	**Dust**	**Exhaust**
Existing Land Use Operational Emissions in Year 2019 (Current Conditions)							
Area Sources	27.2	<0.0[A]	0.2	0.0	<0.0[A]	0.0	<0.0[A]
Energy Sources	0.7	6.0	5.0	0.0	0.5	0.0	0.5
Mobile Sources	15.6	28.2	123.7	27.4	0.5	7.3	0.4
Year 2019 Total[B]	43.4	34.2	128.9	27.4	0.9	7.3	0.9
Existing Land Use Operational Emissions in Year 2040 (Future Conditions)							
Area Sources	27.2	<0.0[A]	0.2	0.0	<0.0[A]	0.0	<0.0[A]
Energy Sources	0.7	6.0	5.0	0.0	0.5	0.0	0.5
Mobile Sources	5.6	12.7	59.9	27.0	0.1	7.2	0.1
Year 2040 Total[B]	33.4	18.7	65.1	27.0	0.6	7.2	0.6

Source: MIG 2020, see Appendix 25.2.
(A) <0.0 does not mean zero; rather, it means less than 0.05 but greater than zero.
(B) Totals may not equal due to rounding.

5.2 REGULATORY SETTING

5.2.1 Federal

5.2.1.1 Federal Clean Air Act

The Federal Clean Air Act (CAA), as amended, provides the overarching basis for both Federal and State air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees Federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of HAPs, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the U.S. EPA developed primary and secondary NAAQS. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each State prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual State will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

5.2.1.2 Safe Affordable Fuel-Efficient (SAFE) Rule

On September 27, 2019, the U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) published the SAFE Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019)). The Part One Rule revoked California's authority to set its own greenhouse gas emissions standards and set zero emission vehicle mandates in California. As a result of the loss of the zero emission vehicles (ZEV) sales requirements in California, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years (CARB 2019).

In April 2020, the U.S. EPA and NHTSA issued the SAFE Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (Final SAFE Rule) that relaxed federal greenhouse gas emissions and fuel economy standards. The Final SAFE Rule relaxed federal greenhouse gas emissions and Corporate Average Fuel Economy (CAFE) standards to approximately 1.5 percent per year from model year (MY) 2020 levels over MYs 2021–2026. The previously established emission standards and related "augural" fuel economy standards would have achieved approximately 4 percent per year improvements through MY 2025. The Final SAFE Rule affects both upstream (production and delivery) and downstream (tailpipe exhaust) carbon dioxide (CO_2) emissions (CARB 2020).

In May 2020, California, joining almost twenty-two other states, filed a lawsuit challenging the SAFE Rule. This litigation is ongoing.

5.2.2 State

5.2.2.1 California Clean Air Act

In addition to being subject to Federal requirements, air quality in the state is also governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the CAAQS. As discussed above, in California, both the Federal and State Clean Air acts are administered by CARB. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

5.2.2.2 CARB In-Use Off-Road Diesel Equipment Program

CARB's In-Use Off-Road Diesel Equipment regulation is intended to reduce emissions of NO_x and PM from off-road diesel vehicles, including construction equipment, operating within California. The regulation imposes limits on idling; requires reporting equipment and engine information and labeling all vehicles reported; restricts adding older vehicles to fleets; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing exhaust retrofits for PM. The requirements and compliance dates of the off-road regulation vary by fleet size, and large fleets (fleets with more than 5,000 horsepower) must meet average targets or comply with Best Available Control Technology (BACT) requirements beginning in 2014. CARB has off-road anti-idling regulations affecting self-propelled diesel-fueled vehicles of 25 horsepower and up. The off-road anti-idling regulations limit idling on applicable equipment to no more than five minutes, unless exempted due to safety, operation, or maintenance requirements.

5.2.2.3 CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_X, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines, and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015. Replacements with a 2010 model year or newer engine meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

5.2.2.4 CARB Stationary Diesel Engines – Emission Regulations

In 1998, CARB identified DPM as a TAC. To reduce public exposure to DPM, in 2000, the CARB approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan) (CARB 2000). Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's

amendments to *Airborne Toxic Control Measure for Stationary Compression Ignition Engines* and be permitted by BAAQMD.

5.2.2.5 CARB Air Quality and Land Use Handbook

CARB's Air Quality and Land Use Handbook is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process (CARB 2005). The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds, although such analysis is not required by CEQA. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- Within 300 feet of gasoline fueling stations; or
- Within 300 feet of dry cleaning operations (dry cleaning with TACs is being phased out and will be prohibited in 2023).

CARB prepared a technical supplement to the Handbook, a *Technical Advisory on Strategies to Reduce Air Pollution Exposure Near High Volume Roadways* (CARB 2017), that provides recommendations for strategies to minimize exposure of the public to air pollutants due to proximity to high volume roadways, such as reducing traffic emissions and removing pollution from the air.

5.2.2.6 Air Toxics "Hot Spots" Program

State requirements specifically address emissions of air toxics through Assembly Bill (AB) 1807 (known as the Tanner Bill) that established the State Air Toxics "Hot Spots" Program and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code Section 44300 et seq.). Under the Air Toxics Hot Spots Information and Assessment Act of 1987 (or Air Toxics "Hot Spots" Act) and Air Toxics Hot Spots Program, the State (CARB) must collect data on toxic emissions from stationary sources (facilities) throughout the State and ascertain potential health risks that these emissions pose to members of community for developing cancer or for resulting in non-cancer health effects. California's Children's Environmental Health Protection Act of 1999 (California Health and Safety Code Section 39606), also requires explicit consideration of infants and children in assessing risks from air toxics.

Substances regulated under California's Air Toxics Hot Spots Program are defined in statute and include a list of substances developed by the following sources:

- International Agency for Research on Cancer;
- U.S. EPA;
- U.S. National Toxicology Program;
- CARB Toxic Air Contaminant Identification Program List;
- Hazard Evaluation System and Information Service (State of California);

- Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) list of carcinogens and reproductive toxicants (State of California); and
- Any additional substance recognized by the State Board as presenting a chronic or acute threat to public health when present in the ambient air.

5.2.2.7 Senate Bill 535 (Disadvantaged Communities)

In 2012, the Legislature passed Senate Bill 535, directing that 25 percent of the proceeds from the Greenhouse Gas Reduction Fund go to projects that provide a benefit to disadvantaged communities.

5.2.2.8 California Building Industry Association v. Bay Area Air Quality Management District (2015)

The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) ruled that CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." The opinion also holds that when a project has "potentially significant exacerbating effects on existing environmental hazards" those impacts are properly within the scope of CEQA because they can be viewed as impacts of the project on "existing conditions" rather than impacts of the environment on the project. The Supreme Court provided the example of a project that threatens to disperse existing buried environmental contaminants that would otherwise remain undisturbed. The Court concluded that it is proper under CEQA to undertake an analysis of the dispersal of existing contaminants because such an analysis would be focused on how the project "would worsen existing conditions." The court also found that the limited number of express CEQA provisions that require analysis of the impacts of the existing environment on a project – such as impacts associated with school siting and airports – should be viewed as specific statutory exceptions to the general rule that such impacts are not properly within CEQA's scope.

5.2.3 Regional - Bay Area Air Quality Management District

The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SFBAAB. The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards.

5.2.3.1 Rules and Regulations

The BAAQMD currently has 13 regulations containing more than 100 rules that control and limit emissions from sources of pollutants. Table 5-7 below presents the major BAAQMD rules and regulation that may apply to future development projects in the Plan Area.

Table 5-7
POTENTIALLY APPLICABLE BAAQMD RULES AND REGULATIONS

Regulation	Rule	Description
1- General Provisions and Definitions	1- General Provisions and Definitions	301 – Public Nuisance: Establishes that no person shall discharge quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number or person or the public; or which endangers the comfort, repose, health or safety of any such person or the public.
2- Permits	2- New Source Review	Provides for the review of new and modified sources of pollutants; requires use of Best Available Control Technology and emissions offsets to achieve no net increase in nonattainment pollutants; implements Prevention of Significant Deterioration review for attainment pollutants.
2 – Permits	5 – New Source Review of Toxic Air Contaminants	Provides for the review of new and modified sources of toxic air contaminants; requires use of Best Available Control Technology for sources that have a risk above certain thresholds and limits total project risks to 10.0 in a million cancer risk, 1.0 chronic hazard index, and 1.0 acute hazard index.
6 – Particulate Matter	1 – General Requirements	Limits visible particulate matter emissions.
6 – Particulate Matter	3 – Wood-Burning Devices 2019 Amendment	306 – Prohibits the installation of a wood-burning device in new building construction.
7- Odorous substances	Odorous Substances	Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, such as ammonia.
9 – Inorganic Gaseous Pollutants	8 – NOx and CO from Stationary Internal Combustion Engines	Limits emissions of NOx and CO from stationary internal gas combustion engines more than 50 brake horsepower.
11 – Hazardous Pollutants	2 – Asbestos Demolition, Renovation, and Manufacturing	Controls emissions of asbestos to the atmosphere during demolition.

Source: BAAQMD, 2020b

5.2.3.2 2017 Clean Air Plan

On April 29, 2017, the BAAQMD adopted its *Spare the Air-Cool the Climate 2017 Clean Air Plan* (Clean Air Plan). The 2017 Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, in fulfillment of state ozone planning requirements. The Plan focuses on the three following goals:

- Attain all state and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and

- Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

The plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050. The control measures aggressively target the largest source of GHG, ozone pollutants, and particulate matter emissions – transportation. The 2017 Clean Air Plan includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives and off-road equipment (BAAQMD 2017c).

5.2.3.3 Planning Healthy Places

In May 2016, the BAAQMD released *Planning Health Places*, a guidebook that provides important air quality and public health information that is intended to assist local government in addressing and minimizing potential air quality issues. The BAAQMD intends that the information and recommendations in the guidebook be incorporated into city or county General Plans, neighborhood or specific plans, land use development ordinances, or into single projects. *Planning Healthy Places* recommends three primary strategies: 1) reduce or prevent emissions from pollution source(s) when possible; 2) implement best management practices where appropriate to reduce exposure to harmful pollutants, and 3) perform a more detailed study of an area when necessary.

Recommended best practices for reducing emissions of local air pollution include but are not limited to: including policies that limit the use of diesel generators, or control their emissions; limiting the idling of trucks to two minutes or less; requiring the electrification of loading docks in new and existing commercial land uses; and the implementation of transportation demand management strategies, traffic management strategies, and stipulations on development projects to use only the cleanest equipment, vehicles and fuel during construction.

5.2.4 Local - City of Santa Clara General Plan

On November 16, 2010, the Santa Clara City Council adopted the 2010-2035 General Plan. Section 5.10.2 of the General Plan, Air Quality Goals and Policies, contains the following policies related to air quality:

- Policy 5.10.2-P1: Support alternative transportation modes and efficient parking mechanisms to improve air quality.

- Policy 5.10.2-P2: Encourage development patterns that reduce vehicle miles traveled and air pollution.

- Policy 5.10.2-P3: Encourage implementation of technological advances that minimize public health hazards and the generation of air pollutants.

- Policy 5.10.2-P4: Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.

- Policy 5.10.2-P5: Promote regional air pollution prevention plans for local industry and businesses.

- Policy 5.10.2-P6: Require "Best Management Practices" for construction dust abatement.

Section 5.10.5 of the General Plan, Safety Goals and Policies, also contains the following safety policies related to air quality:

- Policy 5.10.5-P34: Implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems, and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels.

- Policy 5.10.5-P35: Establish minimum buffers between odor sources and new residential or other uses with sensitive receptors, consistent with BAAQMD guidelines, unless a project-specific study demonstrates that these risks can be reduced to acceptable levels.

In addition, the City's General Plan includes "Prerequisite Goals and Policies" that relate to air quality. The following policy related to air quality was included in the General Plan to address significant impacts identified in the Draft EIR for the General Plan. The General Plan envisions three main phases of General Plan implementation. Phase I was to be implemented between 2010 and 2015, Phase II between 2015 and 2025, and Phase III between 2025 and 2035. The "Community Risk Reduction Plan" mentioned in the policy below, and related to Phase III implementation that will occur in the future, has not yet been developed by the City.

- Policy 5.1.1-P24: Prior to the implementation of Phase III, the City will include a community Risk Reduction Plan ("CRRP") for acceptable Toxic Air Contaminant ("TAC") concentrations, consistent with the Bay Area Air Quality Management District ("BAAQMD") CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participations process.

5.3 IMPACTS AND MITIGATION MEASURES

The BAAQMD's CEQA Air Quality Guidelines contains guidance on assessing and mitigating both project- and plan-level air quality impacts. The BAAQMD's guidelines state (BAAQMD 2017a, pg. 9-1):

> *"The term general and area plan refers broadly to discretionary planning activities which may include, but are not limited to the following: general plans, redevelopment plans, specific plans, area plans, community plans, congestion management plans, and annexations of lands and service areas. General and area plans are often subject to program-level analysis under CEQA, as opposed to project-level analysis. As a general principle, the guidance offered within* [the BAAQMD's CEQA Air Quality Guidelines] *should be applied to discretionary, program-level planning activities; whereas the project-level guidance offered in other chapters should be applied to individual project-specific approvals, such as a proposed development project.*
>
> *Air quality impacts from future development pursuant to general or area plans can be divided into construction-related impacts and operational-related impacts. Construction-related impacts are associated with construction activities likely to occur in conjunction with future development allocated by the plan. Operational-related impacts are*

associated with continued and future operation of developed land uses, including increased vehicle trips and energy use.

The proposed Patrick Henry Drive Specific Plan provides the blueprint and basis for future land use decisions in the City. As such, it is a planning-level document that does not authorize or approve any specific project. Accordingly, this EIR evaluates the proposed Patrick Henry Drive Specific Plan using the plan-level guidance contained in the Chapter 9 of the BAAQMD's CEQA Air Quality Guidelines (BAAQMD 2017a). Where possible, potential future emissions levels have been provided for information purposes only.

5.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to air quality if it would:

(a) Conflict with or obstruct implementation of the applicable air quality plan;

(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

(c) Expose sensitive receptors to substantial pollutant concentrations; or

(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The BAAQMD CEQA Air Quality Guidelines contain the BAAQMD's recommendations to Lead Agencies for evaluating and assessing the significance of a plan's potential air quality impacts (BAAQMD 2017a). The BAAQMD's plan-level thresholds of significance are summarized in Table 5-8 below. The BAAQMD's project-level thresholds of significance have also been provided for informational purposes in Table 5-9 below, and would be used in the subsequent analysis, to the extent required by CEQA, to identify the pollutants of greatest concern that could be associated with implementation of the Patrick Henry Drive Specific Plan.

Table 5-8
BAAQMD PLAN-LEVEL THRESHOLDS OF SIGNIFICANCE

Pollutant	Threshold of Significance
Criteria Air Pollutants and Precursor Emissions	Construction: None
	Operational: Consistency with current air quality plan and projected VMT or vehicle trip increase is less than or equal to projected population increase.
Local Community Risks and Hazards	Land use diagram identifies special overlay zones around existing and planned sources of TACs and $PM_{2.5}$, including special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts.
Odors	Identify locations of odor sources in plan; identify goals, policies, and objectives to minimize potentially adverse impacts.
Source: BAAQMD 2017a	

[1]CEQA Guidelines, Appendix G, items II (a) through (d).

Table 5-9
BAAQMD PROJECT-LEVEL THRESHOLDS OF SIGNIFICANCE

Pollutant	BAAQMD Project-Level Threshold of Significance		
	Construction Emissions	**Operational Emissions**	
	Daily Emissions (pounds/day)	Daily Emissions (pounds/day)	Annual Emissions (tons per year)
ROG	54	54	10
NO_X	54	54	10
Exhaust PM10	82	82	15
Exhaust PM2.5	54	54	10
Fugitive Dust $PM_{10}/PM_{2.5}$	Best Management Practices	*None*	
Local CO	*None*	9.0 ppm (8-hour average) 20.0 ppm (1-hour average)	
Risks and Hazards – New Source/Receptor (Individual)	Compliance with Qualified Community Risk Reduction Plan; or Increased cancer risk of >10.0 in a million; and Increased non-cancer risk of >1.0 Hazard Index (chronic or acute); and Ambient $PM_{2.5}$ increase: >0.3µg/m^3 annual average		
Risks and Hazards – New Source/Receptor (Cumulative)	Compliance with Qualified Community Risk Reduction Plan; or Increased cancer risk of >100 in a million (from all local sources); and Increased non-cancer risk of >10.0 Hazard Index (from all local sources) (chronic); and Ambient $PM_{2.5}$ increase: >0.8µg/m^3 annual average (from all local sources)		
Accidental Release of Acutely Hazardous Pollutants	*None*	Storage or use of acutely hazardous materials locating near receptors or receptors locating near stored or used acutely hazardous materials considered significant	
Odors	*None*	Complaint History – 5 confirmed complaints per year averaged over three years	

Source: BAAQMD 2017a

5.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan, mainly Chapter 4 (Plan Framework) and Chapter 5 (Design Standards and Guidelines), includes components that would avoid or reduce potential air quality impacts associated with future development in the Plan Area (City of Santa Clara 2020).

Development Framework

Urban Design

- 4.2.1.1: Activity Nodes
  - Cluster retail, flex, and community uses to create activity nodes that include places to socialize, ship, play, and relax.
  - Create synergies of use to support the viability of neighborhood-servicing retail and community spaces.
  - Center nodes at intersection with ground-floor retail and where the library opens to the central park.

    - Encourage interaction of people with spaces.
- 4.2.1.4: Connections
    - Connect residents to destinations, including parks and open spaces with wide sidewalks and bike lanes throughout the PHD Specific Plan Area; a system of greenways adds a finer-grain circulation network.
    - Ensure that new roadways allow for better ingress/egress into new development and improve east-west connectivity while maintaining vehicle traffic flow.
    - Build new “slow streets” to allow shared space between automobiles, pedestrians, bicyclists, and differently abled users. Park Streets create a safe, active environment for all modes while blending the roadway into the landscape to maintain the character of the active central space.

Land Use

- 4.3.1: Land Use Policies
    - Distribute retail nodes so that all new residential development is within a 10-minute walk of at least 20,000 square feet of neighborhood-servicing commercial uses.
    - Co-locate active uses—including parks, plazas, retail, flex, and community uses—to enliven the street environment and create neighborhood destinations.
    - Identify a location for a new City branch library and publicly accessible community meeting spaces.
    - Provide for a range of housing products and residential options at various price points to support the City’s housing goals and improve residential opportunities for all households.
    - Ensure a portion of residential units are affordable to household with incomes below the area median.
    - Create a connected system of diverse parks and open spaces to provide outdoor recreation options for residential areas, facilitate pedestrian mobility, and enable habitat preservation and restoration.

Parks and Open Space

- 4.5.1: Parks and Open Space Policies
    - Require 22 percent of total residential developable land to be allocated for public parks and publicly accessible open spaces, including not less than 11 percent of land dedicated to the City in fee title as public parkland.
    - Implement Santa Clara City Code 17.35 to provide outdoor public parks and mini parks as well as indoor community facilities which may be connected by publicly accessible private greenways and open spaces that serve the neighborhood.
    - Provide one neighborhood public park centrally located within the PHD Specific Plan Area, and one neighborhood park adjacent to Calabazas Creek.
    - Distribute and site public parks so all residents can easily access a neighborhood parks within a five to ten minute walk.
    - Allow public parks to be jointly sited between two or more parcels. New public parks will be mapped and dedicated to the City as new parcels.
    - Connect parks and plazas with publicly accessible private greenways to provide safe, comfortable access while supporting connectivity throughout the PHD Specific Plan Area. Parks, plazas and greenways are subject to minimum dimensions and programming.

- Provide connection from public parks to existing and planned trails on the north and west of the PHD Specific Plan Area.
- Collaborate with property owners and the City Parks and Recreation Department to determine park and community space design and programming.
- Site and size public parks and indoor community facilities (e.g., library, gym), their features and amenities, to serve a variety of populations and programs throughout the day, from dawn to 10pm.

Specific Plan Open Space Requirement

- 4.5.3.2: Greenways
  - Greenways are privately owned, publicly accessible linear open spaces that provide off-road connections for pedestrians, cyclists, scooter riders, and the like while providing additional green space throughout the PHD Specific Plan Area. Projects are required to incorporate publicly accessible greenways into their design consistent with the SP Land Use Diagram.

Mobility, Circulation, and Parking

- 4.6.1: Introduction and Intent
  - Prioritize the comfort and safety for pedestrians and cyclists.
  - Retrofit the right-of-way to accommodate all travel modes including walking, cycling, driving, micro-mobility, and transit.
  - Support access to transit stops on Tasman Drive and Great America Parkway.
  - Improve infrastructure for pedestrians, cyclists and micro-mobility (e.g., scooters) to mitigate the impact of urban-scale development on traffic congestion.
  - Improve connections to the Calabazas Creek Trail and other trails and greenways.
  - Design flexible street environments that allow for innovative transit and ride-share options (e.g., jitneys) as well as emerging technology (e.g., autonomous vehicles).
  - Use Transportation Demand Management (TDM) strategies in partnership with area employers and property owners to minimize vehicle miles traveled.
  - Limit vehicle parking spaces for residences and businesses, and
  - Reduce carbon emissions from transportation.
- 4.6.3.1: Parking Ratios and Restrictions
  - Parking spaces must be provided as per the minimums set forth in Table 4.6.3.1A (of the Specific Plan). For any other uses not listed, private off-street parking shall be provided consistent with the parking standards in the Santa Clara Zoning Ordinance.
  - Parking is not allowed as a stand-alone use. All parking must be structured and/or underground and included as an accessory use for residential, mixed-use or office development.
  - Surface parking is only allowed as a temporary or interim use.
  - Shared parking is encouraged.
  - Mechanical parking stackers/lifts and tandem parking may be used to satisfy minimum requirements.
  - Parking for public parks should be shared with residential visitor and retail parking. Any on and off-street adjacent to the parks should enhance accessibility to public users.

- 4.6.3.2: Car Sharing
    - Car sharing programs provide on-demand access to a shared fleet of vehicles on an as-needed basis and has been shown to reduce automobile ownership and vehicle miles travelled (VMT). Developers/property owners shall provide car share spaces at a rate of at least one space per 400 residential units, with no more than two spaces per development. Cars should be available and accessible to the general public with dedicated car share vehicles near the building and/or parking structure entrance.
- 4.6.3.3: Electric Vehicle (EV) Parking
    - EV parking shall be provided to meet growing EV usage. On lower parking floors, a large empty conduit should be run to locations where future electrical breaker panels could be located; or exposed conduit could be installed for future charging locations. The actual installation of electrical wiring, chargers, and billing methods could be carried out by an independent operator where the energy used for vehicle charging is paid for by the user.
- 4.6.3.4: Bicycle Parking
    - Convenient and secure bicycle parking encourages bicycle ridership by offering riders the same level of access and security as motorists. On-site bicycle parking shall be provided to include bike lockers, bike cages, or indoor long-term bicycle parking for residents and on-site employees, plus convenient short-term racks for visitors.
- 4.6.4: Transportation Demand Management
    - Transportation Demand Management (TDM) involves a suite of policies, programs and projects that reduce vehicle trips, parking demand and VMT. These measures provide incentives and opportunities to choose alternative modes such as walking, bicycling, transit, or ridesharing and apply to residential and employment uses.

      The implementation of TDM measures in the Plan Area should be consistent with the requirements outlined in the City of Santa Clara's Climate Action Plan and General Plan. The PHD Specific Plan Area is in the City's Transportation Management District 1 (North of Caltrain) and is required to achieve a minimum VMT reduction of 20 percent, including 10 percent through TDM measures. In addition to the land use, mobility and parking requirements of this Specific Plan, new development will be required to implement a TDM program to reduce drive-alone trips.[1]

Design Standards and Guidelines

Vehicle Travel Ways

- Guideline 5.1.1.4: Where enough space existing in the right-of-way, allocate space to venter turn lanes and narrow vehicle lanes to create sufficient space for U-turns, discourage speeding, and calm traffic.

[1]The Specific Plan's TDM policy is based on the City's existing Climate Action Plan requirements. A cumulative 20% reduction in VMT must be achieved by individual development proposals in the Plan Area, but the individual projects can only take 10% of that credit based on its geographic location (i.e., relation to land uses in the Plan Area) and proximity to transit. The remaining 10% must be achieved by measures specifically implemented by the project.

- Guideline 5.1.1.5: Employ traffic-calming techniques to slow vehicle traffic on shared streets and increase pedestrian and cyclist safety.

Bicycle Facilities

- Standard 5.1.3.2: Place Class IV protected bicycle lanes on Patrick Henry Drive and Old Ironsides Drive to be consistent with the Bicycle Master Plan.
- Standard 5.1.3.5: Require New Roadways, Slow Streets, and Park Streets to be shared streets with marked, shared Class III bicycle boulevards as per MUTCD standards.

Transit Facilities

- Standard 5.1.4.2: Relocate all near-side shuttle/bus stops to the far side of intersections to improve safety for pedestrians and efficiency of travel. Where bicycle lanes overlap with bus zones, demarcate green stripe for the bicycle to show a mixing zone to allow for the travel lane to be shared between bicycle and bus.
- Guideline 5.1.4.3: Along VTA routes, work with VTA to install transit amenities like shelters, seating, trash cans, real-time bus information system at transit stops.

Intersections

- Guideline 5.1.5.4: Allow curb extensions (bulbouts) to extend the pedestrian zone into the roadway and provide additional pedestrian space at key locations.

Pedestrian Zone

- Standard 5.2.1.1: Have clear, contiguous, and unobstructed seven-foot ADA accessible walkways on both sides of the streets except in areas constrained by above-grade utility structures where a five-foot wide walkway are acceptable.
- Standard 5.2.1.2: Create 20-foot-wide continuous pedestrian zone on Patrick Henry Drive and Old Ironsides Drive, inclusive of the walkway, amenity zone and activity frontage.

Crosswalks

- Standard 5.2.2.1: Provide clearly marked crosswalks at any signalized intersections and at intersections of key streets.

All of Section 5.3: Street Design

Publicly Dedicated Parkland

- Guideline 5.4.1.3: Design parks to be seamlessly connected to the PHD Specific Plan Area's network of greenways, streets, and trails, including the Calabazas Creek Trail and the planned trail along the Hetch Hetchy right-of-way.

Greenways

- Standard 5.4.5.1: Site greenways as shown in (Specific Plan) Figure 4.5A of the Open Space Framework to provide pedestrian and bicycle connections through large blocks, to link destinations, and to enhance required spaces between buildings.
- Standard 5.4.5.2: Use greenways to connect parks and open space and improve access to trails, transit stops, activity nodes, and other community amenities.
- Standard 5.4.5.6: Provide seating, refuse/recycling receptacles, and other basic amenities along greenways.
- Guideline 5.4.5.9: Incorporate landscaping, trees, and community gardens along greenways.

Alleys and Service Areas

- Guideline 5.5.4.9: Use speed humps, signage, and other traffic-calming devices in alleys and service accessways to reduce vehicle speed.

Building and Block Organization

- Standard 5.5.1.1: Encourage mid-block connectivity through the block and across adjoining streets such that the distance between pedestrian crossings is no more than 330 feet or 1/16th of a mile.

In addition to the above, chapter 3 (Project Description) of this EIR includes various development and design frameworks relevant to development density, intensity, and physical design components of the Specific Plan which apply to future project proposals in the Plan Area.

CEQA Guidelines Section 15150 permits an EIR to incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. When another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR under consideration, and the incorporated document itself must be made available to the public for inspection at a public place or public building. Pursuant to CEQA Guidelines Section 15150, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference. The reader is encouraged to review Specific Plan chapters 4 and 5 for more detail. The Specific Plan is posted on the Patrick Henry Drive Specific Plan website at:[1]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

5.3.3 Impacts and Mitigations

Impact 5-1: Conflict with 2017 Clean Air Plan. Consistent with the BAAQMD's CEQA Air Quality Guidelines, the proposed Patrick Henry Drive Specific Plan would result in a significant impact if it would be inconsistent with the 2017 Clean Air Plan or result in a projected increase in vehicle trips or VMT that exceeds a projected population increase. As described below, the Patrick Henry Drive Specific Plan includes standards and guidelines that would be consistent

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

with the 2017 Clean Air Plan and would not result in an increase in trip generation that exceeds the projected increase in service population. Therefore, the proposed Specific Plan would be consistent with the 2017 Clean Air Plan; no impact would occur.

Consistency Analysis with the 2017 Clean Air Plan

The BAAQMD's CEQA Guidelines recommend a lead agency analyze consistency with the 2017 Clean Air Plan using the following three questions:

1) Consistency Question 1: Does the project support the primary goals of the Air Quality Plan?
2) Consistency Question 2: Does the project include applicable control measures from the Air Quality Plan?
3) Consistency Question 3: Does the project disrupt or hinder implementation of any Air Quality Plan control measures?

The BAAQMD's 2017 Clean Air Plan is a multi-pollutant plan focused on protecting public health and the climate. Specifically, the primary air quality-related goals[1] of the 2017 Clean Air Plan (Consistency Question 1) are to:

- Goal 1: Attain all state and national air quality standards; and
- Goal 2: Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants.

According to the BAAQMD CEQA Guidelines, to meet the thresholds of significance for operational-related criteria air pollutant and precursor impacts for plans (i.e., attain state and air quality standards; Consistency Question 1, Goal 1), a proposed plan must satisfy the following criteria:

- Criteria 1: Consistency with current air quality plan control measures; and
- Criteria 2: A proposed plan's projected VMT for vehicle trips increase is less than or equal to its projected population increase.

Based on the preceding discussion of the criteria needed to meet the BAAQMD thresholds of significance for plan-level documents, the following analysis is organized as such:

- **Consistency with Air Quality Plan Control Measures.** This section addresses:
  - Consistency Question 1 (Primary Goals of Air Quality Plan): Goal 1 - Attain Air Quality Standards, Criteria 1 (Applicable Control Measures)
  - Consistency Question 2 (Include Applicable Control Measures from Air Quality Plan)

- **Disrupt or Hinder Implementation of Air Quality Plan Control Measures.** This section addresses:
  - Consistency Question 3

[1] In addition to the two goals above, the 2017 Clean Air Plan includes a third primary goal related to Bay Area greenhouse gas (GHG) emissions. For the purposes of this EIR, consistency with the 2017 Clean Air Plan's goal related to GHG emissions is considered and evaluated separately in EIR Chapter 9 (Greenhouse Gas Emissions and Energy).

- **Increases in Vehicle Trips and Service Population.** This section addresses:
  - Consistency Question 1 (Primary Goals of Air Quality Plan): Goal 1 - Attain Air Quality Standards, Criteria 2 (Vehicle Trips and Service Population (SP) Growth)[1]
- **Eliminate Health Risk Disparities Among Bay Area Communities.** This section addresses:
  - Consistency Question 1 (Primary Goals of Air Quality Plan): Goal 2 – Eliminate Health Risk Disparities Among Bay Area Communities

Consistency with Air Quality Plan Control Measures

The 2017 Clean Air Plan contains 85 control strategies designed to reduce ozone precursors, protect public health, and serve as a regional climate protection strategy. The control strategies are based on nine economic sectors, consistent with CARB's Scoping Plan. The 85 control strategies identified in the 2017 Clean Air plan are grouped by nine economic-based "sectors" as shown in Table 5-10.[2]

The BAAQMD's implementation of the control strategies employs a wide range of tools and resources, and many of the control strategies are not intended or designed to be achieved by local government. Table 5-11 identifies the 2017 Clean Air Plan control measures that are relevant to the Patrick Henry Drive Specific Plan and indicates consistency with the measures.

Table 5-10
BAAQMD 2017 CLEAN AIR PLAN CONTROL MEASURE SECTORS

Sector	No. of Measures	General Description of Sector Applicability
Agriculture (AG)	4	Applies to sources of air pollution from agricultural operations include on and off-road trucks and farming equipment, aircraft for crop spraying, animal waste, pesticide and fertilizer use, crop residue burning, travel on unpaved roads, and soil tillage.
Buildings (BL)	4	Applies to residential, commercial, governmental and institutional buildings, which generate emissions through energy use for heating, cooling, and operating the building, and from the materials used in building construction and maintenance
Energy (EN)	2	Applies to emissions of criteria pollutants, TACs, and GHGs from electricity generated and used within the Bay area, as well as GHG emissions from electricity generated outside the Bay area that is imported and used within the region
Natural and Working Lands (NW)	3	Applies to emissions from natural and working lands, including forests, woodlands, shrub lands, grasslands, rangelands, and wetlands.

[1]The existing land uses within the Plan Area do not support residential dwelling units and, therefore, a comparison between population and vehicle trip growth under existing and proposed conditions is not possible. Instead, this EIR utilizes Service Population (SP) as a proxy instead of population for assessing how vehicle trips would change in relation to the proposed land uses. SP is defined as a combination of resident and employees a project serves.

[2]The BAAQMD 2017 Clean Air Plan use the same economic sectors contained in CARB's 2017 Scoping Plan.

Sector	No. of Measures	General Description of Sector Applicability
Stationary Sources (SS)	40	Applies to stationary sources generally used in commercial and industrial facilities. Such sources are typically regulated through BAAQMD rulemaking, permitting, and enforcement programs
Super GHGs (SL)	3	Applies to emissions of methane, black carbon, and fluorinated gases
Transportation (TR)	23	Applies to on-road motor vehicles such as light-duty automobiles or heavy-duty trucks, as well as off-road vehicles, including airplanes, locomotives, ships and boats, and off-road equipment such as airport ground-support equipment, construction equipment and farm equipment.
Waste (WA)	4	Applies to emissions from landfills and composting activities.
Water (WR)	2	Applies to direct emissions from the treatment of water and wastewater at publicly owned treatment works and indirect emissions associated with the energy used to pump, convey, recycle, and treat water and wastewater throughout the Bay

Table 5-11
BAAQMD 2017 CLEAN AIR PLAN CONTROL MEASURE CONSISTENCY

Applicable 2017 Clean Air Plan Control Measures	Consistency
Transportation Control Measures	
TR1: Clean Air Teleworking Initiative	Consistent. As described in Specific Plan Chapter 4, Section 4.6.4 (Transportation Demand Management), land uses within the Plan Area would comply with the requirements outlined in the City of Santa Clara's Climate Action Plan and General Plan. The PHD Specific Plan Area is in the City's Transportation Management District 1 (North of Caltrain) and is required to achieve a minimum VMT reduction of 20 percent, including 10 percent through TDM measures (i.e., measures specifically implemented by the project, and not inherent trip reductions due to project location, such as proximity to transit). These TDM requirements, which require a reduction in single-occupancy vehicle trips, are detailed in Chapter 7 of the Specific Plan and include measures such as increased support for telecommuting.
TR2: Trip Reduction Programs	Consistent. The Specific Plan qualifies as a transit supportive project under the City's VMT Transportation Analysis Policy for Environmental Review (Hexagon 2021). This means the project meets the following criteria: • It is within ½ a mile of an existing Major Transit Stop or an existing transit stop along a High-Quality Transit Corridor; • Has high density meeting a minimum non-residential FAR of 0.75 and minimum residential density of 35 dwelling units per acre; • Promotes multimodal transportation networks; • Has transit-oriented design elements; • Limits parking to what is required by City Code for residents, customers, or employees; and

Applicable 2017 Clean Air Plan Control Measures	Consistency
	• Provides an equal or greater amount of affordable housing than the existing land uses. The Specific Plan, by nature, inherently reduces trips because of its proximity to transit and high density, mixed-use development style. The Specific Plan also provides standards and guidelines to promote multimodal transportation (e.g., Class IV bike lanes, bulbouts and traffic calming measures to promote pedestrian safety, shelter and real-time notifications at bus stops, greenways connecting various parcels, etc.) that would make non-vehicular modes of transport more enticing. In addition, as described under TR1, the land uses would be required to comply with the City of Santa Clara's Climate Action Plan and General Plan, which require the development and implementation of TDM measures. These TDM requirements, which are detailed in Chapter 7 of the Specific Plan, include measures such as transit subsidies, carpool incentives, bicycling incentives, carshare memberships, and/or vanpools.
TR5: Transit Efficiency and Use	Consistent. Although this is generally a control measure that is implemented at the regional level, the Patrick Henry Drive Specific Plan would provide connections to regional and local transit with its convenient location near the Old Ironsides Light Rail Station and frequent bus service via VTA Route 57. In addition, the Specific Plan includes standards and guidelines to relocate all near-side shuttle/bus stops to the far side of intersections to improve safety for pedestrians and efficiency of travel and install transit amenities like shelters, seating, trash cans, real-time bus information system at transit stops, which would improve transit efficiency and use.
TR7: Safe Routes to Schools and Safe Routes to Transit	Consistent. The Specific Plan provides standards and guidelines to ensure clear and safe pedestrian circulation. Greenways would provide off-road connections for pedestrians, cyclists, scooter riders, and the like while providing additional green space throughout the Plan Area. In addition, ample walkway space would be provided for pedestrians along roadways and traffic calming measures implemented as standards and guidelines to reduce potential pedestrian/bicycle/vehicular conflicts.
TR8: Ridesharing, Last-Mile Connection	Consistent. As described under consistency with TR1 and TR2, the land uses would be required to comply with the City of Santa Clara's Climate Action Plan and General Plan, which require the development and implementation of TDM measures. These TDM requirements, which are detailed in Chapter 7 of the Specific Plan, would include measures such as transit subsidies, carpool incentives, bicycling incentives, carshare memberships, additional last mile services, and/or vanpools.

Applicable 2017 Clean Air Plan Control Measures	Consistency
TR9: Bicycle and Pedestrian Access and Facilities	Consistent. The Plan Area is designed to provide ample, safe, amenities and facilities for bicycles and pedestrians. For example, Class IV bike lanes are provided for various, major roadways through the Plan Area with sharrows provided on other, non-major roadways. The Specific Plan also calls for greenways, which would provide off-road connections for pedestrians, cyclists, scooter riders, and the like. Furthermore, traffic calming measures and other design features would reduce potential pedestrian/bicycle/vehicular conflicts.
TR10: Land Use Strategies	Consistent. The Patrick Henry Drive Specific Plan would feature mixed-use development that provides at least 20,000 square feet of neighborhood-servicing commercial uses within a 10-minute walk of all new residential development. The Specific Plan would also provide high-density residential and employment opportunities in a transit rich area, and non-vehicular infrastructure to increase the allure of non-vehicular modes of transport.
TR13: Parking Policies	Consistent. As described under TR2, the Specific Plan would be required to limit parking only to that which is required by the City Code, and per the Parking Ratios and Requirements identified in Table 4.7 of the Specific Plan. In addition, reduced parking could also be provided as a TDM measure.
TR14: Cars & Light Trucks	Consistent. The Specific Plan would support the adoption of ZEV and Plug-in Electric Vehicles through providing that large empty conduit should be run to locations where future electrical breaker panels could be located, or exposed conduit could be installed for future charging locations on lower parking floors.
TR23: Lawn Care Equipment	Consistent. This control measure is primarily implemented through the BAAQMD by its buy-back program; the Specific Plan would not impede the implementation of this control measure. Potential landscaping companies contracted to do work within the Plan Area are anticipated to benefit from the BAAQMD's implementation of TR23.
Building Control Measures	
BL1: Green Buildings	Consistent. New development occurring under implementation of the Specific Plan would be subject to the latest CalGreen requirements, which establish statewide standards for sustainable building practices.
BL2: Decarbonize Buildings	Consistent. New development occurring under implementation of the Specific Plan would be required to be "solar-ready" to accommodate solar energy systems for all rooftops, parking structure top decks, and similar flat surfaces. In addition, new development would also be required to utilize graywater systems and stormwater harvesting to reduce the amount of potable water used for landscaping activities. Site design would also be taken into consideration regarding building orientation and modern heating, cooling, and ventilation systems.

Applicable 2017 Clean Air Plan Control Measures	Consistency
BL4: Urban Heat Island Mitigation	Consistent. As part of reducing the urban heat island effect, new development would provide shading of pedestrian areas and ample use of climate-appropriate landscaping and ground over. In addition, the Specific Plan includes standards and guidelines that specify trees should be incorporated along greenways and roadways, which would provide a comfortable, well-shaded environment throughout the Plan Area.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent. As described under BL4, as part of reducing the urban heat island effect, new development would provide shading of pedestrian areas and ample use of climate-appropriate landscaping and ground over. In addition, the Specific Plan includes standards and guidelines that specify trees should be incorporated along greenways and roadways, which would provide a comfortable, well-shaded environment throughout the Plan Area.
Waste Management Control Measures	
WA4: Recycling and Waste Reduction	Consistent. The Specific Plan would provide convenient recycling and composting facilities, including shared outdoor areas, and encourage behavior change through public information campaigns and by providing easy-to-understand signage and instructions for waste diversion measures.
Water Control Measures	
WR2: Support Water Conservation	Consistent. The proposed land uses under the Specific Plan would enhance water efficiency in the Plan Area by making use of graywater systems and harvesting stormwater.

As shown in Table 5-11, the Patrick Henry Drive Specific Plan would be in compliance and consistent with the control measures contained in the 2017 Clean Air Plan.

Disrupt or Hinder Implementation of Clean Air Plan Control Measures

As shown in Table 5-11, the proposed Patrick Henry Drive Specific Plan incorporates standards and guidelines that are consistent with and similar to applicable 2017 Clean Air Plan control measures. Thus, the proposed Patrick Henry Drive Specific Plan would not disrupt or hinder implementation of any 2017 Clean Air Plan control measures.

Vehicle Trips and Service Population Growth

The BAAQMD CEQA Air Quality Guidelines recommend Lead Agencies evaluate the projected VMT or vehicle trips in relation to projected population increases when considering the adoption of a plan-level document. Specifically, that the projected VMT or vehicle trips are less than or equal to the projected population increase. As discussed previously, the existing land uses in the Plan Area do not support dwelling units nor a residential population. Therefore, this analysis uses SP as a proxy for assessing how potential growth in the Plan Area could change under implementation of the proposed Specific Plan.

Table 5-12 summarizes the number of weekday trips for Existing Conditions, Scenario A, and Scenario B, as well as what percent Scenarios A and B would increase the weekday trip generation and SP in the Plan Area over Existing Conditions.

Table 5-12
TRIP GENERATION AND SERVICE POPULATION INCREASES

Scenario	Weekday Trip Generation	Service Population	Percent Greater than Existing Conditions	
			Weekday Trip Generation	Service Population
Existing Conditions	6,778[(A)]	2,592[(B)]	--	--
Scenario A	53,466[(C)]	27,500[(D)]	789%	1,061%
Scenario B	52,330[(E)]	26,620[(D)]	772%	1,027%

Source: Hexagon 2020a, 2021
(A) Hexagon 2020a, Table 1
(B) Hexagon 2021, Table 5
(C) Hexagon 2020a, Table 3
(D) Hexagon 2020a, Table 2
(E) Hexagon 2020a, Table 4

As shown in Table 5-12, implementation of either Patrick Henry Drive Specific Plan scenario would result in a greater increase in SP than it would weekday trip generation, which indicates there would be fewer trips per SP under future conditions than existing conditions. Therefore, the proposed Specific Plan would be consistent with the second criteria related to the 2017 Clean Air Plan's goal of attaining air quality standards, and not conflict with the 2017 Clean Air Plan.

Eliminate Disparities in Health Risks

As explained in more detail under Impact 5-3, the Patrick Henry Drive Specific Plan could result in significant health risk increases at new and existing sensitive receptor locations during development activities occurring under implementation of the Specific Plan. The City would implement mitigation measures to reduce potential health risks that could be posed by construction activities, but it cannot be definitively known or concluded at this time that the mitigation measures would reduce potential adverse health effects to levels that would be less than significant based on the speculative nature and timing of specific future development projects in the Plan Area.

As described under Section 5.1.4, the Plan Area is located within an area shown by CalEnviroScreen to have pollution indicator percentiles ranging from 1 percent to 40 percent, which indicate relatively low health risks in the Plan Area, as compared to other areas of the state. In addition, the Plan Area is not an impacted community identified under the BAAQMD's CARE Program and is not considered a disadvantaged community pursuant to SB 535. Therefore, although the proposed Specific Plan could result in significant health risk increases, it would no do so in an area that is currently disadvantaged. The potential health risks posed by implementation of the Specific Plan are solely related to those posed by construction activities, which are temporary in nature. The Specific Plan proposes residential, office, retail, and community-serving land uses; it would not include industrial or other land uses that have the potential to generate TAC emissions from large stationary sources or industrial processes. The Plan Area is not located in or adjacent to a disadvantaged community, nor does it propose land uses that would generate long-term, stationary sources of emissions that could promote

disparities in health risks. The proposed Specific Plan would not increase health risk disparities in the Bay Area.

Conclusion

Implementation of the proposed Patrick Henry Drive Specific Plan would be consistent with and not hinder the implementation of any applicable 2017 Clean Air Plan Control Measures. In addition, the proposed Specific Plan's growth in SP would be greater than the increase in trip generation within the Planning Area, and the Specific Plan would not promote disparities in health risks. Based on the preceding analysis, the proposed Patrick Henry Drive Specific Plan would be consistent with the 2017 Clean Air Plan. This impact would be less than significant (see criterion [a] in subsection 5.3.1, "Significance Criteria," above).

Mitigation 5-1. No significant impact has been identified; no mitigation is required (see criterion [a] in subsection 5.3.1, "Significance Criteria," above).

Impact 5-2: Result in a Cumulatively Considerable Net Increase in Criteria Pollutants for which the Region is Non-Attainment. Implementation of the Patrick Henry Drive Specific Plan could result in growth in the Plan Area that exceeds the level of growth accounted for in the City's General Plan and, therefore, could generate a cumulatively considerable net increase in criteria air pollutants for which the region is in non-attainment. This represents a ***potentially significant impact*** (see criterion [b] in subsection 5.3.1, "Significance Criteria," above).

The Specific Plan would permit a substantially higher development intensity in the Plan Area than current conditions; however, the proposed land uses would serve a greater number of people in the city than the current land uses, and would concentrate development in an area that is well served by local and regional transit. Nonetheless, the transition of current land uses to those proposed under the Specific Plan would result in criteria air pollutant and other emissions from construction activities and from the operation of the new residential, office, retail, and other community-serving land uses. The emissions levels associated with the level of growth proposed by the Patrick Henry Drive Specific Plan would far exceed that accounted for in the City's General Plan and result in a cumulatively considerable net increase in emissions for which the region is in nonattainment.

Construction Criteria Air Pollutant Emissions

The adoption of the proposed Specific Plan would not directly result in construction of any development or infrastructure; however, future development supported by the Specific Plan would result in short-term construction-related criteria air pollutant emissions that would have the potential to have an adverse effect on air quality. Short-term criteria air pollutant emissions would occur during demolition, site preparation, grading, building construction, paving, and architectural coating activities associated with specific new development projects. Emissions would occur from use of equipment, worker, vendor and hauling trips, and disturbance of onsite soils (fugitive dust). Heavy-duty off-road construction equipment (e.g., bulldozers, backhoes, cranes) as well as haul truck trips for any soil import / export would primarily generate emissions of NOx, and exhaust PM_{10} and $PM_{2.5}$. Fugitive dust emissions (PM_{10} and

$PM_{2.5}$) would also be generated during earth disturbing activities (e.g., site preparation, grading, excavation). The quantity of fugitive dust emissions generated, however, would be dependent on a number of parameters, such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and speed of the vehicle(s) passing over the disturbed area. ROG emissions would generally be greatest during the application of architectural coatings.

It is possible that either no construction could be occurring at any given time, or multiple projects could be occurring within the Plan Area simultaneously. The BAAQMD CEQA Air Quality Guidelines do not identify quantitative, plan-level thresholds for construction emissions; however, as shown in Table 5-8, the BAAQMD does maintain project-level thresholds of 54 pounds per average day for NOx, ROG, and $PM_{2.5}$ exhaust, and 82 pounds per average day for PM_{10} exhaust. The combination of fugitive dust and exhaust emissions of multiple projects occurring within the Plan Area would very likely exceed these project-level thresholds; however, as provided in the BAAQMD Air Quality CEQA Guidelines:

> *"In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The analysis to assess project-level air quality impacts should be as comprehensive and rigorous as possible"* (BAAQMD 2017a).

Although specific details regarding project development within the Plan Area are not known at this time, it is plausible and probable that one or more projects developed under implementation of the proposed Specific Plan could have the potential to exceed one or more of the BAAQMD's construction criteria air pollutant threshold of significance (e.g., NOx for a project involving a substantial amount of earthwork during grading).

Based on the preceding discussion and analysis, implementation of the proposed Specific Plan could have a ***potentially significant impact*** with regard to construction criteria air pollutant emissions that would be generated during construction, which requires mitigation. Accordingly, the City would implement Mitigation Measures 5-2A and 5-2B to address fugitive dust emissions and equipment exhaust emissions, respectively.

- Mitigation Measure 5-2A requires future development to implement the BAAQMD's Basic Construction Mitigation Measures to address fugitive dust emission during construction. As identified in Table 5-9, the BAAQMD does not maintain quantitative thresholds for fugitive dust during construction activities; rather, compliance and implementation of these Basic Construction Mitigation Measures renders fugitive dust emissions during project construction less than significant (BAAQMD 2017a).

- Mitigation Measure 5-2B requires future projects implemented under the Specific Plan to prepare and submit a project-specific air quality assessment to the City that quantitatively estimates emissions that could be generated by the project and compares them against thresholds maintained by the BAAQMD. The project-specific air quality analyses would identify mitigation, as applicable, to reduce project-specific impacts related to construction criteria air pollutant emissions that have the potential to exceed BAAQMD CEQA thresholds of significance. Due to the speculative nature of development and uncertainty related to where development activities would occur within the Plan Area first, it is not possible at this

time to identify project-specific impacts that could occur under implementation of the Patrick Henry Drive Specific Plan; however, it is anticipated some of, if not all, development projects over the next 20 year would require the utilization of project-specific mitigation measures, such as requiring all heavy-duty off-road diesel-powered construction equipment to meet U.S. EPA Tier IV Final emissions standards (for equipment greater than 50-horsepower), to reduce construction emissions. The project-specific air quality assessment would be required to be reviewed and approved by the City prior to commencement of construction.

Application of Mitigation Measure 5-2A would require future projects in the Plan Area to implement the BAAQMD's Basic Construction Mitigation Measures, which would reduce fugitive dust emissions to less than significant. Mitigation Measure 5-2B would require the preparation of a project-specific air quality assessment to evaluate potential criteria air pollutant construction emissions associated with the development project. Although future development projects would be required to implement Mitigation Measure 5-2B, it cannot be definitively known or stated at this time that all development projects occurring under implementation of the Specific Plan would be able to reduce potential criteria air pollutant emissions to levels that are below BAAQMD thresholds. Therefore, despite the implementation of Mitigation Measure 5-2B, criteria air pollutant construction emissions associated with the proposed Patrick Henry Drive Specific Plan could continue to exceed applicable BAAQMD thresholds and could generate a cumulatively considerable net increase in criteria air pollutants for which the region is in non-attainment. This impact would be significant and unavoidable.

Operational Criteria Air Pollutant Emissions

Implementation of the Patrick Henry Drive Specific Plan would result in approximately 12,000 new residential dwelling units under buildout of Scenario A and approximately 10,300 new residential dwelling units under buildout of Scenario B. As depicted in Figure 8.6-3 of the City's 2010-2035 General Plan Appendix 8.6, General Plan Land Use Assumptions, the Patrick Henry Drive Specific Plan Area (called out as the Great America Parkway Focus Area in the General Plan) has a land use designation of "High Density Residential" (City of Santa Clara 2010). Per Table 8.6-1 of that same appendix, the "High Density Residential" land use was assumed to have a residential development capacity of 40 dwelling units per acre. Multiplying this density through by the approximately 73.59-acre Plan Area results in a planned development capacity of approximately 2,944 dwelling units. This leaves approximately 9,056 dwelling units unaccounted for under Scenario A, and approximately 7,356 dwelling units unaccounted for under Scenario B. This indicates the development intensity proposed by the Specific Plan is approximately three-and-a half to four times more intense than that originally envisioned in the General Plan Table 5-13 summarizes the residential dwelling unit growth projections accounted for in the City's General Plan versus that proposed by the Specific Plan.

Table 5-13
GENERAL PLAN AND SPECIFIC PLAN RESIDENTIAL GROWTH ASSUMPTIONS

Scenario	Planned Dwelling Units in Plan Area	Number of Units in Excess of General Plan	Percent Greater than Accounted for in General Plan
General Plan Assumption	2,944	--	--
Scenario A	12,000	9,056	408%
Scenario B	10,300	7,356	350%

Although not required by the BAAQMD, it is useful to compare the potential operational emissions associated with buildout of the Specific Plan to the BAAQMD's project-level thresholds of significance to determine which pollutants and sources would be of greatest concern under the planning horizon year of 2040. Accordingly, operational criteria air pollutant emissions were estimated for the two scenarios using CalEEMod (version 2016.3.2). Operational emissions were estimated under full buildout of Scenarios A and B using default data assumptions provided by CalEEMod, with the following project-specific modifications:

- **Land Use Development:** The default acreages for proposed land uses within the Plan Area were adjusted to reflect proposed development conditions (e.g., considering mix-use development, acreage in the Plan Area). Please see Table 5-14 for a summary of the land uses proposed under Specific Plan Scenario A and Scenario B, and refer to footnote 5 for why the modeled Planning Area is greater than 73.59 acres.

- **Area Sources:** Woodstoves and fireplaces were removed pursuant to BAAQMD Regulation 6-3-306, which prohibits the installation on wood burning devices in new development. The quantity of wood-burning fireplaces assumed by CalEEMod were added to natural-gas powered fireplaces.

- **Energy Use and Consumption:** The residential default electrical energy intensity values were adjusted downwards by a factor of 0.5 to reflect increased energy efficiency and solar photovoltaic requirements of the 2019 energy code (CEC 2018). Similarly, the non-residential default light energy intensity value was adjusted downwards by a factor of 0.7 to reflect increased lighting efficiency in the 2019 energy code.

- **Mobile Sources:**
  - The default, weekday trip generation rates for existing land use types, were replaced with the trip generation rates contained in the "Existing Plus Project Trip Estimates for the Patrick Henry Drive Specific Plan" memorandum prepared for the Specific Plan (Hexagon 2020a). The default weekend trip generation rates for the various land uses accounted for in CalEEMod were also adjusted downward, consistent with the trip reduction credits taken in the traffic analysis for internal capture and proximity to transit (Hexagon 2020a).[1, 2] According to CalEEMod, the proposed land uses for Scenario A and Scenario B would generate approximately 53,466 and 52,330 total daily vehicle trips per weekday, respectively, and generate approximately 119,373,555 and 114,598,939 annual VMT, respectively.
  - The annual vehicle emission factors were updated based on derived EMFAC2017 emission rates for Santa Clara County, consistent with the methodology described in the CalEEMod User's Guide Appendix A (CAPCOA 2017b). The derived emission factors for

[1]The weekend trip generation rates for the Community Center, which was modeled as "Daycare Center" in CalEEMod, were updated consistent with the trip generation rates for the Library land use to reflect the Community Center would likely be used more on the weekend than that assumed by CalEEMod for the "Daycare Center" land use.

[2]As detailed in the "Existing Plus Project Trip Estimates for the Patrick Henry Drive Specific Plan" memorandum prepared by Hexagon for the proposed Specific Plan, Scenario A is estimated to have a 24.9 percent reduction in trip generation due to internal capture and proximity to transit, and Scenario B is estimate to have an approximately 25 percent reduction in trip generation.

year 2040 were further adjusted consistent with implications to the model under the implementation of the U.S. EPA SAFE Vehicle Rule Part One and Final Rule.[1, 2]

Table 5-14
SPECIFIC PLAN PROPOSED LAND USES

Land Use	Square Feet / Dwelling Units(A)	
	Scenario A	Scenario B
Mid-rise Apartment	6,918	5,218
High-rise Apartment	5,083	5,083
Residential Gym(B)	30,000	30,000
General Office Building	30,000	815,000
Retail	180,000	180,000
Library	45,000	45,000
Community Center	25,000	25,000
City Park	8.09(C)	7.01(C)
Open Space (Private or Privately Owned Public Open Space)	8.10(C)	7.01(C)

(A) Residential land uses are defined in terms of dwelling units, non-residential land uses are defined in terms of square footage.
(B) The "Residential Gym" land use is considered to be an amenity provided by the residential land uses (i.e., is inside the apartment complex) and therefore does not generate trips.
(C) Specific Plan Chapter 4, Table 4.6a.

The net change in long-term emissions that would be generated under implementation of Scenario A and Scenario B of the Specific Plan in 2040 is shown in Table 5-15 and Table 5-16, respectively.

Table 5-15
SCENARIO A: NET CHANGE IN CRITERIA AIR POLLUTANT EMISSIONS (2040)

Emissions Scenario / Source	Maximum Daily Pollutant Emissions (Pounds per Day)						
	ROG	NOx	CO	PM_{10}		$PM_{2.5}$	
				Dust	Exhaust	Dust	Exhaust
Scenario A Operational Emissions in Year 2040							
Area Sources	325.8	8.2	487.2	0.0	4.6	0.0	2.9
Energy Sources	3.2	27.1	11.9	0.0	2.2	0.0	2.2
Mobile Sources	53.2	117.3	553.6	242.8	1.1	64.9	1.0
Total(A)	382.2	152.5	1,052.7	242.8	7.8	64.9	6.1
Existing Land Use Operational Emissions in Year 2040(B)							
Area Sources	27.2	<0.0(C)	0.2	0.0	<0.0(C)	0.0	<0.0(C)
Energy Sources	0.7	6.0	5.0	0.0	0.5	0.0	0.5
Mobile Sources	5.6	12.7	59.9	27.0	0.1	7.2	0.1
Total(A)	33.4	18.7	65.1	27.0	0.6	7.2	0.6

[1]On November 20, 2019, CARB released the EMFAC Off-Model Adjustment Factors for criteria air pollutants emissions associated with Light Duty Vehicle operation to account for the impact of the SAFE Vehicle Rule Part One (CARB 2019).

[2]On June 26, 2020, CARB released the EMFAC Off-Model Adjustment Factors for carbon dioxide emissions associated with Light Duty Vehicle operation to account for the impact of the SAFE Vehicle Final Rule (CARB 2020).

Net Change in Emissions Levels							
Area Sources	298.7	8.2	487.1	0.0	4.6	0.0	2.9
Energy Sources	2.5	21.1	6.9	0.0	1.7	0.0	1.7
Mobile Sources	47.6	104.5	493.7	215.8	1.0	57.7	0.9
Total(A)	348.8	133.8	987.6	215.8	7.2	57.7	5.5
BAAQMD CEQA Threshold	54	54	--	None	82	None	54

Source: MIG 2020, see Appendix 25.2.
(A) Totals may not equal due to rounding.
(B) See Table 5-6.
(C) <0.0 does not mean zero; rather, it means less than 0.05 but greater than zero.

As shown in in Table 5-15 and Table 5-16, the pollutants of greatest concern associated with the Specific Plan would generally be:

- **ROG Emissions from Area Sources.** Specifically, ROG emissions from the use of consumer products (e.g., cleaning supplies, kitchen aerosols, cosmetics, and toiletries) and reapplication of architectural coatings (see Appendix 25.2; Section 6.2 of the output). As described in Section 5.1.3.1, the SFBAAB is designated as non-attainment for ozone, and ROG/VOCs are a precursor to ozone (see Section 5.1.1.1). The City is limited in its capacity to require and regulate future residents and employees in the Plan Area use consumer products that meet specific ROG/VOC emission standards; however, there are low- and super-compliance VOC architectural coatings that would reduce the quantity of fugitive ROG emissions associated with operation of the land uses within the Plan Area. Accordingly, the City would implement Mitigation Measure 5-2C, which requires the use of "Low-VOC" or "Super Compliant" requirements. "Low-VOC" refers to paints that meet the more stringent regulatory limits in South Coast Air Quality Management District (SCAQMD) Rule 1113;[1] however, many manufacturers have reformulated to levels well below these limits and are referred to as "Super-Compliant" Architectural Coatings.

Table 5-16
SCENARIO B: NET CHANGE IN CRITERIA AIR POLLUTANT EMISSIONS (2040)

Emissions Scenario / Source	Maximum Daily Pollutant Emissions (Pounds per Day)						
	ROG	NOx	CO	PM_{10}		$PM_{2.5}$	
				Dust	Exhaust	Dust	Exhaust
Scenario B Operational Emissions in Year 2040							
Area Sources	300.0	7.0	420.5	0.0	2.5	0.0	2.5
Energy Sources	3.1	26.8	13.2	0.0	2.1	0.0	2.1
Mobile Sources	52.1	102.9	535.8	233.0	1.0	62.3	0.9
Total(A)	355.2	136.7	969.5	233.0	5.6	62.3	5.6
Existing Land Use Operational Emissions in Year 2040(B)							
Area Sources	27.2	<0.0(C)	0.2	0.0	<0.0(C)	0.0	<0.0(C)
Energy Sources	0.7	6.0	5.0	0.0	0.5	0.0	0.5
Mobile Sources	5.6	12.7	59.9	27.0	0.1	7.2	0.1
Total(A)	33.4	18.7	65.1	27.0	0.6	7.2	0.6

[1]The proposed Specific Plan is within the jurisdiction by the BAAQMD, not the SCAQMD; however, the BAAQMD does not have a rule or regulation that sets such stringent standards for the VOC content of architectural coatings. Thus, to establish a performance metric for the mitigation measure, the SCAQMD's terminology is used instead.

Net Change in Emissions Levels							
Area Sources	272.9	7.0	420.3	0.0	2.5	0.0	2.5
Energy Sources	2.5	20.9	8.2	0.0	1.7	0.0	1.7
Mobile Sources	46.5	90.1	475.9	205.9	0.9	55.0	0.8
Total(A)	321.8	118.0	904.4	205.9	5.1	55.0	5.0
BAAQMD CEQA Threshold	54	54	--	None	82	None	54

Source: MIG 2020, see Appendix 25.2.
(A) Totals may not equal due to rounding.
(B) See Table 5-6.
(C) <0.0 does not mean zero; rather, it means less than 0.05 but greater than zero.

- **ROG, NOx, and PM Emissions from Mobile Sources.** Despite the Specific Plan being located within 0.5 miles of the Old Ironsides Light Rail Station, served by frequent bus service via VTA Route 57, and featuring many amenities to help reduce trips within the Plan Area (i.e., people would walk or bike to their destination), emissions from mobile sources would still remain a substantial source of emissions associated with Specific Plan buildout under either scenario. As described in Section 5.1.3.1, the SFBAAB is designated as non-attainment for ozone, and NOx and ROG/VOCs are precursors to ozone (see Section 5.1.1.1). The SFBAAB is also designated as nonattainment for state PM_{10} and state and federal $PM_{2.5}$. Accordingly, the City would implement Mitigation Measure 5-2D, which requires new projects within the Plan Area to develop and implement a TDM program, consistent with Specific Plan Section 4.6.4 and Chapter 7, and the City of Santa Clara's 2013 Climate Action Plan (see Chapter 9) and 2010-2035 General Plan (City of Santa Clara 2010, 2013). Mitigation Measure 5-2D would require future projects in the Plan Area prepare and implement a TDM plan that demonstrates a minimum VMT reduction of 20%, with at least 10% of that reduction coming from project-specific measures (i.e., not inherent reductions due to internal capture, proximity to transit, etc.).[1] The land uses within the Plan Area would also be subject to the TDM requirements in the City's CAP Update, once adopted. If the VMT measures contained in the City's CAP Update are more stringent than those required in the Specific Plan's TDM policy, the land uses in the Plan Area would be required to comply with those instead (i.e., land uses would be required to comply with whichever VMT reduction requirement is more stringent). Despite the implementation of Mitigation Measure 5-2D, mobile sources would remain, in large part, the greatest source of

[1]The emissions shown in Table 5-15 and Table 5-16 reflect an embedded VMT reduction of approximately 25 percent under buildout associated with Scenario A and an approximately 29.1 percent reduction associated with Scenario B; the specific VMT reduction associated with these trip reductions is not known for certain but is assumed to be similar to the trip reduction values (i.e., a 25 to 29.1 percent VMT reduction). It should be noted that these overall trip reductions assumed by the TIA rely on the connectivity and interdependence of the land uses proposed under the Specific Plan and, therefore, are considered to be inherent transit proximity of internal trip capture reductions associated with buildout of the Specific Plan. Mitigation Measure 5-2D does not require an additional 20 percent reduction in addition to the 25 to 29.1 percent VMT reduction accounted for in the TIA; rather, Mitigation Measure 5-2D functions as an enforcement mechanism for the Specific Plan's TDM requirements. Under Mitigation Measure 5-2D, projects may claim up to a 10 percent reduction in VMT based on its geographic location, which is included in the 25 to 29.1 percent VMT reduction accounted for in the TIA. The additional 10 percent reduction required by Mitigation Measure 5-2D (i.e., to reach the required 20 percent reduction total) would come from project-specific actions (e.g., transit subsidies, teleworking, etc.) to reduce VMT.

operational criteria air pollutant emissions associated with buildout of either Specific Plan Scenario.[1]

As shown in Table 5-2, the SFBAAB is currently designated as nonattainment for ozone, PM_{10}, and $PM_{2.5}$. Since ROG/VOC and NOx are precursors to ozone, Mitigation Measure 5-2C and Mitigation Measure 5-2D have been identified to address emission sources of these pollutants. Mitigation Measure 5-2D would also reduce PM emissions from mobile sources. Despite the implementation of these mitigation measures, growth allowed for under implementation of the proposed Specific Plan would still be substantially more than that accounted for the City's General Plan and could result in a cumulatively considerable net increase in pollutants for which the region is in nonattainment. This impact would be significant and unavoidable.

Mitigation Measure 5-2A: Implement BAAQMD Basic Construction Mitigation Measures. The City shall require new development projects occurring under implementation of the Patrick Henry Drive Specific Plan to implement the BAAQMD's Basic Control Mitigation Measures to address fugitive dust emissions that would occur during earthmoving activities associated with project construction. These measures include:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

(continued)

[1]As shown in Table 5-16, mobile source emissions contribute approximately 14, 76, 98, and 93 percent of the total net change in operational emissions for ROG, NOx, PM_{10}, and $PM_{2.5}$, respectively. Scenario B was selected for comparison instead of Scenario A, because Scenario A has more mobile source emissions and, therefore, would result in a higher percentage yield when compared to the net change in emission than Scenario B (i.e., Scenario A would give greater weight to mobile source emissions than Scenario B under comparison purposes).

Mitigation Measure 5-2A (continued):

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Mitigation Measure 5-2B: Require a Project-level Construction Assessment for New Development Proposed Under Implementation of the Patrick Henry Drive Specific Plan. The City shall require applicants to submit a quantitative project-level construction criteria air pollutant and toxic air contaminant emissions analysis for future development proposed under implementation of the Patrick Henry Drive Specific Plan. The estimated construction criteria air pollutant and toxic air contaminant emissions shall be compared against the thresholds of significance maintained by the Bay Area Air Quality Management District (BAAQMD) and, if emissions are shown to be above BAAQMD thresholds, the City shall require the implementation of mitigation to reduce emissions below BAAQMD thresholds or to the maximum extent feasible. Mitigation measures to reduce emissions could include, but are not limited to:

- Selection of specific construction equipment (e.g., specialized pieces of equipment with smaller engines or equipment that will be more efficient and reduce engine runtime);
- Requiring equipment to use alternative fuel sources (e.g., electric-powered and liquefied or compressed natural gas), meet cleaner emission standards (e.g., U.S. EPA Tier IV Final emissions standards for equipment greater than 50-horsepower), and/or utilizing added exhaust devices (e.g., Level 3 Diesel Particular Filter);
- Minimizing the idling time of diesel-powered construction equipment to two minutes;
- Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM;
- Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines; and
- Application of Low-VOC paints to interior and/or exterior surfaces (e.g., paints that meet SCAQMD Rule 1113 "Low-VOC" or "Super-Compliant" requirements).

Mitigation Measure 5-2C: Use Low- and Super Compliant VOC Architectural Coatings. The City shall require the use of Low- and Super-Compliant VOC Architectural Coatings in maintaining buildings in the Patrick Henry Drive Specific Plan Area through Covenants Conditions and Restrictions (CC&Rs) and Ground Lease. Developed parcels shall require within their CC&Rs and/or ground leases requirements for all future interior spaces to be repainted with architectural coatings that meet the "Low-VOC" or "Super-Compliant" requirements. "Low-VOC" refers to paints that meet the more stringent regulatory limits of South Coast Air Quality Management District AQMD Rule 1113. "Super-Compliant" refers to paints that have been reformulated to levels well below the "Low-VOC" limits.

Mitigation Measure 5-2D: Implement TDM Program. Proposed residential, retail, commercial, and office land uses within the Patrick Henry Drive Specific Plan Area shall prepare and implement Transportation Demand Management (TDM) programs consistent with the requirements outlined Section 7.3 of the Patrick Henry Drive Specific Plan. Projects shall achieve a minimum reduction in vehicle miles traveled (VMT) of 20 percent compared to baseline conditions (i.e., without internal or external reductions accounted for, such as geographic location, land use interconnectivity, etc.), with at least 10 percent of the reduction coming through project-specific TDM measures (e.g., transit subsidies, telecommuting options, etc.).

Even with implementation of Mitigation Measures 5-2A through 5-2D, this impact would remain ***significant and unavoidable*** (see criterion [b] in subsection 5.3.1, "Significance Criteria," above).

Impact 5-3: Generate Toxic Air Contaminant Emissions that Expose Sensitive Receptors to Substantial Pollutant Concentrations During Construction. Implementation of the Patrick Henry Drive Specific Plan would result in construction activities over the next approximately 20 years that generate toxic air contaminant emissions and could expose sensitive receptors to substantial pollutant concentrations. These activities represent a ***potentially significant impact*** (see criterion [c] in subsection 5.3.1, "Significance Criteria," above).

As discussed under Impact 5-2, the adoption of the proposed Specific Plan would not directly result in construction of any development or infrastructure; however, future development supported by the Specific Plan would result in short-term construction-related emissions. Some of these construction emissions would be TACs, which could have an adverse effect on receptors who are exposed to them. Specifically, heavy-duty off-road construction equipment, as well as haul trucks for any soil import / export, would generate exhaust $PM_{2.5}$, with a portion of the exhaust $PM_{2.5}$ consisting of DPM, a TAC.

Although specific details regarding project development within the Plan Area are not known at this time, it is plausible that construction TAC emissions associated with one or more projects

developed under implementation of the proposed Specific Plan could have the potential to expose sensitive receptors to substantial pollutant concentrations.[1] For example, depending on the specific project and the way in which development unfolds within the Plan Area and adjacent Freedom Circle Focus Area Plan, which is currently under development, project construction could also expose sensitive receptors to substantial pollutant concentrations of DPM, which could exceed the BAAQMD's cancer and non-cancer thresholds of significance of 10 in a million and 1.0 Hazard Index, respectively (see Table 5-9).

Based on the preceding discussion and analysis, implementation of the proposed Specific Plan could have a ***potentially significant impact*** with regard to construction TAC emissions that would be generated during construction, which requires mitigation. Accordingly, the City would implement Mitigation Measures 52B to address equipment exhaust emissions.

Mitigation Measure 5-2B would require the preparation of a project-specific air quality assessment to evaluate potential TAC construction emissions associated with the development project. Although future development projects would be required to implement Mitigation Measure 5-2B, it cannot be definitively known or stated at this time that all development projects occurring under implementation of the Specific Plan would be able to reduce potential TAC emissions to levels that are below BAAQMD thresholds. For example, should a development project involving new residential receptors be undertaken on the eastern side of Plan Area early on in the Specific Plan's implementation, future development projects upwind of that site (i.e., to the west / northwest; see Figure 5-1) would generate emissions that could adversely affect the new receptors and exceed applicable BAAQMD thresholds of significance. Therefore, despite the implementation of Mitigation Measure 5-2B, TAC construction emissions associated with the proposed Patrick Henry Drive Specific Plan could result in significant adverse health risks at receptor locations. This impact would be significant and unavoidable.

Mitigation Measure 5-3. Implement **Mitigation Measure 5-2B.**

Even with implementation of Mitigation Measure 5-3, this impact would remain ***significant and unavoidable*** (see criterion [c] in subsection 5.3.1, "Significance Criteria," above).

Impact 5-4: Expose Sensitive Receptors to Substantial Operational Pollutant Concentrations.

Implementation of the proposed Specific Plan would not expose sensitive receptors to substantial operational pollutant concentrations of toxic air contaminants nor criteria air pollutants. This impact would be less than significant.

[1]Although this construction analysis primarily focuses on TAC emissions, criteria air pollutant emissions generated during construction activities (e.g., CO, O_3 ,etc.) have the potential to cause adverse health effect; however, as described under Impact 5-4, it would be speculative to transform criteria air pollutant emissions into corresponding health effects because, among other reasons, it takes a large quantity of emissions to have an appreciable effect on measured pollutant concentrations and associated adverse health risks. For the same reasons discussed under Impact 5-4, criteria air pollutant emissions generated during construction activities would not expose sensitive receptors to substantial pollutant concentrations.

Operational Toxic Air Contaminant Emissions

The land uses envisioned under implementation the Patrick Henry Drive Specific Plan would not include sources of TAC emissions such that significant exposures could occur. This impact would be less than significant, because the Specific Plan does not propose land uses that support large stationary sources, nor do they support the types of mobile sources that generate large amounts of TACs. Proposed land uses may include commercial-grade diesel generator or natural gas-fueled boilers that would require permitting by BAAQMD. These types of sources of air pollution would operate within accordance of BAAQMD rules and regulations and not cause significant exposure for on- or off-site sensitive receptors pursuant to BAAQMD permitting requirements. Furthermore, as described under "Receptor Exposure to Criteria Air Pollutants" there is uncertainty regarding where these sources of TACs and $PM_{2.5}$ emissions would occur and, therefore, where potential health risk increases could occur. Regardless of future source locations, the operational TACs emitted by projects facilitated under implementation of the Specific Plan would not exacerbate existing health risks at or in proximity of the Plan Area, since the Specific Plan does not propose large stationary sources that would emit these pollutants in substantial concentrations (e.g., industrial sources). Rather, the land uses proposed under implementation of the Specific Plan generally consist of residential, commercial, retail, and community serving land uses that typically generate most emissions from mobile sources, which are transient in nature and would disperse in accordance with vehicle travel (most of which would occur outside of the Plan Area) and prevailing meteorological conditions at the time of release (e.g., wind, rain, etc.). Furthermore, the vast majority of the mobile sources associated with the Specific Plan land uses would be gasoline powered (attribute to passenger vehicles). The mobile sources would not consist of diesel-powered trucks, which are correlated to the movement of materials associated with industrial and warehousing operations and produce DPM emissions, the most common source of TAC emissions and corresponding health effects associated with mobile source operation. The proposed Specific Plan does not propose land uses that would generate substantial, operational TAC emissions. This impact would be less than significant.

Receptor Exposure to Criteria Air Pollutants

In addition to criteria air pollutant emissions on a regional scale and TAC emissions on a local scale, receptor exposure to elevated concentrations of criteria air pollutants (e.g., CO, O_3, and PM) is capable of causing adverse health effects on heart, lung, and other organ systems. As described under Impact 5-2, the proposed Specific Plan would generate cumulatively considerable operational criteria air pollutant emissions for which the region is designated nonattainment; however, these operational criteria air pollutant emissions would not expose receptors to substantial operational pollutant concentrations, as described below.

In the amicus brief filed by the SCAQMD on the California Supreme Court's decision in *Sierra Club versus County of Fresno*, the SCAQMD noted that, "[it] takes a large amount of additional precursor emissions [e.g., NOx] to cause a modeled increase in ambient ozone levels… a project emitting only 10 tons per year of NOx or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models used to determine ozone levels…" (SCAQMD 2015). Although this information was submitted by the SCAQMD, it would generally apply to the SFBAAB as well since both the South Coast Air Basin and the SFBAAB are designated as nonattainment areas for state and national ozone standards (the South Coast Air Basin is designated as severe non-attainment, while the SFBAAB is designated

as marginal non-attainment) (EPA 2020). Although implementation of the proposed Specific Plan would increase criteria air pollutant emissions within the SFBAAB (see Table 5-15 and Table 5-16), any analysis linking potential adverse health risks to corresponding pollutant concentrations would be speculative for several reasons.

First, to estimate potential adverse health effects from regional emissions, it is necessary to have information on the sources of the ozone and PM emissions, such as the location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors exposed to the emissions (SCAQMD 2015). While the general nature of the emissions sources occurring with implementation of the Specific Plan is known (i.e., area source, energy source, mobile source), the specific location of these sources within the Plan Area is not known, nor is other information, including source emission rate, exit velocity, operating characteristics (e.g., daytime or nighttime, seasonal or steady-state), etc.

Second, as described under Impact 5-2, approximately 14 percent of the ROG emissions, 76 percent of the NOx emissions, and 93-98 percent of the PM emissions estimated to occur under net 2040 growth (associated with Scenario B) would be from mobile sources (i.e., vehicle trips) that would potentially travel on numerous local and regional roadways throughout the Plan Area and beyond that would be subject to varying meteorological and topographical influences. These emissions would be subject to small scale air patterns, such as those formed as wind passes between buildings and other anthropogenic features (e.g., cars), creating eddies and other turbulence that affect pollutant transport.

Third, as mentioned previously, the SCAQMD has stated (SCAQMD 2015, pgs. 10-11):

> *"For the so-called criteria pollutants, such as ozone, it may be more difficult to quantify health impacts . . . It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources . . . Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes . . . However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP* [Air Quality Management Plan] *showed that reducing NOx by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects."*

The proposed Specific Plan would not generate emissions anywhere near the levels cited by the SCAQMD in it's amicus brief on the California Supreme Court's decision in *Sierra Club versus County of Fresno* (i.e., 432 tons per day of NOx and 187 tons per day of VOC).

Finally, adverse health effects associated with receptor exposure to criteria air pollutant concentrations is cumulative in nature. In other words, any potential health effects associated with Specific Plan operational emissions would also need to be considered in light of background pollutant emissions. As discussed previously in this EIR chapter, there are many efforts being undertaken at the state and regional level to reduce criteria air pollutant emissions from stationary and mobile sources. These actions are anticipated to reduce pollutant concentrations throughout the region over the next few decades. Therefore, even if the proposed Specific Plan does increase emissions in the Bay Area, criteria air pollutant

concentrations in the region could still be lower in the future than they are currently due to the advancement of cleaner technologies.

As described above, it would be speculative to transform the mass increase in ROG, NO_X, and PM emissions that could occur with implementation of the proposed Specific Plan into quantifiable health risks for several specific reasons, including the uncertain location of emission points, velocity of emissions, the meteorology and topography of the area (which could affect the transport rate and photochemical reactions needed to produce ozone), background criteria air pollutant emissions in the future, and the location of receptors in relation to emission sources. However, given that the project's operational emissions are far less than that modeled by the SCAQMD for its 2012 AQMP, which showed a relatively minor increase in criteria air pollutant concentrations for a large mass amount of emissions, mass operational emissions associated with implementation of the Specific Plan would not substantially alter criteria air pollutant concentrations within the SFBAAB.

Furthermore, the majority of emissions generated within the Plan Area by the land uses proposed in the Specific Plan would come from gasoline-powered mobile sources, which are transient in nature and would generate the majority of emissions off-site. The Patrick Henry Drive Specific Plan does not propose land uses that would generate substantial criteria air pollutants from stationary sources that require permitting by the BAAQMD, such as those associated with industrial operations. Aside from mobile source emissions, which are anticipated to become cleaner over time due to actions taken at the state and federal level, the next largest sources of criteria air pollutant emissions are anticipated to come from the use of consumer products and landscaping equipment. Neither of these sources would be used at the frequency nor magnitude required to result in criteria air pollutant emissions that would be harmful to one's health. Therefore, implementation of the proposed Specific Plan would not exacerbate or contribute to significant health risks at or in proximity of the Plan Area, nor would it increase the number of state or national ambient air quality standard exceedances (as shown in Table 5-3). This impact would be less than significant.

Carbon Monoxide Emissions

As shown in Table 5-15 and Table 5-16, implementation of the proposed Specific Plan is estimated to increase CO emissions by approximately 988 pounds per day under Scenario A and approximately 904 pounds per day under Scenario B, when compared to what the existing land uses in the Plan Area could generate in 2040. The BAAQMD developed a screening-level analysis for CO hotspots in 2010 which finds that projects that are consistent with the applicable congestion management program, and that do not cause traffic volumes at affected intersections to increase to more than 44,000 vehicles per hour, would not result in a CO hotspot that could exceed State or Federal air quality standards (BAAQMD 2017a, pg. 3-4). Based on the TIA prepared for the project (see Appendix 25.2), the maximum number of vehicles moving through any study intersection in a given hour in proximity of the Plan Area under the Specific Plan's 2040 cumulative growth conditions would be approximately 12,361 vehicles through the intersection of Great America Parkway and Mission College Boulevard during the PM peak hour under Scenario A (Hexagon 2021). This is approximately one fourth of the BAAQMD's threshold of 44,000 vehicles per hour.

The proposed Specific Plan contemplates two additional, potential scenarios under both Scenarios A and B; one where a road connection is constructed from the southern portion of the Plan Area into Mission College and one where no road connection is constructed. Under the

road connection option, if the road is approved, the road connection option results in a volume of 2,196 AM peak hour trips (Scenario B) and 3,663 PM peak hour trips (Scenario A) at the Patrick Henry Drive / Connector Road intersection, and 2,025 AM peak hour trips (Scenario B) and 3,086 PM peak hour trips (Scenario A) at the Mission College Boulevard / Connector Road intersection. The volumes along Patrick Henry Drive and Mission College Boulevard at the potential connector road junction would be less without the connector road. It should be noted that the 12,361 vehicles value provided above from the Great America Parkway and Mission College Boulevard during the PM peak hour under Scenario A represents the greatest intersection volumes with or without the connector road, and is still substantially below the BAAQMD's threshold of 44,000 vehicles per hour.

Therefore, the project would not cause or significantly contribute to CO concentrations that exceed State or Federal ambient air quality standards for CO. This impact would be less than significant.

Disclosure of Potential Existing Health Risks for New Residential Receptors in Plan Area

Per the recent ruling by the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015), projects are not required to analyze how existing conditions might impact a project's future users or residents; however, the City's General Plan includes Policy 5.10.10-P34 requires, "projects to implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems, and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels" (City of Santa Clara 2010). Therefore, the following is not an impact discussion under CEQA, but rather a consistency analysis with General Plan Policy 5.10.10-P34.

The proposed Specific Plan would not directly result in construction of any development or infrastructure, nor is there a specific project proposed for development at this time. Furthermore, the Plan Area is not within 100 feet of any railroad lines and, even under cumulative 2040 conditions, the maximum roadway volume in proximity of the Plan Area (i.e., Great America Parkway) is estimated to have approximately 96,860 average daily trips. This is less than the City's 100,000 average daily trip criterion. Thus, a project-specific study assessing potential health risks associated with existing sources in the area is not required. Nonetheless, existing mobile and stationary source risk information in proximity of the Plan Area has been provided for informational purposes in Section 5.1.4.1.

Mitigation 5-4. No significant impact has been identified; no mitigation is required (see criterion [c] in subsection 5.3.1, "Significance Criteria," above).

Impact 5-5: Odors. According to the BAAQMD's CEQA Air Quality Guidelines land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). Implementation of the proposed Patrick Henry Drive Specific Plan would result in new residential, retail, commercial, office, and other community serving land uses. It would not permit the land uses identified in the BAAQMD's CEQA Air Quality Guidelines identified as generating odor. No impact would occur.

Mitigation 5-5. No significant impact has been identified; no mitigation is required (see criterion [d] in subsection 5.3.1, "Significance Criteria," above).

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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	Carbon monoxide
CO_2	Carbon dioxide
DPM	Diesel particulate matter
EIR	Environmental Impact Report
GVWR	Gross vehicle weight rating
H_2S	Hydrogen sulfide
HAP	Hazardous Air Pollutants
lbs	Pounds
m/s	Meters per second
Mph	Miles per hour
MY	Model Year
NAAQS	National Ambient Air Quality Standards
NHTSA	National Highway Traffic Safety Administration
NO	Nitrogen oxide
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
PM	Particulate matter
ppb	Parts per billion
ppm	Parts per million
$PM_{2.5}$	Fine particulate matter
PM_{10}	Coarse particulate matter
ROG	Reactive organic gases

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
RTP	Regional Transportation Plan
SAFE Vehicles Rule	Safe Affordable Fuel-Efficient Vehicle Rule
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SFBAAB	San Francisco Bay Area Air Basin
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_4^{2-}	Sulfates
SO_x	Oxides of sulfur
TA	Traffic Analysis
TAC	Toxic Air Contaminants
TDM	Travel Demand Management
TIA	Traffic Impact Analysis
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
VOC	Volatile organic compounds
ZEV	Zero Emission Vehicle
µg / m^3	Micrograms per cubic meter
%	Percent
°F	Degrees Fahrenheit

6. BIOLOGICAL RESOURCES

This EIR chapter describes biological resource implications of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific biological resource concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan have a substantial adverse effect on special-status species, sensitive natural habitat, protected wetlands, or wildlife or fish movement, or would it conflict with adopted policies or plans for protecting biological resources.[1]

In this chapter, the term "project area," as used in the biological resources nomenclature, is synonymous with the Patrick Henry Drive Specific Plan Area.

6.1 SETTING

The Specific Plan Area is an urbanized area developed with office buildings and associated pavement (e.g., roads, driveways, parking) and introduced landscaping (e.g., grasses, shrubs, trees). There is no vacant land within the Plan Area, and the approximately 73.59-acre area is devoid of native vegetation.

(a) Existing Vegetation. Trees and shrubs in the Plan Area are primarily for urban landscaping, do not include special-status plant species, and only provide minor value to wildlife. Due to the developed urban setting, these plantings do not represent significant natural resource values or significant resources for native wildlife species.

Disturbed or ruderal lands often lack habitat characteristics suitable for special-status species. Small lawn areas and planting strips (non-native grassland) make up most of the larger vegetated areas in the Plan Area, but they are fragmented and of a small scale, which provides low-quality habitat to wildlife.

There is no riparian habitat in the Plan Area. A concrete wall and bicycle/pedestrian path separate the Plan Area from Calabazas Creek.

(b) Santa Clara Valley Habitat Plan. The Santa Clara Valley Habitat Plan was adopted to protect biological resources and enhance ecological diversity and function in the greater portion of Santa Clara County, while allowing appropriate and compatible growth and development. The City of Santa Clara is not a plan participant, and the Plan Area is about one mile west (outside) of the Habitat Plan permit area.

(c) Database Reviews. The following databases were reviewed to collect special-status species data for the Specific Plan Area and general vicinity:

- The California Department of Fish and Wildlife's (CDFW) Natural Diversity Database's (CNDDB) records for the United States Geological Survey (USGS) 7.5-minute quadrangle

[1]CEQA Guidelines, appendix G, item IV (a through f).

containing the specific plan area and the eight (8) surrounding quadrangles (Newark, Niles, La Costa Valley, Mountain View, Milpitas, Calaveras Reservoir, Cupertino, San Jose West, and San Jose East),[1]

- United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) database,[2]

- USFWS National Wetland Inventory (NWI), and

- California Native Plant Society (CNPS) Rare Plant Inventory records for the United States Geological Survey (USGS) 7.5-minute quadrangle containing the specific plan area and the eight (8) surrounding quadrangles (Newark, Niles, La Costa Valley, Mountain View, Milpitas, Calaveras Reservoir, Cupertino, San Jose West, and San Jose East).[3]

MIG biologists conducted a desktop analysis of the Specific Plan Area and surrounding area to determine if habitat suitable to support special-status species is present. For the purposes of this assessment, special-status species include those plants and wildlife listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or the National Oceanic and Atmospheric Administration (NOAA) Fisheries under the Federal Endangered Species Act (FESA), those listed or proposed for listing as rare, threatened, endangered, or candidates for listing by the CDFW under the California Endangered Species Act (CESA), animals designated as California Fully Protected (CFP) species or California Species of Special Concern (CSSC) by the CDFW, birds protected by the USFWS under the Migratory Bird Treaty Act (MTBA) and/or by the CDFW under Fish and Game Code Sections 3503 and 3513, and plants listed as Rank 1A, 1B, 2, 3 and 4 of the CNPS Inventory. (See “Regulatory Setting” below.)

The potential occurrence of special-status plant and wildlife species in the Specific Plan Area was initially evaluated by developing a list of special-status species that are known to, or have the potential to, occur in the vicinity of the Plan Area based on a 9-quad search of current database records (e.g., CNDDB and CNPS Electronic Inventory records) and review of the USFWS list of federal endangered and threatened species (i.e., IPaC). The potential for occurrence of those species included on the 9-quad list was then evaluated based on the habitat requirements of each species relative to the habitat within the Specific Plan Area. In the case of no documented occurrences within 5 miles of the project area, if there is clearly no suitable habitat present, and if the project area is clearly outside of the expected range of the species, these species were eliminated from consideration and are not discussed further within this EIR. Due to the highly urbanized nature of the Plan Area, no species had more than a low potential to occur, and the vast majority are not expected to occur within the Plan Area. All species were evaluated for their potential to occur on, or in the immediate vicinity of, the Specific Plan Area according to the following criteria:

[1]Search conducted October 2020.

[2]Search conducted October 2020.

[3]Search conducted October 2020.

- **Not Expected:** CNDDB or other documents do not record the occurrence of the species within or reasonably near the project area and within the last 10 years, and/or no components of suitable habitat are present within or adjacent to the project area.

- **Low Potential:** The CNDDB or other documents may or may not record the occurrence of the species within a 5-mile radius of the project area. However, few components of suitable habitat are present within or adjacent to the project area.

- **Moderate Potential:** Species does not meet all terms of High or Low category. For example: CNDDB or other reputable documents may record the occurrence of the species near but beyond a 5-mile radius of the project area, or some of the components representing suitable habitat are present within or adjacent to the project area, but the habitat is substantially degraded or fragmented.

- **High Potential:** The CNDDB or other reputable documents record the occurrence of the species off-site, but within a 5-mile radius of the project area and within the last 10 years. All or most of the components representing suitable habitat are present within the project area.

- **Present or Assumed Present:** Species was observed on the project area, or recent species records (within five years) from literature are known within the project area.

The list of special-status wildlife and plants that have the potential to occur in or near the Specific Plan Area, their habitat requirements, and a ranking of potential for occurrence in the project area are included in Tables 6-1 and 6-2, at the end of this chapter.

6.2 REGULATORY SETTING

Biological resources in California are managed and protected by a network of state and federal jurisdictions, laws, and regulations, including the California Department of Fish and Wildlife (CDFW), the United States Fish and Wildlife Service (USFWS), and the NOAA Fisheries. This section describes the federal, State, and local regulations that provide protection and management of sensitive biological resources.

6.2.1 Federal

Federal Endangered Species Act. The Federal Endangered Species Act of 1973 (as updated in 50 CFR 17.11 and 17.12, January 1992) (FESA) protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the NOAA Fisheries. Section 9 of the FESA prohibits the taking of endangered wildlife. Taking is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR 17.3). For plants, this statute pertains to removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 USC 1538).

Under Section 7 of the FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS

may issue an incidental take statement allowing take of the species that is incidental to another authorized activity provided the action will not jeopardize the continued existence of the species. Consultation would be triggered if a particular project affects wetlands or waters of the U.S., requiring the United States Army Corps of Engineers (USACE) to issue a 404 permit. Section 10 of FESA provides for issuance of incidental take permits to private parties provided a habitat conservation plan is developed.

Migratory Bird Treaty Act. The U.S. Migratory Bird Treaty Act (MBTA; 16 USC §§ 703 et seq., Title 50 Code of Federal Regulations [CFR] Part 10) states it is "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof…" In short, under the MBTA it is illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. The USFWS enforces MBTA. The MBTA does not protect birds that are non-native or human-introduced or that belong to families that are not covered by any of the conventions implemented by the MBTA.

In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching. However, California Fish and Game Code and California Migratory Bird Protection Act also protect nesting birds.

Federal Clean Water Act. The Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the USACE. "Waters of the U.S." include territorial seas, tidal waters, and non-tidal waters in addition to wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when in compliance with Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The United States Environmental Protection Agency (EPA) has veto authority over the USACE's administration of the Section 404 program and may override a USACE decision with respect to permitting. Substantial impacts on wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

6.2.2 State

California Endangered Species Act. The California Endangered Species Act of 1970 (CESA; Fish and Game Code 2050 et seq., and California Administrative Code Title 14, sections 670.2 and 670.51) generally parallels the main provisions of the federal ESA, but unlike its federal counterpart, the CESA applies the take prohibitions to species proposed for listing (called

"candidates" by the state). CESA mandates that State agencies shall not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. "Take" is defined in section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." For projects that would affect a species that is on the federal and State lists, compliance with the federal ESA satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. For projects that would result in the take of a species that is only State-listed, the project proponent must apply for a take permit under Section 2081(b).

The CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

California Fish and Game Code. CDFW is authorized under the California Fish and Game Code, Sections 1600 et seq. to develop mitigation measures and enter into Streambed Alteration Agreements with applicants who propose projects that would obstruct the flow of, or alter the bed, channel, or bank of a river or stream in which there is a fish or wildlife resource, including intermittent and ephemeral streams. Often, projects that require a Streambed Alteration Agreement also require a permit from the USACE under section 404 of the Clean Water Act. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

Sections 3511, 4700, 5050, and 5515 address Fully Protected species. Prior to the passage of CESA, the classification of Fully Protected was the State's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Subsequently, many Fully Protected species have been listed under the State and/or federal endangered species acts. The only exceptions are golden eagle, white-tailed kite, trumpeter swan, northern elephant seal, and ringtail. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Nesting birds, including raptors, are protected by the California Fish and Game Code Section 3503, which reads, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, under Fish and Game Code section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Passerines and non-passerine land birds are further protected under the federal Migratory Bird Treaty Act. As such, the CDFW typically recommends surveys for nesting birds that could potentially be directly (actual removal of trees/vegetation) or indirectly (noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Fish & Game Code section 3513 states that Federal authorization of take or possession is no longer lawful under the state Fish & Game Code if the Federal rules or regulations are inconsistent with state law. The California Migratory Bird Protection Act (MBPA) was passed in September 2019 to provide a level of protection to migratory birds in California consistent with the U.S. MBTA prior to the 2017 rule change limiting protection of migratory birds under the U.S. MBTA to purposeful actions (i.e., directly and knowingly removing a nest to construct a project, hunting, and poaching). Thus, under the MBPA protections for migratory birds in California are consistent with rules and regulations adopted by the United States Secretary of the Interior under the U.S. MBTA before January 1, 2017, or those adopted subsequent to that date as long as they are consistent with the Fish and Game Code. The MBPA reverts to existing provisions of the U.S. MBTA on January 20, 2025.

California Fish and Game Code Section 4150 states, “All mammals occurring naturally in California which are not game mammals, fully protected mammals, or fur-bearing mammals, are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission.” The non-game mammals that may be taken or possessed are primarily those that cause crop damage.

California Migratory Bird Protection Act. The California Fish and Game Code section 3513 states that Federal authorization of take or possession is no longer lawful under the state Fish and Game Code if the Federal rules or regulations are inconsistent with state law. The California Migratory Bird Protection Act (MBPA) was passed in September 2019 to provide a level of protection to migratory birds in California consistent with the federal MBTA prior to the 2017 rule change limiting protection of migratory birds under the federal MBTA to purposeful actions (i.e., directly and knowingly removing a nest to construct a project, hunting, and poaching). Thus, under the MBPA protections for migratory birds in California are consistent with rules and regulations adopted by the United States Secretary of the Interior under the federal MBTA before January 1, 2017, or those adopted subsequent to that date as long as they are consistent with the California Fish and Game Code. The MBPA reverts to existing provisions of the federal. MBTA on January 20, 2025.

California Native Plant Protection Act. The California Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code sections 1900-1913) was created with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA prohibits importation of rare and endangered plants into California, “take” of rare and endangered plants, and sale of rare and endangered plants. The NPPA is administered by the CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. The CESA provides further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code. CESA defers to the California Native Plant Protection Act, which ensures that State-listed plant species are protected when State agencies are involved in projects subject to the California Environmental Quality Act (CEQA). In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but rather under CEQA.

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act (Porter-Cologne) imposes stringent controls on any discharges into the "waters of the State" (California Water Code § 13000 et seq.). Waters of the State are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code § 13050[e]). Pursuant to Porter-Cologne, the State Water Resources Control Board

(SWRCB) has authority over State water rights and water quality policy. Porter-Cologne also establishes nine Regional Water Quality Control Boards (RWQCBs) to oversee water quality at the local/regional level.

Under Porter-Cologne, the State retains authority to regulate discharges of waste into any waters of the State, regardless of whether the USACE has concurrent jurisdiction under section 404 of the CWA. For the Patrick Henry Drive Specific Plan Area, RWQCB certification would be under the jurisdiction of the San Francisco Bay Region 2 RWQCB, with a local office in Oakland.

6.2.3 Local

Santa Clara General Plan. The General Plan contains goals to protect fish, wildlife, and their habitats, including rare and endangered species, and to conserve and restore riparian vegetation and habitat. The following General Plan policies address these biological resources protection and restoration goals and implement the CEQA Guidelines:

- Policy 5.3.1-P10: Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.

- Policy 5.3.4-P5: Encourage mixed-use development site planning and design to implement the elements illustrated in Figures 7.3-2 and 7.3-3 [of the General Plan], including street tree planting along all streets.

- Policy 5.3.4-P12: Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials and textures and distinctive building massing and articulation.

- Policy 5.8.4-P7: Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.

- Policy 5.10.1-P1: Require environmental review prior to approval of any development with the potential to degrade the habitat of any threatened or endangered species.

- Policy 5.10.1-P3: Require preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan.

- Policy 5.10.1-P4: Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way.

- Policy 5.10.1-P5: Encourage enhancement of land adjacent to creeks in order to foster the reinstatement of natural riparian corridors where possible.

- Policy 5.10.1-P12: Encourage property owners and landscapers to use native plants and wildlife-compatible nonnative plants, when feasible.

Santa Clara City Code. Relevant to trees, the Santa Clara City Code (Section 12.35.020) requires a written permit from the superintendent of streets prior to the alteration or removal of any tree, plant or shrub planted or growing in the streets or public places of the City (including trenching activities around or alongside any tree, plant or shrub with the intent of cutting the roots or otherwise causing damage).

City of Santa Clara Climate Action Plan. The Santa Clara Climate Action Plan, adopted December 3, 2013, recommends that new development should incorporate a minimum of two shade trees near south-facing windows to mitigate the heat island effect through shading and cooling practices. The Climate Action Plan states a citywide tree-planting goal of 2,500.

6.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts on biological resources that could result from the Patrick Henry Drive Specific Plan implementation, and discusses components of the Plan that would avoid or reduce those potential impacts. The section also recommends mitigation measures as needed to reduce significant impacts to a level of less-than-significant.

6.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact on biological resources if it would:

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS;

(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

[1]CEQA Guidelines, appendix G, items IV (a) through (f).

6.3.2 Relevant Patrick Henry Drive Specific Plan Components

Section 6.2 (Regulatory Setting), above, applies to Specific Plan implementation. The Regulatory Setting requirements would be implemented, as applicable, within the framework of adopted City policies and programs, including specific regulatory agency habitat and species requirements. These adopted, established requirements are considered uniformly applicable development policies and regulations. The components of the Specific Plan are considered consistent with the policies, programs, regulations, and requirements above.

6.3.3 Impacts and Mitigations[1]

Impact 6-1: Impacts on Riparian Habitat, Sensitive Natural Communities, Wetlands, Fish and Wildlife Corridors, and Fish and Wildlife Nursery Sites. The Patrick Henry Drive Specific Plan Area is outside the nearest known HCP, approximately one mile west of the of the Santa Clara Valley Habitat Plan permit area. Two Natural Communities of Special Concern, as identified by CDFW, occur within the vicinity of the Plan Area: northern coastal salt marsh and sycamore alluvial woodland. However, these sensitive natural communities do not occur in or adjacent to the Plan Area.

The California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service Information for Planning and Conservation (IPaC) databases[2] did not identify any habitat types that could occur in the Plan Area that would be able to support special-status species (see Tables 6-1 and 6-2).

Based on the discussion above, including the information in Tables 6-1 and 6-2, implementation of the Patrick Henry Drive Specific Plan would have a ***less-than-significant impact*** on riparian habitat, sensitive natural communities, wetlands, fish and wildlife corridors, and fish and wildlife nursery sites with mitigation incorporated (see criteria [b], [c], [d], [e], and [f] in subsection 6.3.1, "Significance Criteria," above).

Mitigation 6-1. No significant impact has been identified; no mitigation is required.

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[1]Please note that while crotch bumble bee (*Bombus crotchii*) and western bumble bee (*Bombus occidentalis)* were determined to have low potential to occur within the Specific Plan Area, their ecology and life history are poorly understood. As such, discussion of impacts and/or appropriate protective mitigation measures are difficult as species presence is difficult to determine. As the potential at the Specific Plan Area is low due to very low occurrence of native vegetation typically used for *Bombus* spp. foraging, the species are not discussed further within this document.

[2]Search conducted October 2020.

Impact 6-2: **Potential Impacts on Threatened and Endangered Habitat.** Development facilitated by the Patrick Henry Specific Plan could degrade the habitat of rare, threatened, or endangered species[1] (also referred to as "special-status") potentially present on a project site, and conflict with Policy 5.10.1-P1 of the Santa Clara General Plan (see "Regulatory Setting" above). The absence of City evaluation of the need for further biological resource surveys would be in violation of City policy and is therefore considered a ***potentially significant impact*** (see criterion [a] and [e] in subsection 6.3.1, "Significance Criteria," above).

Mitigation 6-2. In order to keep current the biological resource evaluation prepared for the Patrick Henry Drive Specific Plan EIR, upon receiving applications for site-specific projects within the Specific Plan Area, the City shall evaluate the need for a specific biological resource survey of the project site and adjacent area that may be indirectly impacted by project work. If no biological resources are determined to be at risk as determined by a qualified biologist, no further survey shall be required. However, if the City determines that biological resources within the project area require further analysis, the project proponent shall be required to conduct a biological resource survey of the habitat and special-status species that may be impacted by project activities, either directly or indirectly. A report shall be provided to the City detailing survey methods, results, and avoidance and minimization measures required to protect any special-status species with potential to be impacted, in accordance with the regulatory protocols of the responsible jurisdictional agencies for the resource in question, including, but not limited to: USFWS, CDFW, and USACE. If no further surveys/investigation is requested by a permitting or other regulatory agency upon receipt of biological survey report, work may proceed as planned. Implementation of this measure would reduce the impact to a ***less-than-significant*** level.

Impact 6-3: **Potential Impacts on Special-Status Plants.** There is a low potential for Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*; California Rare Plant Rank 1B.2) and arcuate bush mallow (*Malacothamnus arcuatus*; California Rare Plant Rank 1B.2) to occur within the Specific Plan Area, especially if the area is left undisturbed for a long period of time (i.e., a year or longer). Without a proactive mitigation procedure in place, Plan implementation could inadvertently result in the removal of special-status plants. This is considered a ***potentially significant impact*** (see criterion [a] and [d] in subsection 6.3.1, "Significance Criteria," above).

[1]Special-status species with potential to occur within the Specific Plan Area include: Congdon's tarplant, arcuate bush mallow, burrowing owl, white-tailed kite, pallid bat, and Townsend's big-eared bat; as well as nesting birds and roosting bats protected by the MBTA and CFGC.

Mitigation 6-3. Before any project work within the Specific Plan Area, a qualified botanist shall conduct site-specific, focused surveys according to CDFW guidelines to determine presence or absence of special-status plant species on the individual project site and any adjacent potential area of disturbance. A comprehensive, site-wide survey should be conducted within May to September before project work begins, to encompass the Congdon's tarplant and arcuate bush mallow's blooming periods. Following the completion of the surveys, a survey results report shall be prepared and provided to the City. This report should include, but should not be limited to, the following: (1) a description of the survey methodology; (2) a discussion of the survey results; and (3) a map showing the survey area and the location of any special-status plants encountered. If no rare plants are found, then no further mitigation would be required.

If rare plants are found during the survey, the number of individuals present shall be documented and the limits of population shall be marked with flagging. The flagged border of the population shall be avoided by construction personnel for the duration of the project. If the species cannot be avoided or may be indirectly impacted, the applicant shall notify CDFW to discuss avoidance, minimization, and mitigation measures as appropriate for each species population, including measures to be taken and protocols to be followed if special-status plants are inadvertently disturbed during construction activities.

CDFW may require the preparation and implementation of a mitigation plan that details avoidance, preservation, and/or compensation for the loss of individual special-status plant species. Mitigation may include the purchase of mitigation bank credits, preserving and enhancing existing on-site populations, creation of off-site populations through seed collection and/or transplantation and monitoring these populations to ensure their successful establishment, and/or preserving occupied habitat off-site in perpetuity. Specific amounts and methods of mitigation and/or credits shall be determined in formal consultation with CDFW and USFWS.

Implementation of this measure would reduce the impact to a ***less-than-significant level.***

Impact 6-4: **Potential Impacts on Nesting Birds or Roosting Bats.** The Federal Migratory Bird Treaty Act and California Fish and Game Code sections 3503, 3503.5, 3513, 3800, and 4150 protect migratory and nesting birds, as well as roosting bats. Although the Patrick Henry Drive Specific Plan does not specify which trees or buildings might be removed under individual projects facilitated by the Plan, trees (potential nesting and roosting habitat) or buildings could be disturbed or removed by Plan implementation. The possibility of removing trees and/or buildings that contain nests or roosting bats is identified here as a potentially significant impact. Any direct removal of trees or indirect disturbance by construction or operational activities during the nesting season that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take."

There is a low potential for burrowing owl (*Athene cunicularia*; California species of special concern), white-tailed kite (*Elanus leucurus*; California Fully-Protected Species), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*; California species of special concern) to utilize the landscaped habitat within the Specific Plan Area for roosting and/or nesting, especially if the area is left undisturbed for a long period of time. In addition, many common bird species without a special status, though protected by the MBTA, MBPA, and California Fish and Game Code (CFGC), may utilize buildings, gravel substrates, and the landscaped vegetation within the Plan Area for nesting, foraging, and roosting. Common bat species protected by the CFGC may also rarely utilize vegetation within the Specific Plan Area for individual roosting. Without a proactive mitigation procedure in place, Plan implementation could inadvertently result in the removal of existing trees containing nests or eggs of migratory birds, raptors, or bird species during the nesting season, or roosting bats, which would be considered unlawful take under the MBTA and the CFGC (see Regulatory Setting above). This is considered a ***potentially significant impact*** (see criterion [a] and [d] in subsection 6.3.1, "Significance Criteria," above).

The mitigation measure below would reduce this potentially significant impact to migratory and nesting birds to a less-than-significant level.

Mitigation 6-4. The demolition of any buildings, disturbance of gravel substrate, and/or removal of trees, shrubs, or weedy vegetation shall be avoided during the February 1 through August 31 bird nesting period to the extent possible. If no demolition, gravel disturbance, vegetation, or tree removal is proposed during the nesting period, no further action is required. If it is not feasible to avoid the nesting period, the project applicant shall retain a qualified wildlife biologist to conduct a survey for nesting birds at most 14 days prior to the start of removal of trees, shrubs, grassland vegetation, or buildings, including prior to grading or other construction activity. If demolition of buildings, disturbance of gravel substrate, or vegetation removal efforts do not begin within the 14 days following the nesting bird survey, another survey shall be required. The area surveyed shall include all construction sites, access roads, and staging areas, as well as reasonably accessible areas within 150 feet outside the boundaries of the areas to be cleared or as otherwise determined by the biologist and dependent on species' life history requirements.

If an active nest is discovered in the areas to be directly physically disturbed, or in other habitats within the vicinity of construction boundaries and may be disturbed by construction activities (as determined by the qualified biologist), clearing and construction shall be postponed until the qualified biologist has determined that the young have fledged (left the nest), the nest fails, or the nest is otherwise determined to be inactive by the biologist (i.e. predation).

To avoid impacts to roosting bats that may rarely utilize the Specific Plan Area vegetation and/or vacant buildings for day roosting, the project applicant shall retain a qualified wildlife biologist to conduct a survey for roosting bats at most 14 days prior to the start of demolition of any vacant buildings left with entry and egress points accessible to bats or removal of suitable bat roosting vegetation. If roosting bats are detected, the biologist shall enact a minimum of a 150-foot no-work buffer and confer with CDFW to determine potential roost protection or roost eviction practices. After conferring with CDFW, the protective buffer may be adjusted based on specific roost needs. Once bats have been suitably protected by a buffer and/or safely evicted from roosting sites (as approved by CDFW), construction may resume outside the buffered area.

A nesting bird and roosting bat survey report prepared with the methods and results of the pre-project survey will be submitted to the City for review and approval prior to commencement of construction activities. Any additional construction monitoring, as determined through any necessary coordination/discretionary approvals with the resource agencies, will be documented per requirements set forth in an approved mitigation monitoring and reporting program.

Implementation of this measure would reduce the impact to a ***less-than-significant level.***

Impact 6-5: Impacts on Protected Trees, Plants, and Shrubs. There are no City-designated heritage trees in the Patrick Henry Drive Specific Plan Area (General Plan Table 8.10). However, Section 12.35 (Trees and Shrubs) of the City of Santa Clara Municipal Code is an ordinance pertaining to all trees, plants, and shrubs along streets or public places within the city. Any of these trees, plants, or shrubs planned for removal must first obtain written permission from the superintendent of streets. Finally, Section 12.35 states "No person without such authorization shall trench around or alongside of any such tree, plant or shrub with the intent of cutting the roots thereof or otherwise damaging the same." The ordinance was adopted by the City and is implemented as applicable. Under CEQA, the ordinance is considered a uniformly applicable development regulation implemented to avoid or reduce impacts on trees, plants, and shrubs along city streets and within public spaces. Permission to alter or remove vegetation is generally based on the vegetation's potential hazard (e.g., may fall and damage property or injure people); or, in the case of development proposals, on vegetation replacement and landscaping plans. On obtaining a written permit from the superintendent of streets before altering or removing any trees, plants, or shrubs along streets or public portions of the Patrick Henry Drive Specific Plan Area, a project would be in compliance with all local policies and ordinances for preserving trees. Therefore, Patrick Henry Drive Specific Plan implementation would have a ***less-than-significant impact*** on trees, plants, and shrubs (see criterion [e] in subsection 6.3.1, "Significance Criteria," above).

Mitigation 6-5. No significant impact has been identified; no mitigation is required.

Table 6-1
SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE PATRICK HENRY DRIVE SPECIFIC PLAN AREA

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
ANGIOSPERM: MONOCOTS					
Angiosperms: Monocots					
stinkbells *Fritillaria agrestis*	CRPR 4.2	Occurs throughout California, primarily on the western side of the Diablo range.	Occurs in cismontane woodland, chaparral, valley and foothill grassland, pinyon and juniper woodland. Sometimes on serpentine; mostly found in nonnative grassland or in grassy openings in clay soil. 10-1555 m.	Perennial bulbiferous herb; Blooms March to June	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is in the La Costa quad, over 9 miles northeast of the specific plan area.
Fragrant fritillary *Fritillaria liliacea*	CRPR 1B.2	Found throughout northern and central California wherever there is suitable habitat.	Cismontane woodland and coastal scrub and prairie, in valley and foothill grasslands (often serpentine bunchgrass grassland); 3-410 m.	Perennial bulbiferous herb; Blooms February to April	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is over 10 miles east of the specific plan area.
California alkali grass *Puccinellia simplex*	CRPR 1B.2	Occurs throughout California, primarily along the western edge of the San Joaquin Valley.	Occurs in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools in alkaline and vernally mesic soils. 2-930 m.	Annual herb; Blooms March to May.	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is over 5.5 miles north of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
ANGIOSPERMS: DICOTS					
Santa Clara thorn-mint *Acanthomintha lanceolata*	CRPR 4.2	Occurs in the Diablo Range from Santa Clara County south to Monterey and Fresno Counties.	Occurs in chaparral, cismontane woodland, and coastal scrub in shale scree and serpentine soils. 80-1200 m.	Annual herb; Blooms March to June.	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is over 7 miles east of the specific plan area, in the vast undeveloped region in eastern Santa Clara County.
Alkali milk-vetch *Astragalus tener* var. *tener*	CRPR 1B.2	Endemic to the San Francisco Bay Area and surrounding counties.	Playas, valley and foothill grassland (adobe clay) or vernal pools on alkaline soils; 1-60 m.	Annual herb, Blooms March to June	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest extant documented occurrence of this species is over 6 miles north of the specific plan area.
brittlescale *Atriplex depressa*	CRPR 1B.2	Occurs throughout the San Joaquin Valley, with some populations in the eastern San Francisco Bay area.	Occurs in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. 1-325 m.	Annual herb; Blooms April to October	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest extant documented occurrence of this species is approximately 6 miles north of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
lesser saltscale *Atriplex minuscula*	CRPR 1B.1	Occurs throughout the southern San Joaquin Valley, with some populations in the eastern San Francisco Bay area.	Occurs in chenopod scrub, playas, valley and foothill grassland. In alkali sink and grassland in sandy, alkaline soils. 0-225 m.	Annual herb; Blooms May to October	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest extant documented occurrence of this species is approximately 6 miles north of the specific plan area.
Big-scale balsamroot *Balsamorhiza macrolepis*	CRPR 1B.2	Endemic; ranges from Redding to San Jose west to the Sierra Nevadas.	Chaparral, cismontane woodland and valley and foothill grassland, sometimes serpentinite; 90-1555 m.	Perennial herb, March to June	**Not Expected.** The specific plan area is highly urbanized, above the typical elevation for this species, and does not contain and is not near any of the potential habitat for this species. The nearest extant documented occurrence of this species is over 12 miles southeast of the specific plan area.
Chaparral harebell *Campanula exigua*	CRPR 1B.2	Endemic to the San Francisco Bay Area and central coast ranges.	Chaparral (rocky, usually serpentinite); 275-1250 m.	Annual herb, May to June	**Not Expected.** The specific plan area does not contain any of the habitat requirements for this species and is outside of the elevation range for this species. The nearest documented occurrence of this species is approximately 11 miles east of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	CRPR 1B.2	Throughout western California from San Luis Obispo to Solano County.	Valley and foothill grasslands in depressions, swales, and floodplains with alkaline clay soils; usually disturbed areas; 0-230 m.	Annual herb; Blooms May to November	**Low Potential.** The specific plan area is highly urbanized and contains only landscaped vegetation, however the specific plan area is near other documented occurrences of this species, the nearest being approximately 1.25 miles northwest of the specific plan area. This species has a low potential to occur within the specific plan area.
Point Reyes salty bird's beak *Chloropyron maritimum* ssp. *palustre*	CRPR 1B.2	Extant occurrences in Humboldt, Marin, San Francisco and Sonoma Counties.	Marshes and swamps (coastal salt); 0-10 m.	Annual herb (hemiparasitic); Blooms June to October	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. Most documented occurrences within the vicinity of the specific plan area are listed as extirpated or possibly extirpated. The nearest extant documented occurrence of this species is over 10 miles northwest of the specific plan area.
Robust spineflower *Chorizanthe robusta* var. *robusta*	FE, CRPR 1B.2	Endemic to the San Francisco Bay Area and Monterey Coast.	Chaparral (maritime), cismontane woodland (openings), coastal dunes and coastal scrub in sandy or gravelly soils; 3-300 m.	Annual herb; Blooms April to September	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The only documented occurrence within the vicinity of the specific plan area is listed as possibly extirpated and is over 6.5 miles southeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Mt. Hamilton fountain thistle *Cirsium fontinale var. campylon*	CRPR 1B.2	Endemic to Alameda, Santa Clara and Stanislaus Counties.	Chaparral, cismontane woodland and valley and foothill grassland in serpentinite seeps; 100-890 m.	Perennial herb; Blooms February to October	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the elevation range for this species. The nearest documented occurrence of this species is over 12 miles southeast of the specific plan area, in the Mt. Hamilton open space area.
Santa Clara red ribbons *Clarkia concinna* ssp. *automixa*	CRPR 4.3	Occurs in a small area in the south and eastern San Francisco Bay area.	Occurs in cismontane woodland, and chaparral on slopes and near drainages. 90-1500 m.	Annual herb; Blooms May to June	**Not Expected.** The specific plan area does not contain any of the habitat requirements for this species and is outside of the typical elevation range for this species. The nearest documented occurrence of this species is over 9.5 miles east of the specific plan area, in the open space in east Santa Clara County.
Lewis' clarkia *Clarkia lewisii*	CRPR 4.3	Occurs along the coast, from south of the San Francisco Bay area to San Diego.	Occurs in coastal scrub, chaparral, cismontane woodland, broadleafed upland forest, closed-cone coniferous forest. 30-610 m.	Annual herb; Blooms May to July	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrences of this species are over 7 miles west of the specific plan area, in the open space in the west of Santa Clara County.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
San Francisco collinsia *Collinsia multicolor*	CRPR 1B.2	Mid-coastal California from Monterey to Marin county including Santa Clara county.	Moist shady woodland, closed-cone coniferous forests and coastal scrub. Occasionally found in serpentine; 30-250 m.	Annual herb; Blooms March to May	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is approximately 12 miles southeast of the specific plan area.
Hospital Canyon larkspur *Delphinium californicum* ssp. *interius*	CRPR 1B.2	Endemic to Alameda, Contra Costa, Merced, Monterey, San Benito, Santa Clara, San Joaquin and Stanislaus Counties.	Chaparral (openings), cismontane woodland (mesic) or coastal scrub; 230-1095 m.	Perennial herb, April to June	**Not Expected.** This species does not occur within Santa Clara County and the specific plan area is outside the typical elevation range for this species. The nearest documented occurrence is over 15.5 miles northeast of the specific plan area, in the open space in the Mt. Diablo mountain range.
Western leatherwood *Dirca occidentalis*	CRPR 1B.2	San Francisco Bay area including Santa Clara to Marin county and east to Alameda county.	Cool, moist slopes in foothill woodland and riparian forests. Mesic environments in broadleaved upland forests, chaparral and coniferous woodlands and mixed evergreen and oak woodlands; 25-425 m.	Perennial deciduous shrub; Blooms January to April.	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is over 7.5 miles southwest of the specific plan area, in the open space in the hills in western Santa Clara County.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Santa Clara Valley dudleya *Dudleya abramsii* ssp. *setchellii*	SE, CRPR 1B.1	Endemic to Santa Clara County.	Cismontane woodland and valley and foothill grassland in serpentine, rocky soils; 60-455 m.	Perennial herb, April to October	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrence of this species is over 10 miles southeast of the specific plan area, in the open space in south Santa Clara County.
Jepson's woolly sunflower *Eriophyllum jepsonii*	CRPR 4.3	Occurs on the eastern Diablo range in the San Francisco Bay area.	Occurs in coastal scrub, chaparral, and cismontane woodland sometimes on serpentine soil. 200-1025 m.	Perennial herb; Blooms April to June	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrences of this species are over 7 miles east of the specific plan area, in the open space in eastern Santa Clara County.
Hoover's button-celery *Eryngium aristulatum* var. *hooveri*	CRPR 1B.1	Endemic to Alameda, San Benito, Santa Clara, San Diego and San Luis Obispo Counties.	Vernal pools; 3-45 m.	Annual/perennial herb; Blooms July to August	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the vernal pool habitat required by this species. The nearest extant documented occurrence of this species is over 5.5 miles north of the specific plan area, along the margin of the San Francisco Bay.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
San Joaquin spearscale *Extriplex joaquinana*	CRPR 1B.2	Occurs along the western San Joaquin valley and along the eastern Diablo range.	Occurs in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland in alkaline soils. 1-835 m.	Annual herb; Blooms April to September	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is over 6 miles north of the specific plan area.
Diablo helianthella *Helianthella castanea*	CRPR 1B.2	Endemic to Alameda, Contra Costa and San Mateo Counties; extirpated from Marin and San Francisco Counties.	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland or valley and foothill grassland; 60-1,300 m.	Perennial herb; Blooms March to May	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrences of this species are over 10 miles northeast of the specific plan area, in the open space in southern Alameda County.
Loma Prieta hoita *Hoita strobilina*	CRPR 1B.1	Endemic to Alameda, Contra Costa, Santa Clara and Santa Cruz Counties.	Chaparral, cismontane woodland and riparian woodland, usually serpentinite and mesic; 30-860 m. elevation.	Perennial herb, May to October	**Not Expected.** This species does not occur in Santa Clara County. The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented occurrence of this species is over 10.5 miles southwest of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Contra Costa goldfields *Lasthenia conjugans*	FE, CRPR 1B.1	Endemic to western California from Santa Rosa to Monterey.	Cismontane woodland, playas (alkaline), valley and foothill grassland and vernal pools; 0-470 m. elevation.	Annual herb, March to June	**Not Expected.** The specific plan area is highly urbanized and does not contain and is not near any of the potential habitat for this species. The nearest documented extant occurrence of this species is over 6 miles north of the specific plan area.
bristly leptosiphon *Leptosiphon acicularis*	CRPR 4.2	Occurs within the San Francisco Bay area.	Occurs in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland. 55-1500 m.	Annual herb; Blooms April to July	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrences of this species are over 10 miles northeast of the specific plan area, in the open space in southern Alameda County.
serpentine leptosiphon *Leptosiphon ambiguus*	CRPR 4.2	Occurs in the south and southeast San Francisco Bay area.	Occurs in cismontane woodland, coastal scrub, and valley and foothill grassland usually in serpentinite soils. 120-1130 m.	Annual herb; Blooms March to June	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrences of this species are over 7 miles east of the specific plan area, in the open space in eastern Santa Clara County.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
wooly-headed lessingia *Lessingia hololeuca*	CRPR 3	Occurs within the San Francisco Bay area.	Occurs in broadleafed upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland in clay and serpentinite soils. 15-305 m.	Annual herb; Blooms June to October	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrences of this species are over 7 miles east of the specific plan area, in the open space in eastern Santa Clara County.
Smooth lessingia *Lessingia micradenia* var. *glabrata*	CRPR 1B.2	Endemic to Santa Clara County.	Open areas in chaparral and cismontane woodlands often in serpentine soils; usually on roadsides and disturbed areas; 120-420 m.	Annual herb, July to November	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrences of this species are over 14.5 miles southeast of the specific plan area, in the open space south of San Jose.
Arcuate bush mallow *Malacothamnus arcuatus*	CRPR 1B.2	Found throughout the San Francisco peninsula and the south bay area throughout San Mateo and Santa Clara counties and Merced county.	Ultramafic chaparral, gravelly alluvium. Locally, in openings in mixed evergreen forests; 15-355 m.	Perennial evergreen shrub; Blooms April to September	**Low Potential.** The specific plan area is highly urbanized and does not contain any of the typical habitat requirements for this species, however there is an extant occurrence less than 2 miles north of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Hall's bush mallow *Malacothamnus hallii*	CRPR 1B.2	Endemic to western California from Mendocino and Lake Counties to Stanislaus County.	Chaparral and coastal scrub in serpentine soils; 10-760 m.	Perennial evergreen shrub; Blooms May to October	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrences of this species is over 10 miles east of the specific plan area, in the open space in eastern Santa Clara County.
Woodland woolythreads *Monolopia gracilens*	CRPR 1B.2	Through central California from San Mateo and Contra Costa counties south to San Luis Obispo county.	Grassy openings in chaparral, valley and foothill grasslands, cismontane woodland, broadleafed upland forests, North coast coniferous forest. Sandy to rocky serpentine soils; 100-1,200 m.	Annual herb; Blooms February to July	**Not Expected.** The specific plan area does not contain any of the habitat requirements for this species and is outside of the elevation range for this species. The nearest documented occurrence of this species is over 8 miles southwest of the specific plan area, in the open space in southwestern Santa Clara County.
Patterson's navarretia *Navarretia paradoxiclara*	CRPR 1B.3	Occurs east of Stockton and Modesto at the foot of the Sequoia National Forest, with one population in the east San Francisco Bay Area.	Occurs in serpentinite soils in openings, in vernally mesic soils, and often in drainages. Occurs in meadows and seeps. 150-435 m.	Annual herb; Blooms May to June	**Not Expected.** The specific plan area does not contain any of the habitat requirements for this species and is outside of the typical elevation range for this species. The nearest documented occurrences are over 10 miles north of the specific plan area, in western Alameda County.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Prostrate vernal pool navarretia *Navarretia prostrata*	CRPR 1B.1	Endemic to western California from near Fremont to the Mexican border.	Wetlands in coastal scrub, meadows, valley and foothill grassland; usually in alkaline clay soils; sometimes in disturbed areas; 15-1210 m.	Annual herb, April to July	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrences of this species are over 6 miles north of the specific plan area, along the margins of the San Francisco Bay.
Hairless popcornflower *Plagiobothrys glaber*	CRPR 1A	Endemic to Alameda, Marin, San Benito and Santa Clara Counties.	Meadows and seeps (alkaline) and marshes and swamps (coastal salt); 15-180 m. elevation.	Annual herb, March to May	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. All nearby documented occurrences of this species are listed as possibly extirpated, and the nearest is approximately 4.5 miles south of the specific plan area.
Chaparral ragwort *Senecio aphanactis*	CRPR 2.2	Occurs in western California from Concord to the Mexican border.	Chaparral, cismontane woodland and coastal scrub, sometimes in serpentine soils; 15-800 m.	Annual herb, January to April	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrence of this species is over 11 miles south of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
maple-leaved checkerbloom *Sidalcea malachroides*	CRPR 4.2	Occurs along the coast in northern California.	Occurs often in disturbed areas, broadleafed upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian woodland. 0-730 m.	Perennial herb; Blooms March to August	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrence of this species is over 9.5 miles east of the specific plan area, in the open space in eastern Santa Clara County.
long-styled sand-spurrey *Spergularia macrotheca* var. *longistyla*	CRPR 1B.2	Occurs within the San Francisco Bay region.	Occurs in meadows, seeps, marshes, and swamps in alkaline soils. 0-255 m.	Perennial herb; Blooms February to June	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrence of this species is approximately 9 miles northwest of the specific plan area, along the margins of the San Francisco Bay.
Metcalf Canyon jewel flower *Streptanthus albidus* ssp. *albidus*	SE, CRPR 1B.1	Endemic to Santa Clara County.	Valley and foothill grassland (serpentinite); 45-800 m. elevation.	Annual herb, April to July	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrence of this species is over 11 miles southeast of the specific plan area, in the open space in southern Santa Clara County.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Most beautiful jewel flower *Streptanthus albidus* ssp. *peramoenus*	CRPR 1B.2	Endemic to coastal California from Concord to San Luis Obispo.	Chaparral, cismontane woodland and valley and foothill grassland in serpentine soils; 94-1000 m. elevation.	Annual herb, March to October	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. The nearest documented occurrence of this species is over 12 miles east of the specific plan area, in the open space in northeastern Santa Clara County.
Slender-leaved pondweed *Stuckenia filiformis*	CRPR 2.2	Occurs in Northern California in the Inner Coast Ranges and Sierra Nevadas from east of Redding to near San Jose.	Marshes and swamps (assorted shallow freshwater); 300-2150 m.	Perennial rhizomatous herb, May to July	**Not Expected.** The specific plan area is highly urbanized, does not contain any of the habitat requirements for this species, and is outside of the typical elevation range for this species. The nearest documented occurrence of this species is over 11.5 miles north of the specific plan area.
California seablite *Suaeda californica*	SE, CRPR 1B.1	Endemic to coastal California in the San Francisco Bay Area and near San Luis Obispo.	Marshes and swamps (coastal salt); 0-15 m.	Perennial evergreen shrub, July to October	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. Both nearby documented occurrences of this species are listed as possibly extirpated, and the nearest is over 6 miles north of the specific plan area, along the margins of the San Francisco Bay.

Species	Status	Geographic Distribution	Habitat Requirements	Life Form; Blooming Period	Potential Occurrence in the Project Area
Saline clover *Trifolium hydrophilum*	CRPR 1B.2	Endemic to San Francisco Bay Area and surrounding counties.	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools; 0-300 m.	Annual herb, April to June	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the marsh, swamp, vernal pool, or valley and foothill grassland utilized by this species. The nearest documented occurrence is over 2.5 miles north of the specific plan area, along the margins of the San Francisco Bay.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	CRPR 1B.1	California endemic; extant occurrences in Fresno, Monterey and San Luis Obispo Counties.	Valley and foothill grassland (alkaline hills); 1-455 m.	Annual herb, March to May	**Not Expected.** The specific plan area is highly urbanized and does not contain any of the habitat requirements for this species. All nearby documented occurrences of this species are considered extirpated and the species likely no longer exists in the San Francisco Bay region.
NATURAL COMMUNITIES of SPECIAL CONCERN					
Northern Coastal Salt Marsh					This plant community is not present within the specific plan area.
Sycamore Alluvial Woodland					This plant community is not present within the specific plan area.

STATUS KEY:

Federal
FE: Federally-listed Endangered
FT: Federally-listed Threatened

State
SE: State-listed Endangered
SR: State-listed Rare
ST: State-listed Threatened

CNPS CRPR added a decimal threat rank to the List rank to parallel that used by the CNDDB. This extension replaces the E (Endangerment) value from the R-E-D Code. CRPR ranks therefore read like this: 1B.1, 1B.2, etc. Threat code extensions and their meanings are as follows:

.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree of immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

SOURCES:
Calflora (October 2020) and the CNPS (October 2020) Rare and Endangered Plant Inventory was used to identify preferred habitat for each species

Table 6-2
SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE PATRICK HENRY DRIVE SPECIFIC PLAN AREA

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
INVERTEBRATES				
Invertebrates: Crustaceans				
conservancy fairy shrimp *Branchinecta conservatio*	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools.	Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	**Not Expected.** There are no aquatic features required by this species within the specific plan area. In addition, the specific area plan is not within or near any of the 8 known populations of this species (Butte, Tehama, Glenn, Yolo, Solano, Stanislaus, Merced, and Ventura Counties). There are no documented occurrences of this species within the 9-quadrangle CNDDB search radius.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid waters.	Inhabited pools are often found in grass-bottomed swales of unplowed grasslands; some pools are mud-bottomed and highly turbid.	**Not Expected.** There are no aquatic features required by this species within the specific plan area. The nearest documented occurrence of this species is over 6 miles north of the specific plan area.
Invertebrates: Insects				
crotch bumble bee *Bombus crotchii*	CE	Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	**Low Potential.** The specific plan area is in a highly urbanized area with little to no habitat for the native plant species required for *Bombus* spp. foraging. The nearest documented occurrence of this species is approximately 6.5 miles southeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
western bumble bee *Bombus occidentalis*	CE	Historically occurs throughout the western United States and western Canada.	Unknown, though likely similar to *B. crotchii*.	**Low Potential.** The specific plan area is in a highly urbanized area with little to no habitat for the native plant species required for *Bombus* spp. foraging. The nearest documented occurrence of this species is approximately 10 miles northwest of the specific plan area.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County.	Colonies are located on steep, north-facing slopes within the fog belt. Larval host plant is *Sedum spathulifolium*.	**Not Expected.** The specific plan area is not within San Mateo County, where the only known populations of this species occur. There are no documented occurrences of this species within the 9-quadrangle CNDDB search radius.
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay.	*Plantago erecta* is the primary host plant, *Castilleja densiflorus* and *C. purpurscens* are secondary host plants.	**Not Expected.** The specific plan area does not contain the serpentine habitat required by this species. The nearest documented occurrence of this species is approximately 12.5 miles southeast of the specific plan area.
FISH				
Delta smelt *Hypomesus transpacificus*	FT	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay.	Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	**Not Expected.** There is no aquatic habitat required by this species within the specific plan area.
Steelhead - central California coast DPS *Oncorhynchus mykiss irideus*	FT	This DPS includes all populations of steelhead from the Russian River south to Aptos Creek. Steelhead in drainages of San Francisco, San Pablo, and Suisun Bays are also part of this DPS.	Adult steelhead migrate from the ocean into streams in the late fall, winter, or early spring seeking out deep pools within fast moving water to rest prior to spawning. Steelhead spawn in shallow-water gravel beds.	**Not Expected.** There is no aquatic habitat required by this species within the specific plan area. The nearest documented occurrence of this species is approximately 12 miles southeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Longfin smelt *Spirinchus thaleichthys*	FC, ST	Found in California's bays, estuaries, and nearshore coastal environments from the San Francisco Bay north to Lake Earl near the Oregon border. The San Francisco Bay estuary and the Sacramento-San Joaquin Delta support the largest longfin smelt population in California.	Found in aquatic and estuary habitats. This species is euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 parts per thousand but can be found in completely freshwater to almost pure seawater.	**Not Expected.** There is no aquatic habitat required by this species within the specific plan area. The nearest documented occurrence of this species is over 17.5 miles northwest of the specific plan area, within the San Francisco Bay.
AMPHIBIANS				
Amphibians: Frogs/Toads				
Foothill yellow-legged frog *Rana boylii*	SE, SSC	Occurs in the foothills of the western side of the Sierra Nevada mountains from the northern border of the state to the Tehachapi mountains.	Inhabits partly shaded, shallow streams and rifles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg laying, need at least 15 weeks for metamorphosis.	**Not Expected.** There is no aquatic habitat within the specific plan area. In addition, the highly urbanized specific plan area provides no suitable foraging or estivation habitat for upland adults or migration. The nearest documented occurrence of this species is over 6.5 miles east of the specific plan area.
California red-legged frog *Rana draytonii*	FT, SSC	Found from Riverside County to Mendocino County along the Coast Range, from Calaveras County to Butte County in the Sierra Nevada, and in Baja California.	Found in aquatic, artificial flowing waters, artificial standing waters, freshwater marsh, marsh and swamp, riparian forest, riparian scrub, riparian woodland, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, south coast flowing waters, south coast standing waters, and wetland habitats. Likely within lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Not Expected.** There is no aquatic habitat within the specific plan area. The nearest occurrence is over 6.5 miles east of the specific plan area. In addition, the highly urbanized specific plan area provides no suitable foraging or estivation habitat for upland adults or migration.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Amphibians: Salamanders/Newts				
California tiger salamander *Ambystoma californiense*	FT, ST	Found in the Coast Range and Sierra Nevada foothills of California. In the Coast Range, it occurs from southern San Mateo County south to central San Luis Obispo County, and also in the vicinity of northwestern Santa Barbara County. In the Sierra Nevada foothills, it occurs from northern Yolo County to northwestern Kern County and northern Tulare County.	Found in cismontane woodland, meadow & seep, riparian woodland, valley & foothill grassland, vernal pool, and wetland habitats. Need California ground squirrel or gopher burrows for underground refuges, and vernal pools or other seasonal water sources that do not support predatory fish or frog populations for breeding.	**Not Expected.** There is no aquatic habitat within the specific plan area. The nearest occurrence is approximately 6 miles north of the specific plan area. In addition, the highly urbanized specific plan area provides no suitable foraging or estivation habitat for upland adults or migration.
Santa Cruz black salamander *Aneides niger*	SSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties.	Adults found under rocks, talus, and damp woody debris.	**Not Expected.** The highly urbanized specific plan area does not provide any of the required habitat for this project. The specific plan area is approximately 7.5 miles northeast of the nearest documented occurrence within the Santa Cruz mountains.
California giant salamander *Dicamptodon ensatus*	SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County.	Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Not Expected.** The highly urbanized specific plan area does not provide any of the required habitat for this project. The specific plan area is over 8.5 miles northeast of the nearest documented occurrence within the Santa Cruz mountains.
REPTILES				
Reptiles: Lizards				
Northern California legless lizard *Anniella pulchra*	SSC	Occurs in sandy or loose loamy soils under sparse vegetation in chaparral, coastal dunes, and coastal scrub.	Soil moisture is essential. They prefer soils with a high moisture content.	**Not Expected.** The specific plan area does not provide any of the native soils or plant species required by this species. The nearest documented occurrence is listed as “possibly extirpated” and is over 7 miles southeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Reptiles: Snakes				
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT, ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savannah and woodland habitats.	Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	**Not Expected.** There is no chaparral, scrub, grassland, oak savannah, or woodland habitat within or near the specific plan area for several miles. The nearest documented occurrence of this species is approximately 9.5 miles northeast of the specific plan area, within a vast undeveloped area.
Reptiles: Turtles/Tortoises				
Western pond turtle *Actinemys marmorata*	SSC	Found from Baja California, Mexico north through Klickitat County, Washington. In California, found west of the Sierra-Cascade crest. Absent from desert regions, except the Mojave Desert along the Mojave River and its tributaries.	Requires permanent or nearly permanent bodies of water including ponds, marshes, rivers, streams, and irrigation ditches below 6,000 feet in elevation. Requires basking sites, such as submerged rocks, logs, open mud banks, or floating vegetation mats. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying.	**Not Expected.** The specific plan area does not provide any aquatic habitat for this species and is almost entirely hardscaped. The nearest documented occurrence is less than one mile to the north of the specific plan area and while there is marginally suitable habitat in nearby Calabazas Creek, there is no connective habitat suitable for this species' migration within the specific plan area.
BIRDS				
Birds: Raptors				
Cooper's hawk *Accipiter cooperii*	WL	Occurs in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest. Also, found in urban areas.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Low Potential.** This species may occasionally roost and/or forage within the specific plan area, however the area does not contain any suitable nesting habitat for this species. The nearest documented occurrence of this species is over 6 miles southwest of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
sharp-shinned hawk *Accipiter striatus*	WL	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas.	North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.	**Low Potential.** This species may occasionally roost and/or forage within the specific plan area, however the area does not contain any suitable nesting habitat for this species. The nearest documented occurrence of this species is over 11 miles northeast of the specific plan area.
Golden eagle *Aquila chrysaetos*	FP	Inhabits foothills and mountains throughout California.	Nests on cliffs and escarpments or in tall trees overlooking open country; forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals.	**Low Potential.** This species may occasionally be seen flying over the specific plan area, however the area does not contain any suitable nesting habitat for this species. The nearest documented occurrence of this species is over 8 miles northeast of the specific plan area.
Burrowing owl *Athene cunicularia*	SSC	Found year-round throughout much of California, except the coastal counties north of Marin and mountainous areas. Breeding has not been observed in Sonoma County since 1987 and breeding colonies are considered extirpated from this county.	Found in coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran Desert scrub, and valley and foothill grassland habitats. Likely in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**Low Potential.** The specific plan area does not contain large amounts of grassland necessary for ground squirrel burrows required for this species' roosting. However, the approximate 0.25-mile linear strip of landscaped grass along the eastern edge of the specific plan area may provide a small amount of habitat for this species if left undisturbed.
Swainson's hawk *Buteo swainsoni*	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees.	Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Not Expected.** The specific plan area is outside this species' current range, which begins in eastern Contra Costa County at its nearest point. The nearest documented occurrence is over 3.5 miles south of the specific plan area, however it is from 1889 and is listed as "possibly extirpated."

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Northern harrier *Circus cyaneus*	SSC	Breed from sea level near the coast to at least 9,000 feet in the Glass Mountain region of Mono County.	Found in coastal scrub, Great Basin grassland, marsh & swamp, riparian scrub, valley & foothill grassland, and wetland habitats. Likely in coastal salt & freshwater marshes. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Low Potential.** This species may occasionally roost and/or forage within the specific plan area, however the area does not contain any suitable nesting habitat for this species. The nearest documented occurrence of this species is approximately 6 miles northwest of the specific plan area.
White-tailed kite *Elanus leucurus*	FP	Found year-round in nearly all areas of California up to the western Sierra Nevada foothills and southeast deserts. Common in the Central Valley of California and along the entire length of the coast, possibly breeding in more arid regions east of the Sierra Nevada and Transverse Range (Inyo and eastern Kern Counties). Documented breeding in Imperial County, western Riverside County, and eastern San Diego County. In the Sacramento Valley, populations have predominantly increased in irrigated agricultural areas where the California vole (*Microtus californicus*) often occurs.	Found in cismontane woodland, marsh & swamp, riparian woodland, valley and foothill grassland, and wetland habitats. Likely in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Low Potential.** This species may occasionally roost and/or forage within the specific plan area, however the area does not contain the protected groves of mature trees typically utilized for nesting by this species. The nearest documented occurrence of this species is approximately 2 miles northeast of the specific plan area.
prairie falcon *Falco mexicanus*	WL	Occurs in Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland.	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	**Low Potential.** This species may occasionally roost and/or forage within the specific plan area, however the area does not contain the cliff typically utilized for nesting by this species. The nearest documented occurrence of this species has location information suppressed, however it is within the La Costa USGS quadrangle over 9 miles northeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
American peregrine falcon *Falco peregrinus anatum*	FP	Includes most of California during migration and winter. Breeding occurs along the coast of southern and central California, in the inland coastal mountains, in the Klamath Mountains and Cascade Range, in the Sierra Nevada, and in the Channel Islands.	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**Low Potential.** This species may occasionally roost and/or forage within the specific plan area, however the area does not contain the cliff and/or skyscraper habitat typically utilized for nesting by this species. The nearest documented occurrence of this species has location information suppressed, however it is within the San Jose West USGS quadrangle over 1.5 miles south of the specific plan area.
Birds: Shorebirds/Waterbirds/Rails				
Western snowy plover *Charadrius nivosus*	FT	Pacific population of western snowy plover occurs along the entire coastline.	Found in standing waters, sand shore, and wetland habitats. Likely within open sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**Not Expected.** The specific plan area does not have any coastline or other suitable foraging/roosting habitat for this species. The nearest documented occurrence of this species is over 2 miles north of the specific plan area.
yellow rail *Coturnicops noveboracensis*	SSC	Summer resident in eastern Sierra Nevada in Mono County.	Occurs in freshwater marshlands.	**Not Expected.** The specific plan area does not contain any aquatic habitat required by this species for nesting and/or roosting and foraging. The nearest documented occurrence is over 2.5 miles northeast of the specific plan area.
California black rail *Laterallus jamaicensis coturniculus*	ST, FP	The majority found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays. Smaller populations occur in San Francisco Bay, the Outer Coast of Marin County, freshwater marshes in the foothills of the Sierra Nevada, and in the Colorado River Area.	Found in brackish marsh, freshwater marsh, marsh & swamp, salt marsh, and wetland habitats. Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**Not Expected.** The specific plan area does not contain any aquatic habitat required by this species for nesting and/or roosting and foraging. The nearest documented occurrence is over 2 miles north of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
California Ridgway's rail *Rallus obsoletus*	FE, SE, FP	Found almost exclusively in the marshes of the San Francisco estuary in San Mateo, Santa Clara, Alameda, Contra Costa, Solano, Napa, Sonoma, and Marin counties.	Found in brackish marsh, marsh and swamp, salt marsh, and wetland habitats. Likely in salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	**Not Expected.** The specific plan area does not contain any aquatic habitat required by this species for nesting and/or roosting and foraging. The nearest documented occurrence is over 3.5 miles northwest of the specific plan area.
black skimmer *Rynchops niger*	SSC	Occurs in alkali play and sand shore habitats.	Nests on gravel bars, low islets, and sandy beaches, in unvegetated sites. Nesting colonies usually less than 200 pairs.	**Not Expected.** The specific plan area does not contain any aquatic habitat or shoreline habitat required by this species for nesting and/or roosting and foraging. The nearest documented occurrence is over 6.5 miles northwest of the specific plan area.
California least tern *Sternula antillarum browni*	FE, SE, FP	Nests along the coast from San Francisco Bay south to Northern Baja California.	Found foraging in alkali playa, coastal, lake, and wetland habitats. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**Not Expected.** The specific plan area does not contain any aquatic habitat or shoreline habitat required by this species for nesting and/or roosting and foraging. The nearest documented occurrence is over 4.5 miles northwest of the specific plan area.
Birds: Passerines				
Tricolored blackbird *Agelaius tricolor*	ST, SSC	Permanent resident in Central Valley from Butte to Kern Counties; breeds at scattered coastal locations from Marin to San Diego Counties and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony.	**Low Potential.** This species may occasionally roost within the specific plan area, however the specific plan area does not contain the aquatic vegetation habitat required by this species for foraging and nesting. The nearest documented occurrence of this species is over 2.5 miles northeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	SSC	Found year-round in the vicinity of San Francisco Bay, from Tomales Bay in Marin County and Napa Sloughs in southern Sonoma County on the north, east to Carquinez Straight, and south to vicinity of San Jose in Santa Clara County. Historic locations of confirmed breeding include Lake Merced in San Francisco County, and Coyote Creek, Alviso, and Milpitas in Santa Clara County	Found in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Low Potential.** This species may occasionally roost within the specific plan area, however the plan area does not contain the marsh habitat that this species utilizes for foraging and nesting. The nearest documented occurrence is over 1.5 miles northwest of the specific plan area, along the shore of the San Francisco Bay.
Alameda song sparrow *Melospiza melodia pusillula*	SSC	Resident of salt marshes bordering south arm of San Francisco Bay.	Found in salt marsh habitats. Inhabits pickleweed (*Salicornia* sp.) marshes; nests low in gumplant (*Grindelia* sp.) bushes (high enough to escape high tides) and in pickleweed.	**Low Potential.** This species may occasionally roost within the specific plan area, however the plan area does not contain the marsh habitat that this species utilizes for foraging and nesting. The nearest documented occurrence is approximately 1.5 miles northeast of the specific plan area, along a wide, tidally-influenced riparian corridor.
Bank swallow *Riparia*	ST	Occurs in scattered locations in northern and central California in major lowland valleys and coastal areas where alluvial soils exist. The major breeding population is confined to the Sacramento and Feather Rivers and their major tributaries.	Found in riparian scrub, and riparian woodland habitats. This species is a colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Low Potential.** This species may occasionally forage and/or roost within the specific plan area, however it is rare within the San Francisco Bay region. The specific plan area does not contain the riparian cliff habitat required by this species for nesting. The nearest documented occurrence is over 12 miles north of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Birds: Nightbirds/Hummingbirds/Cuckoos				
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT, SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Not Expected.** This species' range no longer extends into the San Francisco Bay area. The only documented occurrence within a 9 quadrangle radius is over 4.5 miles northeast of the specific plan area, is listed as "extirpated," and is from 1899.
MAMMALS				
Mammals: Bats				
Pallid bat *Antrozous pallidus*	SSC	Common throughout low elevations of California. No found in the high Sierra from Shasta to Kern counties and the northwestern corner of the State from Del Norte and western Siskiyou counties to northern Mendocino County.	Found in chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean Desert scrub, riparian woodland, Sonoran Desert scrub, upper montane coniferous forest, and valley & foothill grassland habitats. Prefers deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Low Potential.** The specific plan area does not contain the open, dry, and/or rocky areas typically utilized by this species. However, this species may occasionally day roost within the large landscaped trees with suitable exfoliating bark or cavities or abandoned/vacant structures within the specific plan area, especially if properties are left undisturbed for a longer amount of time. Large bat colony roosting is highly unlikely within the specific plan area due to intense surrounding urbanization. The nearest documented occurrence is over 6 miles southeast of the specific plan area.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Townsend's big-eared bat *Corynorhinus townsendii*	SSC	Found throughout California, but details of its distribution are not well known. Found in all but subalpine and alpine habitats.	Found in broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow and seep, Mojavean Desert scrub, riparian forest, riparian woodland, Sonoran Desert scrub, Sonoran thorn woodland, upper montane coniferous forest, and valley & foothill grassland habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	**Low Potential.** The specific plan area does not contain the habitat typically utilized by this species. However, this species may occasionally day roost within the large landscaped trees with suitable exfoliating bark or cavities or abandoned/vacant structures within the specific plan area, especially if properties are left undisturbed for a longer amount of time. Large bat colony roosting is highly unlikely within the specific plan area due to intense surrounding urbanization. The nearest documented occurrence of this species is approximately 5 miles southwest of the specific plan area.
Mammals: Rodents				
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	SSC	This California endemic is found throughout the San Francisco Bay area in grasslands, scrub and wooded areas.	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded leaves, grass and other material. May be limited by availability of nest-building materials.	**Not Expected.** The specific plan area does not contain any of the forested or woodland habitats utilized by this species. The nearest documented occurrence is over 7.5 miles southwest of the specific plan area.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	FE, SE, FP	Occurs only in the saline emergent wetlands of the San Francisco Bay and its tributaries.	Found in marsh and swamp and wetland habitats. Pickleweed is primary habitat but may occur in other marsh vegetation types and in adjacent upland areas. Does not burrow; builds loosely organized nests. Requires higher areas for flood escape.	**Not Expected.** The specific plan area does not contain and is not connected to any of the tidal wetland or marsh habitat required by this species. The nearest documented occurrence of this species is over 2.5 miles northeast of the specific plan area, along the margin of the San Francisco Bay.

Species	Status	Geographic Distribution	Habitat Requirements	Potential for Occurrence
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	SSC	Found in the salt marshes of the south arm of San Francisco Bay.	Found in marsh and swamp and wetland habitats; Medium high marsh 6-8 feet above sea level where abundant driftwood is scattered among pickleweed.	**Not Expected.** The specific plan area does not contain and is not connected to any of the tidal wetland or marsh habitat required by this species. The nearest documented occurrence of this species is over 1 mile northwest of the specific plan area and is listed as "extirpated." The next nearest extant occurrence is over 2.5 miles northeast of the specific plan area, along the margin of the San Francisco Bay.
Mammals: Canids				
San Joaquin kit fox *Vulpes macrotis mutica*	FE, ST	Primarily occurs within the San Joaquin Valley, becoming more rare in the northern portion of the valley and northwest of the valley, just east of the San Francisco Bay Area.	Occurs in annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and suitable prey base.	**Not Expected.** The specific plan area does not provide the vast open areas required for this species' prey and denning. There are no documented occurrences of this species within the 9-quadrangle CNDDB search radius.

STATUS KEY:

Federal
FE: Federally-listed Endangered
FT: Federally-listed Threatened
FD: Federally-delisted
CE: Candidate Endangered
DL: Delisted

State
SE: State-listed Endangered
ST: State-listed Threatened
SCT: State-listed Candidate Threatened
SSC: California Species of Special Concern
WL: Watch List
FP: Fully Protected

SOURCES:
CNDDB (Accessed October 2020) were used to identify preferred habitat for each species.
Xerces.org used for invertebrate habitat and species information

7. CULTURAL AND HISTORICAL RESOURCES

This EIR chapter describes cultural and historic resource implications of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific cultural and historic impact concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan cause a substantial adverse change in an archaeological or historic resource, disturb human remains, or cause a substantial adverse change in the significance of a tribal cultural resource.[1]

As used in this chapter, the word "historical" refers to "relating to history," while the word "historic" refers to "recognized as having importance in history."

7.1 SETTING

7.1.1 Prehistoric and Historical Resources

(a) Early Settlement and Recent History. The Ohlone Native Americans inhabited what is now known as the San Francisco Bay area prior to invasion by the Spanish in 1769 and were named Costanoans by the Spanish. Costanoan-speaking tribal groups occupied the area from the Pacific Coast to the Diablo Range and from San Francisco to Point Sur. The Ohlones were hunters and gatherers, living in "tribelets" – small independent groups of usually related families occupying a specific territory and speaking the same language or dialect. The language of the local tribe was the Tamyan linguistic group.

These groups were independent political entities, each occupying specific territories defined by physiographic features. Each group controlled access to the natural resources of the territories. Although each tribal group had one or more permanent villages, their territory contained numerous smaller campsites used as needed during a seasonal round of resource exploitation. Extended families lived in domed structures thatched with tule, grass, wild alfalfa, ferns or carrizo.[2] Semi-subterranean sweathouses were built into pits excavated in stream banks and covered with a structure against the bank. The tule raft, propelled by double-bladed paddles similar to those used in the Santa Barbara Island region, were used to navigate across San Francisco Bay.[3]

Local watersheds were an important source for seasonal foods such as migratory waterfowl and shorebirds by providing protein-rich supplements to the typical aboriginal diet of greens, roots and bulbs, seeds, and acorns, as well as fish.[4]

[1]CEQA Guidelines, appendix G, items V (a) through (c) and XVIII (a) and (b).

[2]Levy, Richard. 1978. Costanoan in R.F. Heizer (ed.) Handbook of North American Indians. Vol. 8: California: 485-495. Washington D.C. Smithsonian Institute.

[3]Kroeber, A.L. 1976. Handbook of the Indians of California, New York. Dover Publications, Inc.

[4]Levy, Richard. 1978.

The first Europeans to reach the San Francisco Bay area were Spanish explorers in 1769 as part of the Portolá expedition. In 1774, the de Anza expedition had set out to convert the Native American tribes to Christianity, resulting in the establishment of (among others) Mission San Francisco de Asis (Mission Dolores), founded in 1776 and Mission Santa Clara de Asis, founded in 1777. The Mission at Santa Clara was also known as Mission Santa Clara de Thamien in reference to the Tamyen people. The native Tamyen people were slowly subjugated and absorbed into the Mission system. By 1795, all the Tamyen villages had been abandoned and the people baptized into the Christian faith.[1]

In 1821, the Mexicans achieved independence from Spain, but the change of rulers created no changes in the way the missions operated. The Ohlone were still brought to the mission for compulsory baptism and conversion to Christianity. Records show that by December 1828, there had been 8,279 baptisms, 2,376 marriages, and 6,408 deaths at Mission Santa Clara. In 1836, control of Mission Santa Clara was taken from the padres and turned over to civil commissioners who were supposed to oversee the "return of the land to the native population." This did not happen, and squatters took over the church buildings and land. Disorder and decay set in and by 1839, there were only 300 Native Americans remaining in the vicinity of Mission Santa Clara. About this time, the Mexican governor began issuing land grants to various favored people. The land was used for vast ranchos (ranches); large numbers of cattle were raised and roamed at will over the land. Hides and tallow from the livestock eventually comprised the first commercial export product and industry in the area.

During and after the Gold Rush of 1849, many of the gold seekers did not find gold and began to settle in the Santa Clara valley to farm the land. In the 1850s the hamlet of Santa Clara began to take shape as a recognizable small town. The town site was surveyed by William Campbell into lots one hundred yards square, and one lot was given to each citizen with the understanding that he was to build a house on it within three months or lose the property. A schoolhouse and a church were built, several hotels erected, mercantile businesses established, and 23 houses were imported from Boston to be set up in the town. In 1851, Santa Clara College was established on the old mission site and became a prominent feature of the developing town. Santa Clara incorporated as a town on July 5, 1852 and became a state-chartered city in 1862. By this time the city encompassed an area two miles long and one and a half miles wide. Outside city limits, small family farms and orchards developed. As the town grew, it was supported by a variety of manufacturing, seed, and fruit industries. One of the earliest manufacturing businesses in Santa Clara was Wampach Tannery, established in 1849. In 1866, the business was taken over by Jacob Eberhard. Eberhard Tannery provided employment for the area for many years until torn down in 1953. Its fine leather products were sent to the Eastern U.S. states as well as Europe. The immediate vicinity around Santa Clara became famous for its flower and vegetable seed farms. J.M. Kimberlin and Co. was the first seed company to establish in Santa Clara in 1875, and it eventually became the largest seed grower on the Pacific Coast. Many other fruit and seed companies were established in or in the immediate environs of Santa Clara.

At the end of the 19th century, more and more people arrived seeking the mild climate and job opportunities of the Santa Clara area. By 1906, the population of the city had grown to nearly 5,000. The population remained fairly stable and did not increase greatly until after World War

[1]City of Cupertino. 2020. History. https://www.cupertino.org/our-city/about-cupertino/history, accessed April 15, 2020.

II, when the city outgrew its 19th century boundaries and expanded to open lands north and west of the original city limits. The farms and orchards began to accommodate the burgeoning population.

The semiconductor chip was developed in the 1950s. The resulting computer and electronics industries, based on the silicon chip, redeveloped remaining agricultural and orchard land and transformed the agricultural nature of Santa Clara and Santa Clara Valley.

The Specific Plan Area was some of the last land in Santa Clara to be developed. Aerial photography and USGS maps show that the Plan Area remained agricultural until at least 1975 and had not reached the modern extent of development until the mid-1980s, with the City's need for additional business districts. By 1990, the City covered 19.3 square miles and had a population of more than 93,000.[1]

(b) Prehistoric Archaeological Resources. Prehistoric archaeological sites are commonly found near historical water courses. Prehistoric archaeological resources found at such sites often include middens and bedrock milling stations, as well as chert or obsidian flakes, projectile points, mortars and pestles, and dark friable soil containing shell and bone, dietary debris, heat-affected rock, or human burials.

Though almost all of the Specific Plan Area is developed, with some areas of manicured vegetation, there is a possibility that as-yet unrecorded prehistoric cultural resources could exist beneath the surface of the Plan Area.

(c) Historical Resources. Under the CEQA Guidelines (section 15064.5 "Determining the Significance of Impacts to Archaeological and Historical Resources"), buildings, structures, and objects that are listed or eligible for listing in the California Register of Historical Resources (CRHR) are historical resources, pursuant to CEQA. Resources listed on a local register of historic resources are presumed to be historical resources pursuant to CEQA, and public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant. A 50-year age "threshold," which originally resulted from 36 Code of Federal Regulations 60.4 and pertains to the National Register of Historic Places (NRHP), is used by some jurisdictions as a guide for determining whether or not a resource may warrant evaluation. For instance, the City's General Plan includes a provision for "the evaluation of resources over 50 years old to determine eligibility for the City's list of "Architecturally or Historically Significant Properties" (General Plan Policy 5.6.1-P6). The CRHR criteria (CCR § 4852) state that in order for a resource to achieve significance within the past 50 years, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. The California Office of Historic Preservation (OHP) provides guidelines for resources that may be historic and have not yet reached 50 years of age.

Regionally, the Northwest Information Center (NWIC) keeps records of historic resource that have been documented in Santa Clara County.

Locally, the City adopted Criteria for Local Significance in 2004 that established a Historic Resources Inventory.

[1]City of Santa Clara. History. https://www.santaclaraca.gov/our-city/about-santa-clara/city-history, accessed April 15, 2020.

To date, no building or structure in the Plan Area is on a local or State historic resource inventory.

7.2 REGULATORY SETTING

7.2.1 Federal

National Historic Preservation Act of 1966 (54 U.S.C. 300101 et seq., formerly 16 U.S.C. 470 et seq.) (NHPA). This law was enacted to prevent unnecessary harm to historic properties. The NHPA includes regulations that apply specifically to federal land-holding agencies, but also includes regulations ("Section 106"; 54 U.S.C. 306108) that pertain to all projects funded, permitted, or approved by any federal agency that have the potential to affect cultural resources. Provisions of the NHPA establish a National Register of Historic Places, or NRHP (the National Register is maintained by the National Park Service); the Advisory Council on Historic Preservation; State Historic Preservation Offices; and federal grants-in-aid programs.

National Environmental Policy Act of 1969 (42 U.S.C. 4321 and 4331-4335, as amended) (NEPA). The act establishes guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice." All projects that are subject to NEPA are subject to compliance with section 106 of the NHPA (54 U.S.C. 306108) and NEPA requirements concerning cultural resources.

American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996 and 1996a, as amended) and Native American Graves and Repatriation Act of 1990 (25 U.S.C. 3001 et seq., as amended). These acts establish as national policy that traditional religious practices and beliefs, sacred sites (including right of access), and the use of sacred objects shall be protected and preserved. Native American remains are further protected by the Native American Graves Protection and Repatriation Act of 1990.

Secretary of the Interior's Standards. The Secretary of the Interior is responsible for establishing professional standards and providing guidance related to the preservation and protection of all cultural resources listed in, or eligible for listing in, the National Register of Historic Places. The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* and the Secretary of the Interior's *Guidelines for Rehabilitating Historic Buildings* and the *Guidelines on Sustainability for Rehabilitating Historic Buildings* apply to all grants-in-aid projects assisted through the Historic Preservation Fund, and are intended to be applied to a wide variety of historic preservation and community projects and resources focused on heritage preservation, including buildings, structures, sites, objects, and districts.

National Register of Historic Places (NRHP). Archaeological and historical sites can be given a measure of protection if they are eligible for the National Register of Historic Places. The criterion most often applied to archaeological sites addresses the potential of a site to yield information important in prehistory or history. The National Register criteria, and other information issued by the Advisory Council on Historic Preservation, present the legal measures of significance relevant to cultural resources. The NRHP criteria are the following:

- The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that are associated with events that have made a significant contribution to the broad patterns of our history; or

- are associated with the lives of significant persons in our past; or

- embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack distinction; or

- have yielded, or may be likely to yield, information important to history or prehistory.

Code of Federal Regulations (CFR) Title 43 CFR 8365.1-5. This regulation addresses the collection of invertebrate fossils and fossil plants, including the willful disturbance, removal, and destruction of scientific resources or natural objects.

7.2.2 State

California Environmental Quality Act (Public Resources Code 21000 et seq.) (CEQA). Section 15064.5 of the CEQA Guidelines (California Code of Regulations Title 14, section 15000 et seq.) requires lead agencies to determine whether proposed projects requiring discretionary government approval may have a significant effect on historic, archaeological, or tribal cultural resources. This determination applies to cultural resources that meet significance criteria qualifying them as “unique” or “of importance,” or are listed or determined eligible for listing on the California Register of Historical Resources (CRHR). If a project may have an adverse effect on a unique or important historical or cultural resource, the project is determined to have a significant effect on the environment, and the effect must be mitigated. Under CEQA, a historical resource need not be listed already on a local, State, or federal list of historic resources to meet the CEQA impact criteria requiring mitigation.

The CEQA Guidelines specify that when a proposed individual project may adversely affect a CEQA-defined historic resource, the lead agency is required to carefully consider the possible project impacts on the historic resource before proceeding (Public Resources Code section 21084 and subsection 21084.1). In determining if there is a significant impact on one or more historic resources, the CEQA Guidelines essentially call for a two-part test: (1) is the resource "historically significant," and (2) would the project cause a "substantial adverse change" in the significance of the resource? Under section 15064.5(a) of the CEQA Guidelines, a historic resource shall be presumed to be historically or culturally significant if it is:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources (Public Resources Code section 5024.1, Title 14 CCR, section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code, or identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such

resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR (Public Resources Code section 5024.1, Title 14 CCR, section 4800.3) as follows:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B. Is associated with the lives of persons important in our past;

C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

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

California Register of Historical Resources (CRHR). Under the CRHR (and almost identical to CEQA thresholds 3A through D, directly above), a historical resource may be determined significant under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

California Senate Bill 18 (Chapter 905, "Traditional Tribal Cultural Places"). Senate Bill 18 requires cities and counties to conduct consultations with Native American tribes before local officials adopt or amend their general plans. These consultations are for preserving or mitigating impacts to Native American historic, cultural, sacred sites, features, and objects located within the city or county. A tribe has 90 days from the date of contact to request a consultation, unless the tribe agrees to a shorter timeframe. Senate Bill 18 also added a new topic that must be addressed in the general plan open space element: open space land for the protection of Native American historic, cultural, sacred sites, features, and objects.

The City of Santa Clara notified the Native American tribes traditionally and culturally affiliated with the Patrick Henry Drive Specific Plan Area, including providing a copy of the EIR Notice of Preparation (NOP). The Native American tribes notified include the Amah Mutsun Tribal Band, Amah Mutsun Tribal Band of Mission San Juan Bautista, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, Ohlone Indian Tribe, North Valley Yokuts Tribe, and Indian Canyon Mutsun Band of Costanoan. No comments were received by the City during the NOP 30-day

review period (December 2019 to January 2020), nor have any subsequent comments been received.

California Assembly Bill 52 (Chapter 532, amends and adds sections to the Public Resources Code, relating to Native Americans). Assembly Bill 52 (AB 52) establishes that a project with an effect that may cause a substantial adverse change in the significance of a "tribal cultural resource" is a project that may have a significant effect on the environment. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if (1) the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area, and (2) the tribe then timely requests formal consultation for that particular proposed project after receiving notification of the project. Consultation must be completed prior to releasing a negative declaration, mitigated negative declaration, or environmental impact report.

AB 52 requires the Native American Heritage Commission (see below) to provide each California Native American tribe with: (1) a list of all public agencies that may be a lead agency within the geographic area in which the tribe is traditionally and culturally affiliated, (2) the contact information of those agencies, and (3) information on how the tribe may request those public agencies to notify the tribe of projects for the purposes of requesting consultation. The City of Santa Clara notified the Native American tribes traditionally and culturally affiliated with the Patrick Henry Drive Specific Plan Area, including providing a copy of the EIR Notice of Preparation (NOP); see "California Senate Bill 18," immediately above.

Native American Heritage Commission (NAHC). The NAHC, established in 1976, was created to identify and catalog cultural resources (i.e., places of special religious or social significance to Native Americans, and known graves and cemeteries of Native Americans on private lands) in California. The Commission is charged with the duty of preserving and ensuring accessibility of sacred sites and burials, the disposition of Native American human remains and burial items, maintaining an inventory of Native American sacred sites located on public lands, and reviewing current administrative and statutory protections related to these sacred sites. Among the functions of the NAHC is maintenance of lists of Native American Contacts and Most Likely Descendents. The NAHC authorizes Most Likely Descendants the right to determine the treatment, disposition, and analysis of Native American remains. Also, see AB 52, above.

7.2.3 Local

City of Santa Clara Municipal Code. Municipal Code title 18 (Zoning), chapter 18.106 (et seq.) applies to preservation of historic resources, including historic landmarks and districts. The section includes the identification of properties to be kept on the City's local Historic Resources Inventory (HRI) after recommendation by the City's Historical and Landmarks Commission (HLC) to the Planning Commission and adoption by the City Council. Section 18.106.030 codifies the HRI. Chapter 18.106 promotes the preservation and protection of historic, archaeological or cultural monuments, sites, objects, structures, buildings or other areas so designated as well as setting out regulations regarding historic structures within the City.

City of Santa Clara General Plan. The Santa Clara 2010-2035 General Plan outlines the historic preservation goals and policies of the City. The City's historic preservation goals are listed below:

- Goal 5.6.1-G1: Preservation of historic resources and neighborhoods.
- Goal 5.6.1-G2: Public awareness of the City's historic preservation programs.
- Goal 5.6.1-G3: Changes and maintenance of historic resources that retain the integrity of the property and its historic value.
- Goal 5.6.2-G1: New development that is compatible with nearby historic resources.
- Goal 5.6.2-G2: Preservation of the neighborhood context for historic resources.
- Goal 5.6.3-G1: Protection and preservation of cultural resources, as well as archaeological and paleontological sites.
- Goal 5.6.3-G2: Appropriate mitigation in the event that human remains, archaeological resources or paleontological resources are discovered during construction activities.

Policies relating to the goals are listed Section 5.6 of the City's General Plan. The General Plan also lists the resources on the City's local HRI as well as the criteria for inclusion on the HRI. The criteria for inclusion include historic or cultural significance, architectural significance, geographic significance, archaeological significance, and integrity. At the time of writing (October 2020), there are no listed historic resources on the City's HRI within the Plan Area.

7.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to cultural and historic resources which could result from the Patrick Henry Drive Specific Plan and recommends mitigation measures as needed to reduce significant impacts.

7.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to historic, cultural, and tribal cultural resources if it would:

(a) Cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines section 15064.5;

(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;

(c) Disturb any human remains, including those interred outside of dedicated cemeteries; or

[1]CEQA Guidelines, appendix G, items V (a) through (c) and XVIII (a) and (b).

(d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

> (1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
>
> (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

7.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Patrick Henry Drive Specific Plan would serve to achieve a coordinated, connected environment within the Plan Area while increasing land use intensity through frameworks and unified, context-sensitive design standards and guidelines, which would result in the efficient use of existing resources and infrastructure. Plan components are purposely designed to achieve and maintain a cohesive, compatible land use pattern and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas. Cultural and historic resources, now and in the future, are an integral part of that context. The reader is encouraged to review Specific Plan chapters 4 (Plan Framework) and 5 (Design Standards and Guidelines) for more detail.

To date, no building or structure in the Specific Plan Area is on a local or State historic resource inventory. The mitigations below would ensure that as-yet undiscovered cultural (e.g., archaeological, tribal cultural) resources, as well as resources that might be designated as “historic” in the future, would be protected in accordance with section 7.2 (Regulatory Setting) above.

7.3.3 Impacts and Mitigations

Impact 7-1: Destruction/Degradation of Historic Resources. There may be one or more properties or features within the Specific Plan Area, now or in the future, that meets the CEQA definition of a historic resource, including properties or features eligible for listing in a local, State, or Federal register of historic resources. Future development projects that are otherwise consistent with the proposed Patrick Henry Drive Specific Plan may cause substantial adverse changes in the significance of one or more such historic resources. Substantial adverse changes that may occur include physical demolition, destruction, relocation, or alteration of one or more historic resources or its immediate surroundings such that the resource is "materially impaired." The significance of a historic resource would be considered potentially "materially impaired" when and if an individual future development project proposes to demolish or materially alter the physical characteristics that justify the determination of its significance (CEQA Guidelines section 15064.5[b]). Such adverse changes in the significance of a CEQA-defined historic resource would be a ***significant impact*** (see criterion [a] in subsection 7.3.1, "Significance Criteria," above).

The identification of historic resources must account for change over time. Today's newer buildings may be recognized as historic within the lifetime of the Specific Plan. Today's older buildings may attain historic significance as more is uncovered about their past. Currently non-historic buildings may be recognized as historic in the future if the people or events associated with those buildings become historically or culturally distinguished. All these possibilities are accounted for in CEQA Guidelines section 15064.5 (Determining the Significance of Impacts to Archaeological and Historical Resources).

Consistent with the perspective described above, the California Office of Historic Preservation notes, "There is a common misconception that resources 50 years or older need to be evaluated, but anything younger cannot be considered significant….[T]he California Register criteria (CCR section 4852) state that in order for a resource to achieve significance within the past 50 years, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource….Specifically, the California Register statute allows CEQA Lead Agencies [in the case of this EIR, the City of Santa Clara] a fair amount of flexibility in justifying that a resource is significant, even if that resource is less than 50 years old."[1]

At of time of writing (July 2021), there are currently no buildings older than 45 years within the Specific Plan Area.[2]

Due to the possibilities described above, the potential for a substantial adverse change to a historic resource due to individual discretionary development projects proposed under the Specific Plan would be evaluated by a qualified professional on a case-by-case basis in

[1]California Office of Historic Preservation, CEQA Case Studies, September 2015 (Volume VI).

[2]Historic Aerials, 2020.

accordance with CEQA Guidelines section 15064.5 to determine whether projects would have new or substantially more severe impacts to historic resources.

Under CEQA, conformance with the Secretary of the Interior's Standards will normally mitigate impacts on a historic resource to a less-than-significant level. Under the *Standards for Rehabilitation*, new additions, alterations, or adjacent new construction must not destroy character-defining features, spaces, and spatial relationships. New work must be differentiated from the old and must be compatible with the historic materials, features, size, scale, proportion, and massing. New additions, alterations, and construction must be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

In some cases, it can be challenging to accommodate the needs of new uses while fully adhering to the *Standards for Rehabilitation* and, in many situations, it can be infeasible. In addition, changes to the eligibility, identification, and condition of historic resources and their surroundings between now and the time that individual development proposals are received for specific properties could affect potential impacts on historic resources. As a result, it cannot be determined at this time, without consideration of a current, specific development proposal, whether it would be feasible to mitigate to a less-than-significant level the impacts of any given subsequent development project under the Patrick Henry Drive Specific Plan involving properties that may contain historic resources. (As noted above under the Setting section, 7.1, no building or structure in the Plan Area is on a local or State historic resource inventory.) Although the following mitigation measures are intended to mitigate impacts on historic resources from implementation of the Specific Plan to the extent feasible, the impacts on historic resources may still remain significant and unavoidable. This conservative approach is consistent with CEQA.

Mitigation 7-1. For any individual project within the Patrick Henry Drive Specific Plan Area that the City determines may involve a property that contains a potentially significant historic resource, the resource shall be assessed by a professional who meets the Secretary of the Interior's Professional Qualifications Standards to determine whether the property is a significant historic resource and whether or not the project may have a potentially significant adverse effect on the historic resource. If, based on the recommendation of the qualified professional, the City determines that the project may have a potentially significant effect, the City shall require the applicant to implement the following mitigation measures:

(a) Adhere to at least one of the following Secretary of the Interior's Standards:[1]

- Secretary of Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*; or

(continued)

[1]Under the CEQA Guidelines (section 15064.5[b][3]), a project's adverse impact on a historic resource generally can be mitigated to a less-than-significant level by following either of these standards.

Mitigation 7-1 (continued):

- Secretary of Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*.

The qualified professional shall make a recommendation to the City as to whether the project fully adheres to the Secretary of the Interior's Standards, and any specific modifications necessary to do so. The final determination as to a project's adherence to the Standards shall be made by the City body with final decision-making authority over the project. Such a determination of individual project adherence to the Secretary of the Interior's Standards will constitute mitigation of the project historic resource impacts to a ***less-than-significant level*** (CEQA Guidelines section 15064.5).

(b) If measure (a) is not feasible, the historic resource shall be moved to a new location compatible with the original character and use of the historic resource, and its historic features and compatibility in orientation, setting, and general environment shall be retained, such that a substantial adverse change in the significance of the historic resource is avoided.[1] Implementation of measure (b) would reduce the impact to a ***less-than-significant level.***

If neither measure (a) nor measure (b) is feasible, then the City shall, as applicable and to the extent feasible, implement the following measures in the following order:

(c) Document the historic resource before any changes that would cause a loss of integrity and loss of continued eligibility. The documentation shall adhere to the Secretary of the Interior's *Standards for Architectural and Engineering Documentation*. The level of documentation shall be proportionate with the level of significance of the resource. The documentation shall be made available for inclusion in the Historic American Building Survey (HABS) or the Historic American Engineering Record (HAER) Collections in the Library of Congress, the California Historical Resources Information System (CHRIS), and the Bancroft Library, as well as local libraries and historical societies.

(continued)

[1]One example of a substantial adverse change would be the loss of eligibility for listing on the California Register. The State Historical Resources Code encourages the retention of historic resources on-site and discourages the non-historic grouping of historic buildings into parks or districts. However, it is recognized that moving a historic building, structure, or object is sometimes necessary to prevent its destruction. Therefore, a moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was moved to prevent its demolition at its former location and if the new location is compatible with the original character and use of the historic resource. A historic resource should retain its historic features and compatibility in orientation, setting, and general environment.
(California Office of Historic Preservation, *California Register and National Register: A Comparison,* Technical Assistance Series 6; Sacramento, CA: California Department of Parks and Recreation, 2001)

Mitigation 7-1 (continued):

(d) Retain and reuse the historic resource to the maximum feasible extent and continue to apply the Secretary of the Interior's Standards to the maximum feasible extent in all alterations, additions, and new construction.

(e) Through careful methods of planned deconstruction to avoid damage and loss, salvage character-defining features and materials for educational and interpretive use on-site, or for reuse in new construction on the site in a way that commemorates their original use and significance.

(f) Interpret the historical significance of the resource through a permanent exhibit or program in a publicly accessible location on the site or elsewhere within the Specific Plan Area.

Implementation of measures (b), (c), (d), (e), and/or (f) would reduce a significant impact on historic resources, but not to a less-than-significant level. Without knowing the characteristics of the potentially affected historic resource or of the future individual development proposal, the City cannot determine with certainty that measure (a) or (b) above would be considered feasible. Consequently, this impact is currently considered ***significant and unavoidable.***

Impact 7-2: Potential for Disturbance of Buried Archaeological Resources, Including Human Remains, and Tribal Cultural Resources. Development facilitated by the Patrick Henry Drive Specific Plan could disturb unrecorded sensitive archaeological resources or tribal cultural resources in the Plan Area. This possibility represents a ***potentially significant impact*** (see criteria [b], [c], and [d] in subsection 7.3.1, "Significance Criteria," above).

The City of Santa Clara notified the Native American tribes traditionally and culturally affiliated with the Patrick Henry Drive Specific Plan Area, including providing a copy of the EIR Notice of Preparation (NOP). The Native American tribes notified include the Amah Mutsun Tribal Band, Amah Mutsun Tribal Band of Mission San Juan Bautista, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, Ohlone Indian Tribe, North Valley Yokuts Tribe, and Indian Canyon Mutsun Band of Costanoan. No comments were received by the City during the NOP 30-day review period (December 2019 to January 2020), nor have any subsequent comments been received.

Though almost all of the Specific Plan Area is developed, with some areas of manicured vegetation, there is a possibility that as-yet unrecorded prehistoric cultural resources or tribal cultural resources could exist beneath the surface of the Plan Area. Contact with such resources during construction activities could result in a significant impact. The mitigation below would reduce the impact to a less-than-significant level.

Mitigation 7-2. During the City's standard project-specific review process for all future, discretionary, public improvement and private development projects in the Patrick Henry Drive Specific Plan Area, the City shall determine the possible presence of, and the potential for new or substantially more severe impacts of the action on, archaeological resources and tribal cultural resources. The City shall require individual project applicants or environmental consultants to contact the California Historical Resources Information System (CHRIS) to determine whether the particular project is located in a sensitive area. Future discretionary development projects that CHRIS determines may be located in a sensitive area - i.e., on or adjoining an identified archaeological site - shall proceed only after the project applicant contracts with an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards, to conduct a determination in regard to cultural values remaining on the site and warranted mitigation measures, as described directly below.

In general, to make an adequate determination in these instances, the archaeologist shall conduct a preliminary field inspection to (1) assess the amount and location of visible ground surface, (2) determine the nature and extent of previous impacts, and (3) assess the nature and extent of potential impacts. Such field inspection may demonstrate the need for some form of additional subsurface testing (e.g., excavation by auger, shovel, or backhoe unit) or, alternatively, the need for on-site monitoring of subsurface activities (i.e., during grading or trenching).

In addition, the City shall continue to notify the Native American tribes traditionally and culturally affiliated with the Specific Plan Area of the discretionary, public improvement and private development projects if those proposed improvements or projects are subject to a CEQA Negative Declaration (including Mitigated Negative Declaration) or Environmental Impact Report (EIR), in accordance with California Assembly Bill 52, and if a Native American tribe requests consultation, conduct a good faith consultation.

Following field inspection and completion of all necessary phases of study as determined by the archaeologist and the City, damage to any identified archaeological resources shall be avoided or mitigated to the maximum extent possible. Preservation in place to maintain the relationship between the artifact(s) and the archaeological context is the preferred manner of mitigating impacts on an archaeological site. Preservation may be accomplished by:

- Planning construction to avoid the archaeological or tribal cultural site;
- Incorporating the site within a park, green space, or other open space element;

(continued)

Mitigation 7-2 (continued):

- Covering the site with a layer of chemically stable soil; or
- Deeding the site into a permanent conservation easement.

When in-place mitigation is determined by the City to be infeasible, a *data recovery plan*, which makes provisions for adequate recovery of culturally or historically consequential information about the site (including artifacts discovered on the site), subject to review and approval by the City, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be submitted to the CHRIS Northwest Information Center. If Native American artifacts are indicated, the studies shall also be submitted to the Native American Heritage Commission (NAHC). CHRIS and NAHC are recognized as experts in their respective disciplines.

Identified cultural resources shall be recorded on form DPR 422 (archaeological sites). Mitigation measures recommended by these two groups (CHRIS and NAHC), as reviewed and approved by the City, shall be undertaken prior to and during construction activities. Although the precise details of the mitigation measures would be specific to the particular project site, the measures shall be consistent with the avoidance and mitigation strategies described above in this programmatic mitigation measure.

A *data recovery plan* and data recovery for a historic resource shall not be required if the City determines that testing or studies already completed have adequately recovered the necessary data, provided that the data have already been documented in an EIR or are available for review at the CHRIS Northwest Information Center (CEQA Guidelines section 15126.4[b]).

Resource identification training procedures shall be implemented for construction personnel, conducted by an archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards. In the event that subsurface cultural resources are otherwise encountered during approved ground-disturbing activities for a Plan Area construction activity, work within 50 feet shall be stopped and a qualified archaeologist retained to evaluate the finds following the procedures described above. Project personnel shall not collect cultural resources. Although work may continue beyond 50 feet, the archaeologist shall be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to archaeological resources.

(continued)

Mitigation 7-2 (continued):

If human remains are found, the rules set forth in State Health and Safety Code section 7050.5 and CEQA Guidelines section 15126.4(b) apply and shall be followed.

Implementation of this measure would reduce the impact to a ***less-than-significant level.***

8. GEOLOGY AND SOILS

This EIR chapter describes geology and soils implications of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific geology and soils impact concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan directly or indirectly cause potential substantial adverse effects as a result of geologic hazards (e.g., earthquakes, liquefaction, landslides, soil erosion, expansive soils), directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or have other impacts related to geology and soils questions listed in Appendix G of the CEQA Guidelines.[1]

The California Supreme Court decision (December 2015) in *California Building Industry Association v. Bay Area Air Quality Management District* concluded, "[W]e hold that CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate…is an analysis of how a project might exacerbate existing environmental hazards." The environmental impact analysis in this section (and throughout the EIR) takes into consideration this Court decision.

8.1 SETTING

8.1.1 Regional Geologic Setting

The approximately 73.59-acre Specific Plan Area is located in the City of Santa Clara, which is situated centrally in the northern region of the Santa Clara Valley in the larger San Francisco Bay Region. The Santa Clara Valley (Valley) is an alluvial basin in the Coast Ranges geomorphic province of California, and, more specifically, nestled between the Santa Cruz Mountains to the west and southwest, the Diablo Range to the east, and San Francisco Bay to the north. The Coast Ranges geomorphic province of California contains generally northwest-oriented mountain ranges and valley basins.[2] The surficial geologic makeup of the Valley includes young Quaternary period Holocene (under 11,700 years-old) alluvial sediments intermixed with Bay muds and underlain by Quaternary period Pleistocene (2.58 million to 11,700 years-old) and Pliocene (5.3 to 2.58 million years-old) alluvial deposits of the Santa Clara Formation that eroded from the Santa Cruz Mountains and Diablo Range. Neogene and Paleogene period (23 to 2.58 million years-old and 23 to 66 million years-old respectively) sedimentary rocks and Franciscan Complex (205 to 66 million years-old) sedimentary and metamorphic rocks underly the Quaternary sediments and compose the geomorphic base of the

[1]CEQA Guidelines, appendix G, item VII (a through f).

[2]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011.

Valley. Tectonic processes along the San Andreas Fault System have contributed to the deformation of the underlying rock formations in the Valley and the San Francisco Bay Region.[1]

8.1.2 Topography and Surface Soils

Santa Clara is generally flat, with elevations ranging from near MSL (mean sea level) in the northern part of the city to 175 feet above MSL near the city's southern boundary.[2] Like the rest of the city, the Plan Area is generally flat and has surface elevations ranging from about 15 to 22 feet above MSL. The Plan Area gently slopes downward from south to north.[3]

Soil types in the Specific Plan Area are primarily Urbanland-Hangerone complex soils, with some Urbanland-Embarcadero complex soils. Urbanland "soils" are defined as disturbed and human-transported material.[4] In the Plan Area, Urbanland includes impervious cover such as pavement, driveways, and buildings typical of urban development. The Urbanland-Hangerone complex unit consists mainly of impervious cover with underlying Hangerone series soils. The Hangerone series is composed of very deep, poorly drained alluvial soils derived from mixed rock sources; these soils have moderate clay content and form slopes ranging from zero (0) to two (2) percent. The Urbanland-Embarcadero complex is composed of impervious surface underlain by Embarcadero series soils that are also alluvial soils derived from mixed rock sources; these soils consist of very deep clay loam or silty clay loam that is naturally poorly drained and form slopes ranging from zero (0) to two (2) percent.[5] Soils with clay content may pose risk from expansion ("shrink-swell potential") because variations in moisture content result in volume changes—i.e., when expansive soil dries, it shrinks and when it becomes wet it swells. Shrinking and swelling of expansive soils can result in damage to building foundations and to pavement without proper design.[6]

No creeks pass through the Plan Area. The closest creek is Calabazas Creek, which flows south-north approximately 100 feet west of the Plan Area. San Tomas Aquino Creek is located approximately ½ mile east of the Plan Area and the Guadalupe River is located further east of the Plan Area approximately one mile away.

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[1]EDAW et al., Final Environmental Impact Statement / Report for the South Bay Salt Pond Restoration Project, Volume 1, December 2007; International Commission on Stratigraphy, International Chronostratigraphic Chart, January 2020.

[2]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011.

[3]TopoQuest Map Viewer, Milpitas, CA, Map MRC 37121D8, https://www.topoquest.com/map.php?lat=37.39148&lon=-121.98210&datum=nad83&zoom=4&map=auto&coord=d&mode=zoomin&size=xl&cross=on, accessed 2/24/20; Google Maps 2018.

[4]U.S. Department of Agriculture. Natural Resources Conservation Service, Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed 2/21/20.

[5]U.S. Department of Agriculture, Natural Resources Conservation Service, Supplement to the Soil Survey of Santa Cara Area, California, Western Part, 2015.

[6]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, pp. 191-192.

8.1.3 Seismicity

(a) Earthquake Risk. The Plan Area is not located in an Alquist-Priolo Special Study Zone, and no faults run through the Plan Area or the City of Santa Clara. According to the Association of Bay Area Governments (ABAG), several active faults pass through the borders of Santa Clara County, including the San Andreas, Hayward, Calaveras, Greenville, and Sargent faults.[1] These faults present potential hazards due to seismic shaking. According to ABAG, of the active faults in the San Francisco Bay Area, the Hayward fault is most likely to rupture in the next 30 years and would likely cause damage in Santa Clara County.[2]

The Hayward Fault is located approximately five miles east of Santa Clara and seven miles east of the Plan Area. The Calaveras fault is located approximately seven miles east of the city and approximately 11 miles east of the Plan Area. The San Andreas fault is located approximately seven miles west of city boundaries and approximately 12 miles west of the Plan Area.[3]

(b) Earthquake Hazards. Hazards that can result from an earthquake include surface rupture, ground shaking, landsliding, differential settlement, liquefaction, and lateral spreading.

(1) Surface rupture occurs along active fault traces, or where compressed and distorted soils break open to relieve earthquake-induced stress. When this occurs on a fault, everything built across the trace or line of the fracture is generally destroyed, but if it occurs in the course of stress relief, the damage is usually less catastrophic. As noted above, no active or potentially active fault traces have been identified in the Plan Area.

(2) Ground shaking is caused by the seismic waves that radiate out from an earthquake's epicenter. The severity of ground shaking at a particular location is primarily determined by distance from the epicenter of the earthquake and by the local soil profile. Loose or unconsolidated sedimentary deposits (such as alluvial soils) can transform the relatively high frequency (back and forth) motion of underlying bedrock into lower frequency but higher amplitude motion at the surface. The most commonly used intensity scale for measuring earthquakes is the Modified Mercalli Intensity (MMI) scale. The intensity of ground shaking at a site varies for any particular earthquake based on several factors, including the size (magnitude) of the earthquake (which is related to the length of the fault that ruptures); the distance from the site to the fault source for the earthquake; the directivity (focusing of earthquake energy along the fault axis rather than perpendicular to the fault); and the type of geologic material underlying the site, with stronger shaking occurring on softer soils.[4] Table 8-1 shows the Mercalli intensity and moment magnitude scales with a description of effects typically experienced during earthquakes.

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[1]ABAG Resilience Program, Alquist-Priolo Earthquake Fault Zones, http://resilience.abag.ca.gov/wp-content/documents/Map-Plates.pdf, accessed 2/24/20.

[2]ABAG Resilience Program, Santa Clara County Earthquake Hazard, http://resilience.abag.ca.gov/earthquakes/santaclara/, accessed 2/24/20.

[3]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011; USGS, Alquist-Priolo Faults, https://earthquake.usgs.gov/education/geologicmaps/apfaults.php, accessed 2/24/20.

[4]Association of Bay Area Governments, Earthquake and Hazards Program, The San Francisco Bay Area: On Shaky Ground--Documentation for 2003 Mapping Updated in 2010.

Table 8-1
MODIFIED MERCALLI INTENSITY SCALE AND MOMENT MAGNITUDE SCALE

Magnitude	Shaking	Description/Damage
I	Not Felt	Not felt.
II	Weak	Felt by people sitting or on upper floors of buildings.
III	Weak	Felt by almost all indoors. Hanging objects swing. Vibration like passing of light trucks. May not be recognized as an earthquake.
IV	Light	Vibration felt like passing of heavy trucks. Stopped cars rock. Hanging objects swing. Windows, dishes, doors rattle. Glasses clink. In the upper range of IV, wooden walls and frames creak.
V	Moderate	Felt outdoors. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing. Pictures move. Pendulum clocks stop.
VI	Strong	Felt by all. People walk unsteadily. Many frightened. Windows crack. Dishes, glassware, knickknacks, and books fall off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster, adobe buildings, and some poorly built masonry buildings cracked. Trees and bushes shake visibly.
VII	Very Strong	Difficult to stand or walk. Noticed by drivers of cars. Furniture broken. Damage to poorly built masonry buildings. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices, unbraced parapets and porches. Some cracks in better masonry buildings. Waves on ponds.
VIII	Severe	Steering of cars affected. Extensive damage to unreinforced masonry buildings, including partial collapse. Fall of some masonry walls. Twisting, falling of chimneys and monuments. Wood-frame houses moved on foundations if not bolted; loose partition walls thrown out. Tree branches broken.
IX	Violent	General panic. Damage to masonry buildings ranges from collapse to serious damage unless modern design. Wood-frame structures rack, and, if not bolted, shifted off foundations. Underground pipes broken.
X	Extreme	Poorly built structures destroyed with their foundations. Even some well-built wooden structures and bridges heavily damaged and needing replacement. Water thrown on banks of canals, rivers, lakes, etc.
SOURCE: ABAG Resilience Program, "Modified Mercalli Intensity (MMI) scale," http://resilience.abag.ca.gov/shaking/mmi/, accessed 3/30/20.		

(3) Landsliding entails sudden slope failure. Due to the generally flat topography of the Plan Area, landsliding does not pose a significant concern.

(4) Differential settlement normally occurs within unconsolidated soils subjected to unequal surface loading. Movement of the ground causes an additional compaction of the soil that is proportional to the soil's pre-existing density and to the magnitude of imposed loads. These conditions often result in unequal settlement, which can cause the failure of poorly stabilized cut-and-fill embankments and of foundations that are not properly engineered to span areas of discontinuous support.

(5) Liquefaction is a loss of foundation support that occurs in saturated granular soils, most notably loose, uniformly graded, fine-grained sand. Under liquefaction, these materials can experience a temporary loss of strength due to build-up of excess pore water pressure, especially during cyclic loadings such as those induced by earthquakes. When this occurs, significant total and differential settlement of structures built on the surface can result. The California Geological Survey's (CGS's) California Earthquake Hazards Zone Application (EQ Zapp) shows the Plan Area within a Liquefaction Zone. According to the Seismic Hazards Mapping Act, projects in a State Geologist-mapped seismic hazard zone (including a Liquefaction Zone) require completion of a geotechnical report(s).[1] ABAG's 2011 update of its Liquefaction Hazard Maps (based on U.S. Geological Survey [USGS] and CGS liquefaction susceptibility mapping) indicates that the liquefaction susceptibility for the Plan Area is moderate.[2] Table 8-2 shows liquefaction hazards based on Modified Mercalli Intensity and liquefaction susceptibility.

(6) Lateral spreading occurs when local ground shaking causes generally flat-lying alluvial deposits to be displaced horizontally toward an open cut or excavation (such as along the side of a drainage channel). As mentioned in subsection 8.1.2 above, one creek, Calabazas Creek, flows approximately 100 feet to the west of and parallel to the Plan Area as a stabilized earthen channel. Calabazas Creek originates in the Santa Cruz Mountains and empties into the South San Francisco Bay via Guadalupe Slough.

(7) Subsidence is the motion of the ground as it shifts downward, mainly from the removal of subsurface water.

8.1.4 Paleontological Resources

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Paleontological resources are often encountered as small outcroppings protruding from the ground surface or during grading activities when soils are disturbed. The strongest indicator of the type of paleontological resource most likely to be encountered in an area are the underlying geologic formations, as different types of geologic strata (sedimentary rock layers) are better able to preserve paleontological resources over

[1]California Geological Survey, Earthquake Zones of Required Investigation, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed 2/21/20.

[2]ABAG Earthquake and Hazards Program, "Supplementary Information Used for the 2011 Update of ABAG's Liquefaction Hazard Maps," September 2010.

Table 8-2
ESTIMATE OF LIQUEFACTION HAZARD BASED ON COMBINATIONS OF MODIFIED MERCALLI INTENSITY AND LIQUEFACTION SUSCEPTIBILITY

MMI Value	Description of Shaking Severity	Liquefaction Susceptibility Category				
		Very Low	Low	Moderate	High	Very High
V	Light	--	--	--	--	--
VI	Moderate	--	--	--	--	--
VII	Strong	--	--	Moderately Low	Moderately Low	Moderate
VIII	Very Strong	--	--	Moderate	Moderate	High
IX	Violent	--	--	High	High	High
X	Very Violent	--	--	High	High	High

SOURCE: ABAG Earthquake and Hazards Program, "Supplementary Information Used for the 2011 Update of ABAG's Liquefaction Hazard Maps," September 2010.

others.[1] As discussed above in subsection 8.1.1, Santa Clara's surficial geologic units include Holocene alluvial and Bay mud deposits, Pleistocene alluvial deposits, with the underlying Santa Clara Formation. The Holocene unit is typically not considered paleontologically sensitive because remains found in this unit usually would not be older than about 10,000 years and, as a result, would be too young to be fossilized. However, Holocene deposits may contain remains that are lifted from older deposits by the movement of the geologic units.

Although an on-line archival search of the University of California Museum of Paleontology (UCMP) in Berkeley, California, conducted on February 24, 2020 indicated no records of recorded fossil sites within the Plan Area,[2] Holocene deposits underlying the city may still potentially contain paleontological resources, and the Pleistocene alluvial deposits and the Santa Clara Formation have high paleontological sensitivity.[3]

8.2 REGULATORY SETTING

8.2.1 Federal

Federal Disaster Mitigation Act of 2000. The Disaster Mitigation Act of 2000 authorizes the Federal Emergency Management Agency (FEMA) to set mitigation planning requirements for state, local, and Indian Tribal governments as a condition of mitigation grant and disaster

[1]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011.

[2]UCMP Specimen Search, University of California Museum of Paleontology, https://ucmpdb.berkeley.edu/cgi/ucmp_query2, accessed 2/24/20.

[3]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan.

assistance, and requires close coordination of mitigation planning and implementation efforts between FEMA and jurisdictions.

Code of Federal Regulations (CFR) Title 43 CFR 8365.1-5. This regulation addresses the collection of invertebrate fossils and fossil plants, including the willful disturbance, removal, and destruction of scientific resources or natural objects.

8.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the potential hazard of surface faults to structures for human occupancy. The main purpose of the Act is to prevent the construction of human-occupied buildings over active faults. The Act only addresses the hazard of fault rupture and is not directed toward other earthquake hazards.

The Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue maps to all affected cities, counties, and State agencies for their use in planning and controlling development. Local agencies must regulate most development projects within the zones, and generally there can be no construction for human occupancy within 50 feet of an active fault zone.

Seismic Hazards Mapping Act. The Seismic Hazards Mapping Act, which was passed by the California legislature in 1990, addresses earthquake hazards related to liquefaction and seismically induced landslides. Under this Act, seismic hazard zones are mapped by the State Geologist in order to assist local governments in land use planning. Section 2697(a) of the Act states that “cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard.” Two exceptions to this are allowed related to certain single-family residential dwellings, and alterations or additions to any structure within a seismic hazard zone that do not exceed 50 percent of the structure’s value or 50 percent of the floor area of the existing structure (Section 2693).

California Building Standards Code. The California Building Standards Code (CBSC) is contained in the California Code of Regulations (CCR), Title 24, and includes requirements for residential construction (California Residential Code) and non-residential construction (California Building Code), plumbing and electrical standards (California Plumbing Code and California Electrical Code, respectively), and related regulations. The purpose of the CBSC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability, by controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of building and structures. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. The 2019 California Building Code is based on the 2018 International Building Code (IBC) published by the International Code Council.

California Public Resources Code Section 5097. Public Resources Code Section 5097 prohibits willfully damaging any historical, archaeological, or vertebrate paleontological site or feature on public lands.

8.2.3 Regional/Local

Association of Bay Area Governments (ABAG) Multi-Jurisdictional Local Hazard Mitigation Plan. The ABAG Multi-Jurisdictional Local Hazard Mitigation Plan ("Taming Natural Disasters") involves local agencies throughout its nine-county Bay Area jurisdiction, with an overall strategy to maintain and enhance disaster response of the region. The plan focuses on mitigation *before* rather than after disasters by: (1) identifying natural hazards faced by the community and region (e.g., earthquakes, flooding, severe weather), (2) assessing the community's and region's vulnerability to these hazards, and (3) identifying specific preventive actions that can be taken to reduce the risk from the hazards. The plan, which has been approved by FEMA and adopted by ABAG, fulfills the requirements of the Federal Disaster Mitigation Act of 2000. The City of Santa Clara adopted the Santa Clara County Annex to 2010 ABAG Local Hazard Mitigation Plan (December 2011), which was incorporated into the ABAG Plan and also approved by FEMA. Adoption of the Annex allows the City of Santa Clara to become eligible for State and federal disaster assistance. (The City's Local Hazard Mitigation Plan, Annex L of the Santa Clara County Operational Area Hazard Mitigation Plan, is discussed below.)

Santa Clara General Plan. The General Plan addresses hazards due to earthquake activity (including emergency response) and related geologic conditions and provides for protection of paleontological resources. Applicable General Plan policies include:

- Policy 5.6.3-P1: Require that new development avoid or reduce potential impacts to archaeological, paleontological and cultural resources.

- Policy 5.6.3-P2: Encourage salvage and preservation of scientifically valuable paleontological or archaeological materials.

- Policy 5.6.3-P4: Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and in the Old Quad neighborhood.

- Policy 5.6.3-P5: In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist.

- Policy 5.10.5-P5: Regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards, including flooding, seismic, erosion, liquefaction and subsidence dangers.

- Policy 5.10.5-P6: Require that new development is designed to meet current safety standards and implement appropriate building codes to reduce risks associated with geologic conditions.

- Policy 5.10.5-P7: Implement all recommendations and design solutions identified in project soils reports to reduce potential adverse affects associated with unstable soils or seismic hazards.

- Policy 5.10.5-P8: Encourage property owners to retrofit potentially hazardous structures, such as unreinforced masonry buildings, and to abate or remove structural hazards.

Santa Clara City Code. As stated in City Code chapter 15.15 (Building Code), the City has adopted the California Building Code with local amendments, to address design and construction in seismically active areas as well as site soil conditions, including expansive soils conditions or other soil problems which, if not corrected, could lead to structural defects (e.g., soil corrosivity), are considered in the planning process. Compliance with the Building Code is enforced by the City's Building Inspection Division.

City of Santa Clara Emergency Operations Plan. In 2017, the City of Santa Clara, in partnership with Santa Clara County, the County Fire Department, and all incorporated cities in the County, prepared a multi-jurisdictional hazard mitigation plan tailored to the Santa Clara County Operational Area (the Santa Clara County Operational Area Hazard Mitigation Plan). The Plan includes the City's Local Hazard Mitigation Plan (Annex L), which establishes mitigation actions and strategies specific to the City of Santa Clara. The Local Hazard Mitigation Plan includes actions related to property protection, public education and awareness, natural resource protection, emergency services, climate resilience, and other areas of concern that are or would be implemented before, during, or after a natural or man-made disaster to reduce the significance of impacts from earthquake, severe weather events, drought, landslide, and other emergency situations and/or disasters. In addition, the City maintains an Emergency Operations Center (EOC) to provide "response-ready" support (including serving as the coordination hub for emergency management activities) during large-scale emergencies or planned events. The EOC is staffed by all City departments.

8.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to geology (including seismicity) and soils that could result from the Patrick Henry Drive Specific Plan, and discusses components of the Plan that would avoid or reduce those potential impacts. The section also recommends mitigation as needed to reduce potentially significant impacts to less-than-significant levels.

8.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to geology and soils if it would:

(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

> (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42);
>
> (ii) Strong seismic ground shaking;
>
> (iii) Seismic-related ground failure, including liquefaction; or

[1]CEQA Guidelines, appendix G, item VII (a through f).

(iv) Landslides;

(b) Result in substantial soil erosion or the loss of topsoil;

(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse;

(d) Be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;

(e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater;

(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Regarding criterion (a)(i), there are no known active faults in the Specific Plan Area (see 8.1.3 Seismicity, above). No impact from fault rupture would result, and this issue is not discussed further.

Regarding criterion (a)(iv), the Plan Area and vicinity are relatively flat. Due to the absence of appreciable slopes in the vicinity, slope stability hazards are considered less-than-significant. No significant impact would result, and no mitigation is required. This issue is not discussed further.

Regarding criterion (e), the Plan Area is served by a comprehensive, integrated wastewater collection, treatment, and disposal system. Neither septic tank systems nor alternative wastewater disposal systems are proposed as part of Specific Plan implementation. No impact would result, and this issue is not discussed further.

8.3.2 Relevant Patrick Henry Drive Specific Plan Components

Section 8.2 (Regulatory Setting), above, applies to Specific Plan implementation. Because adopted regulations and requirements are already in place, the Specific Plan does not include components that directly address CEQA-defined geology and soil impacts.

8.3.3 Impacts and Mitigations

Impact 8-1: Effects of Strong Seismic Ground Shaking. The Specific Plan Area could experience strong seismic ground shaking and related effects in the event of an earthquake on the regional fault system. The Specific Plan would not exacerbate the existing risk of strong seismic ground shaking. Mandated project compliance with the stringent seismic design provisions of the latest California Building Standards Code (CBSC), as adopted by the City, would reduce the risk of property loss or hazards to occupants and adjacent property to a ***less-than-significant level*** (see criterion [a][ii] in subsection 8.3.1, “Significance Criteria,” above).

Mitigation 8-1. No significant impact has been identified; no mitigation is required.

Impact 8-2: Potential Soil Erosion and Loss of Topsoil. Grading and construction activities may result in minor erosion or the minor loss of some topsoil. City-required standard grading- and construction-period erosion control techniques (e.g., for reducing surface water runoff over exposed soil, which could include a combination of techniques such as minimizing active construction areas during the rainy season, preservation of existing vegetation, soil stabilization methods—soil binders, straw mulch, etc.—as well as project landscaping after construction), consistent with Best Management Practices (BMPs) in the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook, would mitigate this potential impact to a ***less-than-significant level*** (see criterion [b] in subsection 8.3.1, "Significance Criteria," above).

Mitigation 8-2. No significant impact has been identified; no additional mitigation is required. See chapter 5 (Air Quality) and chapter 11 (Hydrology and Water Quality) of this EIR for more detail.

Impact 8-3: Potential Ground Instability Impacts. The potential for ground instability can depend on specific, highly localized underlying soil conditions. Determination of differential settlement, liquefaction, lateral spreading, and subsidence potential in the Specific Plan Area would require site-specific geotechnical studies for future individual development proposals. Possible ground instability conditions, if not properly engineered for, could result in associated significant damage to project buildings, other improvements, and adjacent property, with direct or indirect risks to life or property, representing a ***potentially significant impact*** (see criteria [a][iii], [c], and [d] in subsection 8.3.1, "Significance Criteria," above).

Although an earthquake would affect an area larger than the Plan Area, any potential for earthquake-induced differential settlement, liquefaction, lateral spreading, and subsidence, and associated damage to proposed buildings or other improvements would be localized (i.e., generally restricted to the area where the building foundation or other improvement has been constructed) and can be mitigated to a less-than-significant level through implementation of City-required geotechnical investigations and associated engineering design standards, specifications, and measures. Geotechnical mitigation requirements identified here include completion of detailed studies to address specific concerns as future site-specific project designs are refined. There is substantial, reasonable, historical information to support the conclusion that the specific subsequent geotechnical/geologic investigations, inspections, and specific formulations required to meet City-adopted standards would adequately mitigate related impacts to less-than-significant levels. Information pertaining to soil testing, soil treatments, building foundations, structural strengthening, subsurface design, construction methods, etc., has been developed and refined by the California Building Standards Commission (through the California Building Code) and the California Geological Survey (especially Special Publication 117A, "Guidelines for Evaluating and Mitigating Seismic Hazards in California 2008"), and research continues at universities and colleges, as well as professional organizations such as the Association of Environmental & Engineering Geologists. The City of Santa Clara requires such geotechnical/geologic investigations and specifications as part of its development review under its building code. Individual measures

are typically, and most efficiently, specified at a later, more detailed level of design when foundation locations and building architecture is known.

Under the City's grading permit and building permit provisions, requirements, and regulations, an individual development project cannot be given final approval without project compliance with geotechnical/geologic requirements. These requirements and related City inspection and verification procedures prior to project operation provide reasonable, professional assurances that projects would incorporate the design and engineering refinements necessary to reduce the degree of impacts to less-than-significant levels by either avoiding identified soil and geologic impact areas altogether (i.e., basic project design changes), or by rectifying the impact through conventional engineering and construction procedures (e.g., suitable foundation design and construction) prior to issuance of permits.

Mitigation 8-3. Subject to City review and approval, complete and implement the geotechnical mitigation recommendations identified in the required individual project- and site-specific geotechnical investigations and engineering studies for site-specific proposals, in coordination with City grading permit and building permit performance standards. Such recommendations shall address design- and construction-level details regarding engineering issues and solutions such as the type of building foundation, the extent of subsurface excavation, the details of retaining structures, and any need for subsurface water extraction. Incorporation of this mitigation requirement would reduce this impact to a ***less-than-significant level*.**

Impact 8-4: Potential for Disturbance of Paleontological Resources. Development facilitated by the Patrick Henry Drive Specific Plan could disturb unrecorded paleontological resources in the Plan Area. This possibility represents a ***potentially significant impact*** (see criterion [f] in subsection 8.3.1, “Significance Criteria,” above).

As discussed above in the Setting section, 8.1, Santa Clara’s surficial geologic units include alluvial and Bay mud deposits, and Pleistocene alluvial deposits, with the underlying Santa Clara Formation that may potentially contain paleontological resources; in addition, Pleistocene alluvial deposits and the Santa Clara Formation have high paleontological sensitivity. Although an on-line archival search indicated no records of recorded fossil sites within the Plan Area, it is possible that paleontological resources could be discovered during ground-disturbing activities. Contact with such fossil resources during ground-disturbing activities could result in significant impacts. The mitigation below would reduce the impact to a less-than-significant level.

Mitigation 8-4. For all public improvement and private development projects in the Patrick Henry Drive Specific Plan Area, the following measures shall be implemented:

(1) Education Program. Project applicants shall implement a program that includes the following elements:

- Resource identification training procedures for construction personnel, conducted by a paleontologist who meets the Secretary of the Interior's Professional Qualifications Standards;

- Spot-checks and monitoring by a qualified paleontologist of all excavations deeper than seven feet below ground surface; and

- Procedures for reporting discoveries and their geologic context.

(2) Procedures for Resources Encountered. If subsurface paleontological resources are encountered, excavation shall halt within a buffer area of at least 50 feet around the find, where construction activities will not be allowed to continue until the project paleontologist evaluates the resource and its stratigraphic context. Work shall be allowed to continue outside the buffer area; however, the paleontologist shall be empowered to temporarily halt or redirect construction activities to ensure avoidance of adverse impacts to paleontological resources. During monitoring, if potentially significant paleontological resources are found, "standard" samples shall be collected and processed by a qualified paleontologist to recover micro vertebrate fossils. If significant fossils are found and collected, they shall be prepared to a reasonable point of identification. Excess sediment or matrix shall be removed from the specimens to reduce the bulk and cost of storage.

Itemized catalogs of material collected and identified shall be provided to a local museum repository with the specimens. Significant fossils collected during this work, along with the itemized inventory of these specimens, shall be deposited in a local museum repository for permanent curatorship and storage. A report documenting the results of the monitoring and salvage activities, and the significance of the fossils, if any, shall be prepared. The report and inventory, when submitted to the City, shall signify the completion of the program to mitigate impacts on paleontological resources.

Implementation of this measure would reduce the impact to a ***less-than-significant level.***

9. GREENHOUSE GAS EMISSIONS AND ENERGY

This chapter describes the impacts of the proposed Patrick Henry Drive Specific Plan with respect to greenhouse gas (GHG) emissions and energy. The chapter was prepared using methodologies and assumptions recommended by the Bay Area Air Quality Management District (BAAQMD), the regional air quality regulatory agency (BAAQMD 2017a). In keeping with these guidelines, the chapter describes existing sources and quantities of GHG emissions, potential short-term construction-related GHG emissions and energy consumption, potential direct and indirect operational emissions and energy consumption associated with the implementing the Specific Plan, and mitigation measures needed to reduce any identified significant impacts.

9.1 SETTING

9.1.1 Climate Change

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e., changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affect the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just average increase in temperatures near the Earth's surface. Elements that indicate that climate change is occurring on Earth include:

- Rising of global surface temperatures by 1.3° Fahrenheit (°F) over the last 100 years
- Changes in precipitation patterns
- Melting ice in the Arctic
- Melting glaciers throughout the world
- Rising ocean temperatures
- Acidification of oceans
- Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet, and without it, life as we know it on Earth would not exist. Human activities since the beginning of the industrial revolution (approximately 150 years) have been adding to the natural greenhouse effect by increasing the gases in the atmosphere that "trap" energy, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

9.1.2 Greenhouse Gases

Gases that "trap" heat in the atmosphere and affect regulation of the Earth's temperature are known as "greenhouse gases". Many chemical compounds in the Earth's atmosphere exhibit the GHG property. GHG allow sunlight to enter the atmosphere freely. When the sunlight strikes the Earth's surface, it is either absorbed or reflected back toward space. Earth, or materials near the Earth's surface, that have absorbed energy from sunlight warm up during the daytime and emit infrared radiation back toward space during both the daytime and nighttime hours. GHG absorb this long-wave, infrared radiation and help keep the energy in the Earth's atmosphere.

GHG that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide, or CO_2), and off-gassing from low-oxygen environments such as swamps or exposed permafrost (methane or CH_4). However, GHG emissions from human activities such as fuel combustion (e.g., CO_2) and refrigerants use (e.g., hydrofluorocarbons, or HFCs) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880), and atmospheric CO_2 concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800s to approximately 411 ppm in September 2020 (NOAA 2020). The effects of increased GHG concentrations in the atmosphere include increasing shifts in temperature and precipitation patterns and amounts, reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHG—CO_2, CH_4, nitrous oxide (N_2O), and sulfur hexafluoride (SF_6)—and two groups of gases—HFCs and perfluorocarbons (PFCs). These GHG are the primary GHG emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the Earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. Black carbon consists of particles emitted during combustion; although a particle and not a gas, black carbon also acts to trap heat in the Earth's atmosphere. The most common GHG are described below.

- **Carbon Dioxide (CO_2)** is emitted and removed from the atmosphere naturally. Animal and plant respiration involves the release of CO_2 from animals and its absorption by plants in a continuous cycle. The ocean-atmosphere exchange results in the absorption and release of CO_2 at the sea surface. CO_2 is also released from plants during wildfires. Volcanic eruptions release a small amount of CO_2 from the Earth's crust. Human activities that affect CO_2 in the atmosphere include burning of fossil fuels, industrial processes, and product uses. Combustion of fossil fuels used for electricity generation and transportation are the largest source of CO_2 emissions in the United States. When fossil fuels are burned, the carbon stored in them is released into the atmosphere entirely as CO_2. Emissions from industrial activities also emit CO_2 such as cement, metal, and chemical production and use of petroleum produced in plastics, solvents, and lubricants.

- **Methane (CH_4)** is emitted from human activities and natural sources. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, soils, and

wildfires. Human activities that cause CH_4 releases include fossil fuel production, animal digestive processes from farms, manure management, and waste management. It is estimated that 50% of global CH_4 emissions are human generated. Releases from animal digestive processes at agricultural operations are the primary source of human-related CH_4 emissions. CH_4 is produced from landfills as solid waste decomposes. CH_4 is a primary component of natural gas and is emitted during its production, processing, storage, transmission, distribution, and use. Decomposition of organic material in manure stocks or in liquid manure management systems also releases CH_4. Wetlands are the primary natural producers of CH_4 because the habitat is conducive to bacteria that produce CH_4 during decomposition of organic material.

- **Nitrous Oxide (N_2O)** is emitted from human sources such as agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuels, and production of certain acids. N_2O is produced naturally in soil and water, especially in wet, tropical forests. The primary human-related source of N_2O is agricultural soil management due to use of synthetic nitrogen fertilizers and other techniques to boost nitrogen in soils. Combustion of fossil fuels (mobile and stationary) is the second leading source of N_2O, although parts of the world where catalytic converters are used (such as California) have significantly lower levels than those areas that do not.

- **Sulfur Hexafluoride (SF_6)** is commonly used as an electrical insulator in high-voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.

- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)** are entirely human made and are mainly generated through various industrial processes. These types of gases are used in aluminum production, semiconductor manufacturing, and magnesium production and processing. HFCs and PFCs are also used as substitutes for ozone-depleting gases like chlorofluorocarbons (CFCs) and halons.

In 1997, the United States (U.S.) was a signatory to the Kyoto Protocol; however, the treaty was not sent to Congress for ratification. Thus, while a signatory to the Kyoto Protocol, the U.S. is not an official party to this international agreement and is not subject to any emission reductions goals established pursuant to the Kyoto Protocol. Although the U.S. is not a party to this agreement, the GHG targeted for reduction by the Kyoto Protocol are also targeted under federal and State GHG reporting and emissions reduction programs.

GHG can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their GWP determines their CO_2 equivalent (CO_2e), which enables a project's combined GWP to be expressed in terms of mass CO_2 emissions. The GWP and estimated atmospheric lifetimes of the common GHG are shown in Table 9-1.

Table 9-1
GLOBAL WARMING POTENTIAL (GWP) OF COMMON GHG (100-YEAR HORIZON)

GHG	**GWP(A)**	**GHG**	**GWP(A)**
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	25	CF_4	6,500
Nitrous Oxide (N_2O)	298	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	14,800	C_6F_{14}	7,400
HFC-134a	1,430	Sulfur Hexafluoride (SF_6)	22,800
HFC-152a	140		
HCFC-22	1,700		

Source: CARB 2014
(A) GWPs are based on the United Nations Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report.

9.1.3 Climate Change and California

The 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevada Mountain Range.
- Some reduction in precipitation is likely by the middle of the century.
- Sea levels will rise up to an estimated 55 inches.
- Extreme events such as heat waves, wildfires, droughts, and floods will increase.
- Ecological shifts of habitat and animals are already occurring and will continue to occur (CNRA 2009).

It should be noted that changes are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies occur between the projections and the interpretation. The potential impacts of global climate change in California are detailed below.

In January 2018, the CNRA adopted *Safeguarding California Plan: 2018 Update*, which builds on nearly a decade of adaptation strategies to communicate current and needed actions State government should take to build climate change resiliency. It identifies hundreds of ongoing actions and next steps that State agencies are taking to safeguard Californians from climate impacts within a framework of 81 policy principles and recommendations. The 2018 update also has two new chapters and incorporates a feature showcasing the many linkages among policy areas. A new “Climate Justice” chapter highlights how equity is woven throughout the entire plan (CNRA 2018).

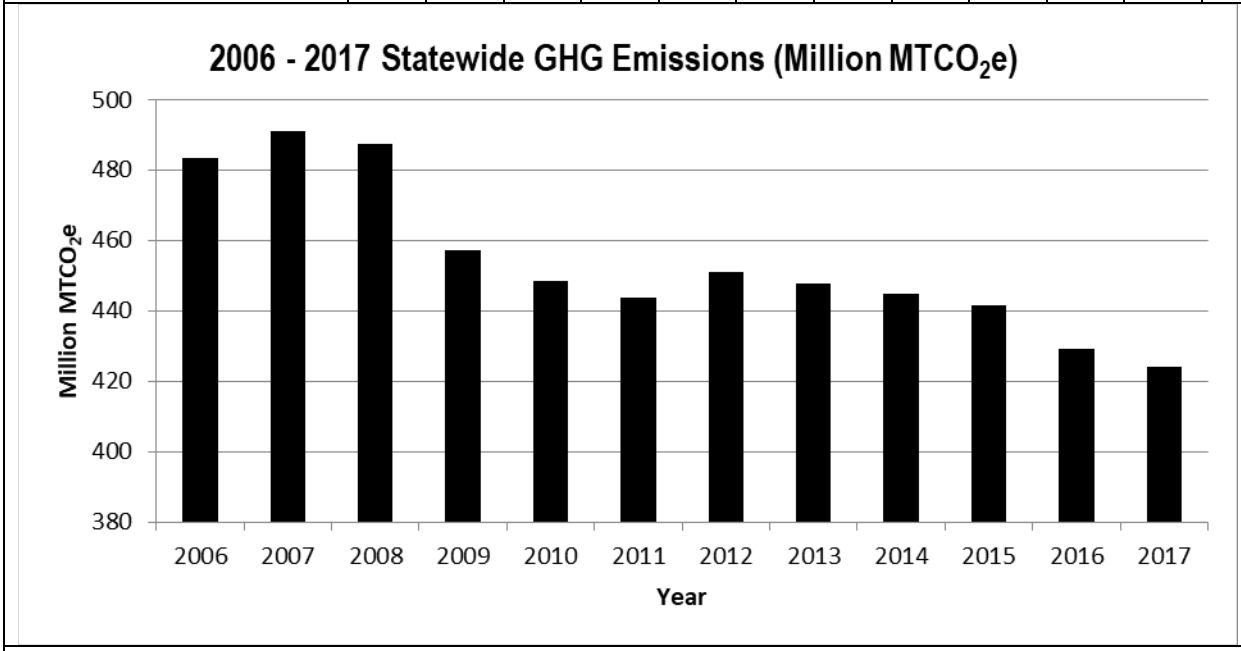
9.1.4 Statewide GHG Emissions

The California Air Resources Board (CARB) prepares an annual statewide GHG emission inventory using regional, State, and federal data sources, including facility-specific emissions reports prepared pursuant to the State’s Mandatory GHG Reporting Program. The statewide GHG emission inventory helps CARB track progress towards meeting the State’s Assembly Bill

(AB) 32 GHG emissions target of 431 million metric tons of CO_2 equivalents ($MTCO_2e$), as well as establish and understand trends in GHG emissions[1]. Statewide GHG emissions for the 2006 to 2017 time period are shown in Table 9-2.

Table 9-2
2006-2017 STATEWIDE GHG EMISSIONS (IN MILLION $MTCO_2E$)

Scoping Plan Sector	Year											
	'06	**'07**	**'08**	**'09**	**'10**	**'11**	**'12**	**'13**	**'14**	**'15**	**'16**	**'17**
Agriculture	35	36	36	33	34	35	36	35	36	34	34	32
Commercial/Residential	43	43	44	44	45	46	43	44	37	38	39	41
Electric Power	105	114	120	101	90	88	95	90	88	84	69	62
High GWP	10	11	12	12	14	15	16	17	18	19	20	20
Industrial	93	90	91	88	91	91	91	94	94	92	90	89
Recycling and Waste	8	8	8	8	8	8	8	9	9	9	9	9
Transportation	189	189	178	170	165	162	161	161	162	166	169	170
Total Million $MTCO_2e$[(A)]	***483***	***490***	***487***	***457***	***448***	***444***	***450***	***448***	***444***	***441***	***429***	***424***



Source: CARB 2019a
(A)Totals may not equal due to rounding. CARB inventory uses GWPs based on the United Nations' IPCC's 4th Assessment Report.

As shown in Table 9-2, statewide GHG emissions have generally decreased over the last decade, with 2017 levels (424 million $MTCO_2e$) approximately 12% less than 2006 levels (483 million $MTCO_2e$) and below the State's 2020 reduction target of 431 million $MTCO_2e$. The transportation sector (170 million $MTCO_2e$) accounted for more than one-third (approximately 40.1%) of the state's total GHG emissions inventory (424 million $MTCO_2e$) in 2017.

[1]CARB approved use of 431 million $MTCO_2e$ as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 million $MTCO_2e$.

9.1.5 Regional and Local GHG Emissions

9.1.5.1 San Francisco Bay Area

The BAAQMD conducts periodic inventories of GHG emissions within the San Francisco Bay Area Air Basin. Data for the most recent inventory (Year 2011) indicates the Bay Area emitted a total of 86.6 million $MTCO_2e$, or approximately 20 percent of the total statewide GHG emissions in Year 2011 (BAAQMD 2015).[1] Similar to the state inventory, the combustion of fossil fuels in mobile sources such as cars, trucks, locomotives, ships, and boats contribute the most (34.3 million $MTCO_2e$) toward regional GHG levels (approximately 40 percent of regional GHG emissions).

A summary of the 2011 regional GHG emissions inventory, by sector and county, is shown in Table 9-3. Santa Clara County, in which the City of Santa Clara is located, emitted approximately 16 million $MTCO_2e$, or about 18 percent of total regional emissions.

Table 9-3
2011 BAY AREA GHG EMISSIONS, BY SECTOR AND COUNTY (IN MILLION $MTCO_2E$)

Sector	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano(A)	Sonoma(A)	Total SF Bay Area
Industrial/ Commercial	2.7	17.8	0.4	0.2	1.2	1.4	4.1	2.7	0.5	31.0
Residential Fuel	1.3	1.0	0.3	0.1	0.9	0.8	1.5	0.3	0.4	6.6
Electricity/ Co-Generation	0.9	7.2	0.1	0.1	0.5	0.4	2.2	0.4	0.2	12.0
Off-Road Equipment	0.2	0.2	0.0	0.0	0.2	0.1	0.4	0.0	0.1	1.2
Transportation	7.9	5.0	1.3	0.9	3.0	5.0	7.6	1.6	2.0	34.3
Agriculture/ Farming	0.1	0.2	0.2	0.1	0.0	0.0	0.2	0.1	0.2	1.1
TOTAL (All Sectors)(B)	13.2	31.4	2.4	1.5	5.7	7.7	16.0	5.1	3.5	86.5

Source: BAAQMD 2015
(A) Portions within the BAAQMD.
(B) Totals may not equal due to rounding.

[1]The BAAQMD GHG inventory is based on the United Nation (U.N.) Intergovernmental Panel on Climate Change's (IPCC) 2nd Assessment Report, which uses different GWP values to compute carbon dioxide equivalents. The GWP values in the 2nd Assessment Report are generally lower than the values in the U.N. IPCC 4th Assessment Report, which the CARB statewide inventory uses. For example, the GWP of methane was reported as 21 in the 2nd Assessment Report and is reported as 25 in the 4th Assessment Report.

The 2011 Regional GHG Emissions Inventory also includes a list of the "Top 200" major GHG emitting point source facilities in the region. The City of Santa Clara has four of the top 200 major GHG emitting points sources in the region, including Donald Von Raesfeld Power Plant, Graphic Packaging International, Inc., City of Santa Clara Power Plant (560 Robert Avenue), and Owens Corning Insulating Systems LLC.

9.1.5.2 Existing Plan Area GHG Emissions

The existing land uses within the Plan Area contribute to existing City, Regional, and Statewide GHG emissions. The Plan Area's existing GHG emissions, presented below in Table 9-1, were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. GHG emissions generated within the Plan Area primarily come from the area, energy, and mobile sources described in Section 5.1.1, Air Quality, as well as the following additional sources specific to GHG emissions:

- **Energy Use and Consumption:** Emissions generated from purchased electricity and natural gas. As estimated by CalEEMod and supplemental data provided by a property owner in the Plan Area, the existing land uses in the Plan Area use and consume approximately 129,684,946 kilowatt hours (kWh) of electricity per year and 22,182,092 kilo-British Thermal Units (kBtus) of natural gas per year.

- **Solid Waste Disposal:** Emissions generated from the transport and disposal of waste generated by land uses. CalEEMod estimates approximately 1,064.8 tons of solid waste are generated per year by the people working within the Plan Area.

- **Water/Wastewater:** Emissions from electricity used to supply water to land uses, and treat the resulting wastewater generated. As provided in the Water Supply Assessment prepared for the proposed Specific Plan, existing land uses within the Plan Area use approximately 25.9 million gallons of water per year (City of Santa Clara 2020a).

The Plan Area's existing GHG emissions were estimated using default emissions assumptions provided by CalEEMod, with the Project-specific modifications described in Section 5.1.5 and below:

- **Mobile Sources.** CalEEMod does not estimate N_2O emissions from on-road vehicle travel or off-road construction sources. To account for this, CalEEMod emissions estimates were adjusted as follows:

    - N_2O emissions were estimated for the Plan by comparing the ratio of CO_2 and N_2O emissions from the on-road vehicle sector contained in the State's most recent GHG inventory (CARB 2019a). In 2017, statewide CO_2 and N_2O emissions estimates for the on-road transportation sector were 152.4 and 0.011 million metric tons, respectively (N_2O emissions are therefore equal to 0.007% of CO_2 emissions for this sector).

- **Energy Use and Consumption:** In addition to natural gas usage, the existing land uses in the Plan Area would generate indirect GHG emissions from electricity use. Silicon Valley Power (SVP) provides electricity service in the City of Santa Clara. CalEEMod does not contain GHG intensity values for this electric service provider. As such, the default GHG default assumptions regarding energy use were adjusted as follows:

- The GHG intensity value utilized in the 2019 modeling is based on SVP's forecasted carbon emission factor for 2018, as stated in the City's *Climate Action Plan 2018 Annual Report*; 380 pounds/megawatt-hour (lbs/MWh) (City of Santa Clara 2018). The GHG intensity value utilized in the 2040 modeling is based on an estimated SVP carbon emission factor that reflects SVP's compliance with Senate Bill (SB) 100, which requires 60% of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2030.

- Electricity generation emission factors for CH_4 (0.033 lbs/MWh) and N_2O (0.004 lbs/MWh) were obtained from the U.S. EPA's EGRID database for year 2016, the last year for which data was available at the time this EIR was prepared (U.S. EPA 2016).

The emissions generated by current land uses in the Plan Area are shown in Table 9-4. The emissions are shown for two scenarios:

- **Year 2019 (Current Conditions)**, which are based on Year 2019 vehicle fleet characteristics (e.g., vehicle type, age, emission rates), and represent the emissions levels that existed at the time the Notice of Preparation was released for this EIR.

- **Year 2040 (Future Conditions)**, which are based on Year 2040 vehicle characteristics and represent the projected emissions that the existing land uses would generate in the future (assuming no change in land uses). This scenario provides an estimate of how emissions would change in the Plan Area as a result of regulations that would reduce motor vehicle and energy emissions in the future (i.e., how emissions in the Plan Area could look, absent implementation of the Specific Plan).

9.1.6 Energy

Energy is primarily categorized into three areas: electricity, natural gas, and fuels used for transportation. According to the U.S. Energy Information Administration (U.S. EIA), California is the most populous state in the U.S., representing 12 percent of the total national population, has the largest economy, and is second only to Texas in total energy consumption. However, California has one of the lowest per capita energy consumption levels in the U.S. This is a result of California's mild climate, extensive efforts to increase energy efficiency, and implementation of alternative technologies. California leads the nation in electricity generation from solar, geothermal, and biomass resources (U.S. EIA 2018).

9.1.6.1 Electricity

In 2018, almost half of California's net electricity generation was from renewable resources, including hydropower (U.S. EIA, 2019). In 2018, the California electric system used 281,120 GWh of electricity, nearly 71 percent of which (199,595 GWh) was produced in-state (CEC 2019a). Santa Clara County consumed 16,708 GWh of electricity, about 6 percent of the state's electricity consumption in 2018 (CEC 2019a).

SVP is the utility provider in Santa Clara. In 2018, SVP sold approximately 3,551 million kilowatt hours (kWh) of electricity (CEC 2020a); approximately 75 percent of that electricity was GHG free in 2017 (SVP 2020).

Table 9-4
EXISTING LAND USE GHG EMISSIONS ESTIMATES

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Existing Land Use Operational Emissions in Year 2019 (Current Conditions)				
Area	<0.0[A]	<0.0[A]	0.0	<0.0[A]
Energy[B]	3,604.2	0.2	<0.0[A]	3,624.0
Mobile	5,064.2	0.3	<0.0[A]	5,177.0
Waste	216.1	12.8	0.0	535.5
Water	32.4	0.8	<0.0[A]	59.6
Data Center	19,932.6	1.5	3.5	21,002.3
Total Existing GHG[C]	28,849.61	15.66	3.88	30,398.5
Service Population (SP)[D]	--	--	--	2,592
Existing GHG Efficiency with Data Center[E]	--	--	--	11.7
Existing GHG Efficiency without Data Center[F]	--	--	--	3.6
Existing Land Use Operational Emissions in Year 2040 (Future Conditions)				
Area	<0.0[A]	<0.0[A]	0.0	<0.0[A]
Energy[B]	2,020.9	0.2	<0.0[A]	2,040.8
Mobile	3,590.0	0.1	0.3	3,667.9
Waste	216.1	12.8	0.0	535.5
Water	16.6	0.8	<0.0[A]	43.8
Data Center	6,895.0	1.7	0.2	7,000.8
Total Existing GHG[C]	12,738.7	15.7	0.5	13,288.8
Service Population (SP)[D]	--	--	--	2,592
Existing GHG Efficiency with Data Center[E]	--	--	--	5.13
Existing GHG Efficiency without Data Center[G]	--	--	--	2.43

Source: SSL Law Firm 2020, MIG 2020 (see Appendix 25.2)

(A) <0.0 does not mean zero; rather, it means less than 0.05 but greater than zero.

(B) Energy emissions do not capture electricity emissions from operation of the data centers at 4650 and 4700 Old Ironsides Drive. These are captured and presented in a row, below.

(C) Totals may not equal due to rounding.

(D) Service Population is defined as the sum of the number of residents and number of jobs supported by the Specific Plan (CAPCOA 2010).

(E) The GHG efficiency metric averages GHG emissions over the number of people the Plan Area serves, and provides valuable information about the Specific Plan's ability to help obtain GHG reduction goals.

(F) Reflects the GHG/SP efficiency after netting out the approximately 21,003 $MTCO_2e$ from the data center in 2019 (i.e., mass emissions would be approximately 9,396 $MTCO_2e$ before dividing through by the SP).

(G) Reflects the GHG/SP efficiency after netting out the approximately 7,001 $MTCO_2e$ from the data center in 2040 (i.e., mass emissions would be approximately 6,288 $MTCO_2e$ before dividing through by the SP).

Based on the CalEEMod emissions estimates prepared for the Plan (see Section 5.1.5 and Appendix 25.2) and supplemental data provided by a property owner in the Plan Area, the existing development in the Plan Area is estimated to consume approximately 129,684,946 kWh of electricity per year, including the data center, and approximately 14,043,144 kWh of electricity per year, without the data center. Based on a service population of 2,592, this works out to

approximately 50,033 and 5,418 kWh / service population with and without the data center, respectively, on an annual basis.

9.1.6.2 Natural Gas

California accounts for less than 1 percent of total U.S. natural gas reserves and production; however, almost two-thirds of California households use natural gas for home heating (U.S. EIA 2020). In 2018, California consumed about 12,638 million therms of natural gas. Approximately 35 percent of this natural gas was consumed by the residential sector. Santa Clara County consumed approximately 440 million therms of natural gas in the same year, accounting for approximately 3.5 percent of statewide consumption. The residential and non-residential sectors made up approximately 53 percent and 47 percent of county-wide consumption (CEC 2020b).

Pacific Gas and Electric (PG&E) provides natural gas service to the Plan Area. PG&E is the principal distributor of natural gas in Northern California and provides natural gas for residential, commercial, and industrial markets. The annual gas sale to all markets in 2018 was approximately 4,794 million therms (CEC 2020c).

Based on the CalEEMod emissions estimates prepared for the Specific Plan (see Section 5.1.5 and Appendix 25.2), existing development in the Plan Area is estimated to consume approximately 22,180,092 kBtu per year.[1] Based on a SP of 2,592, this works out to approximately 8,557 kBtu/SP, annually.

9.1.6.3 Transportation

California's transportation sector consumed 80.6 million Btu of energy per capita in 2017, which ranked 31st in the nation (U.S. EIA 2017). Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulations required by the California Air Resources Board.

According to the Board of Equalization (BOE), statewide taxable sales figures indicate a total of 15,339 million gallons of gasoline and 3,074 million gallons of diesel fuel were sold in 2018 (CEC 2019b; CDFTA 2018). Although exact estimates are not available by County, retail fuel outlet survey data indicates Santa Clara County accounted for approximately 4.2 percent and 2.7 percent of total statewide gasoline and diesel sales, respectively, in 2018 (CEC 2019c).

Using the adjusted trip generation described in Section 5.1.5 and default distances in CalEEMod, the existing land uses in the Plan Area are estimated to generate approximately 13,474,142 vehicle miles traveled (VMT) per year.

9.2 REGULATORY SETTING

This section summarizes key federal, State, and City statutes, regulations, and policies pertaining to GHG emissions and energy consumption and efficiency that would apply to the Specific Plan. Global climate change resulting from GHG emissions is an ongoing environmental concern being discussed at the international, national, and statewide levels. At

[1]One therm is equal to 100,000 Btu, or 100 kBtu.

each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

9.2.1 International and Federal

9.2.1.1 International Regulation and the Kyoto Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change (IPCC) to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the "United Nations' Framework Convention on Climate Change" agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHG in the United States. The plan currently consists of more than 50 voluntary programs for member nations to adopt.

9.2.1.2 Federal Regulation and the Clean Air Act

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six Kyoto GHGs in the atmosphere (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHGs are pollutants under the Federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 $MTCO_2e$. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a "major" source required to obtain a permit pursuant to the "Clean Air Act's Prevention of Significant Deterioration" or "Title V" operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 $MTCO_2e$ or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisionmakers.

9.2.1.3 The Trump Administration

Former President Trump and the United States Environmental Protection Agency (U.S. EPA) during the time of the Trump administration stated their intent to halt various federal regulatory activities to reduce GHG emissions. President Biden, who took office in January 2021, and his administration have begun to strengthen federal policy once again around GHG emissions on a national level. California and other states are still challenging some federal actions undertaken during the time of the Trump administration that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In 2015, the Paris Agreement was adopted, which aims at keeping global temperature rise this century below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit temperature increase above an additional 1.5

degrees Celsius. The Agreement was signed by President Obama in April 2016, but the agreement does not contain enforcement provisions that would require U.S. Senate ratification. On November 4, 2019, Former President Trump formally began the process to leave the Paris Climate Agreement. In accordance with Article 28 of the Paris Agreement, that process was complete on November 4, 2020. As one of his first acts in the Oval Office, President Biden signed an executive order to have the United States rejoin the Paris Climate Agreement. At this time, there are no federal regulations or policies pertaining to GHG emissions that directly apply to the project.[1]

9.2.1.4 Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy and Policy Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards.

9.2.1.5 Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 was signed into law. In addition to setting increased Corporate Average Fuel Economy (CAFE) standards for motor vehicles, the act also includes the following provisions related to energy efficiency:

- Renewable fuel standards (RFS)
- Appliance and lighting efficiency standards
- Building energy efficiency

This federal legislation requires ever-increasing levels of renewable fuels to replace petroleum. The U.S. EPA is responsible for developing and implementing regulations to ensure transportation fuel sold in the United State contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel produces, and other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act of 2007 (EISA), the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of the nation's renewable fuels sector. The updated program is referred to as RFS2 and includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline;
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022;
- EISA established new categories of renewable fuel and set separate volume requirements for each one; and

[1]Though the U.S. EPA announced the Clean Power Plan on August 3, 2015, which sets standards for power plants and customizes goals for states to cut their carbon pollution, the U.S. Supreme Court stayed implementation of the Plan on February 9, 2016, pending further judicial review.

- EISA required the U.S. EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHG than the petroleum fuel it replaces (U.S. EPA 2015).

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

9.2.1.6 Federal Vehicle Standards

In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and, in 2010, the U.S. EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, U.S. EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleetwide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the U.S. EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018–2027 for certain trailers, and model years 2021–2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons (MT) and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (U.S. EPA and NHTSA, 2016).

In August 2018, The USEPA and NHTSA released a notice of proposed rulemaking called Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule).

On September 27, 2019, the U.S. EPA and the NHTSA published the SAFE Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.) The Part One Rule revoked California's authority to set its own greenhouse gas emissions standards and set zero emission vehicle mandates in California. As a result of the loss of the zero emission vehicles (ZEV) sales requirements in California, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years (CARB 2019b).

In April 2020, the U.S. EPA and NHTSA issued the SAFE Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (Final SAFE Rule) that relaxed federal greenhouse gas emissions and fuel economy standards. The Final SAFE Rule relaxed federal greenhouse gas emissions and Corporate Average Fuel Economy (CAFE) standards to increase in stringency at approximately 1.5 percent per year from model year (MY) 2020 levels over MYs 2021–2026. The previously established emission standards and related "augural" fuel economy standards would have achieved approximately 4 percent per year improvements through MY 2025. The Final SAFE Rule affects both upstream (production and delivery) and downstream (tailpipe exhaust) CO_2 emissions (CARB 2020) and has been challenged by 23 states. The litigation is ongoing.

9.2.2 State and Regional

9.2.2.1 Assembly Bill 32 (California Global Warming Solutions Act) and Related GHG Goals

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 establishes the caps on statewide greenhouse gas emissions proclaimed in Executive Order (EO) S-3-05 and established the timeline for meeting State GHG reduction targets. The deadline for meeting the 2020 reduction target is December 31, 2020.

As part of AB 32, CARB determined 1990 GHG emissions levels and projected a "business-as-usual" (BAU)[1] estimate for 2020, to determine the amount of GHG emission reductions that would need to be achieved. In 2007, CARB approved a statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million $MTCO_2e$ (CARB 2007). In 2008, CARB adopted its *Climate Change Scoping Plan*, which projects 2020 statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of GHG reductions and bring statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

EO B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase renewable electricity to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests, and wetlands to increasingly store carbon.

By directing State agencies to take measures consistent with their existing authority to reduce GHG emissions, EO B-30-15 establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

[1]BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies.

To reinforce the goals established through EO B-30-15, Governor Brown signed SB 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target (to reduce GHG emissions by 40 percent below 1990 levels by 2030) a requirement, as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the State's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

9.2.2.2 Scoping Plan

The CARB Scoping Plan is the comprehensive plan primarily directed at identifying the measures necessary to reach the GHG reduction targets stipulated in AB 32. The key elements of the 2008 Scoping Plan were to expand and strengthen energy efficiency programs, achieve a statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners (including seven states in the United States and four territories in Canada) in the Western Climate Initiative, establish transportation-related targets, and establish fees (CARB 2009). CARB estimated that implementation of these measures will achieve at least 174 million $MTCO_2e$ of reductions and reduce statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

In a report prepared on September 23, 2010, CARB indicated 40 percent of the reduction measures identified in the Scoping Plan had been secured (CARB 2010). Although the cap-and-trade program began on January 1, 2012 (after CARB completed a series of activities dealing with the registration process, compliance cycle, and tracking system), covered entities did not have an emissions obligation until 2013. In August 2011, the Scoping Plan was reapproved by CARB with the program's environmental documentation.

On February 10, 2014, CARB released the public draft of the "First Update to the Scoping Plan." "The First Update" built upon the 2008 Scoping Plan with new strategies and recommendations, and identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments (CARB 2014). "The First Update" defined CARB's climate change priorities over the next five years, and set the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-12. It also highlighted California's progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. "The First Update" evaluated how to align the State's long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. "The First Update" to the Scoping Plan was approved by the Board on May 22, 2014.

The second update to the scoping plan, the 2017 Climate Change Scoping Plan update (CARB 2017), was adopted by CARB in December 2017. The primary objective for the 2017 Climate Change Scoping Plan is to identify the measures required to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030) established under EO B-30-15 and SB 32. The 2017 Climate Change Scoping Plan identifies an increased need for coordination among State, regional, and local governments to realize the potential for GHG emissions reductions that can be gained from local land use decisions. It notes that emissions reductions targets set by more than one hundred local jurisdictions in the state could result in emissions reductions of up to 45 million $MTCO_2e$ and 83 million $MTCO_2e$ by 2020 and 2050, respectively. To achieve these goals, the 2017 Scoping Plan Update includes a

recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons per capita by 2050. The major elements of the 2017 Climate Change Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewable Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

9.2.2.3 Senate Bill 375 (Sustainable Communities and Climate Protection Act) and Plan Bay Area 2040

In January 2009, California SB 375 went into effect known as the Sustainable Communities and Climate Protection Act. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce greenhouse gas emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

Plan Bay Area, initially adopted by the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) on July 18, 2013, is the integrated long-range transportation, land-use, and housing plan developed for the Bay Area pursuant to SB 375. The success of *Plan Bay Area* implementation is evaluated on thirteen different goals with corresponding performance targets. One of these goals, reducing per-capita CO_2 emissions from cars and light-duty trucks by 15 percent by 2035, is directly related to GHG emissions.[1, 2]

[1]Per the efficiency metrics established by CARB, *Plan Bay Area* is required to demonstrate that the regional plan is capable of reducing per capita passenger vehicle and light duty truck CO_2 emissions by seven percent by 2020 and 15 percent by 2035, as compared to the 2005 baseline. Per SB 375, these reductions are required to be demonstrated without taking into account Pavely, LCFS, and any other Scoping Plan provisions adopted since 2007 that are expected to further reduce CO_2 emissions and result in a decrease in total CO_2 emissions over time.

[2]On March 22, 2018, CARB updated the goals for reducing per-capita CO_2 emissions from cars and light-duty trucks. For MTC/ABAG, the 2035 goal was increased from 15 percent to 19 percent for 2035 (CARB 2018).

One of the most noteworthy aspects of *Plan Bay Area* is that the forecasted development pattern, also known as the preferred scenario, virtually accommodates all new development within the existing urbanized footprint of the Bay Area. Approximately 80 percent of new development anticipated in *Plan Bay Area* is located throughout nearly 200 different Priority Development Areas (PDAs). PDAs are transit-oriented, infill development opportunity areas nominated by jurisdictions in existing communities in areas where future growth would not increase urban sprawl. It is important to emphasize that although PDAs have been identified in the regional plan, individual jurisdictions throughout the Bay Area are not required to constrain future land use designations and development to the preferred scenario described in *Plan Bay Area* (i.e., lead agencies retain the authority to approve land use designations and projects). Instead, the SCS must consider a local jurisdiction's General Plan.

An update to *Plan Bay Area*, titled *Plan Bay Area 2040*, was jointly approved by the ABAG Executive Board and by MTC on July 26, 2017. Unlike the 2013 version of *Plan Bay Area, Plan Bay Area 2040* is a limited and focused update that reevaluates projected household and employment growth in the Bay Area over the next 24 years. The success of *Plan Bay Area 2040* implementation is evaluated on the same 13 goals and performance targets as the 2013 version of *Plan Bay Area*. The 2017 update continues to provide a roadmap for accommodating expected growth in the Bay Area, and connecting it to a transportation investment strategy focused on moving the Bay Area toward key regional goals for the environment (e.g., state GHG reduction goals), economy, and social equity (ABAG/MTC 2017).

Plan Bay Area 2040 identifies two PDAs within the City, including the El Camino Real Focus Area and the Santa Clara Station Focus Area. In 2019, the City designated six PDAs: (1) Tasman East Specific Plan Area; (2) Lawrence Station Area Plan Area; (3) Patrick Henry Drive Specific Plan Area; (4) Freedom Circle Area; (5) Lawrence Station Focus Area Phase II; and (6) Related Santa Clara Project Area. These PDAs will be included in *Plan Bay Area 2050*, the next iteration of *Plan Bay Area*, which will be adopted in fall 2021.

On December 18, 2020, MTC/ABAG released the *Plan Bay Area 2050 Final Blueprint*, which includes 35 strategies demonstrating how the region can:

- Achieve the Bay Area's 19% GHG emissions reduction target, as set by CARB;
- Reduce overall housing and transportation costs for residents, especially for households with lower incomes;
- Increase the production and preservation of affordable housing;
- Create a more accessible and reliable transit network;
- Reduce the risk of displacement for people with lower incomes;
- Invest in parks and open spaces, particularly in historically disinvested communities;
- Increase resilience against wildfires and sea level rise; and
- Support a thriving economy with a more balanced regional pattern of jobs and housing.

9.2.2.4 Senate Bill 350 (Clean Energy & Pollution Reduction Act) and Senate Bill 100

SB 350 was signed into Law in September 2015 and establishes tiered increases to the RPS. The Bill requires 40 percent of the state's energy supply to come from renewable sources by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

The State's RPS program was further strengthened by the passage of SB 100 in 2018. SB 100 revised the State's RPS Program to require retail sellers of electricity to serve 50 percent and 60 percent of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2026 and 2030, respectively, and requires 100 percent of all electricity supplied come from renewable sources by 2045.

9.2.2.5 Assembly Bill 1493, Low Carbon Fuel Standard Regulation, and Advanced Clean Cars Program, EO B-48-18, and EO N-79-20

With the passage of AB 1493 (Pavley I) in 2002, California launched an innovative and pro-active approach for dealing with GHG emissions and climate change at the state level. AB 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards apply to automobiles and light trucks from 2009 through 2016. Although litigation was filed challenging these regulations and the U.S. EPA initially denied California's related request for a waiver, a waiver was granted. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 among light-duty vehicles.

In January 2012, CARB approved the Advanced Clean Cars (ACC) Program (formerly known as Pavley II) for model years 2017-2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations and the ZEV regulation. The Program combines the control of smog, soot, and global warming gases with requirements for greater numbers of zero-emission vehicles into a single package of standards. By 2025, new automobiles under California's Advanced Clean Car program will emit 34 percent less global warming gases and 75 percent less smog-forming emissions.

CARB has begun the rulemaking process for strengthening the compliance target of the LCFS through the year 2030. For a new LCFS target, the preferred scenario in the *2017 Scoping Plan Update* identifies an 18 percent reduction in average transportation fuel carbon intensity, compared to a 2010 baseline, by 2030 as one of the primary measures for achieving the state's GHG 2030 target. Achieving the SB 32 reduction goals will require the use of a low carbon transportation fuels portfolio beyond the amount expected to result from the current compliance schedule (CARB 2017).

EO B-48-18, issued by Governor Brown in January 2018, establishes a target to have five million ZEVs on the road in California by 2030. This Executive Order is supported by the State's 2018 ZEV Action Plan Priorities Update, which expands upon the State's 2016 ZEV Action Plan. While the 2016 plan remains in effect, the 2018 update function as an addendum, highlighting the most important actions State agencies are taking in 2018 to implement the directives of Executive Order B-48-18.

EO N-79-20, issued by Governor Newsom in September 2020, set a goal that 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035. It also set a goal that 100 percent of medium- and heavy-duty vehicles in the state be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks. In addition, this EO set a goal of to transition to 100 percent zero-emission off-road vehicles and equipment in the state by 2035 where feasible.

9.2.2.6 Executive Order B-30-15, Senate Bill 32 & Assembly Bill 197 (Statewide Interim GHG Targets)

California EO B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce greenhouse emissions to 40 percent below 1990 levels by 2030, and directed state agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels. Specifically, the EO directed CARB to update the Scoping Plan to express this 2030 target in metric tons. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase the amount of renewable electricity provided state-wide to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests, and wetlands to increasingly store carbon.

AB 197 (September 8, 2016) and SB 32 (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in EO B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

9.2.2.7 Executive Order B-55-18

Governor Brown issued EO B-15-18 on September 10, 2018, which directs the State to achieve carbon neutrality as soon as possible, no later than 2045, and achieve and maintain net negative emissions thereafter.

9.2.2.8 Title 24 Energy Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CALGreen contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to non-residential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, adopted May 9, 2018, went into effect on January 1, 2020 and improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and Indoor Air Quality (IAQ) requirements, and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 standards also include several smaller improvements in energy efficiency. The 2022 standards are currently going through the rulemaking process and will improve on the 2019 standards.

9.2.2.9 Low Carbon Fuel Standard Regulation

CARB initially approved the LCFS regulation in 2009, identifying it as one of the nine discrete early action measures in the *2008 Scoping Plan* to reduce California's GHG emissions. The LCFS regulation defines a Carbon Intensity, or "CI," reduction target (or standard) for each year, which the rule refers to as the "compliance schedule." The LCFS regulation requires a reduction of at least 10 percent in the CI of California's transportation fuels by 2020 and maintains that target for all subsequent years.

In 2018, CARB approved amendments to the LCFS regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector. Under the 2018 amendment, the LCFS regulation now requires a reduction of at least 20 percent in CI by 2030 and beyond.

9.2.3 Bay Area Air Quality Management District

9.2.3.1 Clean Air Plan

On April 19, 2017, the BAAQMD adopted the *2017 Clean Air Plan: Spare the Air, Cool the Climate* (2017 Clean Air Plan), which updates the adopted Bay Area *2010 Clean Air Plan*, and continues to provide the framework for assuring that the NAAQS and CAAQS are attained and maintained in the Bay Area (BAAQMD 2017b). In addition to addressing criteria air pollutant concentrations and public exposure to toxic air contaminants, the 2017 Clean Air Plan lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, consistent with GHG reduction targets adopted by the State of California.

As opposed to focusing solely on the nearer 2030 GHG reduction target, the 2017 Clean Air Plan makes a concerted effort to imagine and plan for a successful and sustainable Bay Area in the year 2050. In 2050, the Bay area is envisioned as a region where:

- Energy efficient buildings are heated, cooled, and powered by renewable energy;

- The transportation network has been redeveloped with an emphasis on non-vehicular modes of transportation and mass-transit;
- The electricity grid is powered by 100 percent renewable energy; and
- Bay Area residents have adopted lower-carbon intensive lifestyles (e.g., purchasing low-carbon goods in addition to recycling and putting organic waste to productive use).

The 2017 Clean Air Plan includes a comprehensive, multipollutant control strategy that is broken up into 85 distinct measures and categorized based on the same economic sector framework used by CARB for the AB 32 Scoping Plan Update.[1] The accumulation of all 85 control measures being implemented support the three overarching goals of the plan. These goals are:

- Attain all state and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

9.2.4 City of Santa Clara

9.2.4.1 General Plan

The City of Santa Clara General Plan contains the following policies that affect GHG emissions and energy consumption / efficiency in the city:

- 5.3.1-P10: Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.

- 5.3.1-P11: Encourage new developments proposed within a reasonable distance of an existing or proposed recycled water distribution system to utilize recycled water for landscape irrigation, industrial processes, cooling and other appropriate uses to reduce water use consistent with the CAP.

- 5.3.1-P12: Encourage convenient pedestrian connections within new and existing developments.

- 5.3.1-P13: Support high density and intensity development within a quarter-mile of transit hubs and stations and along transit corridors.

- 5.3.1-P14: Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development greater than 25 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the CAP.

[1]The sectors included in the AB 32 Scoping Plan Update are: stationary (industrial) sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

- 5.3.1-P22: Encourage conveniently located child care and other family support services in the community, except in areas designated for Light and Heavy Industrial Uses.

- 5.3.2-P2: Encourage higher-density residential development in transit and mixed-use areas and in other locations throughout the City where appropriate.

- 5.3.2-P4: Encourage indoor and outdoor private and common open space as part of all new residential developments, including clustering of units to maximize open space opportunities where appropriate.

- 5.3.3-P2: Promote the consolidation of retail uses at key locations in order to increase the synergy with existing businesses and attract new complementary establishments.

- 5.3.3-P6: Encourage neighborhood retail uses within a ten-minute walk of residential uses throughout the City.

- 5.3.3-P10: Encourage new grocery stores near residential neighborhoods to provide Santa Clara residents with access to fresh and healthy food options.

- Policy 5.3.4-P2: Encourage mixed-use development in proximity to employment centers and residential neighborhoods throughout the City.

- Policy 5.3.4-P11: Foster active, pedestrian-oriented uses at the ground level, such as retail shops, offices, restaurants with outdoor seating, public plazas or residential units with front stoops, in mixed-use development.

- Policy 5.3.4-P13: Encourage pedestrian linkages in mixed-use areas through measures such as enhanced lighting, curb bulb-outs, mid-block pedestrian crossings, pedestrian “refuge” areas in planted medians and pedestrian-oriented building frontages.

- Policy 5.3.4-P14: Provide a network of streets and pedestrian connections in large mixed-use developments.

- Policy 5.3.4-P15: Maximize opportunities to connect streets, bicycle facilities and pedestrian pathways to improve accessibility between mixed-use development and surrounding neighborhoods, parks, open spaces, transit and public amenities. Provide clear signage, high visibility, adequate lighting and special paving to enhance pedestrian and bicycle facilities.

- Policy 5.8.1-P1: Create accessible transportation networks system to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

- Policy 5.8.1-P2: Link all City transportation networks, including pedestrian and bicycle circulation, to existing and planned regional networks.

- Policy 5.8.1-P4: Expand transportation options and improve alternate modes that reduce greenhouse gas emissions.

- Policy 5.8.2-P1: Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage where feasible.

- Policy 5.8.3-P7: Provide transit stops at safe, efficient and convenient locations to maximize ridership, including near employment centers, higher-density residential developments and Downtown.

- Policy 5.8.3-P8: Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information and shelters.

- Policy 5.8.3-P9: Require new development to incorporate reduced onsite parking and provide enhanced amenities, such as pedestrian links, benches and lighting, in order to encourage transit use and increase access to transit services.

- Policy 5.8.3-P10: Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.

- Policy 5.8.4-P1: Provide a comprehensive, integrated bicycle and pedestrian network that is accessible for all community members.

- Policy 5.8.4-P2: Provide a system of pedestrian and bicycle friendly facilities that supports the use of alternative travel modes and connects to activity centers as well as residential, office and mixed-use developments.

- Policy 5.8.5-P1: Require new development to include transportation demand management site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.

- Policy 5.8.5-P2: Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.

- Policy 5.8.5-P4: Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/ Walsh Shuttle services.

- Policy 5.8.5-P5: Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.

- Policy 5.8.5-P6: Encourage transportation demand management programs that include shared bicycle and autos for part-time use by employees and residents to reduce the need for personal vehicles.

- Policy 5.8.5-P7: Promote programs that reduce peak hour trips, such as flexible work hours, telecommuting, home-based businesses and off-site business centers, and encourage businesses to provide alternate, off-peak hours for operations.

- Policy 5.8.6-P1: Allow alternate parking standards for mixed-use development, development that meets specified transportation demand management criteria, and senior/group and affordable housing developments, as well as in the Downtown and areas within one-quarter mile of transit centers and stops.

- Policy 5.8.6-P3: Encourage flexible parking standards that meet business and resident needs as well as avoid an oversupply in order to promote transit ridership, bicycling and walking.

- Policy 5.8.6-P4: Encourage shared, consolidated and/or reduced parking in mixed-use centers and within one-quarter mile of transit centers and stops.

- Policy 5.8.6-P5: Allow alternative parking techniques, such as parking lifts, automated and tandem parking, in order to reduce the land area devoted to parking.

- Policy 5.9.1-P4: Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

- Policy 5.9.1-P9: Support access to local food sources by providing opportunities for community gardening and farmers' markets.

- Policy 5.9.1-P16: Encourage nonresidential development to contribute toward new park facilities to serve the needs of their employees.

- Policy 5.10.2-P1: Support alternative transportation modes and efficient parking mechanisms to improve air quality.

- Policy 5.10.2-P2: Encourage development patterns that reduce vehicle miles traveled and air pollution.

- Policy 5.10.2-P4: Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.

- Policy 5.10.3-P1: Promote the use of renewable energy resources, conservation and recycling programs.

- Policy 5.10.3-P2: Transition away from using coal as an energy source to renewable resources by replacing coal in Silicon Valley Power's portfolio, exploring City owned property for renewable energy projects, developing solar projects, and incentivizing solar projects for residents and businesses, consistent with the CAP.

- Policy 5.10.3-P3: Maximize the efficient use of energy throughout the community by achieving adopted electricity efficiency targets and promoting natural gas efficiency, consistent with the CAP.

- Policy 5.10.3-P4: Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.

- Policy 5.10.3-P5: Reduce energy consumption through sustainable construction practices, materials and recycling.

- Policy 5.10.3-P6: Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

- Policy 5.10.3-P7: Encourage installation of solar energy collection through solar hot water heaters and photovoltaic arrays.

- Policy 5.10.3-P8: Provide incentives for LEED certified, or equivalent development.

- Policy 5.10.3-P9: Incorporate criteria for sustainable building and solar access into the City's ordinances and regulations.

- Policy 5.10.3-P10: Maintain the City's level of service for high quality utilities and telecommunications infrastructure.

- Policy 5.10.3-P11: Continue innovative energy programs to develop cost effective alternative power sources and encourage conservation.

- Policy 5.10.3-P12: Work with Silicon Valley Power to implement adequate energy distribution facilities to meet the demand generated by new development.

- Policy 5.10.3-P14: Work with Pacific Gas and Electric to ensure an adequate supply of natural gas to meet the demand generated by new development.

- Policy 5.10.3-P15: Explore opportunities for alternative energy "fueling stations" and promote participation in shuttle services that use new technology vehicles to reduce greenhouse gas emissions.

9.2.4.2 Climate Action Plan

The Santa Clara Climate Action Plan (CAP) was adopted in December 2013 as General Plan Appendix 8.13. The CAP includes measures to reduce emissions by 23.4 percent below 2008 levels by 2020 and a series of measures to reduce emissions beyond. The following reduction strategies may be applicable to the proposed Specific Plan:

- Achieve City-adopted electricity efficiency targets to reduce community-wide electricity use by five percent through incentives, pilot projects, and rebate programs.
- Encourage new data centers with an average rack power rating of 15 kW or more to identify and implement cost-effective and energy-efficient practices.
- Incentivize and facilitate the installation of 6 MW of customer-owned residential and nonresidential solar PV projects.
- Meet the water conservation goals presented in the 2010 Urban Water Management Plan to reduce per capita water use by 2020.
- Work with regional partners to increase solid waste diversion to 80% through increased recycling efforts, curbside food waste pickup, and construction and demolition waste programs.
- Support and facilitate a community-wide transition to electric outdoor lawn and garden equipment through outreach, coordination with BAAQMD, and outdoor electrical outlet requirements for new development.

- Require construction projects to comply with BAAQMD best management practices, including alternative-fueled vehicles and equipment.
- Require new development located in the city's transportation districts to implement a TDM program to reduce drive-alone trips.
- Revise parking standards for new multi-family residential and nonresidential development to allow that a minimum of one parking space, and a recommended level of 5% of all new parking spaces, be designated for electric vehicle charging.
- Create a tree-planting standard for new development and conduct a citywide tree inventory every five years to track progress of the requirements.
- Require new parking lots to be surfaced with low-albedo materials to reduce heat gain, provided it is consistent with the Building Code.

9.3 IMPACTS AND MITIGATION MEASURES

The BAAQMD's CEQA Air Quality Guidelines contain guidance on assessing and mitigating both project- and plan-level GHG impacts. Table 2-5 on page 2-7 of the CEQA Guidelines provides that planning documents other than General Plans (e.g., specific plans, congestion management plans) should use the BAAQMD's project-level GHG efficiency threshold of 4.6 $MTCO_2e$ per Service Population per year ($MTCO_2e$/SP/YR) (BAAQMD 2017a). The 4.6 $MTCO_2e$/SP/YR was developed for the year 2020, consistent with state-wide GHG emission reduction goals set forth under AB 32 and, therefore, does not directly address post-2020 GHG emissions.

This EIR compares estimated emissions against an interpolated efficiency metric of 1.84 $MTCO_2e$/SP/YR for the Year 2040 to help evaluate the significance of proposed Specific Plan's GHG emissions. The 1.84 $MTCO_2e$/SP/YR efficiency metric demonstrates substantial progress toward future GHG emission reduction goals at the state-level.[1] While the interpolated project-specific goal of 1.84 $MTCO_2e$/SP/YR for Year 2040 is a helpful proxy for demonstrating substantial progress toward future state GHG emission reduction goals, it is also important that the proposed Specific Plan be consistent with plans, policies, and regulations for the purposes of reducing GHG emissions, as the strategies / requirements contained in these documents also address GHG emission reduction goals through the region and state. Thus, in addition to demonstrating consistency with the interpolated 2040 project-specific efficiency metric, this EIR also relies upon consistency with the following plans to determine the significance of the proposed Specific Plan's GHG emissions:

- CARB 2017 Climate Change Scoping Plan, including the 2017 Climate Change Scoping Plan's recommended interpolated-2040 and 2040 per capita GHG efficiency metrics of 4 and 2 $MTCO_2e$ per capita per year, respectively;
- 2040 Plan Bay Area;

[1]AB 32 required the state to reduce its emissions to 1990 levels by 2020 SB 32 and EO S-3-05 further establish goals of reductions state-wide emissions 40 and 80 percent below 1990 levels by 2030 and 2050, respectively. 2040 is the halfway point between 2030 and 2050; thus, half the reductions that need to occur between 2030 and 2050 should be achieved by 2040 (i.e., 60 percent below 1990 levels by 2040). Using the efficiency metric for 2020, 4.6 $MTCO_2e$/SP/YR and reducing it by 60 percent results in a derived efficiency metric of 1.84 $MTCO_2e$/SP/YR for 2040 (4.6 $MTCO_2e$/SP/YR * (1 – 0.6) = 1.84 $MTCO_2e$/SP/YR). The City is not adopting nor proposing to use 1.84 $MTCO_2e$/SP as a CEQA GHG threshold for general use; rather, it is only intended for use on this project.

- 2017 BAAQMD Clean Air Plan; and
- City of Santa Clara 2013 Climate Action Plan.

9.3.1 Significance Criteria

Based on Appendix G to the State CEQA Guidelines,[1] a significant impact would occur if a proposed project would:

(a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment;

(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs;

(c) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

(d) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

9.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan, mainly Chapter 4 (Plan Framework) and Chapter 5 (Design Standards and Guidelines), includes components that would avoid or reduce potential GHG impacts associated with future development in the Plan Area (City of Santa Clara 2020b).

Development Framework

Urban Design

- 4.2.1.1: Activity Nodes
    - Cluster retail, flex, and community uses to create activity nodes that include places to socialize, ship, play, and relax.
    - Create synergies of use to support the viability of neighborhood-servicing retail and community spaces.
    - Center notes at intersection with ground-floor retail and where the library opens to the central park.
    - Encourage interaction of people with spaces.
- 4.2.1.4: Connections
    - Connect residents to destinations, including parks and open spaces with wide sidewalks and bike lanes throughout the PHD Specific Plan Area; a system of greenways adds a finer-grain circulation network.
    - Ensure that new roadways allow for better ingress/egress into new development and improve east-west connectivity while maintaining vehicle traffic flow.
    - Build new “slow streets” to allow shared space between automobiles, pedestrians, bicyclists, and differently abled users. Park Streets create a safe, active environment for all modes while blending the roadway into the landscape to maintain the character of the active central space.

[1]CEQA Guidelines, Appendix G, items VI(a) and (b) and V(a) and (b) .

Land Use

- 4.3.1: Land Use Policies
    - Distribute retail notes so that all new residential development is within a 10-minute walk of at least 20,000 square feet of neighborhood-servicing commercial uses.
    - Co-locate active uses—including parks, plazas, retail, flex, and community uses—to enliven the street environment and create neighborhood destinations.
    - Identify a location for a new City branch library and publicly accessible community meeting spaces.
    - Provide for a range of housing products and residential options at various price points to support the City's housing goals and improve residential opportunities for all households.
    - Ensure a portion of residential units are affordable to household with incomes below the area median.
    - Create a connected system of diverse parks and open spaces to provide outdoor recreation options for residential areas, facilitate pedestrian mobility, and enable habitat preservation and restoration.

Parks and Open Space

- 4.5.1: Parks and Open Space Policies
    - Require 22 percent of total residential developable land to be allocated for public parks and publicly accessible open spaces, including not less than 11 percent of land dedicated to the City in fee title as public parkland.
    - Implement Santa Clara City Code 17.35 to provide outdoor public parks and mini parks as well as indoor community facilities which may be connected by publicly accessible private greenways and open spaces that serve the neighborhood.
    - Provide one neighborhood public park centrally located within the PHD Specific Plan Area, and one neighborhood park adjacent to Calabazas Creek.
    - Distribute and site public parks so all residents can easily access a neighborhood parks within a five to ten minute walk.
    - Allow public parks to be jointly sited between two or more parcels. New public parks will be mapped and dedicated to the City as new parcels.
    - Provide connection from public parks to existing and planned trails on the north and west of the PHD Specific Plan Area.
    - Collaborate with property owners and the City Parks and Recreation Department to determine park and community space design and programming.
    - Site and size public parks and indoor community facilities (e.g., library, gym), their features and amenities, to serve a variety of populations and programs throughout the day, from dawn to 10pm.

Specific Plan Open Space Requirement

- 4.5.3.2: Greenways
    - Greenways are privately owned, publicly accessible linear open spaces that provide off-road connections for pedestrians, cyclists, scooter riders, and the like while providing additional green space throughout the PHD Specific Plan Area. Projects are required to incorporate publicly accessible greenways into their design consistent with the SP Land Use Diagram.

Mobility, Circulation, and Parking

- 4.6.1: Introduction and Intent
    - Prioritize the comfort and safety for pedestrians and cyclists
    - Retrofit the right-of-way to accommodate all travel modes including walking, cycling, driving, micro-mobility, and transit
    - Support access to transit stops on Tasman Drive and Great America Parkway
    - Improve infrastructure for pedestrians, cyclists and micro-mobility (e.g., scooters) to mitigate the impact of urban-scale development on traffic congestion
    - Improve connections to the Calabazas Creek Trail and other trails and greenways
    - Design flexible street environments that allow for innovative transit and ride-share options (e.g., jitneys) as well as emerging technology (e.g., autonomous vehicles)
    - Use Transportation Demand Management (TDM) strategies in partnership with area employers and property owners to minimize vehicle miles traveled
    - Limit vehicle parking spaces for residences and businesses, and
    - Reduce carbon emissions from transportation.
- 4.6.3.1: Parking Ratios and Restrictions
    - Parking spaces must be provided as per the minimums set forth in Table 4.6 (of the Specific Plan). For any other uses not listed, private off-street parking shall be provided consistent with the parking standards in the Santa Clara Zoning Ordinance.
    - Parking is not allowed as a stand-alone use. All parking must be structured and/or underground and included as an accessory use for residential, mixed-use or office development.
    - Surface parking is only allowed as a temporary or interim use.
    - Shared parking is encouraged.
    - Mechanical parking stackers/lifts and tandem parking may be used to satisfy minimum requirements.
    - Parking for public parks should be shared with residential visitor and retail parking. Any on and off-street adjacent to the parks should enhance accessibility to public users
- 4.6.3.2: Car Sharing
    - Car sharing programs provide on-demand access to a shared fleet of vehicles on an as-needed basis and has been shown to reduce automobile ownership and vehicle miles travelled (VMT). Developers/property owners shall provide car share spaces at a rate of at least one space per 400 residential units, with no more than two spaces per development. Cars should be available and accessible to the general public with dedicated car share vehicles near the building and/or parking structure entrance.
- 4.6.3.3: Electric Vehicle (EV) Parking
    - EV parking shall be provided to meet growing EV usage. On lower parking floors, a large empty conduit should be run to locations where future electrical breaker panels could be located; or exposed conduit could be installed for future charging locations. The actual installation of electrical wiring, chargers, and billing methods could be carried out by an independent operator where the energy used for vehicle charging is paid for by the user.

- 4.6.3.4: Bicycle Parking
    - Convenient and secure bicycle parking encourages bicycle ridership by offering riders the same level of access and security as motorists. On-site bicycle parking shall be provided to include bike lockers, bike cages, or indoor long-term bicycle parking for residents and on-site employees, plus convenient short-term racks for visitors.
- 4.6.4: Transportation Demand Management
    - Transportation Demand Management (TDM) involves a suite of policies, programs and projects that reduce vehicle trips, parking demand and VMT. These measures provide incentives and opportunities to choose alternative modes such as walking, bicycling, transit, or ridesharing and apply to residential and employment uses.

      The implementation of TDM measures in the Plan Area should be consistent with the requirements outlined in the City of Santa Clara's Climate Action Plan and General Plan. The PHD Specific Plan Area is in the City's Transportation Management District 1 (North of Caltrain) and is required to achieve a minimum VMT reduction of 20 percent, including 10 percent through TDM measures. In addition to the land use, mobility and parking requirements of this Specific Plan, new development will be required to implement a TDM program to reduce drive-alone trips. [1]

Design Standards and Guidelines

Vehicle Travel Ways

- Guideline 5.1.1.4: Where enough space existing in the right-of-way, allocate space to venter turn lanes and narrow vehicle lanes to create sufficient space for U-turns, discourage speeding, and calm traffic.
- Guideline 5.1.1.5: Employ traffic-calming techniques to slow vehicle traffic on shared streets and increase pedestrian and cyclist safety.

Bicycle Facilities

- Standard 5.1.3.2: Place Class IV protected bicycle lanes on Patrick Henry Drive and Old Ironsides Drive to be consistent with the Bicycle Master Plan
- Standard 5.1.3.5: Require New Roadways, Slow Streets, and Park Streets to be shared streets with marked, shared Class III bicycle boulevards as per MUTCD standards.

Transit Facilities

- Standard 5.1.4.2: Relocate all near-side shuttle/bus stops to the far side of intersections to improve safety for pedestrians and efficiency of travel. Where bicycle lanes overlap

[1]The Specific Plan's TDM policy is based on the City's existing Climate Action Plan requirements. A cumulative 20% reduction in VMT must be achieved by individual development proposals in the Plan Area, but the individual projects can only take 10% of that credit based on its geographic location (i.e., relation to land uses in the Plan Area) and proximity to transit. The remaining 10% must be achieved by measures specifically implemented by the project.

with bus zones, demarcate green stripe for the bicycle to show a mixing zone to allow for the travel lane to be shared between bicycle and bus.
- Guideline 5.1.4.3: Along VTA routes, work with VTA to install transit amenities like shelters, seating, trash cans, real-time bus information system at transit stops.

Intersections

- Guideline 5.1.5.4: Allow curb extensions (bulbouts) to extend the pedestrian zone into the roadway and provide additional pedestrian space at key locations.

Pedestrian Zone

- Standard 5.2.1.1: Have clear, contiguous, and unobstructed seven-foot ADA accessible walkways on both sides of the streets.

Crosswalks

- Standard 5.2.2.1: Provide clearly marked crosswalks at any signalized intersections and at intersections of key streets except in areas constrained by above-grade utility structures where a five-foot wide walkway are acceptable.
- Standard 5.2.1.2: Create 20-foot-wide continuous pedestrian zone on Patrick Henry Drive and Old Ironsides Drive, inclusive of the walkway, amenity zone and activity frontage.

All of Section 5.3: Street Design

Publicly Dedicated Parkland

- Guideline 5.4.1.3: Design parks to be seamlessly connected to the PHD Specific Plan Area's network of greenways, streets, and trails, including the Calabazas Creek Trail and the planned trail along the Hetch Hetchy right-of-way.

Community Gardens

- Guideline 5.4.3.1: Incorporate community gardens or planters in public parks or Privately Owned Public Open Space (POPOS) through the neighborhood along New Roadways, Low Speed Streets, and Park Streets.

Greenways

- Standard 5.4.5.1: Site greenways as shown in (Specific Plan) Figure 4.5A of the Open Space Framework to provide pedestrian and bicycle connections through large blocks, to link destinations, and to enhance required spaces between buildings.
- Standard 5.4.5.2: Use greenways to connect parks and open space and improve access to trails, transit stops, activity nodes, and other community amenities.
- Standard 5.4.5.6: Provide seating, refuse/recycling receptacles, and other basic amenities along greenways.
- Guideline 5.4.5.9: Incorporate landscaping, trees, and community gardens along greenways.

Alleys and Service Areas

- Guideline 5.5.4.9: Use speed humps, signage, and other traffic-calming devices in alleys and service accessways to reduce vehicle speed.

Building and Block Organization

- Standard 5.5.1.1: Encourage mid-block connectivity through the block and across adjoining streets such that the distance between pedestrian crossings is no more than 330 feet or 1/16th of a mile.

In addition to the above, Chapter 3 (Project Description) of this EIR includes various development and design frameworks relevant to development density, intensity, and physical design components of the Specific Plan which apply to future project proposals in the Plan Area.

CEQA Guidelines Section 15150 permits an EIR to incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. When another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR under consideration, and the incorporated document itself must be made available to the public for inspection at a public place or public building. Pursuant to CEQA Guidelines Section 15150, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference. The reader is encouraged to review Specific Plan chapters 4 and 5 for more detail. The Specific Plan is posted on the Patrick Henry Drive Specific Plan website at:[1]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

9.3.3 Impacts and Mitigations

Impact 9-1: GHG Emissions and Plan Consistency.

Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable.

Implementation of the proposed Specific Plan would result in construction and operational activities that would generate GHG emissions over the next approximately 20 years. These emissions would come from the combustion of fuels used during construction, as well as the sources described in Section 5.1.5 (in Air Quality chapter 5 of this EIR) and Section 9.1.5.2 above. As described under Impact 5-2, there is uncertainty regarding the timing and methods of construction activities that would occur for future development projects. Construction activities would cease to emit GHG upon completion, unlike operational emissions that would be continuous year after year until the project is decommissioned. For reasons discussed in Impact 5-2, construction emissions were not estiamted for the proposed Specific Plan.

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

Potential operational GHG emissions resulting from operation of the two Specific Plan scenarios were estimated using CalEEMod, Version 2016.3.2. The modeling assumes Project growth consistent with the land use development intensities described in Impact 5-1. The modeling is based on default data assumptions contained in CalEEMod, with the project-specific modifications described under Impact 5-1, as well as the following adjustments to default model assumptions:

- **Mobile Sources.** CalEEMod does not estimate N_2O emissions from on-road vehicle travel or off-road construction sources. To account for this, CalEEMod emissions estimates were adjusted as follows:

    - N_2O emissions were estimated for the Specific Plan by comparing the ratio of CO_2 and N_2O emissions from the on-road vehicle sector contained in the State's most recent GHG inventory (CARB 2019). In 2017, statewide CO_2 and N_2O emissions estimates for the on-road transportation sector were 152.4 and 0.011 million metric tons, respectively (N_2O emissions are therefore equal to 0.007% of CO_2 emissions for this sector).

- **Energy Use and Consumption:** In addition to natural gas usage, the existing land uses in the Plan Area would generate indirect GHG emissions from electricity use. Silicon Valley Power (SVP provides electricity service in the City of Santa Clara. CalEEMod does not contain GHG intensity values for this electric service provider. As such, the default GHG default assumptions regarding energy use were adjusted as follows:

    - The GHG intensity value utilized in the modeling is based on an estimated SVP carbon emission factor that reflects SVP's compliance with SB 100, which requires 60% of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2030.

    - Electricity generation emission factors for CH_4 (0.033 lbs/MWh) and N_20 (0.004 lbs/MWh) were obtained from the U.S. EPA's EGRID database for year 2016, the last year for which data was available at the time this EIR was prepared (U.S. EPA 2016).

- **Water/Wastewater:** Emissions from electricity used to supply water to land uses, and treat the resulting wastewater generated. As provided in the Water Supply Assessment prepared for the proposed Specific Plan, land uses proposed under Scenario A are estimated to consume approximately 540,017,500 gallons of water indoors and approximately 23,531,696 gallons of water for outdoor uses (e.g., landscaping and irrigation) (City of Santa Clara 2020a). Under Scenario B land uses are estimated to consume approximately 490,724,250 gallons of water indoors, and approximately 23,531,696 gallons of water outdoors.

The total unmitigated GHG emissions estimated to occur under projected 2040 growth conditions are shown below in Table 9-5 and compared against the potential GHG emissions that could exist in 2040 if the Specific Plan were not approved.[1]

[1]Although the California Environmental Quality Act (CEQA) generally requires an evaluation of impacts associated with project implementation against the conditions that exist at the time the Notice of Preparation (NOP) is published, CEQA Guidelines Section 15125(a)(2) allows a lead agency to, "…use projected future conditions (beyond the date of project operations) baseline as the sole baseline for analysis only if it demonstrates with substantial evidence that use of existing conditions would be either misleading or without informative value to decision makers and the public." Existing conditions GHG

As shown in Table 9-5, implementation of the proposed Specific Plan would result in a net mass increase of approximately 33,195 and 31,688 $MTCO_2e$ under Year 2040 conditions for Scenario A and Scenario B, respectively; however, when compared on an efficiency basis (with data center emissions included for the existing land uses), Scenario A and Scenario B would be more efficient than the existing land uses and result in a net negative efficiency metric of approximately 3.44 $MTCO_2e$/SP, approximately 30 percent more efficient, under buildout of both scenarios (i.e., the Specific Plan would be far more efficient than the existing land uses). It is possible that data storage, computing power, and other services provided by the data center at 4650 and 4700 Old Ironsides would not be removed under implementation of the proposed Specific Plan, but would rather be shifted elsewhere in the region / state; however, the Specific Plan would still result in a net negative efficiency metric per service population of approximately 0.74 $MTCO_2e$/SP even with the energy-related GHG emissions associated with operation of the data center removed. Without taking credit for the turnover of land uses, both scenario's proposed under the Specific Plan would result in GHG efficiencies that are less than the 2040 GHG efficiency goal derived for this EIR (i.e., 1.69 $MTCO_2e$/SP/YR is less than 1.84 $MTCO_2e$/SP/YR). Furthermore, the standalone efficiencies associated with implementation of both Specific Plan scenarios would be below CARB's recommended plan-level efficiency threshold of 4 $MTCO_2e$ per capita per year interpolated threshold for 2040, as well as the 2 $MTCO_2e$ per capita per year threshold for Year 2050, as identified in the 2017 Climate Change Scoping Plan.[1]

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emissions for Year 2019 (i.e., at the time the NOP was released for this EIR) and Year 2040 (future conditions) have been provided in Section 9.1.5.2. As shown in Table 9-4 and described in Section 9.1.5.2, the existing land uses within the Plan Area would benefit from regulatory actions at the State level (i.e., vehicle and fuel efficiency standards and cleaner electricity), which would continue to reduce emissions over the next approximately 20 years, even if the Specific Plan is not approved or implemented. Therefore, to provide a conservative assessment of emissions associated with implementation of the proposed Specific Plan, GHG emissions associated with operation of the existing land uses in 2040 are compared against those proposed under the Specific Plan in 2040 to paint a more accurate picture of how the land uses proposed under the Specific Plan could change emissions in the Plan Area. This provides a more conservative assessment of emissions, because the emissions "gap" between existing land uses (future conditions 2040) and Specific Plan (2040) is less than that compared to existing land uses (current conditions 2019) and Specific Plan (2040).

[1]Whereas the preceding analysis utilized Service Population as the metric for calculating the GHG efficiency of the land use, CARB's 2017 Climate Change Scoping Plan relies on an efficiency metric that is based on per capita (i.e., per population). Under Scenario A, the efficiency would be approximately 1.74 $MTCO_2e$ per capita (i.e., 46,484.1 $MTCO_2e$ / 26,760 people = 1.74 $MTCO_2e$ per capita) and under Scenario B, the efficiency would be approximately 1.96 $MTCO_2e$ per capita (i.e., 44,976.8 $MTCO_2e$ / 22,970 people = 1.96 $MTCO_2e$ per capita) in 2040.

Table 9-5
UNMITIGATED SPECIFIC PLAN GHG EMISSIONS ESTIMATES

Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing Land Uses (2040)[A]	**Specific Plan Land Uses (Build Out; 2040)**	**Net Change**
Scenario A Comparison			
Area	<0.0[B]	691.6	+ 691.52
Energy[C]	2,040.8	8,773.5	+ 6,732.70
Mobile	3,667.9	33,048.3	+ 29,380.32
Waste	535.5	3,008.9	+2,473.40
Water	43.8	961.9	+ 918.14
Data Center	7,000.8	--	- 7,000.8
Total GHG[D]	13,288.8	46,484.1	+ 33,195.3
Service Population (SP)[E]	2,592	27,500	+ 24,908
Existing GHG Efficiency with Data Center	5.13	1.69	- 3.44
Existing GHG Efficiency without Data Center[F]	2.43	1.69	- 0.74
BAAQMD 2020 Threshold	--	--	4.60
Interpolated 2040 Project-Specific Goal	--	--	1.84
2020 Threshold / 2040 Goal Exceeded?	--	--	No
Scenario B Comparison			
Area	<0.0[B]	587.6	+ 587.5
Energy[C]	2,040.8	9,080.3	+ 7,039.5
Mobile	3,667.9	31,492.5	+ 27,824.6
Waste	535.5	2,982.7	+ 2,447.2
Water	43.8	833.7	+ 789.9
Data Center	7,000.8	--	- 7,000.8
Total GHG[D]	13,288.8	44,976.8	+ 31,688.0
Service Population (SP)[E]	2,592	26,620	+ 24,028
Existing GHG Efficiency with Data Center	5.13	1.69	- 3.44
Existing GHG Efficiency without Data Center[F]	2.43	1.69	- 0.74
BAAQMD 2020 Threshold	--	--	4.60
Interpolated 2040 Project-Specific Goal	--	--	1.84
2020 Threshold / 2040 Goal Exceeded?	--	--	No

Source: SSL Law Firm 2020, MIG 2020 (see Appendix 25.2)

(A) See Table 9-4.

(B) <0.0 does not mean zero; rather, it means less than 0.05 but greater than zero.

(C) Energy emissions do not capture electricity emissions from operation of the data centers at 4650 and 4700 Old Ironsides Drive. These are captured and presented in a row, below.

(D) Totals may not equal due to rounding.

(E) Service Population is defined as the sum of the number of residents and number of jobs supported by the Specific Plan (CAPCOA 2010).

(F) Reflects the GHG/SP efficiency after netting out the approximately 7,001 MTCO2e from the data center in 2040 (i.e., existing mass emissions would be approximately 6,288 MTCO2e before dividing through by the SP).

There are a few potential activities and sources that could increase estimated Specific Plan GHG emissions associated with implementation of the Specific Plan above that presented in this EIR (e.g., construction emissions; operation of other, speculative land uses at this point, such as parking lots, parking garages, etc.); however, the preceding analysis represents a sound estimate of potential GHG emissions that could occur under operation of the proposed Specific Plan land uses, based on information that is currently known and can be analyzed. It should be further noted that the GHG emission estimates provided in Table 9-5 do not reflect the additional benefits that would be provided to address the air quality impacts described in EIR chapter 5. For example, Mitigation Measure 5-2D would require future projects developed under the Specific Plan to further reduce project-specific VMT in accordance with TDM requirements.[1] The mitigation measures implemented to address air quality impacts, would also have the co-benefit of reducing GHG emissions.

As described in Section 9.3.1 above, in addition to the project-specific goal of 1.84 $MTCO_2e/SP/YR$ for Year 2040, this EIR also utilizes compliance with the CARB 2017 Climate Change Scoping Plan, 2040 Plan Bay Area, 2017 BAAQMD Clean Air Plan, and City's 2013 Climate Action Plan to determine the significance of the proposed Specific Plan's GHG emissions.

2017 CARB Climate Change Scoping Plan

As discussed under Section 9.2.2.2, the 2017 Climate Change Scoping Plan is CARB's second revision to the Scoping Plan, and primary document used to ensure state GHG reduction goals are met. The 2017 Climate Change Scoping Plan's primary objective is to identify the measures needed to achieve the 2030 reduction target established under Executive Order B-30-15 and SB 32. The major elements of the Scoping Plan are generally geared toward actions either CARB or other state entities will pursue, such as, but not limited to:

- Implementing the LCFS, with an increased stringency (18 percent by 2030);
- Implementation of SB 350, which expands the RPS to 50 percent and doubles energy efficiency savings; and
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by the year 2030.

Although most of these measures would be implemented at the state level, some of the reductions would be realized at the local level. For example, regardless of actions taken by the

[1]Furthermore, CEQA Statutes Section 21159.28 provides, in part, that for residential or mixed-use projects consistent with the land use designation, density, building intensity, and applicable policies in the SCS, and if previously adopted GHG mitigation measures from the SCS are incorporated in the project, then an EIR is not required to consider any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network. It is likely that the project could be consistent with CEQA Statutes Section 21159.28 and not have to consider project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network; however, no consistency analysis has been conducted to see if the proposed Specific Plan meets the criteria identified in CEQA Statutes Section 21159.28. Therefore, the analysis contained herein this EIR is considered conservative, because it analyzes the mobile source GHG emissions that otherwise could have been disregarded by the analysis. Nonetheless, as described in this EIR, this impact would be less than significant even when accounting for the potential mobile source GHG emissions associated with buildout of the proposed Patrick Henry Drive Specific Plan.

City, GHG emissions generated through gasoline combustion in motor vehicles within the Plan Area would still produce fewer GHG emissions in 2030 and 2040 than they do now. The land uses within the Plan Area would also inherently benefit from the generation and distribution of cleaner electricity throughout the region that shall occur under regulatory requirements, such as SB 350 and SB 100. Furthermore, as described above, the proposed Specific Plan would meet the 2017 Climate Change Scoping Plan's recommended interpolated-2040 and 2040 per capita GHG efficiency metrics of 4 and 2 $MTCO_2e$ per capita per year, respectively. Therefore, the proposed Specific Plan would not conflict with or obstruct implementation of the 2017 Climate Change Scoping Plan.

2040 Plan Bay Area

As described in Section 9.2.2.4, Plan Bay Area 2040 is a long-range planning document developed by ABAG and MTC to reduce GHG emissions from land use and transportation. Plan Bay Area identifies PDAs as transit-oriented, infill development opportunity areas within existing communities. The Plan Area is not identified as a PDA in *Plan Bay Area 2040*; however, the proposed Specific Plan is found to be consistent with Plan Bay Area 2040 for the following reasons. First, the proposed Specific Plan consists of a transit oriented development that would concentrate high density residential and non-residential devleopment in proximity to regional transit amenities; namely, Old Ironsides Light Rail Station and frequent bus service via VTA Route 57. Second, the proposed Specific Plan supports one of the SB 375 regulatory requirements of Plan Bay Area 2040, which is to reduce per capita GHG emissions by passenger vehicle and light duty truck CO_2 emissions by seven percent by 2020 and 15 percent by 2035, as compared to the 2005 baseline. As identified in the Traffic Impact Assessment prepared for the Specific Plan by Hexagon, the land uses proposed under implementation of the Specific Plan are anticipated to reduce trip generation by approximately 25 and 24.9 percent under Scenario A and Scenario B, respectively, when compared to default conditions (Hexagon 2020a). Projects implemented under the Specific Plan would also be subject to the City's TDM policy, which requires further reductions in VMT. Finally, although not identified in Plan Bay Area 2040, the Patrick Henry Drive Specific Plan has been identified as a proposed PDA in the upcoming Plan Bay Area 2050 (ABAG/MTC 2020). This affirms projects such as the Patrick Henry Drive Specific Plan are the types of development envisioned for attaining the region's VMT reduction goals. Therefore, the proposed Specific Plan would not conflict with the goals of Plan Bay Area 2040.

BAAQMD 2017 Clean Air Plan

As described under Section 9.2.3.1, the 2017 Clean Air Plan is the BAAQMD document that lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, consistent with GHG reduction targets adopted by the State of California. The 2017 Clean Air Plan analyzes GHG emissions from construction, mobile, and stationary source activities in its emissions inventories and sets forth 85 control strategies designed to reduce criteria air pollutant and GHG emissions. As described under Impact 5-1 (in EIR chapter 5, Air Quality), the proposed Specific Plan would be consistent with and not obstruct implementation of any of the control measures identified in the 2017 Clean Air Plan. In addition, as described in the preceding analysis, the proposed Specific Plan would result in GHG emissions that are less than the 2040-interplated GHG/SP efficiency metric, and would be consistent with other plans at the state and regional level for the purposes of reducing GHG emission in 2030 and beyond. Thus, the proposed Specific Plan would support the 2017 Clean Air Plan's goals of reducing emissions 40% 1990 levels by 2030, and would not

conflict or obstruct implementation of the BAAQMD 2017 Clean Air Plan from a GHG perspective.

City of Santa Clara 2013 Climate Action Plan

The City's Climate Action Plan, which was adopted in 2013, addressed GHG emissions within the City through the Year 2020. Because all elements of the proposed Specific Plan would become operational post-2020, it is not necessarily applicable to the activities proposed on the Specific Plan. Nonetheless, the subsection "Beyond 2020" in Chapter 4 of the City's Climate Action Plan identified four measures to help further reduce GHG emissions in the City through the Year 2035. Table 9-6 below summarizes consistency with these measures.

As shown in Table 9-6, the proposed Specific Plan would be consistent with and/or not obstruct implementation of the four measures identified in the City's Climate Action Plan for addressing post-2020 GHG emissions. It would also support other measures that were identified in the City's Climate Action Plan for achieving 2020 GHG emission reduction goals, such as utilizing graywater systems and otherwise increasing the efficiency of water use.

Conclusion

As shown above, implementation of the proposed Specific Plan would result in emissions that are below an interpolated Service Population GHG efficiency metric, both from a net emissions perspective (when compared to potential GHG emissions associated with existing land uses in Year 2040) as well as on a standalone basis, and would not conflict, obstruct, or otherwise interfere with the implementation of a plan, policy, or regulation for the purposes of reducing GHG emissions. Thus, the proposed Specific Plan would result in a ***less-than-significant impact*** with regard to GHG emissions and no mitigation is required (see criteria [a] and [b] in subsection 9.3.1, "Significance Criteria," above).

Table 9-6
CITY OF SANTA CLARA CLIMATE ACTION PLAN CONSISTENCY

Climate Action Plan 2035 Reach Measure	Consistency
1.1: Coal-free by 2020	Consistent. The land uses proposed under implementation of the Specific Plan would source their electricity through SVP. SVP sourced approximately 75 percent of its electricity from GHG-free sources in 2017 and will likely continue to increase that percentage to comply with state RPS goals. In addition, land uses proposed under the proposed Specific Plan would be required to comply with the current iteration of the CalGreen Code, which sets forth PV requirements. At a minimum, consistent with Specific Plan requirements, new development would be required to be "solar-ready" to accommodate solar energy systems for all rooftops, parking structure top decks, and similar flat surfaces.
1.3: Utility-installed Renewables	Consistent. The proposed Specific Plan would not inhibit or otherwise interfere with the City's goal of installing solar PV project, and new development would be required to be "solar-ready" to accommodate solar energy systems for all rooftops, parking structure top decks, and similar flat surfaces.

Climate Action Plan 2035 Reach Measure	Consistency
2.1: Community Electricity Efficiency	Consistent. Implementation of the proposed Specific Plan would result in the turnover of older, less-efficient land uses to newer structures built to the latest CalGreen Code standards (2019, at minimum). This would increase the efficiency of electricity consumed within the City.
2.4: Customer-installed Solar	Consistent. New development within the Plan Area would be required to be "solar-ready" to accommodate solar energy systems for all rooftops, parking structure top decks, and similar flat surfaces. This would support the amount of customer-installed solar within the City and Plan Area.
Source: City of Santa Clara 2013.	

Mitigation 9-1. No significant impact has been identified; no mitigation is required.

Impact 9-2. Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Implementation of the proposed Specific Plan would increase the demand for electricity and natural gas within the Plan Area and gasoline consumption in the region during construction and operation of new land use developments.

Electricity

Construction Use. Temporary electric power would be required at various construction sites throughout the Plan Area as growth occurs under implementation of the proposed Specific Plan. Electricity would be consumed by lighting and electronic equipment (e.g., computers) located in trailers used by construction crews, and by small, off-road equipment (e.g., compressors) used during construction activities. However, the electricity used for such activities would be temporary and would have a negligible contribution to the overall energy consumption in the Plan Area.

Operational Use. Development facilitated under the proposed Specific Plan would require electricity for multiple uses, including, but not limited to: building heating and cooling, lighting, appliance use (e.g., washer, dryer, microwave), and other electronics (e.g., televisions).

As described in Section 9.1.6.1 above, CalEEMod was used to estimate project emissions from energy uses. Electricity generation was estimated in CalEEMod by adjusting the CalEEMod default values to reflect compliance between the 2013 and 2016 Title 24 Building Code efficiencies for 2019 and the 2019 Title 24 Building Code for buildout of both Specific Plan scenarios in 2040. Table 9-7 summarizes changes in electricity consumption that would occur over the next approximately 20 years of growth envisioned by the Specific Plan.

As shown in Table 9-7, electricity consumption in the Plan Area in 2040 is expected to increase by approximately 35,966,306 kWh under Specific Plan Scenario A and approximately 42,662,806 kWh under Specific Plan Scenario B, as compared to 2019 conditions; however, on an efficiency basis, electricity consumption is anticipated to decrease (i.e., become more efficient) by approximately 66 and 61 percent under Scenario A and Scenario B, respectively. Although growth would be occurring within the Plan Area under implementation of the proposed Specific Plan, new development and land use turn over would be required to comply with

statewide mandatory energy requirements outlined in Title 24, Part 6, of the California Code of Regulations (the CalGreen Code), which would decrease estimated electricity consumption associated with new development in the Plan Area, compared to the land uses and development that currently exists. Furthermore, as described under Section 9.3.2, new development projects proposed under implementation of the Specific Plan would be subject to various standards and guidelines, such as implementing graywater systems being "solar-ready" to accommodate solar energy systems for all rooftops, parking structure top decks, and similar flat surfaces. Adherence and compliance with these standards and guidelines would further reduce electricity emissions associated with new development within the Plan Area. For these reasons, the electrical energy that would be consumed by Specific Plan development is not considered unnecessary, inefficient, or wasteful. Finally, the Specific Plan is responding to anticipated growth rather than inducing unplanned growth. Placing development for planned growth near transit in a project with many features to reduce energy consumption is an efficient and necessary use of the energy needed to construct and operate shelter the City's anticipated future workforce and population.

Table 9-7
ESTIMATED OPERATIONAL CHANGE IN ELECTRICITY CONSUMPTION (2019 VS 2040)

Metric	Electricity Consumption (kWh)		
	2019	**2040**	**Change**
Scenario A			
Total Electricity Consumption[(A)]	14,043,144	50,009,450	+ 356%
Service Population (SP)	2,592	27,500	+ 1,061%
Electricity Consumption Efficiency (kWh/yr/SP)	5,418	2,130	- 66%
Scenario B			
Total Electricity Consumption	14,043,144	56,705,950	+ 404%
Service Population (SP)	2,592	26,620	+ 1,027%
Electricity Consumption Efficiency (kWh/yr/SP)	5,418	2,130	- 61%

Source: MIG 2020 (see Appendix 25.2).
(A) See Section 9.1.6.1.
(B) Reflects existing electricity consumption without the data center.

Natural Gas

Construction Use. Substantial natural gas consumption is not anticipated to occur during construction activities that would occur with Project implementation. Fuels used for construction would generally consist of diesel and gasoline, which are discussed in the next subsection. Potential natural gas use during construction activities associated with Specific Plan growth would not substantially contribute to overall energy consumption in the city, and would not be unnecessary, inefficiency, or wasteful.

Operational Use. Natural gas consumption in Project operations would be required for various purposes, such as building heating and cooling. CalEEMod was used to estimate natural gas consumption associated with growth in the city, as envisioned by the Project. Table 9-8 summarizes estimated changes in natural gas consumption over the next approximately 20 years of growth envisioned by the Specific Plan.

Table 9-8
ESTIMATED OPERATIONAL CHANGE IN NATURAL GAS CONSUMPTION (2019 VS 2040)

Metric	Natural Gas Consumption (kBtu)		
	2019	2040	Change
Scenario A			
Total Natural Gas Consumption(A)	22,180,092	107,039,200	+ 483%
Service Population (SP)	2,592	27,500	+ 1,061%
Natural Gas Consumption Efficiency (kBtu/yr/SP)	8,557	3,892	- 55%
Scenario B			
Total Natural Gas Consumption(A)	22,180,092	105,202,600	+ 474%
Service Population (SP)	2,592	26,620	+ 1,027%
Natural Gas Consumption Efficiency (kBtu/yr/SP)	8,557	3,823	- 54%

Source: MIG 2020 (See Appendix 25.2)
(A) See Section 9.1.6.2.

Based on the demand calculations shown in Table 9-8, which assume the average energy development proposed within the Plan Area would meet the 2019 Title 24 CalGreen efficiency requirements, natural gas consumption in the Plan Area in 2040 is expected to increase by approximately 84,859,108 kBtu under Specific Plan Scenario A and approximately 83,022,508 kBtu, as compared to 2019 conditions. However, on an efficiency basis, natural gas consumption is estimated to decrease (i.e., become more efficient) by approximately 55 percent under Scenario A and approximately 54 percent under Scenario B.

Although growth would occur within the Plan Area over the next approximately 20 years, new development would be required to comply with statewide mandatory energy requirements outlined in Title 24, Part 6, of the California Code of Regulations (the CalGreen Code), which would decrease estimated natural gas consumption in new and/or retrofitted structures. Energy is a necessary component of building operation, and any natural gas consumption by proposed land uses in the Specific Plan would not be used in an unnecessary, inefficient, or wasteful manner and would be more efficient than under existing conditions.

Diesel and Gasoline Fuel

Construction Use. Diesel and gasoline fuels, also referred to as petroleum in this subsection, would be consumed during construction activities as development activities occur within the Plan Area. Fuel use by construction equipment would be the primary energy resource consumed during development activities, and VMT associated with the transportation of construction materials (e.g., deliveries) and worker trips would also result in petroleum consumption. Whereas on-site, heavy-duty construction equipment and delivery trucks would predominantly use diesel fuel, construction workers would generally rely on gasoline-powered vehicles to travel to and from construction sites. State regulations such as the LCFS would reduce the carbon intensity of transportation-related fuels, and all construction projects would be required to comply with CARB's Airborne Toxic Control Measures, which restrict heavy-duty diesel vehicle idling to five minutes. Since petroleum use during construction would be temporary at each location and required to conduct development activities, it would not be unnecessary, wasteful, or inefficient.

Operational Use. Vehicle fuel consumption associated with operation of the land uses proposed under implementation of the Specific Plan would consume fuel in the form of petroleum (i.e., gasoline and diesel) and electricity over the next approximately 20 years. The trips that consume fuel, would primarily be attributable to people traveling to or from the city for work, shopping, school, or other reasons. Using the adjusted trip generation described in under Impact 5-1 and default distances in CalEEMod, buildout of Specific Plan Scenario A and Scenario B are estimated to generate approximately 119,373,555 and 114,598,939 annual VMT, respectively. A comparison of VMT associated with current land uses in the Plan Area versus that which could occur under implementation of the Specific Plan is provided below in Table 9-9.

As shown in Table 9-9, although the average annual VMT would increase as existing land uses in the Plan Area transition to those proposed under Specific Plan Scenario A or Scenario B, the average daily distance driven per SP would decrease under proposed conditions. This can also be correlated to a decrease in fuel consumption under Specific Plan conditions, too. Furthermore, the VMT estimates for Scenario A and Scenario B do not reflect TDM policy compliance on the project level, which would further reduce VMT generated by the Specific Plan. As described under "GHG Emissions and Plan Consistency" the Specific Plan would be consistent with the overarching goals of Plan Bay Area 2040, which is to concentrate high density development in proximity to high-quality transit, thereby providing greater opportunities to reduce single-occupancy vehicle trips. Operation of the land uses proposed under implementation of the Specific Plan would not use transportation fuel in an unnecessary, wasteful, or inefficient manner. This impact would be ***less than significant*** (see criterion [c] in subsection 9.3.1, "Significance Criteria," above).

Mitigation 9-2. No significant impact has been identified; no mitigation is required.

Table 9-9
ESTIMATED OPERATIONAL CHANGE in VMT (2019 VS 2040)

Metric	Vehicle Miles Traveled (VMT)		
	2019	**2040**	**Change**
Scenario A			
Annual VMT(A)	13,474,142	119,373,555	+ 886%
Service Population (SP)	2,592	27,500	+ 1,061%
Average Daily Distance Driven (VMT/SP/Day)	14.2	11.9	- 16%
Scenario B			
Annual VMT(A)	13,474,142	114,598,939	+ 851%
Service Population (SP)	2,592	26,620	+ 1,027%
Average Daily Distance Driven (VMT/SP/day)	14.2	11.8	- 17%

Source: MIG 2020 (See Appendix 25.2)
(A) See Section 9.1.6.3.
(B) Reflects the annual VMT, divided by the SP, divided by 365 days per year

Impact 9-3. Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency. The Project would not conflict with nor obstruct a state or local plan adopted for the purposes of increasing renewable energy or energy efficiency.

The Title 24 Building Code contains energy efficiency standards for residential and non-residential buildings. These standards address electricity and natural gas efficiency in lighting, water, heating, and air conditioning, as well as the effects of the building envelope (e.g., windows, doors, walls and rooves, etc.) on energy consumption. The latest update to these standards, codified in the 2019 Title 24 Building Code, requires the installation of solar panels on new residential development under three stories. The City would enforce the applicable Title 24 Building Code (currently 2019) during design review and project approval processes. In addition, as discussed above under "GHG Emissions and Plan Consistency" the proposed Specific Plan contains numerous standards and guidelines (as detained under Section 9.3.2) that address sustainability for future projects in the Plan Area. The Specific Plan would also support the City's post-2020 Climate Action Plan measures, which support energy efficiency in the City (see Table 9-6).

As discussed above, the Specific Plan would support the State's goals of decreasing energy consumption for each of its residents, increasing energy efficiency, and would not conflict with a state or local plan for renewable energy. This impact would be ***less than significant*** (see criterion [d] in subsection 9.3.1, "Significance Criteria," above).

Mitigation 9-3. No significant impact has been identified; no mitigation is required.

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Acronym, Symbol, Abbreviation	Description
°F	Degrees Fahrenheit
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACC	Advanced Clean Cars
BAAQMD	Bay Area Air Quality Management District
BAU	Business-As-Usual
BOE	Board of Equalization
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbon
CH_4	Methane
CI	Carbon Intensity
CNRA	California Natural Resources Agency
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
EIR	Environmental Impact Report
EO	Executive Order
EV	Electric Vehicle
GHG	Greenhouse Gases

Acronym, Symbol, Abbreviation	Description
GPU	General Plan Update
GWP	Global Warming Potential
HFC	Hydrofluorocarbon
IAQ	Indoor Air Quality
IPCC	Intergovernmental Panel on Climate Change
kBtu	kilo-British Thermal Units
kWh	kilo-Watt hour
LCFS	Low Carbon Fuel Standard
LEV	Low-Emission Vehicle
MPO	Metropolitan Planning Organization
MTC	Metropolitan Planning Commission
$MTCO_2e$	metric tons of CO_2 equivalents
MWh	Mega-Watt hour
MY	Model Year
N_2O	Nitrous Oxide
NHTSA	National Highway Traffic Safety Administration
NOP	Notice of Preparation
PDA	Priority Development Area
PFC	Perfluorocarbon
PG&E	Pacific Gas & Electric
ppm	parts per million
RFS	Renewable Fuel Standard
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SAFE Vehicles Rule	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SP	Service Population
TDM	Transportation Demand Management
U.N.	United Nations
UNFCC	United Nations Framework Convention on Climate Change
U.S.	United States
U.S. EIA	U.S. Energy Information Administration
U.S. EPA	United States Environmental Protection Agency
ZEV	Zero Emission Vehicle

10. HAZARDS AND HAZARDOUS MATERIALS

This EIR chapter describes hazards and hazardous materials implications of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific hazards and hazardous materials impact concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan create significant hazards to the public or the environment through the transport, use, or disposal of hazardous materials; through reasonably foreseeable upset or accident conditions; through hazardous emissions or handling hazardous material near a school; or through location on a government-identified hazardous materials site. The Guidelines also direct local agencies to examine whether a project would create a safety hazard related to an airport; interfere with an adopted emergency response plan; or create a wildland fire risk.[1]

The California Supreme Court decision (December 2015) in *California Building Industry Association v. Bay Area Air Quality Management District* ("*CBIA*") concluded, "[W]e hold that CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate…is an analysis of how a project might exacerbate existing environmental hazards." The environmental impact analysis in this section (and throughout the EIR) takes into consideration this Court decision. However, *CBIA* also identified two relevant exceptions to this general rule: (1) if the project would exacerbate existing environmental hazards (such as exposing hazardous waste that is currently buried), then that can be considered an impact of the project on the environment; and (2) potential noise and safety impacts on projects due to proximity to an airport must be analyzed.

10.1 SETTING

10.1.1 Hazardous Materials

(a) Cortese List Search. The Cortese List contains the provisions in California Government Code Section 65962.5, enacted to create a "list" (now a set of information resources) of hazardous materials sites in the state. The presence of a site on the Cortese List has bearing on local permitting processes and compliance with CEQA.[2] There are five data resources that provide information regarding sites that meet the Cortese listing requirements.[3] A review of the

[1]CEQA Guidelines, appendix G, item IX (a through g).

[2]CalEPA, Cortese List Background and History, available at: https://calepa.ca.gov/sitecleanup/corteselist/Background/, accessed 03/25/20.

[3]Cortese List Data Resources (available at: https://calepa.ca.gov/sitecleanup/corteselist/): (1) the Department of Toxic Substance's (DTSC) EnviroStor database (Hazardous Waste and Substances Site List); (2) the State Water Resources Control Board (State Water Board) GeoTracker database (Leaking Underground Storage Tank Site List); (3) the State Water Board's list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit; (4) list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the State Water Board;

Cortese List data resources conducted on March 5, 2020 indicated no sites in the Plan Area in any of the Cortese List data resources.

(b) Other Database Searches. The Plan Area may contain hazardous materials sites not listed in a Cortese List data resource. A review of the U.S. Environmental Protection Agency's (EPA) CERCLIS[1] database indicated no active CERCLIS sites in the Plan Area. Figure 5.10-3, Hazardous Materials (2010), of the City of Santa Clara General Plan indicates there are two hazardous materials sites in the Plan Area.[2] One of the sites, Celtrix Pharmaceuticals, Inc., is in the Department of Toxic Substance's (DTSC) EnviroStor[3] database; the other site, Cyxtera Communications, LLC, is in the State Water Resources Control Board's (State Water Board) GeoTracker[4] database.

(1) Celtrix Pharmaceuticals, Inc., 3055 Patrick Henry Drive. The Celtrix Pharmaceuticals site is permitted by the City of Santa Clara Fire Department for the treatment or storage of hazardous waste; although the site is currently non-active, it would require further evaluation prior to development activities.

> *DTSC EnviroStor Status:* Inactive–Needs Evaluation (i.e., a non-active site where DTSC has determined a Preliminary Endangerment Assessment or other evaluation is required)
> *Project Type:* Tiered Permit (i.e., the permitted tier matches the degree of risk associated with the hazardous waste treatment and/or storage activities for facilities that require State authorization).

(2) Cyxtera Communications, LLC – SC9, 4650 Old Ironsides Drive. The Cyxtera Communications site is permitted by the City of Santa Clara Fire Department for storage of hazardous substances in an underground storage tank (UST).

> *State Water Board GeoTracker Status:* Permitted (i.e., authorized by the local permitting agency under UST permitting requirements to operate an UST system)

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and (5) a DTSC list of hazardous waste facilities subject to corrective action pursuant to Section 25178.5 of the Health and Safety Code.

[1]CERCLIS is the acronym for the U.S. EPA's comprehensive environmental response, compensation, and liability information system. CERCLIS is the national database and management system that the EPA uses to track activities of hazardous waste sites considered for cleanup under the Comprehensive Environmental Response and Liability Act (CERCLA), which is commonly known as Superfund. Superfund sites are lands within the United States that have been contaminated by hazardous waste and identified by the EPA as candidates for remediation because they pose a risk to human health and/or the environment. U.S. EPA, CERCLIS search: http://www.epa.gov/enviro/cerclis-search; accessed 03/05/20.

[2]City of Santa Clara, 2010-2035 General Plan, November 16, 2010.

[3]EnviroStor is an on-line research and Geographic Information System tool that allows a search for information on investigation, cleanup, permitting, and/or corrective actions that are planned, being conducted, or have been completed under DTSC's oversight.

[4]GeoTracker is an on-line research tool similar to EnviroStor, but it collects information from different databases, such as State and local agency lists of Leaking Underground Storage Tanks (LUSTs) as well as permitted Underground Storage Tanks (USTs).

Project Type: UST (i.e., one or more tanks, including pipes connected to them, used for the storage of hazardous substances and that are substantially or totally beneath the surface of the ground).

(c) Santa Clara Fire Department. As the Certified Unified Program Agency (CUPA) for the City of Santa Clara, the Santa Clara Fire Department (SCFD) Hazardous Materials Division conducts inspections of hazardous waste generators within the City of Santa Clara and maintains a database of these generators (which are required to submit a "Hazardous Waste Generator Permit Application" when they move into the city or begin generating hazardous waste). The database includes current business status and other information related to state and/or EPA registration and reporting (e.g., California Environmental Reporting System, EPA ID number).[1] There are 12 businesses in the city identified on this database and registered with the Fire Department for on-site hazardous materials.

(d) Environmental Data Resources. A database search was conducted by Environmental Data Resources, Inc. (EDR Report, October 25, 2018)[2] to assist the City with assessing potential environmental risks in the Plan Area. The search reviewed available environmental records, following U.S. Environmental Protection Agency (EPA) and related environmental site assessment requirements.[3] The EDR Report identified 97 environmental records associated with 46 sites located in the Plan Area. Table 10-1 lists the sites in the EDR Report. ***Inclusion in the table does not mean that the site is necessarily considered a hazard.*** In addition, the EDR Report listed 131 environmental records for 55 hazardous materials sites located outside of, but within one-quarter mile of, the Plan Area; these sites are not listed in Table 10-1.

Table 10-1
THE EDR RADIUS MAP REPORT RESULTS FOR THE PLAN AREA

Site Name	**Address[1]**	**Database[2]**
Applied Materials	2901 Patrick Henry Dr	CERS, FINDS
Areva Solar Inc	2901 Patrick Henry Dr	HAZNET
PG&E Hydrotest I 13	2929 Patrick Henry Dr	HAZNET
NBS Design Inc	2950 Patrick Henry Dr	HAZNET
Rocket EMS Inc.	2950 Patrick Henry Dr	CERS, CERS HAZ WASTE, FINDS, HAZNET
Ropiscan Systems NEU	2950 Patrick Henry Dr	HAZNET
Science Applications	2950 Patrick Henry Dr	EMI, FINDS, HAZNET
Delfin Systems (1x Delfin Systems)	3000 Patrick Henry Dr	EMI, HAZNET

[1]Frederick Chun, Assistant Fire Marshal, City of Santa Clara Fire Department, email dated June 2, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[2]Patrick Henry Drive Specific Plan, The EDR Radius Map Report with GeoCheck, Inquiry Number: 5465645.2, October 25, 2018.

[3]Environmental Data Resources, Inc. (EDR), Patrick Henry Drive Specific Plan, The EDR Radius Map Report with GeoCheck, Inquiry Number: 5465645.2, October 25, 2018.

Site Name	Address[1]	Database[2]
Pactron Inc	3000 Patrick Henry Dr	CERS HAZ WASTE, CERS
Signal Products DIV	3000 Patrick Henry Dr	HAZNET
Xidex Corporation	3000 Patrick Henry Dr	RCRA-SQG, FINDS, ECHO
Aviron	3055 Patrick Henry Dr	HAZNET
Celtrix Pharmaceuticals	3055 Patrick Henry Dr	CUPA Listings, CIWQS, ECHO, EMI, ENVIROSTOR, FINDS, HAZNET, RCRA NonGen/NLR
Comparative Bioscience	3055 Patrick Henry Dr	HAZNET
Equity Office Properties	3055 Patrick Henry Dr	FINDS
Hudson Pacific Properties	3055 Patrick Henry Dr	EMI
Medimmune (Medimmune Vaccines, Medimmune Vaccines I)	3055 Patrick Henry Dr	CERS, CERS HAZ WASTE, FINDS, HAZNET
H-Square Corp (H-Square Corporation)	3100 Patrick Henry Dr	CERS, CERS HAZ WASTE, HAZNET
Picarro Inc.	3105 Patrick Henry Dr	FINDS
Precision Echo Inc (Drs Precision Echo, Drs Precision Echo I)	3105 Patrick Henry Dr	CERS, CERS HAZ WASTE, CUPA Listings, ECHO, EMI, FINDS, HAZNET, RCRA NonGen/NLR
O2 Micro	3118 Patrick Henry Dr	CERS, CERS HAZ WASTE, FINDS, HAZNET
Animatics Corporation	3200 Patrick Henry Dr	HAZNET
Cisco Systems Inc	3200 Patrick Henry Dr	HAZNET
Communications & Power (Communications & Power Industries, Communications and Power Industries Inc, Communications & Power Industry)	3200 Patrick Henry Dr	CIWQS, CUPA Listings, ECHO, EMI, FINDS, HAZNET, RCRA NonGen/NLR
Gamma Microwave, Inc.	3200 Patrick Henry Dr	HAZNET
Prudential INS	3200 Patrick Henry Dr	HAZNET
Varian Association (Varian Soil Project)	3200 Patrick Henry Dr	CIWQS, ECHO, FINDS, NPDES, RCRA NonGen/NLR
California Eastern Laboratory	4590 Patrick Henry Dr	CUPA Listings, ECHO, FINDS, HAZNET, RCRA-LQC, CERS
Hydrotest T 25B 11 L	4590 Patrick Henry Dr	RCRA NonGen/NLR
Pacific Gas & Electric	4590 Patrick Henry Dr	HAZNET
Solectron Corp	4598 Patrick Henry Dr	RCRA NonGen/NLR, FINDS, ECHO
H.L.T.H. Corp	4600 Patrick Henry Dr	HAZNET
Larse Corp	4600 Patrick Henry Dr	HAZNET

Site Name	Address[1]	Database[2]
National Instruments	4600 Patrick Henry Dr	CERS HAZ WASTE, CERS, HAZNET, FINDS
Frank R Williams MD	4701 Patrick Henry Dr	HAZNET
Applied Materials BL	4600 Old Ironsides Dr	RCRA-SQG, FINDS, ECHO
Gould Inc Biomation	4600 Old Ironsides Dr	HAZNET
David Wang	4633 Old Ironsides Dr	HAZNET
Cyxtera Communications	4650 Old Ironsides Dr	CERS TANKS, CERS
Hydrostatic Test T25	4650 Old Ironsides Dr	ECHO, FINDS, RCRA-LQG
Pacific Gas & Electric	4650 Old Ironsides Dr	EMI, HAZNET
Savvis Communications (Savvis – SC9, DLR Savvis)	4650 Old Ironsides Dr	AST, CIWQS, EMI, FINDS, UST
AECS Corporation	4677 Old Ironsides Dr	RCRA NonGen/NLR, FINDS, ECHO
AT&T Mobility-Tasman	4699 Old Ironsides Dr	CERS, FINDS
Cyxtera Communications	4700 Old Ironsides Dr	CERS, CERS HAZ WASTE, CERS TANKS
Savvis Communications (Savvis Inc.)	4700 Old Ironsides Dr	EMI, AST, FINDS, HAZNET, UST
SOURCE: Environmental Data Resources, Inc. (EDR), Patrick Henry Drive Specific Plan, The EDR Radius Map Report with GeoCheck, Inquiry Number: 5465645.2, October 25, 2018.		

Notes:
[1]All addresses are in the Patrick Henry Drive Specific Plan Area.

[2]*Databases (some of these include multiple listings for the same address):*
AST: A listing of aboveground storage tank petroleum storage tank locations.
CERS: The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials.
CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.
CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.
CIWQS: The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.
CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

ECHO: ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.
ENVIROSTOR: As part of the Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program (SMBRP), the EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further, including Federal Superfund sites (National Priorities List [NPL]); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor replaced the former CalSites database and provides similar hazardous substance release site information, but also includes additional site information such as identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.
EMI: Toxics and criteria pollutant emissions data collected by the ARB (California Air Resource Board) and local air pollution agencies.
FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.
HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests and continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. The source is the Department of Toxic Substance Control. This database begins with calendar year 1993.
NPDES: A listing of NPDES permits, including stormwater.
RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.
RCRA-SQG: As described above, RCRAInfo is EPA's comprehensive information system, and includes selective information on sites that generate, transport, store, treat and/or dispose of RCRA-defined hazardous waste. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.
RCRA NonGen/NLR: As described above, RCRAInfo is EPA's comprehensive information system, and includes selective information on sites that generate, transport, store, treat and/or dispose of RCRA-defined hazardous waste. Non-Generators do not presently generate hazardous waste.
UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

(e) Proximity to Schools. There are no schools in the Plan Area. However, there are two schools within one-quarter mile of the Plan Area boundary: Fairwood Elementary School to the west in Sunnyvale, and Mission College to the south. The Cyxtera Communications site (4650 Old Ironsides Drive) and the Celtrix Pharmaceuticals site (3055 Patrick Henry Drive) are located

within one-quarter mile of Mission College. In addition, 44 of the sites listed in Table 10-1 are within one-quarter mile of Fairwood Elementary School and/or Mission College.

(f) Radon. According to the U.S. Environmental Protection Agency (EPA) Map of Radon Zones, Santa Clara County is in Zone 2, which means a "moderate" potential for human exposure to average indoor radon levels between 2 and 4 pCi/L (pico curies per liter). The map is intended to help governments and other organizations target risk reduction activities and resources. This rating applies to all of Santa Clara County and 33 other counties in the state (Map of Radon Zones in California based on EPA data, http://www.city-data.com/radon-zones/California/California.html, viewed 8/31/20). The California Department of Public Health (CDPH) Radon Program collects and maintains a digital database of radon test data for buildings throughout the state. Based on the CDPH database of tests results, the Plan Area is located in an area where 6.3 percent of 16 sites tested exceeded the U.S. EPA action level of 4.0 pCi/L or greater.

10.1.2 Airport Hazards

There are no public airports within two miles of the Plan Area. The Norman Y. Mineta San Jose International Airport (San Jose International Airport or "SJC") is located approximately 2.5 miles southeast of the Plan Area. The Santa Clara County Airport Land Use Commission's (ALUC) Comprehensive Land Use Plan (CLUP) for the San Jose International Airport establishes an Airport Influence Area (AIA), defined as "a feature-based boundary around the Airport within which all actions, regulations and permits must be evaluated by local agencies to determine how the Airport Comprehensive Land Use Plan [CLUP] policies may impact the proposed development."[1] Approximately 12 acres of the eastern third of the Plan Area (northeast of Old Ironsides Drive and Patrick Henry Drive) are in the San Jose International Airport AIA. The rest of the Plan Area, south of Patrick Henry Drive and west of Old Ironsides Drive, is not located within the AIA.

The CLUP also establishes development standards related to noise, structure height, and safety that are applicable to development in areas surrounding the airport. The CLUP maps these areas to help evaluate land use compatibility in the vicinity of the airport. While the Plan Area is not located in a mapped safety or noise area, parts of the Plan Area are within the CLUP Height Restriction Area, which uses the Federal Aviation Administration's (FAA) Federal Aviation Regulations (FAR) Part 77 imaginary surfaces to delineate the area within which structures above a maximum structure height may constitute a safety hazard.

Federal Aviation Regulations, Part 77, "Objects Affecting Navigable Airspace" (commonly referred to as FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of proposed structures and minimizing other potential hazards to aircraft such as reflective surfaces, flashing lights, and electronic interference. These regulations require that the FAA be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above ground.

[1]Santa Clara County Airport Land Use Commission, Comprehensive Land Use Plan for the Norman Y. Mineta San Jose International Airport, adopted May 25, 2011 and amended November 16, 2016, p. 3-17.

See Figure 10.1 (Airport Influence Area and Airport Height Restrictions). CLUP Policy H-1 states that any structure, existing or proposed, that penetrates (i.e., is above the maximum structure height) the FAR Part 77 imaginary surfaces mapped in CLUP Figure 6 (p. 3-11) would be considered an incompatible use, barring a determination from the FAA that the proposed structure or object does not present a hazard to air navigation.[1] For the parts of the Plan Area that require review for structure height, the maximum structure height varies from 150 feet to 170 feet above ground level (assuming a ground elevation of roughly 20 feet). Notification to the FAA would therefore be required for individual proposed structures that would exceed this airspace surface. FAA review and issuance of determinations that a proposed structure would not be a hazard to air navigation, and project compliance with any conditions set forth in such FAA determinations, would ensure that the structure would not be an air safety hazard.[2]

Additional CLUP policies related to land use compatibility include Policy G-6, which prohibits uses within an AIA that may cause hazards to aircraft due to electrical interference, high intensity lighting, attraction of birds, and activities that produce smoke, dust, or glare, among others. Projects proposed in the Plan Area that are within the San Jose International Airport AIA would need to be referred to the ALUC for a consistency review with the San Jose International Airport CLUP.

10.1.3 Emergency Response

The Santa Clara Fire Department (SCFD) is responsible for emergency response in the City and, as part of the standard development review process, evaluates project site plans to determine if adequate access for emergency vehicles is provided. The City does not designate formal evacuation routes. Current site access, which would also provide for evacuation, is via Great America Parkway by either Patrick Henry Drive or Old Ironsides Drive, with internal circulation comprised of Patrick Henry Drive in the west and southern parts of the Plan Area and Old Ironsides Drive in the east part of the Plan Area. The remainder of existing internal circulation is varied with parking lots accessing both Patrick Henry Drive and Old Ironsides Drive via driveways. According to SCFD, emergency access to the general vicinity of the site is considered adequate.[3]

As discussed in chapter 17, Transportation, the Specific Plan proposes to redesign the internal circulation of the Plan Area to include a grid system of new streets that would provide connections between parking garages and Patrick Henry Drive and Old Ironsides Drive. Three of the new street connections would be planned on Patrick Henry Drive and two would be planned on Old Ironsides Drive. (A possible new street connection between Patrick Henry Drive and Mission College Boulevard is being considered.) These new internal streets, whose design would be subject to Fire Department review and approval, would facilitate emergency access by increasing the number of connection points. In addition, emergency vehicle access would also

[1] Comprehensive Land Use Plan for the Norman Y. Mineta San Jose International Airport, adopted May 25, 2011 and amended November 16, 2016.

[2] Cary Greene, Airport Planner, City of San Jose Airport Department, email dated January 8, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[3] Jake Tomlin, Fire Marshal-Battalion Chief, City of Santa Clara Fire Department, email dated June 2, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

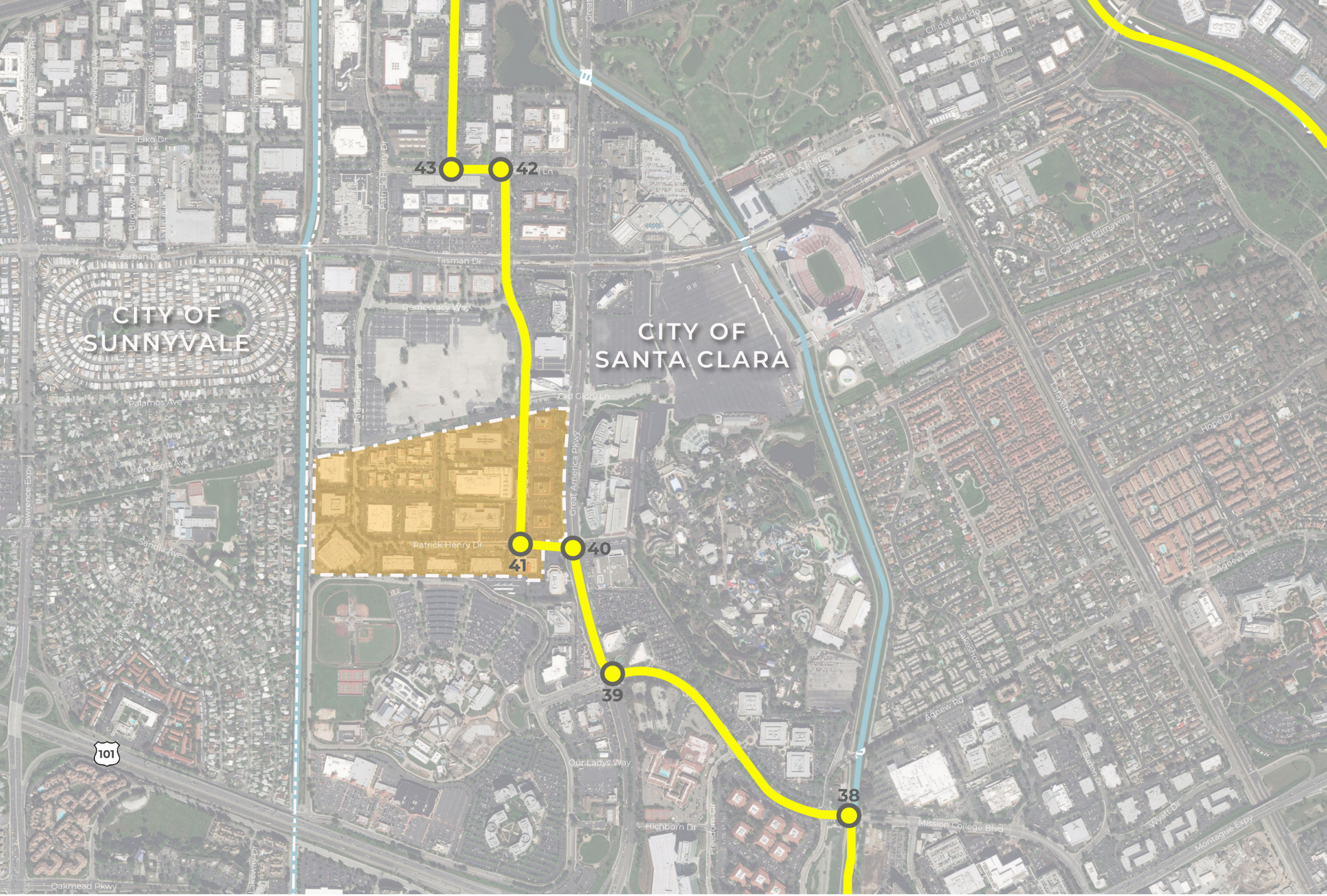

FIGURE 10.1: AIRPORT INFLUENCE AREA & AIRPORT HEIGHT RESTRICTIONS

Patrick Henry Drive Specific Plan

- Study Area Parcel
- City Boundary
- Creeks/Water Bodies
- Airport Influence Area

Plan Area Intersections:
40- Great America Parkway & Patrick Henry Drive
41- Patrick Henry Drive & Old Ironside Drive

N

0 750 1,500 3,000 Feet

be provided next to cul-de-sacs by connecting the "dead end" section of the street with multi-modal paths for pedestrians, cyclists, and emergency vehicles, and alleys would be required to have a minimum width of 25 feet to allow for emergency vehicle access.

The City, in partnership with other cities and the County, participated in the development of the Santa Clara County Operational Area Hazard Mitigation Plan (Hazard Mitigation Plan) (October 2017), a multi-jurisdictional hazard mitigation plan tailored to the Santa Clara County Operational Area. The Hazard Mitigation Plan includes a dedicated annex for each planning partner; Annex L, the "City of Santa Clara Emergency Operations Plan," is the component specific to the City of Santa Clara.[1] The City of Santa Clara Emergency Operations Plan (EOP) describes the mitigation actions and strategies comprising the City's hazard mitigation plan and provides organizational guidance for City responses to emergency situations. The hazard mitigation plan categorizes actions by seven mitigation types (prevention, property protection, public education and awareness, natural resource protection, emergency services, structural projects, and climate resilience) that are or would be implemented before, during, or after a natural or man-made disaster from earthquake, severe weather, flood, dam and levee failure, drought, landslide, and wildfire.[2] The EOP also identifies the legal and regulatory standing available to the City for ensuring that these hazard mitigations are addressed, such as the City's General Plan, Climate Action Plan, and City Code; State building codes and Government and Civil Code statutes; Water Board and regional pollution prevention plans; and other related policy documents and plans. Each EIR topic chapter (under the "Regulatory Setting" section) identifies the plans and policies with which the Specific Plan would be required to comply, and chapter 19, Consistency with Adopted Plans and Policies, of this EIR also discusses the Specific Plan's consistency with adopted local and regional plans.

In addition, the SCFD participates in the City's Community Emergency Response Team (CERT) program, which provides education and training to its volunteer members to assist in keeping families, homes, neighborhoods, and workplaces secure during a major disaster. Training includes basic response skills such as medical care, utility control, building damage assessment, fire suppression, and search and rescue operations.[3]

As discussed above, emergency access points in the Plan Area include Patrick Henry Drive, Old Ironsides Drive, and Great America Parkway. Future individual projects would be required to comply with the California Fire Code and SCFD access standards.[4] Also, when responding to Code 3 service calls (e.g., "lights and sirens"), the Fire Department has transponders in their lights/sirens to activate traffic signals to red in all four directions.

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[1]Office of Emergency Services, County of Santa Clara & Santa Clara County Fire, Santa Clara County Operational Area Hazard Mitigation Plan, October 15, 2017.

[2]City of Santa Clara, Santa Clara County Operational Area Hazard Mitigation Plan; Volume 2 – City of Santa Clara Emergency Operations Plan (Annex L), October 15, 2017.

[3]City of Santa Clara, CERT (Community Emergency Response Team), available at: https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/community-resources/cert-community-emergency-response-team, accessed 3/05/20.

[4]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated June 11, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department; Jake Tomlin, Fire Marshal-Battalion Chief, City of Santa Clara Fire Department, email dated June 2, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

10.1.4 Wildfire Hazards

The City of Santa Clara is in a Local Responsibility Area (LRA) for wildland fire protection. As mapped by CAL FIRE,[1] the City is in a non-Very High Fire Hazard Severity Zone (VHFHSZ). In addition, the City has determined that it does not have terrain or vegetation conducive to wildfires.[2]

10.1.5 Electromagnetic Fields (EMFs)

The Silicon Valley Power Mission Substation is located on Mission Boulevard in the southeast part of the Plan Area, adjacent to the northern Mission College parking lots. The substation has a 60 kilovolt (kV) line coming in that is "stepped down" to 12 kV feeder outlets that lead out from the substation. The strength of EMFs from equipment within substations, such as transformers, reactors, and capacitor banks, decreases rapidly with increasing distance. The strongest EMFs around the outside of a substation come from the power lines that enter and leave the substation. In general, EMFs produced by substation equipment is typically indistinguishable from background levels once beyond the substation fence or wall.[3]

10.2 REGULATORY SETTING

10.2.1 Federal

U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency (EPA) is the primary federal agency that regulates hazardous materials and waste. The agency is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and Native American tribes the responsibility for issuing permits and for monitoring and enforcing compliance. EPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing waste volumes through such strategies as recycling. EPA Region 9 has authority in the Bay region for (1) regulating chemical and hazardous materials use, storage, treatment, handling, transport, and disposal practices; (2) protecting workers and the community (along with Cal/OSHA, see below); and (3) integrating the federal Clean Water Act and Clean Air Act into California legislation. Under the authority of RCRA, and in cooperation with State and tribal partners, the EPA Region 9 Waste Management and Superfund Divisions manage programs for site environmental assessment and cleanup, hazardous and solid waste management, and underground storage tanks.

U.S. Department of Transportation. The U.S. Department of Transportation (DOT) governs transportation of chemicals and hazardous materials under Title 49 of the Code of Federal Regulations (CFR). DOT stipulates the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways. Under the Hazardous Materials

[1]CAL FIRE, Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE, October 8, 2008.

[2]City of Santa Clara, 2010-2035 General Plan, November 16, 2010.

[3]National Institute of Environmental Health Sciences & National Institutes of Health, "EMF: Electric and Magnetic Fields Associated with the Use of Electric Power, Questions & Answers," June 2002 (https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf, accessed 3/31/20).

Transportation Act and the Hazardous Materials Transportation Uniform Safety Act, State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans).

Federal Aviation Administration. The Federal Aviation Administration (FAA) provides regulations controlling land use in airport vicinities, as stipulated in Federal Aviation Regulations (FAR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace. These regulations require that any proposed new construction or expansion of existing structures that would penetrate any of the FAR Part 77 based "imaginary" horizontal and sloping navigational surfaces for airports would be deemed incompatible unless specifically determined otherwise by the FAA. Projects that plan construction or alterations which may affect navigable airspace are required to file notice with the FAA.

Occupational Safety and Health Administration. The Occupational Safety and Health Administration (OSHA) oversees administration of the Occupational Safety and Health Act, which requires specific training for hazardous materials handlers, provision of information to employees who may be exposed to hazardous materials, and acquisition of material safety data sheets (MSDS) from materials manufacturers. Material safety data sheets describe the risks and proper handling and procedures related to particular hazardous materials. Employee training must include response and remediation procedures for hazardous materials releases and exposures.

Resource Conservation and Recovery Act (RCRA) of 1976, as Amended by the Hazardous and Solid Waste Amendments of 1984. Federal hazardous waste laws are generally promulgated under the RCRA. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed. The Act also sets forth a framework for managing nonhazardous solid wastes.

Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act of 1986. Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

Emergency Planning Community Right-to-Know Act. The Emergency Planning Community Right-to-Know Act (EPCRA), also known as Superfund Amendments and Reauthorization Act (SARA) Title III, was enacted in October 1986. This law requires any infrastructure at the State and local levels to plan for chemical emergencies. In California, SARA Title III is implemented through the California Accidental Release Program (CalARP). The State of California has delegated local oversight authority of the CalARP program to the County of Santa Clara.

National Response Framework. The 2019 National Response Framework, published by the Department of Homeland Security, is a guide to how the Nation responds to all types of disasters and emergencies. The Framework describes specific authorities and best practices for managing incidents that range from serious local to large-scale terrorist attacks or catastrophic natural disasters. In addition, the Framework describes the principles, roles,

responsibilities, and coordinating structures for responding to an incident and further describes how response efforts integrate with those of the other mission areas.

10.2.2 State

California Environmental Protection Agency/Office of Emergency Services. The California Environmental Protection Agency (CalEPA) establishes regulations governing the use of hazardous materials in the State in order to restore, protect, and enhance the environment; and to ensure public health, environmental quality, and economic vitality. The Office of Emergency Services (OES) coordinates State and local agencies and resources for educating, planning, and warning citizens of hazardous materials and related emergencies, including organized response efforts in case of emergencies. CalEPA also oversees the unified hazardous waste and hazardous materials management regulatory program (Unified Program).

California Department of Transportation. The California Department of Transportation (Caltrans) manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Caltrans is also the first responder for hazardous material spills and releases that occur on those highway and freeway lanes and inter-city rail services.

California Occupational Safety and Health Administration. The California Occupational Safety and Health Administration (Cal/OSHA) is responsible for promulgating and enforcing State health and safety standards and implementing federal OSHA laws. For example, Cal/OSHA's regulatory purview includes provisions to minimize the potential for release of asbestos and lead during construction and demolition activities.

California Health and Safety Code. California Health and Safety Code (H&SC) Division 20, Chapter 6.95, and Title 19 of the California Code of Regulations, Section 2650 et seq., set out the minimum requirements for business emergency plans and chemical inventory reporting. These regulations require businesses to provide emergency response plans and procedures, training program information, and a hazardous material chemical inventory disclosing hazardous materials stored, used, or handled on site. A business which uses hazardous materials or a mixture containing hazardous materials must establish and implement a business plan if the hazardous material is handled in certain quantities.

California Department of Toxic Substances Control. The California Department of Toxic Substances Control (DTSC), which is a department of CalEPA, is authorized to carry out the federal RCRA hazardous waste program in California to protect people from exposure to hazardous wastes. The department regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California, primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California H&SC Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations [CCR], Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow federal and State requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

State Water Resources Control Board. The State Water Resources Control Board (State Water Board) is authorized to implement the Local Oversight Program (LOP) for the abatement, and oversight of the abatement, by certified local agencies of unauthorized releases of hazardous substances from underground storage tanks (USTs), and maintains a system for storing and retrieving data pertaining to the remediation of unauthorized releases from USTs. The State Water Board is required to notify the appropriate Regional Water Quality Control Board before certifying, denying certification, or withdrawing certification of an agency.

San Francisco Regional Water Quality Control Board. One of nine regional boards in California, the San Francisco Bay Regional Water Quality Control Board (RWQCB): (1) protects surface and groundwater quality from toxic contamination and pollutants discharged or threatened to be discharged to the Waters of the State; (2) regulates public water systems; and (3) enforces the federal and State Safe Drinking Water acts through the Drinking Water Program. The RWQCB issues and enforces National Pollutant Discharge Elimination System (NPDES) permits and regulates leaking underground storage tanks (LUSTs) and other sources of groundwater contamination.

Standardized Emergency Management System Chapter 2, Division 2, Title 19 of the California Code of Regulations. The standardized Emergency Management System (SEMS) is intended to standardize responses to emergencies involving multiple jurisdictions or multiple agencies. SEMS requires that emergency response agencies use basic principles and components of emergency management, multi-agency or inter-agency coordination, the operational area concept, and established mutual aid systems. Local government must use SEMS in order to be eligible for State funding of response-related personnel costs.

California Disaster and Civil Defense Master Mutual Aid Plan. The California Disaster and Civil Defense Master Mutual Aid Plan outlines policies, procedures, and authorities for provision of emergency management personnel from unaffected jurisdictions to support affected jurisdictions during an emergency event, in accordance with the Master Mutual Aid Agreement. The Master Mutual Aid Agreement establishes that jurisdictions should voluntarily aid and assist each other in the event that a disaster should occur, by the interchange of services and facilities, including, but not limited to, fire, police, medical and health, communication, and transportation services and facilities.

State Emergency Plan. In 2009, the California State Emergency Plan was adopted to address the State's response to extraordinary emergency situations associated with natural disasters or human-caused emergencies. The State Emergency Plan describes the methods for carrying out emergency operations, the process for rendering mutual aid, the emergency services of governmental agencies, and how the public will be informed during an emergency or disaster. The Plan was updated in 2017.

California Department of Forestry and Fire Protection. The California Department of Forestry and Fire Protection (CAL FIRE) protects life and property through fire prevention engineering programs, law and code enforcement and education. CAL FIRE identifies areas within Local Responsibility Areas and recommends fire hazard severity zones; CAL FIRE designates fire hazard severity zones for areas within State Responsibility Areas. The Patrick Henry Drive Specific Plan area is in a Local Responsibility Area and is not in a fire hazard zone.

10.2.3 Regional

Bay Area Air Quality Management District. The Bay Area Air Quality Management District (BAAQMD) regulates the demolition and renovation of buildings and structures that may contain asbestos, and the manufacture of materials known to contain asbestos. The BAAQMD is vested with authority to regulate airborne pollutants through both inspection and law enforcement, and is to be notified 10 days in advance of any proposed demolition or abatement work. BAAQMD regulations must always be followed when removing asbestos or demolishing buildings.

Santa Clara County Airport Land Use Commission. The Santa Clara County Airport Land Use Commission (ALUC) reviews proposals for general plans, specific plans, zoning ordinances, and land use development proposals in the vicinity of Norman Y. Mineta San Jose International Airport to ensure that future land uses in the surrounding area remain compatible with the realistically foreseeable, ultimate potential aircraft activity. Their review is based on the Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport, adopted May 25, 2011 (amended November 16, 2016). The Comprehensive Land Use Plan sets forth land use compatibility criteria, compatibility zones, development standards, and policies pertaining to noise, safety, airspace protection, and overflight standards, and establishes the planning boundaries that define height, tall structures, noise, and safety zones for policy implementation. The Land Use Plan also includes areas within which notification of airport proximity is required as part of real estate transactions.

10.2.4 City of Santa Clara

Santa Clara General Plan. The General Plan addresses protecting residents and businesses from natural and man-made hazards (including exposure to hazardous materials and remediation for existing and future development) and emergency planning and preparedness. Applicable General Plan policies include:

- Policy 5.3.5-P7: Require building heights to conform to the requirements of the Federal Aviation Administration, where applicable.

- Policy 5.3.5-P19: Restrict the use and storage of hazardous materials for industrial uses within 500 feet of existing residential uses.

- Policy 5.10.1-P10 Promote the reduction, recycling and safe disposal of household hazardous wastes through public education and awareness and through an increase in hazardous waste collection events.

- Policy 5.10.2-P3: Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

- Policy 5.10.5-P1: Use the City's Local Hazard Mitigation Plan as the guide for emergency preparedness in Santa Clara.

- Policy 5.10.5-P22: Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants and the environment are adequately protected from hazards associated with contamination, in accordance with applicable regulations.

- Policy 5.10.5-P23: Require appropriate clean-up and remediation of contaminated sites.
- Policy 5.10.5-P24: Protect City residents from the risks inherent in the transport, distribution, use and storage of hazardous materials.
- Policy 5.10.5-P25: Use Best Management Practices to control the transport of hazardous substances and to identify appropriate haul routes to minimize community exposure to potential hazards.
- Policy 5.10.5-P26: Survey pre-1980 buildings and abate any lead-based paint and asbestos prior to structural renovation and demolition, in compliance with all applicable regulations.
- Policy 5.10.5-P29: Continue to refer proposed projects located within the Airport Influence Area to the Airport Land Use Commission.
- Policy 5.10.5-P32: Encourage all new projects within the Airport Influence Area to dedicate an avigation easement.
- Policy 5.10.5-P33: Limit the height of structures in accordance with the Federal Aviation Administration Federal Aviation Regulations, FAR Part 77 criteria.

Santa Clara City Code. As provided in City Code Chapter 15.60 (Municipal Fire and Environmental Code), the City assumes authority and responsibility within the City for the California Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), as established by Health and Safety Code, Division 20, Chapter 6.11, Section 25404 et seq., including administration and enforcement of six state-mandated hazardous materials management programs in the City and coordination with other agencies as appropriate, in compliance with State and federal law. The SCFD Fire Prevention/Hazardous Materials Division is the Certified Unified Program Agency (CUPA) for the City of Santa Clara, and is responsible for implementing programs related to Hazardous Materials Management Plans/Business Plans (HMBP), aboveground storage tanks and underground storage tanks, hazardous waste generators and on-site treatment of hazardous wastes, and the California Accidental Release Prevention Program (CalARP).

10.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to hazards and hazardous materials that could result from Patrick Henry Drive Specific Plan implementation, and discusses components of the Plan that would avoid or reduce those potential impacts.

10.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to hazards and hazardous materials if it would:

[1]CEQA Guidelines, appendix G, item IX (a through g).

(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would create a significant hazard to the public or the environment;

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the Plan Area;

(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Regarding criterion (f), see section 10.1.3 (Emergency Response) above. Because future development under the Specific Plan would be required to comply with the plans and policies identified in the City's Hazard Mitigation Plan/Emergency Operations Plan, the Specific Plan would not interfere with this plan. The impact would therefore be less-than-significant, and this issue is not discussed further in this chapter. EIR chapter 17 (Transportation, section 17.3.3 – Impacts and Mitigation Measures) discusses emergency access to and within the Plan Area; this impact also would be less-than-significant.

Regarding criterion (g), and as described above in section 10.1.4 (Wildfire Hazards), the City of Santa Clara is in a Local Responsibility Area (LRA) for wildland fire protection. As mapped by CAL FIRE,[1] the City is in a non-Very High Fire Hazard Severity Zone (VHFHSZ). In addition, the City has determined that it does not have terrain or vegetation conducive to wildfires. The Plan Area is not within, adjacent to, or near any Extreme or High wildfire risk areas. No impact would result, and this issue is not discussed further in this chapter. Fire protection in the Plan Area is discussed in chapter 15 (Public Services) of this EIR.

10.3.2 Relevant Patrick Henry Drive Specific Plan Components

The "Regulatory Setting" above applies to Specific Plan implementation. In addition, the Specific Plan, Chapter 5 (Design Guidelines), includes the following standard that would avoid or reduce potential hazards associated with future development in the Plan Area:

[1]CAL FIRE, Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE, October 8, 2008.

Specific Plan 5.6.1 Building Massing, Height and Scale
Standard 5.6.1.2 Limit building height, including all vertical building elements, to the Federal Aviation Administration (FAA) requirement.

10.3.3 Impacts and Mitigations

Impact 10-1: Project-Related Potential Impacts Due to Hazardous Materials Transport, Use, Storage, and Disposal. The proposed land uses permitted under the Specific Plan are not expected to involve the routine transport, use, storage, or disposal of hazardous materials to the extent that a significant public or environmental hazard would occur. Operations in the Plan Area may involve the occasional transport, use, storage, or disposal of common hazardous substances such as fuel, paint, and solvents. These normal activities would be subject to applicable local, State, and federal regulations. Construction of future project proposals under the Specific Plan would likely involve the intermittent transport, use, and disposal of potentially hazardous materials, including fuels and lubricants, paints, solvents, and other materials commonly used in construction and maintenance. During construction activities, any on-site hazardous materials that may be used, stored, or transported would also be subject to applicable local, State, and federal regulations that require standard protocols (as determined by the U.S. EPA, California Department of Health and Safety, Santa Clara County, and the City) for maintaining health and safety.

All land uses are subject to applicable provisions of the City's Municipal Code and the Specific Plan, as well as the "Regulatory Setting" in section 10.2 above.

With implementation of adopted, standard procedures and regulations, the potential for associated hazardous materials impacts would be ***less-than-significant*** (see criteria [a] in subsection 10.3.1, "Significance Criteria," above).

Mitigation 10-1. No significant impact has been identified; no mitigation is required.

Impact 10-2: Potential Exposure to Existing Hazardous Materials Contamination. There is always a possibility that new construction could encounter contamination and expose construction workers to existing spilled, leaked, or otherwise discharged hazardous materials or wastes (e.g., see Table 10-1 in the "Setting," above). Each project applicant in the Plan Area would be required to comply with all applicable, existing City-, County-, regional-, and State-mandated site assessment, remediation, removal, and disposal requirements for soil, surface water, and/or groundwater contamination, as described in the "Regulatory Setting" (section 10.2) above. Compliance with these established requirements would prevent exacerbation of existing contamination or accidental release, and ensure that this possible health and safety impact would be *less-than-significant.*

Typically, implementation of these standard procedures would involve the following steps. As explained above, these steps are consistent with standard procedures required as part of City-, County-, regional-, and State-mandated requirements. The steps are not considered additional mitigations required by this EIR because the steps are existing development standards applied uniformly to all applicable projects.

(a) Soil Contamination. In order to avoid or substantially reduce potential health hazards related to construction personnel or future occupant exposure to soil contamination, as well as

to prevent accidental release to surrounding areas, project applicants would complete the following steps for each site proposed for disturbance as part of construction activity in the Plan Area:

Step 1. Investigate the site to determine whether it has a record of hazardous material discharge into soils, and if so, characterize the site according to the nature and extent of soil contamination that is present before development activities proceed at that site.

Step 2. Based on the proposed activities associated with the proposed project, determine the need for further investigation and/or remediation of the soil conditions on the contaminated site. For example, if the site is slated for commercial land use, such as retail, the majority of the site will be paved and there will be little or no contact with contaminated soil. Industrial cleanup levels would likely be applicable. If the slated development activity could involve human contact with soils, such as may be the case with residential use, then Step 3 should be completed. If no human contact is anticipated, then no further mitigation is necessary.

Step 3. If it is determined that extensive soil contact would accompany the intended use of the site, undertake a Phase II Environmental Assessment investigation, involving soil sampling at a minimum, at the expense of the project applicant, property owner, or responsible party. Should further investigation reveal high levels of hazardous materials in the site soils, mitigate health and safety risks according to City of Santa Clara and regulatory agency requirements. This would include site-specific health and safety plans prepared prior to undertaking any building or utility construction. Also, if buildings are situated over soils that are significantly contaminated, undertake measures to either remove the chemicals or prevent contaminants from entering and collecting within the building. If remediation of contaminated soil is infeasible, a deed restriction would be necessary to limit site use and eliminate unacceptable risks to health or the environment.

(b) Surface or Groundwater Contamination. In order to reduce potential health hazards due to construction personnel or future occupant exposure to surface water or groundwater contamination, or accidental transmission to other properties, project applicants would complete the following steps for each site proposed for disturbance as part of construction activity in the Plan Area:

Step 1. Investigate the site to determine whether it has a record of hazardous material discharge into surface or groundwater, and if so, characterize the site according to the nature and extent of contamination that is present before development activities proceed at that site.

Step 2. Install drainage improvements in order to prevent transport and spreading of hazardous materials that may spill or accumulate on-site.

Step 3. If investigations indicate evidence of chemical/environmental hazards in site surface water and/or groundwater, then measures acceptable to the City and the other applicable regulatory agencies would be required to ensure the site is properly remediated prior to development activity.

Step 4. Inform construction personnel of the proximity to recognized contaminated sites and advise them of health and safety procedures to prevent exposure to hazardous chemicals in surface water/groundwater.

Implementation of these required, standard procedures would result in a ***less-than-significant impact*** associated with potential soil and surface/groundwater contamination (see criterion [b] in subsection 10.3.1, "Significance Criteria," above).

Mitigation 10-2. No significant impact has been identified; no mitigation is required.

Impact 10-3: Project-Related Potential Asbestos and PCB Exposure. Removal or disturbance of asbestos-containing material (ACM) and/or transformers during alteration, renovation, or demolition of existing structures within the Plan Area could expose construction workers and the general public to friable asbestos and/or polychlorinated biphenyls (PCBs). Therefore, in compliance with General Plan Policy 5.10.5-P26 ("Survey pre-1980 buildings and abate any lead-based paint and asbestos prior to structural renovation and demolition, in compliance with all applicable regulations") and as a condition of alteration, renovation, or demolition permit approval for buildings within the Plan Area, the City requires the project applicant to coordinate with the Bay Area Air Quality Management District (BAAQMD) as appropriate to determine if ACM and/or PCBs are present, in conformance with BAAQMD established protocols and consistent with the explanation below.

Ensuring proper identification and removal of ACM and PCBs requires each project applicant to complete the following steps. As explained above ("Project-Related Potential Exposure to Existing Hazardous Materials Contamination"), these steps are standard procedures required as part of City-, County-, regional-, and State-mandated requirements; the steps are not mitigation required by this EIR.

Step 1. Thoroughly survey the project site and existing structures for the presence of ACM and PCBs. The survey shall be performed by a person who is properly certified by the Occupational Safety and Health Administration (OSHA) and has taken and passed an Environmental Protection Agency (EPA) approved building inspector course.

Step 2. If building elements containing any amount of ACM or PCBs are present, prepare a written ACM/PCB Abatement Plan describing activities and procedures for removal, handling, and disposal of these building elements using the most appropriate procedures, work practices, and engineering controls.

Step 3. Provide the ACM and PCB survey findings, the written ACM/PCB Abatement Plan (if necessary), and notification of intent to demolish to the City and BAAQMD at least ten days prior to commencement of demolition.

Step 4. Remove any on-site transformers prior to demolition of buildings.

Implementation of these required, standard procedures would result in a ***less-than-significant impact*** associated with potential ACM and PCB exposure (see criterion [b] in subsection 10.3.1, "Significance Criteria," above).

Mitigation 10-3. No significant impact has been identified; no mitigation is required.

Impact 10-4: Project-Related Potential Lead-Based Paint Exposure. If lead-based paint is present and has delaminated (split into thin layers) or chipped from surfaces, airborne lead particles could be released during alteration, renovation, or demolition of existing structures within the Plan Area. California OSHA (CalOSHA) regulations would be applied, and each site-specific project would implement the following standard, mandatory procedures in accordance with those CalOSHA regulations:

- Notify the City's Building and Fire Safety Division prior to starting work, describing the nature, location, and schedule of the work;
- Post a sign at all work locations where lead containment is required, stating that lead-based paint abatement is in progress and public access is prohibited;
- Notify the tenant(s) where the lead-based paint abatement work will be performed on a residential property occupied by one or more tenants; and
- Notify the property owner when work on a residential project will disturb lead-based paint.

Lead abatement performance standards are included in the *Guidelines for Evaluation and Control of Lead-Based Paint Hazards* (U.S. Department of Housing and Urban Development). Accordingly, HEPA vacuums may be required for abrasive blasting, water blasting, scraping, or sanding. Burning, torching, and similar activities are prohibited. Following completion of lead-based paint abatement, all visible lead-based paint particles must be removed from the site.

The City may inspect lead-based paint abatement activities at any time during construction. These personnel are also responsible for addressing citizen complaints related to lead-based paint abatement activities and may issue a Notice of Violation, a Stop Work order, or a fine.

Implementation of these required, standard procedures would result in a ***less-than-significant impact*** associated with potential lead-based paint exposure (see criterion [b] in subsection 10.3.1, “Significance Criteria,” above).

Mitigation 10-4. No significant impact has been identified; no mitigation is required.

Impact 10-5: Potential for Hazardous Materials Near Schools. See the impact discussions above. Existing schools are located within one-quarter mile of the Plan Area; however, the land uses permitted under the Specific Plan are not expected to involve the routine transport, use, storage, or disposal of hazardous materials to that extent that a significant public or environmental hazard would occur. In addition, as discussed in Impact 10-1 above, although future construction under the Specific Plan would likely involve the intermittent transport, use, storage, and disposal of potentially hazardous materials, including fuels and lubricants, paints, solvents, and other materials commonly used in construction and maintenance, these projects would be required to comply with applicable local, State, and federal regulations. Also, the regulatory requirements described above (section 10.2) would be implemented as applicable. Specific to schools, State regulations on the siting of hazardous materials facilities limit their location in proximity to schools; conversely, CEQA (section 21151.8, School Site Acquisition or Construction) and other State regulations impose restrictions on where new schools can be constructed. The impact of hazardous materials on schools would be ***less-than-significant*** (see criterion [c] in subsection 10.3.1, “Significance Criteria,” above).

Mitigation 10-5. No significant impact has been identified; no mitigation is required.

Impact 10-6: Protocols for Government Code Section 65962.5 Sites. A review of the Cortese List data resources conducted on March 5, 2020 indicated no sites in the Plan Area in any of the Cortese List data resources (see section 10.1.1, Hazardous Materials, above). The California Department of Toxic Substances Control (DTSC) maintains the EnviroStor database, which lists and includes data on hazardous materials sites compiled pursuant to Government Code section 65962.5 (Cortese List); such sites are regulated by DTSC because hazardous materials investigations and/or cleanup actions are planned, active, or have been completed at these sites (see Table 10-1 under "Setting," above). The site-specific mitigation protocols administered by DTSC and other jurisdictional agencies (including the Santa Clara Fire Department) – in conformance with federal, State, regional, and local regulations (see "Regulatory Setting," above) – are intended to ensure that the cleanup of such sites would result in ***less-than-significant impacts*** (see criterion [d] in subsection 10.3.1, "Significance Criteria," above).

Mitigation 10-6. No significant impact has been identified; no mitigation is required.

Impact 10-7: Consistency With San Jose Airport Comprehensive Land Use Plan. See section 10.1.2 (Airport Hazards) and section 10.2.3 ("Regional Regulatory Setting"), above. Approximately 12 acres of the eastern third of the Plan Area (northeast of Old Ironsides Drive and Patrick Henry Drive) are in the San Jose International Airport Influence Area (AIA). The rest of the Plan Area, south of Patrick Henry Drive and west of Old Ironsides Drive, is not located within the AIA.

The Airport Comprehensive Land Use Plan (CLUP) establishes development standards related to noise, structure height, and safety that are applicable to development in areas surrounding the airport. While the Plan Area is not located in a mapped safety or noise area, parts of the Plan Area are within the CLUP Height Restriction Area, which uses the Federal Aviation Administration's (FAA) Federal Aviation Regulations (FAR) Part 77 imaginary surfaces to delineate the area within which structures above a maximum structure height may constitute a safety hazard.

Federal Aviation Regulations, Part 77, "Objects Affecting Navigable Airspace" (commonly referred to as FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of proposed structures and minimizing other potential hazards to aircraft such as reflective surfaces, flashing lights, and electronic interference. These regulations require that the FAA be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above ground.

CLUP Policy H-1 states that any structure, existing or proposed, that penetrates (i.e., is above the maximum structure height) the FAR Part 77 imaginary surfaces mapped in CLUP Figure 6 (p. 3-11) would be considered an incompatible use, barring a determination from the FAA that the proposed structure or object does not present a hazard to air navigation. Based on preliminary review of the Plan Area by the City of San Jose Airport Department, the FAR Part 77

airspace surface notification requirement would apply to structures whose proposed height would exceed from 150 feet to 170 feet above ground (assuming a ground elevation of roughly 20 feet), and therefore would require review of project plans by the FAA[1] (which would consider other factors besides height, such as flight direction and trajectory). Notification to the FAA would therefore be required for individual proposed structures that would exceed this airspace surface, such as for buildings in the Urban Center designation where allowable heights of 12-plus stories have the potential to reach 150-170 feet. FAA review and issuance of determinations that a proposed structure would not be a hazard to air navigation, and project compliance with any conditions set forth in such FAA determinations, would ensure that the structure would not be an air safety hazard.

Additional CLUP policies related to land use compatibility include Policy G-6, which prohibits uses within an AIA that may cause hazards to aircraft due to electrical interference, high intensity lighting, attraction of birds, and activities that produce smoke, dust, or glare, among others.[2] Projects proposed in the Plan Area that are within the San Jose International Airport AIA would need to be referred to the ALUC for a consistency review with the San Jose International Airport CLUP.

Based on the discussion above and the adopted, standard protocols under the CLUP, this land use compatibility and safety impact is considered ***less-than-significant*** (see criterion [e] in subsection 10.3.1, “Significance Criteria,” above).

Mitigation 10-7. No significant impact has been identified; no mitigation is required.

[1]Cary Greene, Airport Planner, City of San Jose Airport Department, email dated January 8, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[2]There are no Specific Plan or General Plan policies related to hazards such as bird safety and outdoor lighting for projects proposed within the San Jose International Airport AIA.

11. HYDROLOGY AND WATER QUALITY

This EIR chapter describes the hydrology and water quality implications of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific hydrology and water quality impact concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan violate water quality or waste discharge standards; degrade water quality; decrease groundwater supplies or interfere with groundwater recharge in a way that impedes sustainable groundwater management; alter drainage patterns; cause erosion or siltation; increase runoff to the extent that flooding occurs; contribute runoff that would exceed stormwater drainage capacity or provide pollutants; impede or redirect flood flows; release pollutants following a flood, tsunami, or seiche event; or conflict with or obstruct a water quality control plan or sustainable groundwater management plan.[1]

The California Supreme Court decision (December 2015) in *California Building Industry Association v. Bay Area Air Quality Management District* concluded, "[W]e hold that CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. What CEQA does mandate…is an analysis of how a project might exacerbate existing environmental hazards." The environmental impact analysis in this section (for example, related to flooding), and throughout the EIR, takes into consideration this Court decision.

11.1 SETTING

11.1.1 Hydrologic Setting

The City of Santa Clara (City) is located in the San Francisco Bay Hydrologic Region. More specifically, the City is in Santa Clara Subbasin (Subbasin) of the larger Santa Clara Valley Groundwater Basin. The Subbasin is bounded on the west by the northwest-oriented Santa Cruz Mountains located south of the San Francisco Bay. The southernmost portion of the San Francisco Bay and the northern municipal boundaries of the City of Palo Alto and the City of Milpitas form the northern boundary of the Subbasin. The Diablo Range bounds the Subbasin to the east, and a groundwater divide near the town of Morgan Hill is the southern extent of the Subbasin. Several San Francisco Bay tributaries, including Coyote Creek, the Guadalupe River, and Los Gatos Creek drain the Santa Clara Valley to the north.[2]

For groundwater purposes, the Santa Clara Valley Water District (Valley Water) divides the Subbasin into two groundwater management areas: the Santa Clara Plain and the Coyote Valley. The Santa Clara Plain management area is further divided into two hydrogeologic areas: the recharge (unconfined) and the confined areas. The principal hydrogeologic features

[1]CEQA Guidelines, appendix G, item X (a through e).

[2]Department of Water Resources, California's Groundwater, Bulletin 118, Santa Clara Valley Groundwater Basin, Santa Clara Subbasin, February 27, 2004.

of the Santa Clara Plain management area include Quaternary alluvial deposits of unconsolidated gravel, sand, silt, and clay that eroded from the Santa Cruz Mountains and the Diablo Range; Holocene (younger than 10,000 years-old) deposits from streams and Bay Mud along the San Francisco Bay overlay older Pleistocene (10,000 to 1.8 million years-old) deposits. In some areas of the Subbasin, the slightly to semi-consolidated alluvial deposits of the Santa Clara Formation underly the Pleistocene deposits. Impermeable bedrock underlies the alluvial sediments at varying depths. Groundwater supplies in the Subbasin are supplied both by natural recharge and through percolation ponds and stream beds.[1]

The Plan Area is located in the confined area of the Santa Clara Plain management area. Groundwater supplies in the confined area are laterally extensive, but vertically restricted by geologic units with low permeability; therefore, the confined area is not considered a groundwater recharge area. Average annual precipitation in the Subbasin ranges from about 15 inches in the valley to about 45 inches at the high points of the Santa Cruz Mountains.[2]

No creeks pass through the Plan Area, however, Calabazas Creek is located approximately 100 feet west of the Plan Area and separated from the Plan Area by a levee and a floodwall. Calabazas Creek flows south-north in an earthen channel parallel to the Plan Area (and for part of the City's border on the west). In addition, San Tomas Aquino Creek, located approximately ½ mile east of the Plan Area, is separated from the Plan Area by California's Great America amusement park, parking lots, office buildings, landscaping, other development, and Great American Parkway. A little over one mile farther east is Guadalupe River, which flows near the City's border on the east and ultimately discharges into the lower South San Francisco Bay via Alviso Slough.[3]

11.1.2 Groundwater Conditions

The California Department of Water Resources (DWR) calculated the surface area of the Subbasin to be 153,600 acres.[4] Based on data collected from 2006-2015, groundwater in the Subbasin was determined to be of good quality and not requiring treatment beyond disinfection. Historical high groundwater pumping and land subsidence resulted in saltwater intrusion into shallow aquifers near the salt ponds and tidal creeks in the northern portion of the Subbasin; however, chloride concentrations detected in 2006-2015 monitoring were relatively low and confined to a small portion of the principal aquifer zone. Recent data specific to the Santa Clara Plain similarly show the groundwater is of good quality, and where detected, calcium, magnesium, and bicarbonate are the dominant dissolved constituents.[5]

Groundwater levels in the Subbasin have fluctuated over time, but have largely increased since the mid-1960s following the implementation of an artificial recharge program and overall

[1]Bulletin 118, February 27, 2004; Valley Water (Santa Clara Valley Water District) web site, https://www.valleywater.org/how-we-operate/about-valley-water, accessed 4/1/20.

[2]Santa Clara Valley Water District, 2016 Groundwater Management Plan, November 2016.

[3]City of Santa Clara, Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011.

[4]Bulletin 118, February 27, 2004.

[5]2016 Groundwater Management Plan, November 2016.

decreases in pumping.[1] Prolonged drought conditions in the early 2010s resulted in lower groundwater levels, but groundwater levels recovered in 2015 and 2016 due to reduced community water use, retailer shifts to treated surface water, and increased managed recharge.[2]

In 2015, groundwater from the City of Santa Clara's wells supplied 65 percent of the City's drinking water supply. The remainder of its drinking water supply that year was from treated surface water with 21 percent obtained from the Santa Clara Valley Water District and 14 percent obtained from the San Francisco Public Utilities Commission Hetch-Hetchy system. Overall, groundwater from City wells represented 54.1 percent of City water sales in 2015. Imported water from SCVWD represented 17.5 percent of water sales, with imported water from the Hetch-Hetchy system representing 11.7 percent of water sales, and recycled water making up 16.7 percent of total water sales.[3]

Valley Water manages groundwater in Santa Clara County and is the Groundwater Sustainability Agency (GSA) for both the Santa Clara and the Llagas Subbasins under the Sustainable Groundwater Management Act (SGMA). The Santa Clara Subbasin has been designated a High Priority Groundwater Basin by the California Department of Water Resources.[4] Under the SGMA, preparation of a Groundwater Sustainability Plan (GSP) is required for medium and high priority groundwater basins. As an alternative to a GSP, SCVWD developed the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP).[5] The GWMP establishes qualitative groundwater sustainability goals and strategies for managing water supply reliability, minimizing land subsidence, and protecting against salt water intrusion. The Plan also incorporates quantitative outcome measures to gauge progress.

11.1.3 Water Quality

(a) Stormwater Runoff. During periods of rain, water can flush sediment and pollutants from urbanized areas into the storm drain system, where they are discharged directly to surface waters. This urban runoff can contribute significant quantities of total suspended solids, heavy metals, petroleum hydrocarbons, and other pollutants to surface waters. The City of Santa Clara storm drain system includes curb inlets and pipelines underneath city streets. Curb inlets collect surface runoff water and convey it to underground pipelines, then to the City's channelized creeks, including Calabazas Creek and San Tomas Aquino Creek, where the runoff

[1]Bulletin 118, February 27, 2004

[2]2016 Groundwater Management Plan, November 2016.

[3]City of Santa Clara, 2015 Urban Water Management Plan, November 22, 2016.

[4]California Department of Water Resources, Groundwater Management Basin Prioritization web site, https://gis.water.ca.gov/app/bp-dashboard/final/, accessed 4/6/20.

[5]2016 Groundwater Management Plan, November 2016. The 2016 GWMP was approved as an Alternative Plan by DWR on July 17, 2019 (DWR, Alternatives to Groundwater Sustainability Plans, https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Alternatives, accessed 2/20/20).

is ultimately discharged into San Francisco Bay.[1] In the Plan Area, a series of storm drain pipes conveys stormwater from Patrick Henry Drive (including parts of Old Ironsides Drive) east to Great America Parkway, and then north to the Westside Storm Drain Pump Station (on Old Mountain View-Alviso Road) where stormwater flows are directed to San Tomas Aquino Creek.[2]

The City of Santa Clara is a member of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), which also includes the County of Santa Clara, the SCVWD (Valley Water), and other cities and towns in the Santa Clara Valley that discharge runoff into the San Francisco Bay. The SCVURPPP members are co-permittees of the San Francisco Bay Municipal Separate Storm Sewer System (MS4) National Pollution Discharge Elimination System (NPDES) permit and are required to implement measures to reduce the discharge of pollutants from construction sites, areas of new development, and areas of significant redevelopment. The City enforces stormwater runoff control measures during the development review and monitoring process. Stormwater runoff control measures required for compliance with the NPDES permit may include non-mechanical stormwater quality improvement techniques, such as grassy swales, bioretention, and detention in landscaping, or stormwater detention systems.[3] In addition, as required by the NPDES permit, cities and towns in the Santa Clara Valley are developing green stormwater infrastructure (GSI) plans to incorporate green stormwater infrastructure features into new and existing drainage infrastructure such as rights-of-way, including streets, storm drains, and parking lots.

Currently, there are no stormwater treatment facilities in the Plan Area. Proposed development or redevelopment would need to be designed to meet the stormwater requirements (i.e., NPDES "C.3" requirements, which could include source control, site design, and/or other stormwater treatment measures such as infiltration trenches, media filtration devices, pervious surface treatments, and/or bio-retention areas). Chapter 18, Utilities and Service Systems, of this EIR describes proposed stormwater runoff and storm drainage facilities in the Plan Area.

(b) Nearby Water Bodies. Under the Federal Clean Water Act, the State Water Resources Control Board is required to report on the condition of its surface water quality. Water bodies with pollutants that exceed protective water quality standards are placed on the State's 303(d) List of Water Quality Limited Segments (also known as the list of impaired water bodies). The list identifies the pollutant causing impairment and establishes a schedule for developing a control plan to address the impairment, called a Total Maximum Daily Load (TMDL). The TMDL serves as the means to attain and maintain water quality standards for the impaired water body. (TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.)

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[1] Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011.

[2] BKF Engineers, "Draft Utility Narratives, Patrick Henry Drive Specific Area Plan," prepared for the City of Santa Clara, March 1, 2019.

[3] California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit, Order No. R2-2015-0049, NPDES Permit No. CAS612008, November 19, 2015; https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2_2015_0049_amended.pdf, accessed 4/1/20.

Calabazas Creek is classified on the State's 303(d) list under the Category 4A Criteria. Category 4A Criteria refer to water segments where all its 303(d) listings are being addressed and at least one of the listings is being addressed by a U.S. Environmental Protection Agency (EPA) approved TMDL. Calabazas Creek is listed for diazinon, which is currently being addressed by a U.S. EPA-approved TMDL.[1] San Tomas Aquino Creek is classified on the State's 303(d) list under Category 4B for trash, which does not require a TMDL but is currently being addressed by implementation of trash control provisions in the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries (ISWEBE) of California (through the San Francisco Bay MS4 NPDES permit).[2]

11.1.4 Flooding and Flood Hazards

(a) Historic Flooding. Flooding in Santa Clara has historically occurred in areas adjacent to the streams and creeks, following extensive storm events. Calabazas Creek has flooded multiple times since 1950. Valley Water is the local agency responsible for flood protection in Santa Clara County, and has conducted channel stabilization improvements along Calabazas Creek from south of the City up to San Francisco Bay.[3] The Plan Area is approximately 100 feet east a segment of Calabazas Creek that has received channel stabilization improvements, with a levee and floodwall located atop the levee separating the Plan Area and the creek.

(b) FEMA Flood Maps. See Figure 11.1 (Flood Zones). The Federal Emergency Management Agency (FEMA) develops Flood Insurance Rate Maps (FIRMs) that determine flood risks in communities. These maps identify Special Flood Hazard Areas (SFHAs) that are subject to inundation by the 1% annual chance flood (e.g., 100-year flood event or base flood). According to FEMA, most of the Plan Area is located in Zone X ("Area with Reduced Flood Risk Due to Levee" – i.e., not in the 1% annual flood hazard zone). However, there are some areas in a SFHA, identified as AH and AO.[4] Zone AO and Zone AH are defined as areas in "a 1% annual flood zone" with "flood depths of 1 to 3 feet" (base flood elevation[5] determined on the FIRM).

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[1]State Regional Water Quality Control Board, 2014 and 2016 California List of Water Quality Limited Segments--Category 4A, accessed 2/20/20.

[2]State Regional Water Quality Control Board, 2014 and 2016 California List of Water Quality Limited Segments--Category 4A and Category 4B, accessed 11/25/20; Final California 2014 and 2016 Integrated Report (303(d) List/305(b) Report), Supporting Information, Regional Board 2 – San Francisco Bay Region, San Tomas Aquinas Creek, https://www.waterboards.ca.gov/water_issues/programs/tmdl/2014_16state_ir_reports/01829.shtml#35041, accessed 11/25/20.

[3]Integrated Final Environmental Impact Report for the City of Santa Clara Draft 2010-2035 General Plan, Volume I EIR Text, January 2011.

[4]Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM), Santa Clara County, California, Map Number 06085C0063H, Panel 63 of 830, Effective Date May 18, 2009.

[5]"Base flood elevation" (BFE) is the computed elevation to which floodwater is anticipated to rise during the base flood (https://www.fema.gov/base-flood-elevation, accessed 2/20/20). The BFE is the regulatory requirement for the elevation or floodproofing of structures. The relationship between the BFE and a structure's elevation determines flood insurance premiums.

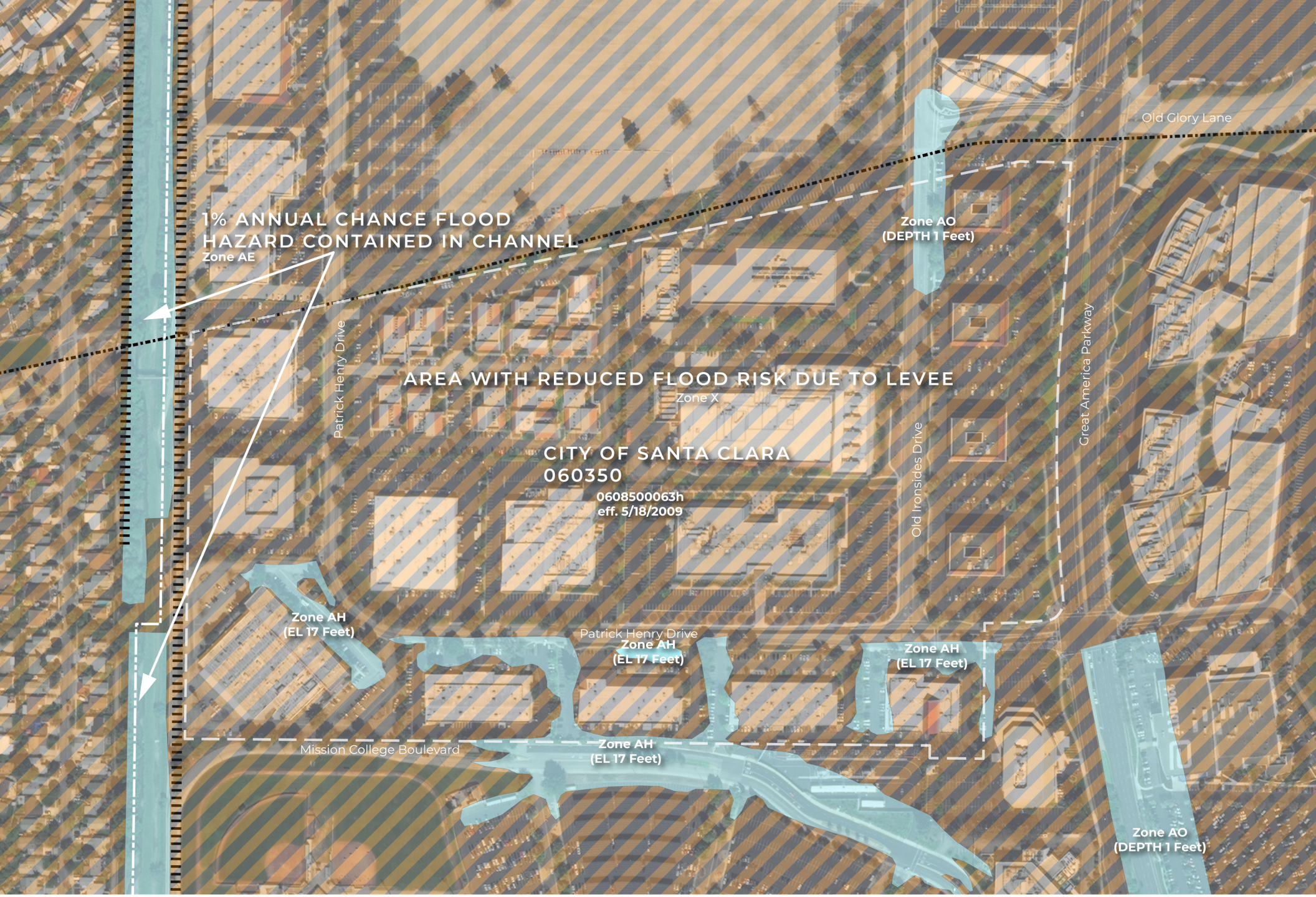

FIGURE 11.1: FLOOD ZONES

Patrick Henry Drive Specific Plan

Special Flood Hazard Areas
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

Other Areas of Flood Hazard
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with Average depth less than one foot or with drainage areas of less than one square mile, Zone X
- Future Conditions 1% Annual Chance Flood Hazard, Zone X
- Area with Reduced Flood Risk due to Levee. See Notes, Zone X
- Area with Flood Risk due to Levee, Zone D

Other Areas
- NO SCREEN Area of Minimal Flood Hazard, Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard , Zone D

General Structures
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

N

0 250 500 Feet

Flooding in Zone AO usually occurs as sheet flow on sloping terrain. A portion of Old Ironside Drive near the northeast corner of the Plan Area is designated as Zone AO (depth 1 foot). In the event of a 1% annual flood, flowing flood waters may reach an average depth of 1 foot.

Flooding in Zone AH results in the formation of ponds. Several parcels in the southern part of the Plan Area along Patrick Henry Drive and between Patrick Henry Drive and Mission College Boulevard are designated as Zone AH (elevation 17 feet, which is the base flood elevation for these areas). In the event of a 1% annual flood, flood waters may pond in these areas to an elevation of 1 to 3 feet above the base flood elevation.

(c) Seiches and Tsunamis. A seiche is a standing wave that oscillates in a body of water contained within a partially or completely enclosed basin. A seiche is initiated by an event within the basin, such as wind, surface or subsurface landslide, or earthquake. There are no bodies of water within the Plan Area or in the vicinity that pose a hazard for seiche.

A tsunami is a series of waves generated in a body of water by a rapid disturbance (e.g., submarine seismic, volcanic, or landslide event) that vertically displaces water. Tsunamis affecting the Bay Area can result from offshore earthquakes within the Bay Area or from distant events. According to the California Emergency Management Agency, the California Geological Survey, and the University of Southern California, neither the Plan Area nor any portion of the City is located in a tsunami inundation area.[1]

11.2 REGULATORY SETTING

11.2.1 Federal

Clean Water Act. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by the U.S. Environmental Protection Agency (EPA) and the states to protect the quality of the nation's surface waters, including lakes, rivers, aquifers, groundwater, and coastal areas. Under the CWA, the EPA sets national standards and effluent limitations, and delegates many regulatory responsibilities to the California State Water Resources Control Board (SWRCB). Section 303(d) of the CWA requires states to (1) develop a list of water bodies that do not meet water quality standards, (2) establish priority rankings for waters on the list, and (3) develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. The list of impaired water bodies is revised typically every two years. The CWA was amended in 1972 to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

National Pollutant Discharge Elimination System. The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from Municipal Separate Storm Sewer Systems (MS4s). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste

[1]California Emergency Management Agency, the California Geological Survey, and the University of Southern California, https://www.conservation.ca.gov/cgs/Documents/Tsunami/Maps/Tsunami_Inundation_Milpitas_Quad_SantaClara.pdf, accessed 2/20/20.

discharges and urban stormwater runoff. NPDES permits identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain an NPDES permit. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine Regional Water Quality Control Boards (RWQCBs). The City of Santa Clara is subject to the waste discharge requirements of the Municipal Regional Stormwater Permit (Order No. R2-2015-0049) and NPDES Permit No. CAS612008, issued on November 19, 2015. Santa Clara County, the Santa Clara Valley Water District (Valley Water), and eleven cities and two towns, including the City of Santa Clara, are co-permittees within Santa Clara County under the Permit, which covers a total of 76 co-permittees in the Bay Area.

U.S. Environmental Protection Agency. In 1990 the EPA published final regulations that establish stormwater permit application requirements. The regulations, also known as Phase I of the NPDES program, provide that discharges of stormwater to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge complies with an NPDES permit. Phase II of the NPDES program expands the requirements by requiring operators of small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and small construction sites to be covered under an NPDES permit, and to implement programs and practices to control polluted stormwater runoff.

National Flood Insurance Act of 1968 (as amended) and Flood Disaster Protection Act of 1973 (as amended). In response to increasing losses from flood hazards nationwide, the United States Congress passed the National Flood Insurance Act of 1968, which established the National Flood Insurance Program (NFIP). The 1968 Act provided for the availability of flood insurance within communities that were willing to adopt floodplain management programs to mitigate future flood losses. The Act also required the identification of all floodplain areas within the United States and the establishment of flood-risk zones within those floodplain areas.

As a result of the Hurricane Agnes flooding along the East coast in 1972, the 1968 Act was expanded by the Flood Disaster Protection Act of 1973, in part to increase the awareness of floodplain mapping needs throughout the country. The 1973 Act added the mandatory flood insurance purchase requirement for individuals, businesses, and others buying, building, or improving property located in identified areas of special flood hazards within participating communities as a prerequisite for receiving any type of direct or indirect federal financial assistance when the building or personal property is the subject of or security for such assistance. The Federal Insurance Administration of the Federal Emergency Management Agency (FEMA) administers the NFIP.

Federal Emergency Management Agency (FEMA). FEMA prepares Flood Insurance Rate Maps (FIRMs) that depict the spatial extent of Special Flood Hazard Areas (SFHAs) and other features related to flood risk assessment. FEMA is responsible for maintaining the FIRMs as new scientific and technical data concerning flood risks become available.

Federal Disaster Mitigation Act of 2000. The Disaster Mitigation Act of 2000 authorizes the Federal Emergency Management Agency (FEMA) to set mitigation planning requirements for

state, local, and Indian Tribal governments as a condition of mitigation grant and disaster assistance, and requires close coordination of mitigation planning and implementation efforts between FEMA and jurisdictions.

11.2.2 State

Porter-Cologne Water Quality Control Act. The Porter-Cologne Act is the principal State law governing water quality regulation in California, and applies to surface waters, wetlands, and groundwater, as well as regulation of both point and nonpoint sources of pollution. The Porter-Cologne Act implements provisions of the CWA, such as the National Pollution Discharge Elimination System (NPDES) permitting program, through the State Water Resources Control Board and nine Regional Water Quality Control Boards, which issue permits for point source discharges.

The Porter-Cologne Water Quality Act also authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS) (for drinking water regulations), the California Department of Pesticide Regulation, and the Office of Environmental Health and Hazard Assessment (OEHHA).

State Water Resources Control Board. In California, the State Water Resources Control Board (SWRCB) has broad authority over water quality control issues. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA.

In addition to municipal and industrial activities, the SWRCB regulates construction activities that disturb one or more acres of land that could impact hydrologic resources. These activities must comply with the SWRCB Construction General Permit (CGP) (2009-0009-DWQ) as amended by 2010-0014-DWQ and 2012-006-DWQ, which requires that applicants demonstrate conformance with applicable best management practices (BMPs) and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must contain a site map that shows the construction site perimeter; existing and proposed buildings, lots, roadways, stormwater collection, and discharge points; general topography both before and after construction; and drainage patterns across the project site. The SWPPP must also list BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants if there is a failure of the BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

State Department of Water Resources. The Department of Water Resources (DWR) is responsible for the management and regulation of water usage, including the delivery of water to two-thirds of California’s population through the State Water Project, the nation’s largest state-built water development and conveyance system. Working with other agencies and the public, DWR develops strategic goals, and near-term and long-term actions, to conserve, manage, develop, and sustain California's watersheds, water and groundwater resources, and management systems. In addition, DWR also works to prevent and respond to floods, droughts, and catastrophic events that would threaten public safety, water resources and management systems, the environment, and property. The State Water Resources Control Board and DWR

are to the two state agencies responsible for implementing the Sustainable Groundwater Management Act.

Sustainable Groundwater Management Act. The Sustainable Groundwater Management Act was enacted in 2014 to provide for local governmental management of groundwater basins. The Act establishes minimum standards for sustainable groundwater management in order to halt overdraft conditions and bring basins into balanced levels of pumping and recharge, as well as avoid groundwater-storage reductions, seawater intrusion, water-quality degradation, land subsidence, and surface-water depletions. Groundwater basins classified as medium to high priority require preparation of groundwater sustainability plans by the local groundwater sustainability agency, formed with authority from the State to manage groundwater resources. Valley Water (Santa Clara Valley Water District) is the groundwater sustainability agency for Santa Clara County (including the City of Santa Clara) and has managed groundwater resources in the county since 1929.

11.2.3 Regional

San Francisco Regional Water Quality Control Board (Region 2). The San Francisco Regional Water Quality Control Board Region 2 (SFRWQCB) regulates stormwater quality under authority of both the Federal Clean Water Act and the Porter-Cologne Act. The SFRWQCB issues NPDES permits to dischargers of municipal and industrial stormwater runoff and operators of large construction sites. In coordination with permittees of the San Francisco Bay Municipal Regional Stormwater Permit, including the City of Santa Clara, SFRWQCB staff performs an annual performance review and evaluation of the County's stormwater management program and NPDES compliance activities. The SFRWQCB also protects groundwater through its regulatory and planning programs.

The San Francisco Bay Municipal Regional Stormwater NPDES Permit (MRP) (1) issues the Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for the discharge of stormwater runoff from the Municipal Separate Storm Sewer Systems (MS4s) of municipalities and local agencies in Bay Area counties, and (2) re-issued county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit to regulate stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, Santa Clara, and Solano counties. In addition, the NPDES permit requires cities and towns in the Santa Clara Valley to develop green stormwater infrastructure (GSI) plans that incorporate green stormwater infrastructure features into new and existing drainage infrastructure, such as rights-of-way, including streets, storm drains, and parking lots.

The City of Santa Clara has joined other cities and towns in the County to form the Santa Clara Valley Urban Runoff Pollution Prevention Program, which is a regulated waste discharger under the MRP (Order No. R2-2015-0049: NPDES Permit No. CAS612008). All new projects in the Patrick Henry Drive Specific Plan Area that create or replace 10,000 square feet or more of roofs or pavement (including new development, redevelopment, and commercial and industrial sites) would be covered under this permit, which mandates a low impact development (LID) approach. LID treatment measures include rainwater harvesting and re-use, infiltration, evapotranspiration, and bio-treatment. The square footage standard is lowered for auto service facilities, retail gasoline outlets, restaurants, and stand-alone uncovered parking lots, which are also covered under the MRP if they create or replace 5,000 square feet or more of roofs or pavement.

Association of Bay Area Governments (ABAG) Multi-Jurisdictional Local Hazard Mitigation Plan. The ABAG Multi-Jurisdictional Local Hazard Mitigation Plan ("Taming Natural Disasters") involves local agencies throughout its nine-county Bay Area jurisdiction, with an overall strategy to maintain and enhance disaster response of the region. The plan focuses on mitigation *before* rather than after disasters by: (1) identifying natural hazards faced by the community and region (e.g., earthquakes, flooding, severe weather), (2) assessing the community's and region's vulnerability to these hazards, and (3) identifying specific preventive actions that can be taken to reduce the risk from the hazards. The plan, which has been approved by FEMA and adopted by ABAG, fulfills the requirements of the Federal Disaster Mitigation Act of 2000. The City of Santa Clara adopted the Santa Clara County Annex to 2010 ABAG Local Hazard Mitigation Plan (December 2011), which was incorporated into the ABAG Plan and also approved by FEMA. Adoption of the Annex allows the City of Santa Clara to become eligible for State and federal disaster assistance. (The City's Local Hazard Mitigation Plan, Annex L of the Santa Clara County Operational Area Hazard Mitigation Plan, is discussed below under "City of Santa Clara Emergency Operations Plan.")

Valley Water (Santa Clara Valley Water District). Valley Water provides a safe and clean water supply for businesses and residents in the county, and also implements flood protection projects and programs to ensure the environmental health of streams and rivers. In addition, Valley Water plans for future water needs through capital improvement projects for the dams, reservoirs, pipelines, levees, pump stations, treatment plants, and recycled water facilities that form the water supply infrastructure. Valley Water also prepares and implements the Groundwater Management Plan (2016), which describes groundwater basin sustainability goals and the framework to achieve continued sustainable groundwater management. This Plan covers both the Santa Clara and Llagas subbasins.

Santa Clara Valley Urban Runoff Pollution Prevention Program. The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) is a countywide organization with the goal of maintaining the environmental health of Santa Clara Valley creeks and rivers, and ultimately San Francisco Bay, through pollution prevention, source control, monitoring and outreach programs aimed at reducing pollution in stormwater runoff. The City of Santa Clara is a member, along with the County of Santa Clara, Valley Water (SCVWD), and other cities and towns in the Santa Clara Valley that discharge runoff into the San Francisco Bay, all of which are regulated under the Bay Area Municipal Regional Stormwater NPDES Permit (MRP). In addition, as part of the MRP, the SCVURPPP developed the Santa Clara Basin Stormwater Resource Plan (SWRP) to help member agencies in identifying and prioritizing opportunities for stormwater capture and use and in planning green stormwater infrastructure projects.

11.2.4 City of Santa Clara

Santa Clara General Plan. The General Plan addresses stormwater runoff, water quality concerns, and flooding hazards in the City. Applicable General Plan policies include:

- Policy 5.10.5-P5: Regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards, including flooding, seismic, erosion, liquefaction and subsidence dangers.

- Policy 5.10.5-P11: Require that new development meet stormwater and water management requirements in conformance with State and regional regulations.

- Policy 5.10.5-P12: Continue to participate in the National Flood Insurance Program and encourage all property owners within flood hazard areas to carry flood insurance.

- Policy 5.10.5-P13: Require that development complies with the Flood Damage Protection Code.

- Policy 5.10.5-P15: Require new development to minimize paved and impervious surfaces and promote on-site Best Management Practices for infiltration and retention, including grassy swales, pervious pavement, covered retention areas, bioswales, and cisterns, to reduce urban water run-off.

- Policy 5.10.5-P16: Require new development to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity and protect water quality.

- Policy 5.10.5-P17: Require that grading and other construction activities comply with the Association of Bay Area Governments' Manual of Standards for Erosion and Sediment Control Measures and with the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction.

- Policy 5.10.5-P18: Implement the Santa Clara Valley Nonpoint Source Pollution Control Program, Santa Clara Valley Urban Runoff Pollution Prevention Program and the Urban Runoff Management Plan.

- Policy 5.10.5-P19: Limit development activities within riparian corridors to those necessary for improvement or maintenance of stream flow.

- Policy 5.10.5-P20: Maintain, upgrade and replace storm drains throughout the City to reduce potential flooding.

- Policy 5.10.5-P21: Require that storm drain infrastructure is adequate to serve all new development and is in place prior to occupancy.

Santa Clara City Code. City Code Chapter 13.20 (Storm Drains and Discharges) establishes regulations to prevent and control unauthorized discharges into watercourses in order to reduce pollutants from urban stormwater runoff, in compliance with the Federal Clean Water Act (CWA), applicable implementing regulations, the NPDES permit, and the Porter-Cologne Act. Regulations address, among other topics, use of best management practices (including treatment requirements, operating procedures, and practices), restrictions on disposable food service ware and single-use carry-out plastic bags, and procedures for accidental or negligent discharge of prohibited substances, materials, or other wastes into any storm drain, storm sewer, natural outlet, or channel. Chapter 15.45 (Prevention of Flood Damage Code) establishes standards and regulations designed to protect human life and health, and minimize risks and damage, due to flooding in areas of special flood hazard, and includes implementation measures, such as restricting or prohibiting uses or construction, or requiring protection for uses vulnerable to floods.

City of Santa Clara Emergency Operations Plan. In 2017, the City of Santa Clara, in partnership with Santa Clara County, the County Fire Department, and all incorporated cities in

the County, prepared a multi-jurisdictional hazard mitigation plan tailored to the Santa Clara County Operational Area (the Santa Clara County Operational Area Hazard Mitigation Plan). The Plan includes the City's Local Hazard Mitigation Plan (Annex L), which establishes mitigation actions and strategies specific to the City of Santa Clara. The Local Hazard Mitigation Plan includes actions related to property protection, public education and awareness, natural resource protection, emergency services, climate resilience, and other areas of concern that are or would be implemented before, during, and after a natural or man-made disaster to reduce the significance of impacts from earthquake, severe weather events, drought, landslide, and other emergency situations and/or disasters. In addition, the City maintains an Emergency Operations Center (EOC) to provide "response-ready" support (including serving as the coordination hub for emergency management activities) during large-scale emergencies or planned events. The EOC is staffed by all City departments.

City of Santa Clara Green Stormwater Infrastructure Plan. As part of the City's NPDES compliance, the Green Stormwater Infrastructure Plan was approved by the City in 2019 to provide a citywide strategy for identifying and evaluating green stormwater infrastructure (GSI) opportunities, including estimating impervious surface target areas to be redeveloped with GSI facilities and providing technical tools for tracking projects. The Plan also identified coordinating with private developers as a key element in implementing GSI when Focus Areas are developed, for instance by installing green infrastructure facilities in public rights-of-way such as street frontages along properties being developing, and also by installing GSI facilities in industrial areas as they are redeveloped. The Plan supports the City's requirement for future development projects to comply with the Municipal Regional Permit C.3 requirements.

11.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to hydrology and water quality that could result from the Patrick Henry Drive Specific Plan, and discusses components of the Plan that would avoid or reduce those potential impacts.

Storm drainage *infrastructure* (e.g., physical improvements to collect and convey drainage) are described in chapter 18 (Utilities and Service Systems) of this EIR.

11.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to hydrology and water quality if it would:

(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;

(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

(c) Substantially alter the existing drainage pattern of the Plan Area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

[1]CEQA Guidelines, appendix G, item X (a through e).

i) result in a substantial erosion or siltation within or outside the Plan Area;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding within or outside the Plan Area;

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv) impede or redirect flood flows;

(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;

(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Criterion (c)(iii), regarding stormwater infrastructure *capacity*, is discussed in chapter 18 (Utilities and Service Systems) of this EIR.

Regarding criterion (d): (1) the Plan Area is not near a lake and therefore would not experience a seiche (there are no published maps or information on seiche hazards in the Bay Area); (2) the Plan Area is not in a Tsunami Inundation Area as identified in Association of Bay Area Governments (see "Setting," above); and (3) the Plan Area is relatively level and would not be susceptible to mudflow. Therefore, impacts related to a seiche or tsunami are not discussed further in this EIR.

11.3.2 Relevant Patrick Henry Drive Specific Plan Components

The stormwater treatment and flood control measures described below (11.3.3, "Impacts and Mitigations") are consistent with the Specific Plan, especially Chapter 6 (Infrastructure Program). The reader is encouraged to review Chapter 6 for more detail. The Plan's proposed drainage infrastructure improvements are discussed in chapter 18 (Utilities and Service Systems) of this EIR.

The following Specific Plan components are especially relevant to the hydrology significance criteria (see 11.3.1 above):

5.1.2.2 Provide stormwater planters in between parking spaces in mid-blocks.

5.1.2.4 Consider installation of permeable interlocking concrete pavers for parking spaces for stormwater management and traffic calming.

5.2.3 Landscaping
Intent: Use street trees and landscaping along corridors to beautify the streetscape, act as a buffer between vehicular traffic and pedestrians and cyclists and provide the environmental benefits of heat island reduction and carbon sequestration. Create and maintain a streetscape system that captures stormwater runoff, filters pollutants, replenishes groundwater supplies, and supports the City's environmental goals.

5.2.3.8 Maximize opportunities for installation of stormwater planters in pedestrian zone and in between on-street parking spaces in accordance with the City's Green Stormwater Infrastructure Plan (GSI Plan) standards.

• Install stormwater tree well filter system consisting of an excavated pit or vault that can be filled with bio-retention soil media, planted with a tree and underlain with drain rock and an underdrain pipe in the amenity zones next to the edge of the curb.

• Incorporate bio retention areas that consist of a ponding area, mulch layer, plants, and a special bioretention soil media, underlain by drain rock and an underdrain, if required in between parking spaces.

• Incorporate stormwater bio-retention system in the curb extension or bulbouts that extends into the roadway. Potential locations are intersection bulbout, mid-block and in-between on-street parking spaces.

5.2.3.12 Consider installation of porous pavement into a gravel-filled storage area prior to infiltrating into underlying soils. This can include permeable interlocking concrete pavers. These pavers can be installed in sidewalks, crosswalks, plazas, on-street parking surfaces, driveways, and Class IV bike lanes.

5.3.2 Old Ironsides Drive
5.3.2.4 Allow stormwater planters and trees in bulbouts.

5.3.2.6 Allow planters inside the amenity zone as bio-retention areas.

5.3.3 New Roadways
5.3.3.4 Allow stormwater planters and trees in bulbouts.

5.3.3.7 Allow planters inside the amenity zone as bio-retention areas.

5.4.4 Plazas
5.4.4.5 Encourage use of permeable interlocking concrete pavers as part of stormwater management.

5.4.5 Greenways
Intent: Greenways will be created throughout the PHD Specific Plan Area to improve connectivity and access and to create a human-scaled setting. These pathways facilitate pedestrian and bicycle access to parks, trails, and activity nodes. Located along alleys and new development, these greenways also create opportunities for on-site stormwater filtration.

5.4.5.8 Encourage the use of bioswales along the greenways to attenuate surface run-off.

5.5.1 Building and Block Organization
5.5.1.2 Use alleys and greenways to break up long blocks, enhance connectivity, and create open spaces and stormwater management features.

In addition, Specific Plan Chapter 6 (Infrastructure, 6.1.2.4 Stormwater Quality) notes, "While it is typical for individual, private projects to incorporate applicable treatment systems within their

individual sites on a project-by-project basis, provisions for treatment of run-off from either new or newly widened public facilities (such as streets, sidewalks and bicycle trails/paths) will also be required. As site planning within the PHD Specific Plan Area progresses, a comprehensive, regional approach to stormwater treatment should be considered. A regional approach could include developing standards for public streets that allow stormwater to be treated "at the source" before being captured in drainage inlets, and/or large, regional facilities that treat run-off from multiple parcels and/or public rights-of-way. In either case, adequate space for these facilities must be programmed into any land planning effort."

11.3.3 Impacts and Mitigations

Impact 11-1: Construction Period Water Quality Impacts. The Regional Water Quality Control Board (RWQCB) and City of Santa Clara water quality protection requirements and conditions applicable to Specific Plan implementation are intended to reduce any potential construction period water quality impacts to a *less-than-significant level*, consistent with federal and State water quality regulations and plans (see section 11.2, Regulatory Setting). Also see EIR chapter 18 (Utilities and Service Systems), subsection 18.3.3 (Impacts and Mitigations) under Project and Cumulative Need for Water, Wastewater, and Storm Drainage System Infrastructure, item (c) (Projected Storm Drainage Infrastructure Requirements).

Development facilitated by the Patrick Henry Drive Specific Plan would implement site-specific, mandated measures (uniformly applied development standards) to protect water quality, including but not limited to those measures required under the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) (see "Regulatory Setting," above).

Any project grading activities involving disturbance of more than one acre would require a Notice of Intent (NOI) and a National Pollution Discharge Elimination System (NPDES) permit from the San Francisco Bay Regional Water Quality Control Board (RWQCB, Region 2 for Santa Clara). The RWQCB administers the NPDES stormwater permitting program in the Bay Area, including the Municipal Regional Stormwater NPDES Permit and C.3 (stormwater compliance) Permit. Project owners submit a Notice of Intent (NOI) to the RWQCB to be covered by the General Construction Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For a project entailing disturbance of more than one acre, the SWPPP must be prepared before construction begins, usually during the planning and design phases of a project, and must include specifications for Best Management Practices (BMPs) that would be implemented during project construction to control contamination of surface flows and the potential discharge of pollutants from commencement of construction through project completion. The SWPPP document itself remains on-site during construction. After completion of the project, the owners are required to submit a Notice of Termination to the RWQCB to indicate that construction is completed.

Also, depending on individual development proposals, grading permits would be required. For all grading permits, the City mandates site-specific measures (uniformly applied development standards) to be implemented during grading to minimize construction period erosion, including a site-specific erosion and sediment control plan subject to City review and approval. Erosion and sediment control plans typically show what BMPs are proposed to be used and where, and are customarily superimposed on a project grading plan. Because project sites and site conditions vary, the measures could include a combination of techniques such as erosion control blankets, fiber rolls, silt fences, storm drain inlet protection, and stabilized construction

exit(s), and would generally address how to minimize impacts from active construction areas during the rainy season (i.e., stockpiling and protecting site soils), preservation of existing vegetation and revegetation of disturbed areas afterward, use of soil stabilization methods (soil binders, straw mulch, etc.), as well as sediment control measures (such as silt fences or straw wattles) to prevent residual silt runoff to storm drains or waterways and measures to clean equipment and prevent off-site tracking of construction-related soil and other debris.

The temporary use of hazardous materials (e.g., diesel fuel) and heavy equipment, which represent a secondary component of construction, could introduce materials that might be spilled in the Specific Plan Area and subsequently washed into water bodies, such as Calabazas Creek, San Tomas Aquino Creek, and, ultimately, San Francisco Bay. These substances could have a direct, adverse effect on water quality in water bodies. Implementation of the standard, required NPDES, SCVURPPP, and City construction period measures to reduce the risk of construction period pollutants would reduce this risk to a *less-than-significant level*.

As noted above, individual development projects would be required to treat and detain stormwater runoff on a site-specific basis. Road resurfacing and sidewalk repair and/or replacement are exempt from the NPDES C.3 Permit requirements if the work is within the existing impervious area footprint. Where Specific Plan-facilitated improvements include new roadway impervious surfaces outside existing impervious areas, the NPDES C.3 Permit requirements must be implemented.

Based on the above discussion, construction period water quality impacts resulting from Specific Plan implementation would be ***less-than-significant*** (see criteria [a], [c][iii], and [e] in subsection 11.3.1, “Significance Criteria,” above).

Mitigation 11-1. No significant impact has been identified; no mitigation is required.

Impact 11-2: Long-Term Water Quality Impacts from Project Operation. Specific Plan long-term implementation could result in contamination of Plan Area stormwater runoff with petroleum and other contaminants from motor vehicles. Development facilitated by the Specific Plan would be required to comply with RWQCB- and City-mandated post-construction, non-point source pollution control measures (uniformly applied development standards; also known as facilities and maintenance practices) that would ensure that such impacts would be reduced to a *less-than-significant level*.

Plan implementation could result in the deposition by motor vehicles of oil and other contaminants along Plan Area streets and in parking areas. Rainfall has the potential to wash these contaminants into the municipal storm drainage system, potentially contaminating downstream waterways, in particular San Tomas Aquino Creek where stormwater runoff from the Plan Area is conveyed, although during major storm events with high levels of rainfall, storm drain networks can interact through overflow connections and surface flows. Such non-point pollution is typically controlled through a combination of source controls (generally through the use of infiltration devices, such as infiltration trenches or basins, which are designed to transmit runoff directly to subsurface soils and thereby prevent pollutants from entering the waterways).

Under the terms of the countywide Municipal Regional Stormwater NPDES Permit (MRP) that the City of Santa Clara is subject to, each development project must also implement post-

construction measures to prevent or control pollutants in runoff (recommended measures are included in the Stormwater C.3 Guidebook), and identify a plan to inspect and maintain these measures. Project designs, subject to review and approval by the City, would be required to include the on-site collection of runoff from all parking facilities and, if feasible, its on-site treatment (oil/grease traps, filters, oil/water separators, or similar in-line filtration systems), and an associated periodic clean out/maintenance program that ensures acceptable trap efficiencies, specifies appropriate disposal procedures, and adequately reduces the risk that the traps become sinks for pollutants. A regular schedule of parking facility sweeping would also be required. In addition, source control features such as roofed trash enclosures would be required to keep pollutants from contacting stormwater. These mandated, uniformly applied stormwater treatment measures would also need to meet engineered sizing criteria approved by the City Engineer.

Permanent post-construction Best Management Practices (BMPs) are required for all new projects that create or replace between 2,500 and 10,000 square feet ("small projects") or more ("large projects") of roofs or pavement, including new development, redevelopment, and commercial and industrial sites. Permanent treatment BMPs can include, for example:

- rainwater harvesting and re-use,
- biofiltration swales,
- detention basins,
- bioretention areas, and
- flow-through planter boxes.

Low Impact Development (LID) features can be integrated with BMPs, control measures, and permit requirements. LID features reduce impervious surfaces and can include pervious pavements, landscape features, and green roofs. Parking stalls and plaza areas in the Plan Area would utilize pervious asphalt, pervious concrete, or permeable pavers. Medians would be landscaped to increase permeability. Landscaped open space also would contribute to reductions in impervious surfaces.

The Specific Plan components identified in section 11.3.2 above are consistent with these water quality measures. All of the above BMPs and LID features, which are discussed in more detail below, are also compatible with the other Patrick Henry Drive Specific Plan frameworks, standards, and guidelines (see section 11.3.2).

Given the existing level of urbanization and the potential development under the Specific Plan, BMPs can complement the Plan's development standards and guidelines, and address existing constraints. For example, bioretention planter areas may be used to treat roadway runoff, and flow-through planter boxes may be used to treat roof runoff. Or, depending on site-specific conditions and proposed plans, BMPs and LID features could include those listed above (BMP: rainwater harvesting and re-use, etc.; LID: pervious pavement, landscape features, etc.) or a combination of these or other feasible and effective techniques. As part of the standard City development process, future project applicants would be required to submit, for City review and approval, a Santa Clara "C.3" data form, which would be used to determine whether C.3 requirements apply (i.e., projects meeting or exceeding the size threshold for impervious

surfaces) and to identify which site design measures, pollutant source controls, and/or stormwater treatment measures are proposed to prevent runoff pollution.

During design, the Stormwater C.3 Guidebook shall be referenced for acceptable BMPs, design considerations, design criteria, and operation and maintenance information. In addition to the C.3 Guidebook, individual development proposals shall determine if drainage would discharge to a water body impacted by specific pollutants, as identified on the C.3 data form (see above), and would be required to demonstrate compliance with RWQCB requirements to reduce stormwater runoff water quality impacts to a less-than-significant level. The 303(d) List of Impacted Water Bodies, prepared and issued by the RWQCB, includes Calabazas and San Tomas Aquino creeks. The Municipal Regional Permit (MRP) provides more detailed information. Based on the discussion above, the effects of contaminated site runoff on water quality in the local (municipal) storm drainage system would represent a ***less-than-significant impact*** (see criteria [a], [c][iii], and [e] in subsection 11.3.1, "Significance Criteria," above).

Mitigation 11-2. No significant impact has been identified; no mitigation is required.

Impact 11-3: Effects on Groundwater Recharge and Groundwater Management. Currently, the Specific Plan Area is covered almost entirely with structures, surface parking (asphalt paving), and introduced landscaping. Based on Plan stormwater treatment components in coordination with C.3 requirements and BMPs, Plan implementation would be expected to decrease the proportion of the Plan Area that is covered with impervious surface through application of LID techniques that would increase permeable area (as discussed in Impact 11-2) as well as the introduction of new landscaped, open space, and park areas.

As discussed in section 11.1.1 (Hydrologic Setting), the Specific Plan Area would not conflict with or obstruct implementation of the 2016 Santa Clara Valley Water District Groundwater Management Plan because the Plan Area is not an area designated by Valley Water for groundwater recharge.

Also, as discussed in chapter 18, Utilities and Service Systems, of this EIR (under "Project and Cumulative Water Supply Impacts"), increased use of groundwater is one of several options available to the City to meet short-term water supply deficiencies. The City currently monitors groundwater levels at all City production wells and meters groundwater pumping. If the City determines the need to pump additional groundwater, this groundwater monitoring, in addition to the existing groundwater recharge program, would reduce the potential to substantially decrease groundwater supplies and ensure that the groundwater basin would not approach overdraft conditions.

Therefore, the impact on groundwater recharge and groundwater management would be ***less-than-significant*** (see criteria [b] and [e] in subsection 11.3.1, "Significance Criteria," above).

Mitigation 11-3. No significant impact has been identified; no mitigation is required.

Impact 11-4: Drainage Patterns and Risk of Flooding. Because the Specific Plan Area is already covered with structures, paved surface parking, and introduced landscaping, development under the Plan would not significantly alter the total volume or rate of stormwater runoff into the existing municipal storm drain system (see EIR chapter 18, Utilities and Service

Systems) or substantially alter drainage patterns, particularly because implementation of stormwater control measures (as discussed above in Impact 11-2) would slow down the rate and reduce the volume of stormwater runoff, especially when compared to the existing hardscape areas. In addition, the Specific Plan proposes additional landscaped, open space, and park areas with pervious surfaces.

In order to understand flood risks, the Federal Emergency Management Agency (FEMA) publishes Flood Insurance Rate Maps (FIRMs) that determine level of risk for communities. These maps identify "Special Flood Hazard Areas" (SFHAs) that are subject to inundation by a 1% annual chance flood (e.g., a 100-year flood event). The currently mapped FEMA Flood Zones are shown on earlier Figure 11.1 and described in the section 11.1.4 (Flooding and Flood Hazards), which also explains that, according to FEMA, most of the Plan Area is located in Zone X ("Area with Reduced Flood Risk Due to Levee") – i.e., not in the 1% annual flood hazard zone.

The Specific Plan Infrastructure Program (Chapter 6) indicates that stormwater flows generated by future development under the Patrick Henry Drive Specific Plan would be adequately received by existing off-site storm drain systems. In addition, because the Plan Area is currently developed, no pipeline extensions are anticipated to serve the Plan Area.

The City applies uniformly applicable stormwater management regulations to avoid or reduce the potential for flood flow or drainage impacts of development, including erosion and siltation impacts, which provide for incorporating in projects one or a combination of BMPs such as rainwater harvesting and re-use, biofiltration swales, detention basins, bioretention areas, and flow-through planter boxes, and/or LID features such as use of pervious pavement, landscape features, and green roofs. The City's Flood Damage Prevention Code (City Code chapter 15.45) requires development in Special Flood Hazard Areas to meet City standards related to anchoring of structures, construction methods and materials, elevation of structures, and floodproofing (as applicable to reduce or eliminate flood damage). Compliance with these City Code standards would also reduce risks from hazards resulting from inundation by regulating uses (including new construction and other development activities) that may increase flood heights or velocities or otherwise obstruct or redirect flood water in a manner that could lead to potential release of pollutants. City erosion and sediment control plan requirements (discussed in Impact 11-1) would reduce the potential for erosion and/or sedimentation resulting from any changes in drainage patterns.

Also, for individual developments, the City requires a utility plan addressing, among other infrastructure components, the storm drain system (see chapter 18, Utilities and Service Systems, of this EIR). Practices include controlling the amount and timing of runoff from development sites (e.g., see the BMPs and LID features described above, which control runoff quantities as well as improve water quality) and raising the elevation of buildings or other flood protective measures as described above. Implementation of these development standards would be required as a condition of individual development project approval, prior to issuance of grading or building permits. Also, because development under the Specific Plan would be required to prevent increases in runoff flows from new development and redevelopment projects (e.g., comply with NPDES C.3 requirements), Specific Plan effects on existing drainage patterns would be less-than-significant.

Based on the above discussion, the impacts of drainage patterns and potential flooding are considered ***less-than-significant*** (see criteria [c][i], [c][ii], [c][iv], and [d] in subsection 11.3.1, "Significance Criteria," above).

Mitigation 11-4. No significant impact has been identified; no mitigation is required.

12. LAND USE AND PLANNING

This EIR chapter describes the potential land use and planning impacts of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the land use concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan physically divide a community or conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

12.1 SETTING

Figures 3.1 through 3.4 in EIR chapter 3, Project Description, of this EIR show the Plan Area in a regional and local context.

As discussed in chapter 3, Santa Clara is located near the southern part of San Francisco Bay, bordered by the cities of Sunnyvale and Cupertino to the west, San Jose to the south and east, and Milpitas to the northeast. Primary regional access is via Tasman Drive south of I-238 and Great America Parkway, which connects to U.S. 101. State Route 237 (SR 237) runs along the northern Santa Clara city border. U.S. 101 and SR 82 cross the city from west to east. Interstate 280 (I-280) crosses the southwestern corner of the city and then parallels the southern city border, connecting with I-880, SR 87, and U.S 101 in San Jose.

The Old Ironsides Train Station on Tasman Drive at Old Ironsides Drive is about a quarter-mile north of the Plan Area and about a half-mile west of Levi's Stadium. The Reamwood Train Station, also on Tasman Drive and just west of Calabazas Creek in Sunnyvale, is less than a half-mile from the Plan Area. The Valley Transportation Authority (VTA) provides light rail service at these stations. The Orange Line goes through both stations, and the Green Line goes through the Old Ironside Drive station. Bus service within Santa Clara is also provided by VTA. See chapter 17, Transportation, of this EIR for a description of circulation and transit.

Calabazas Creek is located along the western City limits. San Tomas Aquino and Saratoga Creeks are located mid-City. Guadalupe River is located in the east. All of these flow northward, extending past the northern City limits to wetlands at the southern part of San Francisco Bay.

(a) Planning Boundaries. The approximately 73.59-acre Plan Area is located in the northwestern part of the City and is generally bounded by Great America Parkway to the east, the San Francisco Public Utility Commission (SFPUC) right of way ("Hetch-Hetchy right-of-way") to the north, the City of Sunnyvale and Calabazas Creek to the west, and Mission College Boulevard to the south.

From Old Glory Lane at Great America Parkway, the Plan Area boundary extends about a half-mile roughly west to the Calabazas Creek Trail (the western City limits), then about a quarter-mile south to Mission College Boulevard where it turns east and generally follows Mission College Boulevard about a half-mile before heading north toward Patrick Henry Drive and Old

Ironsides Drive. At Patrick Henry Drive, it goes east again to Great America Parkway and then back northward to Old Glory Lane at Great America Parkway.

(b) Existing Land Use. See Figure 12.1 (Existing Land Use). The Plan Area is in an area of the City with predominantly commercial uses such as research and development (R&D) and light industrial (electronics and computer software development). Other commercial uses include offices (professional services, architects, legal, and personnel/employment support) and a restaurant. In addition, there is a church in the southern part of the Plan Area.

According to the General Plan Land Use Diagram, the Plan Area is currently designated Light Industrial (ML).[1] The ML classification is intended to accommodate manufacturing, distribution, and warehousing uses with a maximum Floor Area Ratio (FAR) of 0.60.[2]

Buildings cover approximately 32 percent of the Plan Area. All the lots in the Plan Area have areas greater than one acre. The Plan Area has a "superblock street layout" with ample surface parking that supports dependence on cars. The spatial separation between buildings is high, with significant building setbacks. Pedestrian linkages are limited.[3]

(c) Surrounding Land Uses. Land uses in the vicinity of the Plan Area include the Levi's Stadium Blue Lot and office/R&D uses to the north of the Hetch-Hetchy right-of-way (where the Kylli Mixed Use Development Project, currently under City review, is proposed); office uses and California's Great America amusement park (with associated parking lots) to the east; Mission College and its athletic fields and parking lots to the south; an electric power substation (Mission Substation) to the south, adjacent to one of the Mission College parking lots; office uses in the southeast; and residential neighborhoods in the City of Sunnyvale to the west, past Calabazas Creek.

12.2 REGULATORY SETTING

12.2.1 State

Specific Plan Law (California Government Code Section 65451). California Government Code section 65451 regulates the substantive and topical requirements of specific plans. A specific plan is a tool for the systematic implementation of the general plan and establishes a link between implementing policies of the general plan and the individual development proposals in a defined (specific plan) area. A specific plan may be as general as setting forth broad policy concepts, or as detailed as providing direction on every facet of development from the type, location, and intensity of uses, to the design and capacity of infrastructure. The Patrick Henry Specific Plan is subject to this law.

[1]City of Santa Clara, "MapSantaClara," https://map.santaclaraca.gov/public/index.html?viewer=regional, accessed 9/4/20.

[2]City of Santa Clara 2010-2035 General Plan, "5.2.2 Land Use Classifications and Diagram."

[3]MIG, "Freedom Circle and Patrick Henry Drive Specific Plans Policy and Planning Context Report," December 2018.

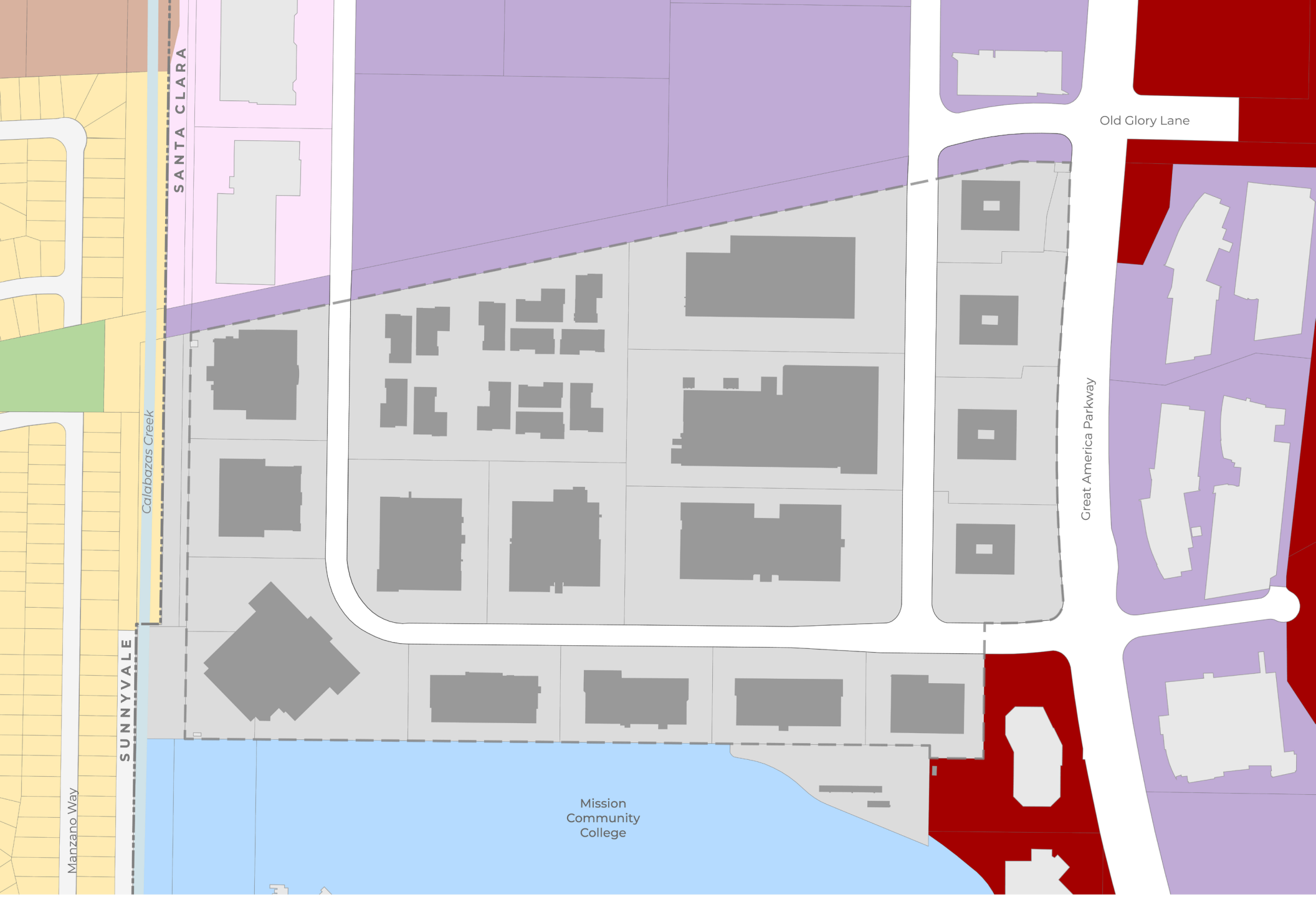

FIGURE 12.1: EXISTING LAND USE

Patrick Henry Drive Specific Plan

Study Area
City Boundary
Creeks/ Water Bodies
Low Density Office/R&D
High Density Office/R&D
Regional Commercial
Light Industrial
Public/Quasi Public

Sunnyvale Existing Land Use

Low Density Residential
Mobile Home Park
Public Facilities

N

0 250 500 Feet

12.2.2 Regional

Association of Bay Area Governments (ABAG) Plans and Policies. The Association of Bay Area Governments (ABAG) is the regional planning agency and council of governments for the nine-county San Francisco Bay Area responsible for addressing in a regional context such intraregional issues as land use, housing, environmental quality, and economic development. The following ABAG regional planning programs warrant consideration:

(1) Plan Bay Area 2040. The primary document and associated process used in implementing ABAG policies is Plan Bay Area 2040, adopted collectively by ABAG and the Metropolitan Transportation Commission (MTC) on July 26, 2017. Plan Bay Area 2040 states:

"Plan Bay Area 2040 neither funds specific transportation projects nor changes local land use policies. Importantly, individual jurisdictions retain all local land use authority. But Plan Bay Area 2040 does set a roadmap for future transportation investments and identifies what it would take to accommodate expected growth." (Plan Bay Area 2040, page 26.)

As of the writing of this EIR, Plan Bay Area 2050 is in process, with adoption anticipated in summer of 2021.

(2) FOCUS Program. The ABAG-led FOCUS program, established in 2007, was a regional development and conservation strategy - in partnership with the MTC and with support from the Bay Area Air Quality Management District (BAAQMD) and the Bay Conservation and Development Commission (BCDC) - that promoted a more compact land use pattern for the Bay Area and supported development of Plan Bay Area. Through the FOCUS program, regional agencies supported local government commitments to direct existing and future incentives toward Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs), which are an integral part of Plan Bay Area 2040.

Santa Clara County Airport Land Use Commission. The Santa Clara County Airport Land Use Commission (ALUC) reviews proposals for general plans, specific plans, zoning ordinances, and land use development proposals in the vicinity of Norman Y. Mineta San Jose International Airport to ensure that future land uses in the surrounding area remain compatible with the realistically foreseeable, ultimate potential aircraft activity. This review is based on the Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport, adopted May 25, 2011 (amended November 16, 2016). The Comprehensive Land Use Plan sets forth land use compatibility criteria, compatibility zones, development standards, and policies pertaining to noise, safety, airspace protection, and overflight standards, and establishes the planning boundaries that define height, tall structures, noise, and safety zones for policy implementation. The Land Use Plan also includes areas within which notification of airport proximity is required as part of real estate transactions.

12.2.3 Local

Santa Clara General Plan. The General Plan addresses citywide needs and identifies objectives for maintaining land use balance and consistency throughout the City. Applicable General Plan land use policies include:

- Policy 5.3.1-P4: Encourage new development that meets the minimum intensities and densities specified in the land use classifications or as defined through applicable Focus Area, Neighborhood Compatibility or Historic Preservation policies of the General Plan.

- Policy 5.3.1-P5: Implement a range of development densities and intensities within General Plan land use classification requirements to provide diversity, use land efficiently and meet population and employment growth.

- Policy 5.3.1-P8: Work with property owners to improve or redevelop underutilized and vacant properties.

- Policy 5.3.1-P13: Support high density and intensity development within a quarter-mile of transit hubs and stations and along transit corridors.

- Policy 5.3.1-P22: Encourage conveniently located child care and other family support services in the community, except in areas designated for Light and Heavy Industrial Uses.

- Policy 5.3.1-P30: Resolve any conflicts between proposed development, plans or funding for improvements and the Land Use Diagrams, Transportation and Mobility Diagrams or text through a General Plan Amendment in order to evaluate the implications of the proposal as well as to ensure the required internal consistency for the Plan.

- Policy 5.3.4-P1: Transform underutilized commercial centers into new mixed-use destinations, consistent with applicable land use classifications.

- Policy 5.3.4-P2: Encourage mixed-use development in proximity to employment centers and residential neighborhoods throughout the City.

- Policy 5.3.4-P3: Prohibit single-use development in mixed-use classifications unless allowed under Focus Area or Neighborhood Compatibility Policies.

- Policy 5.3.4-P4: Require mixed-use development to meet the density and intensity specified in the land use classifications.

- Policy 5.3.4-P5: Encourage mixed-use development site planning and design to implement the elements illustrated in [General Plan] Figures 7.3-2 and 7.3-3, including street tree planting along all streets.

- Policy 5.3.4-P11: Foster active, pedestrian-oriented uses at the ground level, such as retail shops, offices, restaurants with outdoor seating, public plazas or residential units with front stoops, in mixed-use development.

- Policy 5.3.5-P6: Encourage innovative design of new office space to promote higher-intensity new development and on-site expansion of existing uses.

12.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to land use and planning that could result from the Patrick Henry Specific Plan and discusses components of the Plan that would avoid or reduce those potential impacts.

12.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Specific Plan would have a significant impact related to land use and planning if it would:

(a) Physically divide an established community; or

(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

12.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan, mainly Chapter 4 (Plan Framework) and Chapter 5 (Design Standards and Guidelines), includes components that would avoid or reduce potential land use impacts associated with future development in the Plan Area. Components particularly relevant to the evaluation of potential land use impacts are included in chapter 3 (Project Description) of this EIR.

The reader is encouraged to review Specific Plan chapters 4 and 5 for more detail. Pursuant to section 15150 (Incorporation by Reference) of the CEQA Guidelines, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference. The Plan is posted on the Patrick Henry Drive Specific Plan website at:[2]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

12.3.3 Impacts and Mitigations

Impact 12-1: Project Effects on the Physical Arrangement of the Community. The analyses and findings in this EIR indicate that future development activity under the Patrick Henry Drive Specific Plan would not disrupt or divide the physical arrangement of the community. The Plan Area is generally an internally focused collection of large, self-contained parcels (see aerials in EIR chapter 3, Project Description, and photos in EIR chapter 4, Aesthetics). Specific Plan-facilitated development identified in the Project Description (chapter 3) would occur within the Plan Area. Implementation of the Specific Plan would establish integrated physical and functional connections between Specific Plan Area parcels and with the adjacent community.

[1] CEQA Guidelines, appendix G, item XI (a and b).

[2] Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

The Patrick Henry Drive Specific Plan, in concert with the Santa Clara General Plan, is intended to provide for the expansion of housing choices by encouraging compact, transit-accessible, pedestrian-oriented housing and mixed-use (housing/retail/office) development in the Plan Area at densities and heights greater than currently developed. The Plan is designed to ensure that this housing and mixed-use development is conveniently located near public transportation, shopping, employment, and other community facilities.

The Specific Plan land use provisions and development standards and guidelines would be expected to encourage substantial beneficial land use effects in (1) revitalizing the Specific Plan Area; (2) facilitating development where services and infrastructure can be most efficiently provided by promoting higher residential densities within or near existing employment and public transportation areas; (3) and promoting compact, transit-accessible, pedestrian-oriented, mixed-use development patterns and land use. These Patrick Henry Drive Specific Plan land use characteristics epitomize the principles and policies of the Association of Bay Area Governments (ABAG) Plan Bay Area, and would represent a ***beneficial land use effect*** (see criterion [a] in subsection 12.3.1, "Significance Criteria," above).

Mitigation 12-1. The Patrick Henry Drive Specific Plan would result in beneficial land use and planning effects. No mitigation pertaining to environmental impacts on the physical arrangement of the community is required.

Impact 12-2: Project Consistency with Land Use Plans, Policies, and Regulations Adopted for the Purpose of Avoiding or Mitigating Environmental Effects. CEQA requires environmental impacts to be analyzed compared to ***existing conditions on the ground***. Both the Santa Clara General Plan and the Patrick Henry Drive Specific Plan identify the Plan Area as the location of future higher-density, higher-intensity, mixed-use development, which may result in building heights and massing greater than existing conditions. The General Plan policies listed in each environmental topic chapter (e.g., Hazards and Hazardous Materials, Land Use, Noise, Public Services, Utilities) of this EIR apply to the proposed Specific Plan.

As noted in EIR chapter 3 (Project Description), the Specific Plan includes components that would avoid or reduce potential land use and planning impacts. The Plan is intended to implement the basic project objectives (see chapter 3), identify improvements, and adopt frameworks, standards, guidelines, and implementation actions which can be consistently applied throughout the Plan Area. The Plan is designed to ensure that housing and mixed-use development is conveniently located near public transportation, retail and services, employment, and open space and community facilities, both in the Plan Area and the surrounding community. The Patrick Henry Drive Specific Plan - including chapters 4 (Plan Framework), 5 (Design Standards and Guidelines), and 6 (Infrastructure Program) - provides complete details. Chapter 3 (Project Description) of this EIR summarizes the Specific Plan. The reader is encouraged to review the entire Specific Plan.

New development throughout the Plan Area would include a combination of residential, retail, flex, office, community, and open space uses. Residential uses would be located throughout the Plan Area. New uses could include combinations of, for example, residential, retail, restaurant, and office uses in single or mixed-use buildings.

The parks, recreation and open space framework for the Patrick Henry Drive Specific Plan (see EIR chapters 15, Public Services, and 16, Recreation) "includes policies and requirements to

create a diverse network of public parks, green infrastructure, and private recreational spaces that support the physical, social and environmental health of the neighborhood while integrating with the community-wide City public parks and recreation system" (Specific Plan chapter 4, Development Framework).

As discussed in the EIR topic chapters, the Specific Plan is substantially consistent with adopted land use plans, policies, and regulations. However, there could be some potential conflicts related to air quality and cultural and historic resources:

- Air Quality – potential conflicts. As discussed in chapter 5, Air Quality, implementation of the Specific Plan would result in construction emissions that could be substantial and result in significant health impacts, which would represent a potential conflict with BAAQMD regulatory thresholds.

- Cultural and Historic Resources – potential conflicts. As discussed in chapter 7, Cultural and Historic Resources, although EIR-identified mitigation measures would generally ensure compliance with applicable, adopted local, regional, State, and federal plans and regulations, there is the possibility that a future individual project could result in a substantial adverse change in the significance of the historic resource that cannot be avoided (for instance, an as-yet unidentified historic resource that cannot be moved or otherwise preserved or rehabilitated), which would represent a potential conflict.

The remaining topics, Biological Resources (chapter 6), Geology and Soils (chapter 8), Greenhouse Gas Emissions and Energy (chapter 9), Hazards and Hazardous Materials (chapter 10), Hydrology and Water Quality (chapter 11), Land Use (chapter 12), Noise (chapter 13), Population and Housing (chapter 14), Public Services (chapter 15), Recreation (chapter 16), Transportation (chapter 17), and Utilities and Service Systems (chapter 18) do not identify potential conflicts with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects.

For a discussion of Specific Plan consistency with other adopted plans and policies, see chapter 19, Project Consistency with Local and Regional Plans, of this EIR.

The Patrick Henry Drive Specific Plan would serve to achieve a coordinated, connected environment within the Plan Area while increasing land use intensity through frameworks and unified, context-sensitive design standards and guidelines, which would result in the efficient use of existing resources and infrastructure. Plan components are purposely designed to achieve and maintain a cohesive, compatible land use pattern and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas. The impact of the Specific Plan on land use and planning is considered a ***beneficial land use effect*** (see criterion [b] in subsection 12.3.1, "Significance Criteria," above).

Mitigation 12-2. The Patrick Henry Drive Specific Plan would result in beneficial land use and planning effects. No additional mitigation pertaining to project consistency with land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects is required beyond those mitigation measures already identified in the environmental topic chapters of this EIR (see Mitigation Measure 5-3, which addresses potential construction-period air quality impacts, and Mitigation Measure 7-1, which addresses potential impacts to historic resources).

13. NOISE

This EIR chapter provides pertinent background information on the nature of sound and vibration transmission; describes the existing noise environment in and near the Patrick Henry Drive Specific Plan Area (Plan Area); summarizes applicable noise guidelines, standards, and regulations; and analyzes potential noise and vibration impacts associated with the Specific Plan.

13.1 SETTING

13.1.1 Fundamentals of Environmental Acoustics

Noise is generally defined as unwanted sound and is widely recognized as a form of environmental degradation. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as “noisy” or annoying.

Pitch is the height or depth of a tone or sound and depends on the frequency of the vibrations by which it is produced. Sound frequency is expressed in terms of cycles per second, or Hertz (Hz). Humans generally hear sounds with frequencies between 20 and 20,000 Hz and perceive higher frequency sounds, or high pitch noise, as louder than low-frequency sound or sounds low in pitch. Sound intensity or loudness is a function of the amplitude of the pressure wave generated by a noise source combined with the reception characteristics of the human ear. Atmospheric factors and obstructions between the noise source and receptor also affect the loudness perceived by the receptor. Sound pressure levels are typically expressed on a logarithmic scale in terms of decibels (dB). A dB is a unit of measurement that indicates the relative amplitude (i.e., intensity or loudness) of a sound, with 0 dB corresponding roughly to the threshold of hearing for the healthy, unimpaired human ear.

Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dBs represents a ten-fold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 times more intense, and so on. In general, there is a relationship between the subjective noisiness or loudness of a sound and its intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness. Due to the logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:

$$50\,decibels + 50\,decibels \neq 100\,decibels$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 * 10\,log\left(10^{\left(\frac{50}{10}\right)} + 10^{\left(\frac{50}{10}\right)}\right) = 53\,decibels$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

13.1.2 Sound Characterization

Although humans generally can hear sounds with frequencies between 20 and 20,000 Hz, most of the sounds humans are normally exposed to do not consist of a single frequency, but rather a broad range of frequencies perceived differently by the human ear. In general, humans are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. Instruments used to measure sound, therefore, include an electrical filter that enables the instrument's detectors to replicate human hearing. This filter, known as the "A-weighting" or "A-weighted sound level," filters low and very high frequencies, giving greater weight to the frequencies of sound to which the human ear is typically most sensitive. Most environmental measurements are reported in dBA, meaning decibels on the A-scale. See Table 13-1 for a list common noise sources and their A-weighted noise levels.

Sound levels are usually not steady and vary over time. Therefore, a method for describing either the average character of the sound or the statistical behavior of the variations over a period of time is necessary. The continuous equivalent noise level (L_{eq}) descriptor is used to represent the average character of the sound over a period of time. The L_{eq} represents the level of steady-state noise that would have the same acoustical energy as the time-varying noise measured over a given time period. L_{eq} is useful for evaluating shorter time periods over the course of a day. The most common L_{eq} averaging period is hourly, but L_{eq} can describe any series of noise events over a given time period.

Variable noise levels are the values that are exceeded for a portion of the measured time period. Thus, the L_{01}, L_{10}, L_{50}, and L_{90} descriptors represent the sound levels exceeded 1%, 10%, 50%, and 90% of the time the measurement was performed. The L_{90} value usually corresponds to the background sound level at the measurement location.

When considering environmental noise, it is important to account for the different responses people have to daytime and nighttime noise. In general, during the nighttime, background noise levels are generally quieter than during the daytime but also more noticeable due to the fact that household noise has decreased as people begin to retire and sleep. Noise exposure over the course of an entire day is described by the day/night average sound level, DNL (or L_{dn}), and the community noise equivalent level, or CNEL, descriptors. Both descriptors represent the 24-hour noise exposure in a community or area. For DNL, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a 9-hour nighttime period (10 PM to 7 AM), and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to DNL, except that it includes an additional 5 dBA penalty for noise events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during DNL and CNEL calculations are intended to account for a receptor's increased sensitivity to noise levels during quieter nighttime periods.

Table 13-1
TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet flyover at 1,000 feet	105	
	100	
Gas lawn mower at 3 feet	95	
	90	
Diesel truck at 50 feet at 50 mph	85	Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noise urban area, daytime	75	
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area	65	Normal speech at 3 feet
Heavy traffic at 300 feet	60	
	55	Large business office
Quiet urban daytime	50	Dishwasher next room
	45	
Quiet urban nighttime	40	Theater, large conference room
Quiet suburban nighttime	35	
	30	Library
Quite rural nighttime	25	Bedroom at night
	20	
	15	Broadcast/recording studio
	10	
	5	
Typical threshold of human hearing	0	Typical threshold of human hearing

Source: Caltrans, 2013

13.1.3 Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise-generating source. The strength of the source is often characterized by its “sound power level.” Sound power level is independent of the distance a receiver is from the source and is a property of the source alone. Knowing the sound power level of an idealized source and its distance from a receiver, the sound pressure level at a specific point (e.g., a property line or a receiver) can be calculated based on geometrical spreading and attenuation (noise reduction) as a result of distance and environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and shielding by terrain or barriers.

For an ideal “point” source of sound, such as mechanical equipment, the energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out in a spherical pattern and travels away from the point source. Theoretically, the sound level attenuates, or decreases, by 6 dB with each doubling of distance from the point

source. In contrast, a “line” source of sound, such as roadway traffic or a rail line, spreads out in a cylindrical pattern and theoretically attenuates by 3 dB with each doubling of distance from the line source; however, the sound level at a receptor location can be modified further by additional factors. The first is the presence of a reflecting plane such as the ground. For hard ground, a reflecting plane typically increases A-weighted sound pressure levels by 3 dB. If some of the reflected sound is absorbed by the surface, this increase will be less than 3 dB. Other factors affecting the predicted sound pressure level are often lumped together into a term called “excess attenuation.” Excess attenuation is the amount of additional attenuation that occurs beyond simple spherical or cylindrical spreading. For sound propagation outdoors, there is almost always excess attenuation, producing lower levels than what would be predicted by spherical or cylindrical spreading. Some examples include attenuation by sound absorption in air; attenuation by barriers; attenuation by rain, sleet, snow, or fog; attenuation by grass, shrubbery, and trees; and attenuation from shadow zones created by wind and temperature gradients. Under certain meteorological conditions, like fog and low-level clouds, some of these excess attenuation mechanisms are reduced or eliminated due to noise reflection.

13.1.4 Noise Effects

Nosie effects on human being are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction
- Interference with activities such as speech, sleep, learning, or relaxing
- Physiological effects such as startling and hearing loss

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person’s subjective reaction to a new noise source is to compare it with the existing environment without the noise source, or the “ambient” noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

13.1.5 Groundborne Vibration and Noise

Vibration is the movement of particles within a medium or object such as the ground or a building. Vibration may be caused by natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humans (e.g., explosions, machinery, traffic, trains, construction

equipment). Vibration sources are usually characterized as continuous, such as factory machinery, or transient, such as explosions.

As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency; however, unlike airborne sound, there is no standard way of measuring and reporting amplitude. Vibration amplitudes can be expressed in terms of velocity (inches per second) or discussed in dB units in order to compress the range of numbers required to describe vibration. Vibration impacts to buildings are usually discussed in terms of peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Vibration can impact people, structures, and sensitive equipment. The primary concern related to vibration and people is the potential to annoy those working and residing in the area. Vibration with high enough amplitudes can damage structures (such as crack plaster or destroy windows). Groundborne vibration can also disrupt the use of sensitive medical and scientific instruments, such as electron microscopes.

Common sources of vibration within communities include construction activities and railroads. Groundborne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving, grading activity has the greatest potential for vibration impacts if large bulldozers, large trucks, or other heavy equipment are used.

Groundborne noise is noise generated by vibrating building surfaces such as floors, walls, and ceilings that radiate noise inside buildings subjected to an external source of vibration. The vibration level, the acoustic radiation of the vibrating element, and the acoustical absorption of the room are all factors that affect potential groundborne noise generation.

13.1.6 Existing Noise and Vibration Environment

The City's General Plan identifies the primary contributors to the City's noise environment are transportation sources, including vehicular traffic, railroads, and the San Jose Norman Y. Mineta International Airport. The General Plan identifies the quietest areas of the City as those being the furthest from major City streets, and the noisiest areas being under the airport flight patterns and immediately adjacent to freeways (e.g., U.S. 101), expressways (e.g., Lawrence Expressway), arterial roadways (e.g., Tasman Drive), and railways.

13.1.6.1 Measured Ambient Noise Levels

In September 2020, MIG conducted noise monitoring to evaluate the existing ambient noise conditions in the vicinity of the Plan Area (MIG, 2020; see Appendix 25.5). The ambient noise levels were digitally measured and stored using a sound level meter that meets American National Standards Institute requirements for a Type 1 integrating sound level meter. The sound meter was calibrated immediately before and after the monitoring period using a reference one-kilohertz (1kH) check frequency and 114 dB sound pressure level and found to be operating within normal parameters for sensitivity. Measurements were continuously collected over the sample period in 1-minute intervals. This interval was selected to capture short-term noise events and increases in noise levels above typical background conditions. Conditions during the monitoring were generally clear and sunny during the daytime, with a daily high of approximately 70 degrees Fahrenheit, and cool during the evening, with a low in the 50's. Winds were calm to mild, typically less than 10 miles per hour.

The ambient noise monitoring conducted for this EIR included two long-term (LT) and four short-term (ST) measurements at locations selected to:

- Provide direct observations of existing noise sources in and near the Plan Area;
- Determine ambient noise levels in and near the Plan Area; and
- Evaluate potential project noise levels at sensitive receptors near the Plan Area (see Section 13.1.8 below).

The ambient noise monitoring locations are shown in Appendix 25.5 and described below.

- Location LT-1 was on the eastern boundary of the Plan Area, along Great America Parkway, approximately 640 feet south of Old Glory Lane and 720 feet north of Patrick Henry Drive. The ambient noise levels measured at LT-1 are considered representative of 24-hour noise exposure levels associated with traffic noise on Great America Parkway and other similar roadways near the Plan Area.

- Location LT-2 was near the southwest corner of the Plan Area, adjacent to the Calabazas Creek Trail. The ambient noise levels measured at LT-2 are considered representative of 24-hour noise exposure levels in the Plan Area away from major roadways such as Great America Parkway.

- Location ST-1 was in the eastern part of the Plan Area, on Old Ironsides Drive, approximately 350 feet south of Old Glory Lane. The ambient noise levels measured at location ST-1 are considered representative of background daytime noise levels in the eastern part of the Plan Area near Old Ironsides Drive.

- Location ST-2 was in the southern part of the Plan Area, on Patrick Henry Drive. The ambient noise levels measured at ST-2 are considered representative of background daytime noise levels in the southern part of the Plan Area near Patrick Henry Drive.

- Location ST-3 was in the southern part of the Plan Area, adjacent to Mission College. The ambient noise levels measured at ST-3 are considered representative of the background daytime noise levels in the southern part of the Plan Area near Mission College.

- Location ST-4 was in the northern part of the Plan Area, adjacent to a large parking area used during events at Levi's Stadium. The ambient noise levels measured at ST-4 are considered representative of the background daytime noise levels in the northern part of the Plan Area during typical conditions (i.e., when parking for Levi's Stadium is not occurring).

Based on observations made during the ambient noise monitoring, the existing noise environment in the Planning Area consists primarily of transportation noise sources (i.e., vehicles on Great America Parkway, Patrick Henry Drive, etc.) and local commercial building operations. Table 13-2 and Table 13-3 summarize the results of the ambient noise monitoring conducted for this EIR. Refer to Appendix 25.5 for detailed ambient noise monitoring results.

Table 13-2
MEASURED LONG-TERM AMBIENT NOISE LEVELS (DBA) IN THE PLAN AREA

Day/ Site	Duration	L_{min}	L_{max}	Measured L_{eq} Range (dBA)[(A)]			CNEL
				Daytime (7 AM - 7 PM)	Evening (7 PM - 10 PM)	Nighttime (10 PM - 7 AM)	
Tuesday, September 15 to Wednesday, September 16, 2021							
LT-1	24 Hours	44.3	87.6	64.0 – 65.8	59.2 – 62.9	53.3 – 64.0	67.2
LT-2	24 Hours	42.9	79.3	49.5 – 55.3	48.9 – 52.8	46.4 – 49.6	55.3

Source: MIG, 2020 (see Appendix 25.5)
(A) Values are the lowest and highest measured average hourly values during the listed time period.

Table 13-3
MEASURED SHORT-TERM AMBIENT NOISE LEVELS (DBA) IN THE PLAN AREA

Day/ Site	Duration	L_{min}	L_{max}	Measured L_{eq} Range (dBA)[(A)]			
				Leq	L1.6	L50	L90
Tuesday, September 15, 2021 (9:30 AM to 10:00 AM)							
ST-1	30 Minutes	51.1	69.5	54.9 – 56.8	63.0 – 64.3	52.8 – 53.8	52.3 – 52.7
LT-1	30 Minutes	49.7	78.5	63.8 – 65.8	71.1 – 74.2	59.5 – 61.4	54.4 – 54.8
LT-2	30 Minutes	47.9	56.5	52.1 – 52.9	53.7 – 55.8	52.0 – 52.4	51.2 – 51.9
Tuesday, September 15, 2021 (10:10 AM to 10:40 AM)							
ST-2	30 Minutes	48.3	78.7	62.0 – 63.4	71.1 – 73.6	55.0 – 57.9	50.0 – 51.7
LT-1	30 Minutes	47.4	77.5	64.0 – 64.6	71.9 – 72.7	59.5 – 61.4	51.5 – 55.6
LT-2	30 Minutes	48.1	72.6	55.4 – 56.9	60.6 – 63.6	52.7 – 54.4	51.5 – 52.5
Tuesday, September 15, 2021 (10:50 AM to 11:20 AM)							
ST-3	30 Minutes	45.7	66.5	50.8 – 54.3	58.3 – 61.1	48.6 – 51.9	47.2 – 48.0
LT-1	30 Minutes	48.1	78.3	64.2 – 64.7	71.6 – 73.0	59.7 – 60.6	52.0 – 54.2
LT-2	30 Minutes	48.4	66.6	52.9 – 55.0	64 – 60.2	52.8 – 53.3	51.7 – 52.4
Tuesday, September 15, 2021 (11:50 AM to 12:10 PM)							
ST-4	20 Minutes	43.5	68.4	45.9 – 52.1	48.3 – 58.4	45.5 – 48.0	44.5 – 45.2
LT-1	20 Minutes	46.7	76.7	63.8 – 64.0	71.5 – 71.9	58.6 – 59.8	50.5 – 53.3
LT-2	20 Minutes	44.2	65.1	46.2 – 49.7	48.4 – 54.9	46.0 – 47.4	45.6 – 45.7

Source: MIG, 2020 (see Appendix 25.5)
(B) Values are the lowest and highest average one minute interval measured during the listed time period.

As shown in Table 13-2 and Table 13-3, measured ambient noise levels in the Plan Area are highest near roadways such as Great America Parkway (LT-1, ST-1) and Patrick Henry Drive (ST-2). The measured ambient noise levels at these locations were also relatively consistent (i.e., not varying by more than 3 dBA during daytime, evening, and nighttime periods). Measured ambient noise levels away from roadways (LT-2, ST-3, ST-4) were typically 10 to 15 dBA lower than the noise levels measured near roadways.

Discussion on the Influence of Shelter in Place orders on Ambient Noise Monitoring

As shown in Table 13-2, the ambient noise level measured along Great America Parkway (LT-1) was 67.2 CNEL. This CNEL value reflects the actual environmental conditions present during the monitoring, and is slightly lower than the modeled 2009 traffic noise estimate (68 CNEL) contained in the City's General Plan (see Section **Error! Reference source not found.**). It is probable that September 2020 traffic volumes on roadways near the Plan Area were below typical conditions due to State public health orders limiting gatherings, school openings, non-essential travel, and other activities intended to control the spread of COVID-19. These restrictions may have reduced traffic volumes on major highways by 20% to 40% in the second quarter of 2020 (Caltrans, 2020a, ITE, 2020, and U.C. Davis 2020). Furthermore, as of October 2020, data compiled by the Metropolitan Transportation Commission (MTC) indicates Bay Area regional estimates of vehicle miles travelled (VMT) and bridge crossings are approximately 18% and 22% lower than February 2020.

The California Department of Transportation (Caltrans) considers a doubling of total traffic volume to result in a three (3) dBA increase in traffic-related noise levels (Caltrans 2013). Assuming traffic volumes could be at least approximately 15% higher would, therefore, result in an approximately change in measured noise levels of 0.7dBA, assuming vehicle traffic is the sole source of noise influencing a measurement and the vehicle fleet mix does not change substantially. For the purposes of this EIR analysis, however, no change to measured ambient noise levels have been made

Discussion of Great America Theme Park Operations on Ambient Noise Monitoring

The eastern edge of the Plan Area is generally located approximately 750 feet west of the Great America Theme Park boundary; however, due to State and regional public health orders, the theme park was not in operation at the time ambient noise monitoring was conducted for this EIR.

In 2016, the City issued a Draft EIR for the Great America Theme Park Master Plan (SCH# 2016032036) (City of Santa Clara, 2016). The EIR included a noise assessment that measured short term (15 minutes) and long-term (8 days) noise levels on Patrick Henry Drive, approximately 540 feet east of the Plan Area boundary. Short-term noise levels were measured to be 61 dBA L_{eq} and included noise sources such as airplanes, roller coaster operations, rider screams, and local traffic. Long-term noise levels were measured to be 63 to 65 dBA DNL, with the difference in noise levels with and without theme park operations less than one dBA. The EIR conclude that the theme park did not affect noise levels at the Patrick Henry Drive monitoring location.

Given the results of the 2016 noise monitoring conducted for the Great America Theme Park Master Plan EIR, and the fact that the Planning Area is located at least 750 feet away from the theme park boundary, the theme park is not considered to have the potential to appreciably affect ambient noise levels in the Plan Area (i.e., the ambient noise levels measured for this EIR would not different even if the theme park were operating).

Discussion of Levi's Stadium Activities and Events on Ambient Noise Monitoring

The eastern edge of the Plan Area is generally located approximately 0.5 miles southeast of Levi's Stadium. In addition, numerous stadium parking area options are located in or directly adjacent to the Plan Area, including the Blue Lot, RV Blue Lot, and Green Lots 2 to 5, some of which permit tailgating activities. There were no stadium events or activities taking place at the time the ambient noise monitoring was conducted for this EIR.

In 2009, the City issued a Draft EIR for the Levi's Stadium Project (SCH# 2016032036) that concluded stadium events would have significant noise impacts in the area around the stadium. Ongoing monitoring of noise levels during concerts at the stadium have measured hourly average noise levels between 54 to 60 dBA L_{eq} and maximum noise levels of 66 dBA L_{max} at a location approximately 0.3 miles south of the stadium. Football games and other events tend to have higher measured L_{max} levels but lower hourly average noise levels than concerts (City of Santa Clara, 2017).

Given the results of the City's ongoing noise monitoring of Levi's Stadium event noise, and the fact that the Plan Area is located at least 0.5 miles away from the stadium, stadium events may be audible within the Plan Area but are not considered to have the potential to appreciably affect overall ambient noise levels in the Plan Area.

The potential noise levels associated with the use of the stadium's blue and green lots is not known at this time.

13.1.6.2 Existing and Future Baseline Modeled Traffic Noise Levels

Existing (Year 2019) traffic noise levels were computed using the U.S. Department of Transportation Federal Highway Administration's (FHWA) Traffic Noise Model (TNM), Version 2.5. The model uses traffic volume, vehicle mix, vehicle speed, roadway geometry, and other variables to compute 24-hour traffic noise levels at user-defined receptor distances from the roadway center. The TNM modeling conducted for this EIR incorporates worst-case assumptions about motor vehicle traffic and noise levels; specifically, calculations are based on "hard" site conditions and do not incorporate any natural or artificial shielding.

Peak hour traffic volume information was obtained from the Transportation Impact Analysis (TIA) prepared for the Specific Plan by Hexagon Transportation Consultants (Hexagon, 2020, 2021a-d). Traffic noise levels were estimated assuming peak hour traffic volumes are equal to 10% of average daily traffic volumes and non-peak hour traffic is distributed equally throughout the daytime and nighttime. Traffic noise levels were estimated for typical daytime (consisting of peak and non-peak hour traffic volumes) and evening/nighttime (consisting of non-peak hour traffic volumes only) periods. Hourly traffic noise levels were then summed to derive the 24-hour CNEL along modeled roadway segments. The mix of automobiles (95%), medium (2%) and heavy duty trucks (1%), and motorcycles (2%) assigned to the roadway system was generated using the California Air Resources Board's (CARB) EMFAC2017 model, which contains vehicle population data by different geographic regions. Vehicles were assumed to travel the posted speed limit on each modeled roadway segment.

The TIA prepared for the Specific Plan also includes an analysis of future traffic conditions that would occur in Year 2040 based on other existing and approved projects near the Plan Area and continued implementation of the City's current General Plan at the land use development

intensities permitted by the current General Plan. The future baseline Year 2040 traffic noise levels were estimated using the same methodology as described for the existing year 2019 traffic noise analysis. Traffic noise levels were computed using TNM, Version 2.5 and the same roadway geometry factors assumed for 2019 traffic noise levels; however, traffic volumes were updated to reflect 2040 conditions.

Modeled traffic noise levels near the Plan Area are shown in Table 13-4. Please refer to Appendix 25.5 for detailed information on existing and future baseline traffic noise modeling assumptions.

Table 13-4
EXISTING (2019) AND FUTURE (2040) BASELINE TRAFFIC NOISE LEVELS

Road / Segment	Year 2019		Year 2040		Net Change	
	ADT	**CNEL**	**ADT**	**CNEL**	**ADT**	**CNEL**
Patrick Henry Drive						
South of Tasman Drive	5,370	63.9	21,583	69.6	16,213	5.7
Great America Pkwy to Old Ironsides Drive	4,260	62.0	15,420	67.3	11,160	5.3
West of Old Ironsides Drive	6,550	60.1	7,020	60.4	470	0.4
Old Ironsides Drive						
Tasman Drive to Old Glory Lane	2,080	57.6	18,156	65.9	16,076	8.3
Old Glory Lane to Patrick Henry Drive	1,360	52.5	11,144	59.2	9,784	6.7
Great America Parkway						
SR 237 EB Ramp to Great America Way	23,475	70.1	40,125	72.3	16,650	2.2
Great America Way to Old Mountain View Alviso Road	21,890	71.7	40,205	74.2	18,315	2.5
Old Mountain View Alviso Road to Bunker Hill Lane	18,050	71.0	44,580	74.7	26,530	3.7
Bunker Hill Lane to Tasman Drive	19,670	70.8	51,442	75.0	31,772	4.2
Tasman Drive to Old Glory Lane	24,690	72.2	44,300	74.7	19,610	2.5
Old Glory Lane to Patrick Henry Drive	26,745	72.7	50,461	75.3	23,716	2.6
Patrick Henry Drive to Mission College Boulevard	35,645	73.8	76,227	68.8	40,582	-5.0
Mission College Boulevard to Bowers Ave / U.S. 101 NB Ramp	42,140	74.0	77,220	76.7	35,080	2.6
Mission College Boulevard						
Mission College Boulevard Loop to Great America Parkway	14,025	69.3	21,607	71.2	7,582	1.9
Great America Parkway to Marriot Driveway	20,090	70.9	37,540	73.5	17,450	2.5
Marriot Driveway to Freedom Circle West	19,185	70.3	37,320	73.0	18,135	2.7

Road / Segment	Year 2019		Year 2040		Net Change	
	ADT	**CNEL**	**ADT**	**CNEL**	**ADT**	**CNEL**
Freedom Circle West to Freedom Circle East	15,335	70.0	27,645	72.5	12,310	2.6
Agnew Road / Freedom Circle East to Juliet Lane	14,730	69.6	29,074	72.4	14,344	2.9
Juliette Lane to Burton Circle	18,870	70.8	29,100	72.6	10,230	1.8
Burton Circle to Montague Expressway	33,125	73.5	48,212	75.1	15,087	1.6
Mission College Blvd Loop						
North of Mission College Boulevard	4,930	63.2	4,953	63.2	23	0.0
South of Mission College Boulevard	10,280	66.6	17,531	68.5	7,251	2.0
Agnew Rd/Freedom Circle East						
North of Mission College Boulevard	9,865	65.5	18,355	59.8	8,490	-5.7
South of Mission College Boulevard	3,970	63.6	22,420	70.8	18,450	7.2
Tasman Drive						
Lawrence Expressway to Patrick Henry Drive	18,930	71.2	36,621	74.0	17,691	2.8
Patrick Henry Drive to Old Ironsides Drive	11,490	69.1	17,546	70.8	6,056	1.6
Old Ironsides Drive to Great America Parkway	11,835	68.7	30,519	72.6	18,684	3.8
Great America Parkway to Convention Center	22,515	71.4	32,018	72.7	9,503	1.3
Convention Center to Centennial Boulevard	25,815	72.4	35,145	73.7	9,330	1.3
Centennial Boulevard to Calle Del Sol	22,830	71.9	30,785	73.2	7,955	1.2
Calle Del Sol to Lick Mill Boulevard	19,670	70.8	25,840	72.0	6,170	1.1
Lawrence Expressway						
SR 237 to Tasman Dr	36,920	75.1	42,300	75.5	5,380	0.4
Tasman Dr to Sandia Ave / Lakehaven Rd	39,500	75.9	44,935	76.4	5,435	0.5
Sandia Ave / Lakehaven Rd to U.S. 101	43,593	75.6	61,777	77.1	18,183	1.5
U.S. 101 to E. Arques Ave	44,590	76.0	57,340	77.1	12,750	1.0
Source: MIG, 2021 (see Appendix 25.5)						

The results of the traffic noise modeling indicate that existing and future baseline traffic noise levels near the Plan Area are highest along Great America Parkway and Tasman Drive. In addition, traffic noise levels are expected to increase substantially along Patrick Henry Drive, Old Ironsides Drive, and Freedom Circle. Specifically, the modeling shows:

- Year 2019 traffic noise levels along Great America Parkway adjacent to the Plan Area (between Old Glory Lane and Patrick Henry Drive) are estimated to be approximately 72 to 74 CNEL at a distance of 100 feet from the center of the roadway. Commercial buildings are present along this segment of Great America Parkway. The estimated Year 2019 traffic noise levels are within the City's conditionally acceptable noise exposure level for commercial land uses contained in the existing General Plan (75 CNEL). Year 2040 traffic noise levels are estimated to increase by approximately 2 to 3 dBA to up to 76 CNEL, a change from conditionally acceptable to unacceptable conditions for commercial land uses.

- Year 2019 traffic noise levels along Patrick Henry Drive (in the Plan Area) are estimated to be approximately 60 to 62 CNEL at a distance of 100 feet from the center of the roadway. Commercial and religious institutional land uses are present along Patrick Henry Drive. The estimated traffic noise levels are within the City's acceptable noise exposure level for commercial land uses contained in the existing General Plan (65 CNEL). Year 2040 traffic noise levels are estimated to increase by approximately 5 dBA to up to 67 CNEL, a change from acceptable to conditionally acceptable conditions for commercial land uses.

- Year 2019 traffic noise levels along Old Ironsides Drive are estimated to be less than 55 CNEL at a distance of 100 feet from the center of the roadway. Commercial land uses are present along this segment of Old Ironsides Drive. The estimated traffic noise levels are within the City's acceptable noise exposure level for commercial land uses contained in the existing General Plan (65 CNEL). Year 2040 traffic noise levels are estimated to increase by approximately 6 to 8 dBA but remain within acceptable noise levels for commercial land uses.

- Year 2019 traffic noise levels along Freedom Circle East are estimated to be less than 65 CNEL at a distance of 100 feet from the center of the roadway. Commercial land uses are present along this segment of Freedom Circle. The estimated traffic noise levels are within the City's acceptable noise exposure level for commercial land uses contained in the existing General Plan (65 CNEL). Year 2040 traffic noise levels are estimated to increase by approximately 7 dBA to approximately 71 CNEL, a change from normally acceptable to conditionally acceptable conditions for commercial land uses.

It is noted the Specific Plan may include a new road connection from the southern portion of the Plan Area into Mission College. If this new road is approved, it would be constructed as some time in the future. Since this connector road option does not currently exist, and would only be constructed as part of the Specific Plan, there is no information to present on traffic volumes and traffic noise levels for this connector road under either the existing (Year 2019) or future baseline (Year 2040) conditions modeled above.

13.1.7 Rail and Airport Noise in the Plan Area

The Plan Area is located approximately 2.5 miles northwest of Norman Y. Mineta San Jose International Airport. The part of the Plan Area north of Patrick Henry Drive and east of Old Ironsides Drive lies within the San Jose International Airport influence area; however, the Plan Area is not located within the 65 CNEL contour associated with San Jose International Airport (SCC ALUC 2016; Figure 5).

The Santa Clara Valley Transportation Authority operates a light rail line on Tasman Drive and the Old Ironsides Drive light rail station is located approximately 0.3 miles north of the Plan

Area. The light rail system is not a substantial source of noise and does not materially affect the ambient noise environment in the Plan Area. There are no other rail lines near the Plan Area.

13.1.8 Noise-Sensitive Receptors

Noise-sensitive receptors are buildings or areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. The City's General Plan Noise Element identifies that residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks and outdoor recreation areas are generally more sensitive to noise than commercial and industrial establishments. In general, the existing noise-sensitive receptors within or near the Planning Area include:

- New Hope Church, located in the southeast corner of the Plan Area;
- The Calabazas Creek Trail, located adjacent to the Plan Area's western boundary;
- Mission College, located adjacent to the Plan Area's southern boundary;
- Single family homes located approximately 180 feet west of the Plan Area (across the Calabazas Creek Trail) along Manzano Way, Prescott Avenue, and Old Creek Way;[1]
- Fairwood Elementary School, approximately 680 feet west of the Plan Area, on Fairwood Avenue; and
- Fairway Park, approximately 680 feet west of the Plan Area.

In addition to these existing, noise-sensitive land uses, the Plan Area is located near two proposed development projects that are under review by the City:

- The Kylli Mixed Use Development Project borders the Plan Area on the north. This potential development project would involve a General Plan amendment to support high-intensity mixed-use office, commercial, and residential land uses.

- The Freedom Circle Focus Area / Greystar General Plan Amendment area is located adjacent to the southeast corner of the Plan Area, across Great America Parkway. This potential development project would also involve a General Plan amendment to support high-intensity office and residential land uses.

If approved, the Kylli Mixed Use Development Project and Freedom Circle Focus Area / Greystar General Plan Amendment would result in new, noise-sensitive residential land uses adjacent to the Plan Area.

[1]Single family residences along these streets are located in both the City of Santa Clara and the City of Sunnyvale. In general, residences along Old Creek Way and Prescott Avenue are in the City of Sunnyvale, as are residences on Manzano Way north of Patrick Henry Drive. South of Patrick Henry Drive, only residences along the west side of Manzano Way are in the City of Sunnyvale; residences along the east side of Manzano Way south of Patrick Henry Drive are in the City of Santa Clara.

13.2 REGULATORY SETTING

13.2.1 Federal

13.2.1.1 Federal Transit Administration (FTA)

No federal regulations apply to noise or vibration from the proposed project, but the FTA's 2018 Transit Noise and Vibration Impact Assessment Manual document sets groundborne vibration annoyance criteria for general assessments. The criteria vary by the type of building being subjected to the vibrations, and the overall number of vibration events occurring each day. Category 1 buildings are considered buildings where vibration would interfere with operation, even at levels that are below human detection. These include buildings with sensitive equipment, such as research facilities and recording studios. Category 2 buildings include residential lands and buildings were people sleep, such as hotels and hospitals. Category 3 buildings consist of institutional land uses with primarily daytime uses. The FTA standards vary for "frequent" events (occurring more than 70 times per day, such as a rapid transit project), "occasional" events (occurring between 30 to 70 times per day), and "infrequent" events (occurring less than 30 times per day). The FTA's vibration annoyance criteria are summarized in Table 13-5.

Table 13-5
FTA GROUND-BORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Vibration Land Use Category/Type	Frequent Events	Occasional Events	Infrequent Events
Category 1 – Buildings with sensitive equipment	65 VdB	65 VdB	65 VdB
Category 2 – Buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3 – Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB
Source: FTA 2018 Note: VdB = Velocity decibel			

13.2.2 State

13.2.2.1 California Building Standards Code

The California Building Standards Code is contained in Title 24 of the California Code of Regulations and consists of 11 different parts that sets forth various construction and building requirements. Part 2, California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room.

13.2.2.2 California Green Building Standards Code

The California Green Building Standards Code is Part 11 to the California Building Standards Code. Chapter 5, Nonresidential Mandatory Standards, Section 5.507 establishes the following requirements for nonresidential development that may be applicable to the Project.

- Section 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dBA L_{eq} (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45 (or an outdoor indoor transmission class [OITC] of 35), with exterior windows of a minimum STC of 40.

- Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA L_{eq} pursuant to Section 5.507.4.1.1 shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed 50 dBA L_{eq} in occupied areas during any hour of operation. This requirement shall be documented by an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

13.2.2.3 Caltrans

Caltrans' Transportation and Construction Vibration Guidance Manual provides a summary of vibration human responses and structural damage criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans, 2020b). These thresholds are summarized in Table 13-6 and Table 13-7.

Table 13-6
CALTRANS' VIBRATION THRESHOLD CRITERIA FOR BUILDING DAMAGE

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Historic and some older buildings	0.50	0.12 to 0.2
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50
Source: Caltrans, 2020b		

Table 13-7
CALTRANS' VIBRATION THRESHOLD CRITERIA FOR HUMAN RESPONSE

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Slightly perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severe/Disturbing	2.0	0.7 (at 2 Hz) to 0.17 (at 20 Hz)
Very disturbing	--	3.6 (at 2 Hz) to 0.4 (at 20 Hz)
Source: Caltrans, 2020b		

13.2.3 Regional

13.2.3.1 Santa Clara County Airport Land Use Commission

The Santa Clara County Airport Land Use Commission (ALUC) reviews proposals for general plans, specific plans, zoning ordinances, and land use development proposals in the vicinity of Norman Y. Mineta San Jose International Airport to ensure that future land uses in the surrounding area remain compatible with the realistically foreseeable, ultimate potential aircraft activity at the airport. Their review is based on the Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport, adopted May 25, 2011 (amended November 16, 2016). The Comprehensive Land Use Plan (CLUP) sets forth land use compatibility criteria, compatibility zones, development standards, and policies pertaining to noise, safety, airspace protection, and overflight standards, and establishes the planning boundaries that define height, tall structures, noise, and safety zones for policy implementation. The CLUP also includes areas within which notification of airport proximity is required as part of real estate transactions.

As described in Section 13.1.7, a part of the Plan Area is located within the San Jose International Airport influence area and may subject to review by the Santa Clara County Airport Land Use Commission to determine consistency with the CLUP's policies pertaining to height, safety, and overflight restrictions. Please refer to Chapter 10, Hazards and Hazardous Materials, for a discussion of these policies.

The Plan Area is not located within the CLUP's noise restricted area (defined as the area within the airport's 65 CNEL contour); however, the CLUP contains the following noise compatibility policy that would apply to future development projects within the Plan Area:

- **Policy N-5:** All property owners within the Airport Influence Area who rent or lease their property for residential use shall include in their rental/lease agreement with the tenant, a statement advising that they (the tenants) are living within a high noise area and the exterior noise level is predicted to be greater than 65 dB CNEL in a manner that is consistent with current state law including AB2776 (2002).

13.2.4 Local

13.2.4.1 City of Santa Clara General Plan

The City of Santa Clara's General Plan Noise Element contains standards, goals, and policies that address noise throughout the city. The General Plan Noise Element contains the following goals and policies applicable to the proposed Specific Plan:

- Goal 5.10.6-G3: Land use, development and design approvals that take noise levels into consideration.

- Policy 5.10.6-P1: Review all land use and development proposals for consistency with the General Plan compatibility standards and acceptable noise exposure levels defined on Table 5.10-1.

- Policy 5.10.6-P2: Incorporate noise attenuation measures for all projects that have noise exposure levels greater than General Plan “normally acceptable” levels, as defined on Table 5.10-1.

- Policy 5.10.6-P3: New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid-core doors, and baffling) and structural measures (earthen berms and sound walls).

- Policy 5.10.6-P4: Encourage the control of noise at the source through site design, building design, landscaping, hours of operation, and other techniques.

- Policy 5.10.6-P5: Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines and to place compressors and mechanical equipment in sound-proof enclosures.

- Policy 5.10.6-P6: Discourage noise-sensitive uses, such as residences, hospitals, schools, libraries, and rest homes, from areas with high noise levels, and discourage high noise-generating uses from areas adjacent to sensitive uses.

- Policy 5.10.6-P8: Continue to encourage safe and compatible land uses within the Norman Y. Mineta International Airport Noise Restriction Area.

- Policy 5.10.6-P9: Work with the City of San José Norman Y. Mineta International Airport to implement mitigation from aircraft noise to the fullest extent possible.

- Policy 5.10.6-P11: Develop and include noise reduction measures with improvements and extensions of City streets.

The General Plan’s noise and land use compatibility guidelines referenced in Policies 5.10.6-P1 and 5.10.6-P2 are summarized below in Table 13-8.

The City’s General Plan also includes transition policies that apply to sites where new development is of a different land use classification and/or intensity to that of adjacent neighborhoods. These may apply to areas where residential uses abut retail, commercial, office, research and development, or industrial development.

- Policy 5.5.2-P3: Implement site design solutions, such as landscaping and increased building setbacks, to provide a buffer between non-residential and residential uses.

- Policy 5.5.2-P4: Provide adequate separation between incompatible land uses in order to minimize negative effects on surrounding existing and planned development.

- Policy 5.5.2-P11: Restrict loading, trash, and noise-generating activities to protect adjacent residential uses.

- Policy 5.5.2-P12: Screen loading and trash areas to preclude visibility from off-site and public streets.

Table 13-8
GENERAL PLAN NOISE / LAND USE COMPATIBILITY GUIDELINES (CNEL)

Land Use	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**
Residential								
Educational								
Recreational								
Commercial								
Industrial								
Open Space								
Key:								
	Compatible							
	Require design and insulation to reduce noise levels							
	Incompatible – avoid land use except when entirely indoors and an interior noise level of 45 DNL can be maintained.							
Source: City of Santa Clara, 2010, Table 8.14-1								

13.2.4.2 City of Santa Clara Municipal Code

Chapter 9.10 of the City Code, Regulation of Noise and Vibration, establishes that certain noise or vibration levels are detrimental and contrary to the public health, welfare, and safety and that the City's residents require protection from unnecessary, excessive, and unreasonable noise or vibration from fixed sources in the community. Chapter 9.10 of the City Code, Article 1, Noise and Vibration from Fixed Sources, includes the following requirements that are relevant to the proposed Project:

- Section 9.10.030, Application of Regulations, sets forth that the City's noise and vibration regulations apply only to fixed noise, sound, or vibration sources and not mobile noise, sound, or vibration sources.

- Section 9.10.040, Noise or Sound Regulation, sets forth that is unlawful for any person to operate or cause to allow to be operated any fixed noise source that causes the noise level on any other property to exceed the maximum noise levels listed in Schedule A (reproduced below as Table 13-9).

- Section 9.10.050, Vibration Regulation, sets forth that is unlawful for any person to operate or cause to allow to be operated any fixed vibration source that causes the vibration at the closest property line point to exceed the City's vibration perception threshold (0.01 inch/second over the range of one to 100 Hz per Code Section 9.10.020).

- Section 9.10.060, Noise, Sound, or Vibration Evaluation Criteria, sets forth that if measured ambient noise levels differ from those set forth in Municipal Code Schedule A (See Table 13-8), the allowable noise exposure standard shall be adjusted in five dBA increments in each category as appropriate to encompass or reflect said ambient noise level.

- Section 9.10.070, Exceptions, sets forth that the City's noise and vibration regulations do not apply to construction activities which occur during allowed hours, as specified in City Code Section 9.10.230.

Table 13-9
MUNICIPAL CODE SCHEDULE A EXTERIOR SOUND OR NOISE LIMITS

Receiving Zone Land Use Category	Time Period	Maximum Noise Level (dBA)
Category 1		
Single-family and duplex residential (R1, R2)	7:00 AM to 10:00 PM	55
	10:00PM to 7:00 AM	50
Category 2		
Multi-family residential, public space	7:00 AM to 10:00 PM	55
	10:00PM to 7:00 AM	50
Category 3		
Commercial, Office	7:00 AM to 10:00 PM	65
	10:00PM to 7:00 AM	60
Category 4		
Light Industrial (ML, MP)	Anytime	70
Heavy Industrial (MH)	Anytime	75
Source: City of Santa Clara, 2020		

Chapter 9.10 of the City Code, Article 2, Off-Street Operation of Certain Construction Sites, includes the following requirements that are relevant to the proposed Project:

- Section 9.10.210, Purpose, sets forth that certain construction-related operations in close proximity to residential properties can, if left unregulated, cause excessive and annoying noise, dust, fumes potentially injurious to persons and properties in residential neighborhoods.

- Section 9.10.230, Regulation, sets forth that no person shall engage or authorize others to engage in construction activities, including delivery of construction materials, within three hundred (300) feet of any residentially zoned property except within the hours of 7 AM to 6 PM, Monday through Friday, and 9 AM to 6 PM on Saturday. Construction is not permitted within 300 feet of residentially zoned properties on holidays or Sundays.

13.2.4.2 City of Sunnyvale General Plan

The Plan Area lies entirely within the City of Santa Clara; however, a portion of the Plan Area lies within approximately 150 feet of residences in the City of Sunnyvale. As the Plan Area lies within and is under the jurisdiction of the City of Santa Clara, future development projects would not be subject to the City of Sunnyvale guidelines and regulations pertaining to noise. Nonetheless, the City of Sunnyvale's noise and land use compatibility guidelines are provided below for information and contextual purposes.

According to the City of Sunnyvale General Plan, the normally acceptable noise level for residential uses is 60 DNL, which is approximately 5 dBA higher than the City of Santa Clara's normally acceptable noise level of 55 CNEL. The City of Santa Clara also sets a conditionally acceptable noise level for residential land uses (70 CNEL) that is similar to the City of Sunnyvale (70 DNL). Therefore, adherence to the City of Santa Clara noise and land use compatibility guidelines would be consistent with City of Sunnyvale noise and land use compatibility guidelines.

13.3 IMPACTS AND MITIGATION MEASURES

This section evaluates potential noise and vibration impacts that could occur under implementation of the Patrick Henry Drive Specific Plan.

13.3.1 Significance Criteria

Based on Appendix G to the State CEQA Guidelines, a significant impact would occur if a proposed project would:

(a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

(b) Generate excessive groundborne vibration or groundborne noise levels; or

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

With regard to criteria (a), the proposed project would result in a significant construction and/or operational noise impact if it would:

- Violate the allowable construction time periods set forth in Municipal Code Section 9.10.230;
- Generate hourly average construction noise levels at sensitive receptor locations that exceed 60 dBA L_{eq}, are at least 5 dBA above documented ambient noise levels at the sensitive receptor location, and last more than one year in duration;
- Generate hourly average construction noise levels at commercial receptor locations that exceed 70 dBA L_{eq}, are at least 5 dBA above documented ambient noise levels at the commercial receptor location, and last more than one year in duration;
- Generate operational noise levels that exceed the General Plan Noise Element compatibility standards summarized in Table 13-8;
- Generate operational noise levels that exceed the fixed source noise standards in Municipal Code Section 9.10.040 (summarized in Table 13-9); or
- Generate operational traffic noise levels that increase ambient noise levels at off-site locations by:
  - 5 dBA or more where the ambient noise level would remain either normally or conditionally acceptable;
  - 3 dBA or more where the existing ambient noise level changes from normally or conditionally acceptable to normally unacceptable; or
  - 1 dBA or more where the existing ambient noise level is already normally unacceptable.

With regard to criterion (b), the proposed project would result in a significant construction and/or operational vibration impact if it would:

- Generate construction-related vibration levels that exceed FTA annoyance criteria (see Table 13-5);

- Generate construction-related vibration levels that exceed Caltrans' guidance for potential building damage (see Table 13-6); or

- Generate vibration levels that exceed the City Code vibration perception threshold for vibration from fixed sources set forth in Municipal Code Section 9.10.050.

With regard to criterion (c), the proposed project would expose people living or working in the Plan Area to excessive airport-related noise levels if it would conflict with the CLUP prepared for Norman Y. Mineta San Jose International Airport.

13.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan, mainly Chapter 4 (Plan Framework) and Chapter 5 (Design Standards and Guidelines), includes components that would avoid or reduce potential noise and vibration impacts associated with future development in the Plan Area (City of Santa Clara, 2021).

Development Framework

Urban Design

- 4.2.1.4 Connections
    - Build new "slow streets" to allow shared space between automobiles, pedestrians, bicyclists, and differently abled users and create a safe, active environment for all modes.

Land Use

- 4.3.1 Land Use Policies
    - Distribute retail nodes so that all new residential development is within a 10-minute walk of at least 20,000 square feet of neighborhood-serving commercial uses.

Design Standards and Guidelines

Vehicle Travel Ways

- Guideline 5.1.1.5: Employ traffic-calming techniques to slow vehicle traffic on shared streets and increase pedestrian and cyclist safety.

Building Orientation

- Standard 5.5.2.5: For buildings with ground floor residential uses, located kitchens and living rooms – rather than bedrooms and other more private areas – to face streets to maximize privacy and security.

Building Frontages and Setbacks

- Standard 5.5.3.3: Provide 10-foot setbacks for all buildings with ground-floor residences fronting on to Patrick Henry Drive and Old Ironsides Drive.

- Standard 5.5.3.5: Ensure buildings with residential ground-floor uses are set back 10 feet from greenways and creek trails.

Alleys and Service Access

- Guideline 5.5.4.11: Screen loading and refuse/recycling collection areas located in alleys from adjacent uses with vegetation, landscaping, walls, and structural design.

- Standard 5.5.4.12: Incorporate loading areas (such as garage entrances) within the building to the maximum extent possible to minimize impacts on surrounding areas.

In addition to the above, chapter 3 (Project Description) of this EIR includes various development and design frameworks relevant to development density, intensity, and physical design components of the Specific Plan which apply to future project proposals in the Plan Area.

CEQA Guidelines Section 15150 permits an EIR to incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. When another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR under consideration, and the incorporated document itself must be made available to the public for inspection at a public place or public building. Pursuant to CEQA Guidelines Section 15150, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference. The reader is encouraged to review Specific Plan chapters 4 and 5 for more detail. The Specific Plan is posted on the Patrick Henry Drive Specific Plan website at:[1]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

13.3.3 Impacts and Mitigations

Impact 13-1: Plan-Related Temporary Construction Noise Levels. The implementation of the Patrick Henry Drive Specific Plan could result in construction and development activities in the Plan Area that generate noise levels above City standards and/or otherwise result in a substantial, temporary increase in ambient noise levels in the vicinity of the Plan Area. This represents a ***potentially significant impact*** (see criterion [a] in subsection 13.3.1, "Significance Criteria," above).

As shown in Table 3-1, Development Capacity, the Specific Plan could result in up to 12,000 high density residential dwelling units, 70,000 square feet of non-residential community space,

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

90,000 square feet of non-residential flex space, 150,000 square feet of non-residential retail space, and/or 785,000 square feet of office space in the Plan Area.[1] This development would replace approximately 1,073,000 square feet of existing building space (including office, research and development, light industrial, church, and data center land uses; see Chapter 5, Air Quality, Table 5-5) present in the approximately 73.59-acre Plan Area. The City has not received any specific development application for a project within the Plan Area; the timing and nature of specific development projects within the Plan Area is unknown and subject to future market and other conditions that the City cannot control. Since project-specific information is not available at this time, potential construction-related noise impacts can only be evaluated based on the typical construction activities associated with residential, commercial, and retail development. Potential construction source noise and vibration levels were developed based on methodologies, reference noise levels, and equipment usage and other operating factors documented and contained in the FHWA Construction Noise Handbook (FHWA, 2010), Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment document (FTA, 2018), and Caltrans' Transportation and Construction Vibration Guidance Manual (Caltrans, 2020b). Reference levels are noise emissions for specific equipment or activity types that are well documented and for which their usage is common practice in the field of acoustics.

Construction activities associated with potential development projects could include: staging, demolition, site preparation (e.g., land clearing), fine and mass grading, utility trenching, foundation work (e.g., excavation, pouring concrete pads, drilling for piers), material deliveries (requiring travel along City roads), building construction (e.g., framing, concrete pouring, welding), paving, coating application, and site finishing work. Construction activities may also include road (including the new connector road) and infrastructure improvements. In general, construction activities would involve the use of worker vehicles, delivery trucks, dump trucks, and heavy-duty construction equipment such as (but not limited to) backhoes, tractors, loaders, graders, excavators, rollers, cranes, material lifts, generators, and air compressors. These types of construction activities would generate noise and vibration from the following sources:

- Heavy equipment operations at different work areas. Some heavy equipment would consist of mobile equipment such as a loader and excavator that would move around work areas; other equipment would consist of stationary equipment (e.g., cranes or material hoists/lifts) that would generally operate in a fixed location until work activities are complete. Heavy equipment generates noise from engine operation, mechanical systems, and components (e.g., fans, gears, propulsion of wheels or tracks), and other sources such as back-up alarms. Mobile equipment generally operates at different loads, or power outputs, and produces higher or lower noise levels depending on the operating load. Stationary equipment generally operates at a steady power output that produces a constant noise level.

- Vehicle trips, including worker, vendor, and haul truck trips. These trips are likely to primarily occur on Tasman Drive, Great America Parkway, Patrick Henry Drive, and Old Ironsides Drive.

[1]As shown in Table 3-1, Development Scenario A would result in up to 12,000 residential units and no office space, whereas development Scenario B would result in up to 10,300 residential units and 785,000 square feet of office space.

Table 13-10, Potential Construction Equipment Noise Levels, indicates the anticipated noise levels of construction equipment at difference distances from equipment work areas.

Table 13-10
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Noise Level at 50 feet (L_{max})(A)	Usage Factor(B)	Calculated Average Noise Levels (L_{eq})(C)					
			50 feet	100 feet	200 feet	400 feet	500 feet	700 feet
Auger Drill Rig	85	0.2	78	72	66	60	58	55
Backhoe	80	0.4	76	70	64	58	56	53
Boring Jack Power Unit	80	0.5	77	71	65	59	57	54
Bulldozer	85	0.4	81	75	69	63	61	58
Compact roller	80	0.2	73	67	61	55	53	50
Compressor	80	0.4	76	70	64	58	56	53
Concrete Mixer	85	0.4	81	75	69	63	61	58
Crane	85	0.16	77	71	65	59	57	54
Delivery Truck	84	0.4	80	74	68	62	60	57
Excavator	85	0.4	81	75	69	63	61	58
Front End Loader	80	0.4	76	70	64	58	56	53
Generator	82	0.5	79	73	67	61	59	56
Horizontal Boring Jack	80	0.25	74	68	62	56	54	51
Impact Hammer/Pile Driver	101	0.2	88	82	76	70	68	65
Vibratory Hammer/Pile Driver	101	0.2	94	88	82	76	74	71
Man Lift	85	0.2	78	72	66	60	58	55
Paver	85	0.5	82	76	70	64	62	59
Pneumatic tools	85	0.5	82	76	70	64	62	59
Pumps	77	0.5	74	68	62	56	54	51
Roller	85	0.2	78	72	66	60	58	55
Scraper	85	0.4	81	75	69	63	61	58
Tractor	84	0.4	80	74	68	62	60	57
Vacuum Truck	85	0.4	81	75	69	63	61	58

Sources: Caltrans 2013, FHWA, 2010, and MIG (see Appendix B, Sheet 1).

(A) L_{max} noise levels based on manufacturer's specifications.

(B) Usage factor refers to the amount of time the equipment produces noise over the time period.

(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans 2013: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

Construction noise impacts generally occur when construction activities occur in areas immediately adjoining noise sensitive land uses, during noise sensitive times of the day, or when construction durations last over extended periods of time. Construction activities associated with the proposed project would occur in multiple phases and may last several

years in total. The closest that construction activities could occur to nearby sensitive receptors located outside the Plan Area would be:

- Adjacent to and within approximately 75 feet of the Calabazas Creek Trail;
- Adjacent to and within approximately 50 feet of Mission College athletic fields and parking areas and within 800 feet of Mission College academic buildings;
- Approximately 180 feet from the closest residences on Manzano Way (located west of the Plan Area, in the City of Sunnyvale and Santa Clara);
- Approximately 680 feet from Fairwood Elementary School and Fairwood Park (on Fairwood Avenue, in the City of Sunnyvale);

In addition to these existing, noise-sensitive land uses, the Plan Area borders the Kylli Mixed Use Development to the north and the Freedom Circle Focus Area is located approximately 220 feet southeast of the Plan Area.[1] Finally, existing (e.g., New Hope Church at 2900 Patrick Henry Drive) and future noise sensitive land uses envisioned by the Specific Plan (e.g., residential dwelling units, library use) could be located near construction work areas within the Plan Area.

The City's General Plan Noise Element generally focuses on protecting Santa Clara citizens from noise intrusion, and the City's Municipal Code limits construction activities to the hours of 7 AM to 6 PM, Monday to Friday, and 9 AM to 6 PM on Saturday (Municipal Code Section 9.10.230). Although the General Plan and Municipal Code do not establish a specific, numeric noise standard (e.g., 90 dB, L_{eq}), the City has historically considered construction activities to result in a significant noise impact on residential land uses if the activities generate noise levels that are above 60 dBA L_{eq} and exceed the ambient noise environment by at least 5 dBA L_{eq} for more than one year. Similarly, the City has historically considered construction activities to result in a significant noise impact on commercial land uses if the activities generate noise levels that are above 70 dBA L_{eq} and exceed the ambient noise environment by at least 5 dBA L_{eq} for more than one year.

With regard to construction noise, demolition, site preparation, and grading phases typically result in the highest temporary noise levels due to the use of heavy-duty equipment such as dozers, excavators, graders, loaders, scrapers, and trucks. The use of specialized equipment such as impact or vibratory pile drivers can also generate high noise levels during initial foundation work stages. As shown in Table 13-10, the worst-case L_{eq} and L_{max} noise levels associated with the operation of a dozer, excavator, scraper, etc., are predicted to be approximately 82 and 85 dBA, respectively, at a distance of 50 feet from the equipment operating area. At an active construction site, it is not uncommon for two or more pieces of construction equipment to operate at the same time and in close proximity. The concurrent operation of two or more pieces of construction equipment would result in noise levels of approximately 85 to 88 dBA at a distance of 50 feet from equipment operating areas.[2] The magnitude of each individual future project's temporary and periodic increase in ambient noise levels would be dependent upon a number of project-specific factors that are not known at this

[1]The individual Greystar General Plan Amendment site is located more than ½ mile southeast of the Plan Area.

[2]As shown in Table 13-10, a single bulldozer provides a sound level of 87 dBA L_{eq} at a distance of 25 feet; when two identical sound levels are combined, the noise level increases to 90 dBA L_{eq} and when three identical sound levels are combined, the noise level increases to 91 dBA L_{eq}. These estimates assume no shielding or other noise control measures are in place at or near the work areas.

time, including: the amount and type of equipment being used; the distance between the area where equipment is being operated and the location of the specific land use, receptor, etc., where noise levels are being evaluated; the time of day construction activities are occurring; the presence or absence of any walls, buildings, or other barriers that may absorb or reflect sound waves, the total duration of the construction activities, and the existing ambient noise levels near construction areas.

For example, a noise level of 88 dBA L_{max} would be similar to typical L_{max} levels measured near the eastern boundary of the Planning Area (LT-1), but sustained L_{eq} levels of 85 dBA would be approximately 20 dBA above daytime ambient conditions near the eastern boundary of the Planning Area (see Table 13-2 and 13-3). The same noise levels would be approximately 10 to 30 dBA above ambient L_{max} and L_{eq} noise levels measured near the interior (ST-2, ST-3, and ST-4) and western boundary of the Plan Area (LT-2).Typically, sustained construction noise levels of 80 to 85 dBA or higher would require the implementation of construction noise control practices such as staging area restrictions (e.g., siting staging areas away from sensitive receptors), equipment controls (e.g., covered engines and use of electrical hook-ups instead of generators), and/or the installation of temporary noise barriers of sufficient height, size (length or width), and density to achieve targeted noise reductions. In general, as shown in Table 13-10, typical construction equipment activities could exceed the City's significance thresholds at residential and commercial land uses within 400 feet and 200 feet of work areas, respectively, assuming the construction activity would last for more than one year (which may or may not be the case depending on the project. The use of pile driving equipment, if necessary, could exceed residential and commercial thresholds at distances of 500 and 400 feet, respectively. While all projects in the Planning Area would be subject to the permissible construction hours established by the Municipal Code, construction activities could result in temporary increases in noise levels above ambient conditions of 10 to 30 dBs or more during permissible time frames, which would be perceived by noise-sensitive land uses as doubling or quadrupling of loudness, respectively. This is considered a potentially significant impact.

The implementation of Mitigation Measure 13-1 would reduce construction noise levels associated with future development in the Plan Area through a combination of notification/ disclosure, permissible work times, equipment noise controls, and construction activity management measures designed to ensure residential and commercial construction noise thresholds are not exceeded. Mitigation Measure 13-1 requires equipment noise suppression devices (e.g., mufflers, engine covers, etc.), temporary shielding of stationary noise sources, the use of temporary barriers during construction phases that usually involve the largest, loudest, and highest number of construction equipment (e.g., grading). In combination, these measures are expected to reduce potential construction noise levels by 15 to 25 dBA and result in less than significant construction noise levels. If necessary, additional noise control measures necessary to meet the City's construction noise thresholds would be developed through the preparation of the project-specific noise study required by Mitigation Measure 13-1 that considers project-specific construction characteristics, noise levels, and receptor locations. Therefore, this impact would be *less than significant* with mitigation.

Mitigation 13-1: Reduce Construction Noise Levels. To reduce potential noise levels from Specific Plan related construction activities, the City shall ensure future development projects within the Plan Area:

1) Notify Residential and Commercial Land Uses of Planned Construction Activities. This notice shall be provided at least one week prior to the start of any construction activities, describe the noise control measures to be implemented by the Project, and include the name and phone number of the designated contact for the Applicant/project representative and the City of Santa Clara responsible for handling construction-related noise complaints (per Section 8). This notice shall be provided to: A) The owner/occupants of residential dwelling units within 500 feet of construction work areas; B) The owner/occupants of commercial buildings (including Mission College) within 200 feet of construction work areas or within 400 feet of construction work areas if pile driving equipment will be used; and C) Mission College when construction work areas are within 500 feet of College athletic fields.

2) Notify Calaveras Creek Trail Users of Construction Activities. Prior to the start of construction activities within 500 feet of Calaveras Creek Trail, signs shall be posted along the trail warning of potential temporary elevated noise levels during construction. Signs shall be posted within 250 feet of impacted trail segments (i.e., portions of the trail within 500 feet of a work area) and shall remain posted throughout the duration of all substantial noise generating construction activities (typically demolition, grading, and initial foundation installation activities).

3) Restrict Work Hours. All construction-related work activities, including material deliveries, shall be subject to the requirements of City Municipal Code Section 9.10.230. Construction activities, including deliveries, shall occur only during the hours of 7:00 AM to 6:00 PM, Monday through Friday, and 9 AM to 6 PM on Saturday, unless otherwise authorized by City permit. The applicant/project representative and/or its contractor shall post a sign at all entrances to the construction site informing contractors, subcontractors, construction workers, etc. of this requirement.

4) Control Construction Traffic and Site Access. Construction traffic, including soil and debris hauling, shall follow City-designated truck routes and shall avoid routes (including local roads in the Plan Area) that contain residential dwelling units to the maximum extent feasible given specific project location and access needs.

5) Construction Equipment Selection, Use, and Noise Control Measures. The following measures shall apply to construction equipment used in the Plan Area: A) To the extent feasible, contractors shall use the smallest size equipment capable of safely completing work activities; B) Construction staging shall occur as far away

(continued)

Mitigation 13-1 (continued):

from residential and commercial land uses as possible; C) All stationary noise-generating equipment such as pumps, compressors, and welding machines shall be shielded and located as far from sensitive receptor locations as practical. Shielding may consist of existing vacant structures or a three- or four-sided enclosure provide the structure/barrier breaks the line of sight between the equipment and the receptor and provides for proper ventilation and equipment operations; D) Heavy equipment engines shall be equipped with standard noise suppression devices such as mufflers, engine covers, and engine/mechanical isolators, mounts, etc. These devices shall be maintained in accordance with manufacturer's recommendations during active construction activities; E) Pneumatic tools shall include a noise suppression device on the compressed air exhaust; F) The applicant/project representative and/or their contractor shall connect to existing electrical service at the site to avoid the use of stationary power generators; G) No radios or other amplified sound devices shall be audible beyond the property line of the construction site.

6) Implement Construction Activity Noise Control Measures: The following measures shall apply to construction activities in the Plan Area: A) Demolition: Activities shall be sequenced to take advantage of existing shielding/noise reduction provided by existing buildings or parts of buildings and methods that minimize noise and vibration, such as sawing concrete blocks, prohibiting on-site hydraulic breakers, crushing, or other pulverization activities, shall be employed to the maximum extent feasible; B) Demolition Site Preparation, Grading, and Foundation Work: During all demolition, site preparation, grading, and structure foundation work activities within 500 feet of a residential dwelling unit or 250 feet of a commercial building (including Mission College), a physical noise barrier capable of achieving a minimum 10 dB reduction in construction noise levels shall be installed and maintained around the site perimeter to the maximum extent feasible given site constraints and access requirements. Potential barrier options capable of achieving a 10 dB reduction in construction noise levels could include, but are not limited to: i) A six-foot-high concrete, wood, or other barrier installed at-grade (or mounted to structures located at-grade, such as a K-Rail), and consisting of a solid material (i.e., free of openings or gaps other than weep holes) that has a minimum rated transmission loss value of 20 dB; ii) Commercially available acoustic panels or other products such as acoustic barrier blankets that have a minimum sound transmission class (STC) or transmission loss value of 20 dB; iii) any combination of noise barriers and commercial products capable of achieving a 10 dBA reduction in construction noise levels during demolition, site preparation, grading, and structure foundation work activities; iv) The noise barrier may be removed following the completion of building foundation work (i.e., it is not necessary once framing and typical vertical building construction begins provided no other grading, foundation,

(continued)

Mitigation 13-1 (continued):

etc. work is still occurring on-site); and C) Pile Driving: If pile driving activities are required within 500 feet of a residential dwelling unit or 400 feet of a commercial building (including Mission College), the piles shall be pre-drilled with an auger to minimize pile driving equipment run times.

7) Prepare Project-Specific Construction Noise Evaluation. Prior to the start of any specific construction project lasting 12 months or more, the City shall review and approve a project-specific construction noise evaluation prepared by a qualified acoustical consultant that: A) Identifies the planned project construction sequence and equipment usage; B) Identifies typical hourly average construction noise levels for project construction equipment; C) Compares hourly average construction noise levels to ambient noise levels at residential and commercial land uses near work areas (ambient noise levels may be newly measured or presumed to be consistent with those levels shown in Table 13-2 and 13-3 of the Patrick Henry Drive Specific Plan Draft Environmental Impact Report (EIR); and D) Identifies construction noise control measures incorporated into the project that ensure: i) activities do not generate noise levels that are above 60 dBA Leq at a residential dwelling unit and exceed the ambient noise environment by at least 5 dBA Leq for more than one year; and ii) activities do not generate noise levels that are above 70 dBA Leq at a commercial building (including Mission College) and exceed the ambient noise environment by at least 5 dBA Leq for more than one year. Such measures may include, but are limited to: a) The requirements of Sections 4, 5, 6, and 8; B) Additional project and/or equipment-specific enclosures, barriers, shrouds, or other noise suppression methods. The use of noise control blankets on building facades shall be considered only if noise complaints are not resolvable with other means or methods.

8) Prepare a Construction Noise Complaint Plan. The Construction Noise Complaint Plan shall: A) Identify the name and/or title and contact information (including phone number and email) for a designated project and City representative responsible for addressing construction-related noise issues; B) Includes procedures describing how the designated project representative will receive, respond, and resolve construction noise complaints; C) At a minimum, upon receipt of a noise complaint, the project representative shall notify the City contact, identify the noise source generating the complaint, determine the cause of the complaint, and take steps to resolve the complaint; D) The elements of the Construction Noise Complaint Plan may be included in the project-specific noise evaluation prepared to satisfy Section 7 or as a separate document.

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Mitigation 13-1 (continued):

9) Owner/Occupant Disclosure: The City shall require future occupants/tenants in the Plan Area receive disclosure that properties in the Plan Area may be subject to elevated construction noise levels from development in the Plan Area. This disclosure shall be provided as part of the mortgage, lease, sub-lease, and/or other contractual real-estate transaction associated with the subject property.

With implementation of these measures, this impact would be ***less than significant*** (see criterion [a] in subsection 13.3.1, "Significance Criteria," above).

Impact 13-2: Plan-Related Temporary Construction Vibration Levels. The implementation of the Patrick Henry Drive Specific Plan could result in construction and development activities in the Plan Area that generate vibration levels above City standards and/or otherwise result excessive ground-borne vibration levels. This represents a ***potentially significant impact*** (see criterion [b] in subsection 13.3.1, "Significance Criteria," above).

Construction activities have the potential to result in varying degrees of ground vibration, depending on the specific construction equipment used and activities involved. Vibration generated by construction equipment spreads through the ground and diminishes with increases in distance. The effects of ground vibration may be imperceptible at low levels, result in low rumbling sounds and detectable vibrations at moderate levels, and can disturb human activities such as sleep and vibration sensitive equipment at high levels. Ground vibration can also potentially damage the foundations and exteriors of existing structures even if it does not result in a negative human response. Pile drivers and other pieces of high impact construction equipment are generally the primary cause of construction-related vibration impacts. The use of such equipment is generally limited to sites where there are extensive layers of very hard materials (e.g., compacted soils, bedrock) that must be loosened and/or penetrated to achieve grading and foundation design requirements. The need for such methods is usually determined through site-specific geotechnical investigations that identify the subsurface materials within the grading envelope, along with foundation design recommendations and the construction methods needed to safely permit development of a site.

As indicated under Impact 13-1, since project specific information is not available at this time, potential short-term construction-related vibration impacts can only be evaluated based on the typical construction activities associated with residential, commercial, and retail development. Potential construction equipment and activity vibration levels were developed based on methodologies, reference noise levels, and equipment usage and other operating factors documented and contained in the FTA's Transit Noise and Vibration Impact Assessment document and Caltrans' Transportation and Construction Vibration Guidance Manual (FTA 2018 and Caltrans 2020).

Construction vibration impacts generally occur when construction activities occur in close proximity to buildings and vibration-sensitive areas, during evening or nighttime hours, or

when construction activities last extended periods of time. Construction activities associated with the proposed project would occur in multiple phases and may last several years in total, with full development of the Plan Area anticipated to occur by 2040. In general, construction activities in the Plan Area would not be located near residential or commercial buildings or structures because the Plan Area is bordered by a parking lot on the north, Great America Parkway to the east, Mission College parking areas and athletic fields to the south, and the Calabazas Creek Trail to the east. The exception to this is the southeast corner of the Plan Area, where construction activities could occur within 50 feet of an existing, adjacent commercial building. The closest residential building facades are approximately 195 feet to the west of the Plan Area, across the Calabazas Creek; however, as noted in Section 13.1.8, the Kylli Mixed Use Development Project borders the Plan Area to the north and could result in future buildings adjacent to the Plan Area. In addition, future land uses envisioned by the Specific Plan (e.g., residential dwelling units, library use, commercial buildings) could be located near construction work areas within the Plan Area and affected by construction vibration.

The ground-borne vibration levels generated by the type of equipment that would be used to construct the proposed project are shown in Table 13-11.

Table 13-11
TYPICAL CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Equipment	Peak Particle Velocity (in/sec) [(A)]				Velocity Decibels (VdB)[(B)]			
	50 feet	100 feet	200 feet	400 feet	50 feet	100 feet	200 feet	400 feet
Small bulldozer	0.001	0.001	0.000	0.000	49.0	39.9	30.9	21.9
Jackhammer	0.016	0.008	0.004	0.002	70.0	60.9	51.9	42.9
Loaded truck	0.035	0.017	0.008	0.004	77.0	67.9	58.9	49.9
Large bulldozer	0.042	0.019	0.009	0.004	78.0	68.9	59.9	50.9
Auger Drill Rig	0.042	0.019	0.009	0.004	78.0	68.9	59.9	50.9
Vibratory Roller	0.098	0.046	0.021	0.010	85.0	75.9	66.9	57.9
Pile Driver (Sonic, Typical)	0.079	0.037	0.017	0.008	84.0	74.9	65.9	56.9
Pile Driver (Impact, Typical)	0.300	0.140	0.065	0.031	95.0	85.9	76.9	67.9

Sources: Caltrans, 2020b and FTA, 2018

(A) Estimated PPV calculated as: PPV(D)=PPV(ref)*(25/D)^1.1 where PPV(D)= Estimated PPV at distance; PPVref= Reference PPV at 25 ft; D= Distance from equipment to receiver; and n= ground attenuation rate (1.1 for dense compacted hard soils).

(B) Values for 25 feet are reference values contained in Caltrans 2020 and FTA 2018. Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30Log(D/25) where Lv(D)= estimated velocity level in decibels at distance, Lv(25 feet)= RMS velocity amplitude at 25 f; and D= distance from equipment to receiver. All distances are lateral distances and do not consider changes in topography.

As shown in Table 13-11, specific vibration levels associated with typical construction equipment are highly dependent on the type of equipment used. For structural damage, the

use of typical equipment during construction activities (e.g., bulldozer, jack hammer, trucks, etc.) would produce PPV levels up to 0.042 in/sec at 50 feet. These PPV values are well below Caltrans' guidelines standards for potential structural damage for the types of buildings in and adjacent to the Plan Area, which consist of modern commercial and industrial structures (0.5 PPV for continuous vibration sources; see Table 13-6). Similarly, the use of specific vibration-generating equipment such as a vibratory roller or pile driver would not exceed Caltrans' structural damage criteria for modern commercial and industrial structures unless impact hammers are used within approximately 30 feet of any building.

For human annoyance and interference responses, the use of typical equipment (e.g., bulldozer, jack hammer, trucks, etc.) during construction could produce vibration levels that exceed FTA annoyance criteria for residential land uses (72 VdB for frequent events, see Table 13-5), as well as Caltrans' slightly perceptible vibration detection threshold (0.012 PPV, see Table 13-7), at distances up to 150 feet from work areas. The use of typical equipment would exceed FTA annoyance criteria for institutional land uses (75 VdB for frequent events, see Table 13-5) at distances up to 75 feet from construction work areas. Since Caltrans' vibration detection thresholds are not dependent on land use, there is no change in the distance (150 feet from work areas) at which vibration from typical equipment could be slightly perceptible to commercial land use receptors. For specific vibration-generating equipment such as a vibratory roller or pile driver, vibrations could be perceptible at greater distances (generally up to 400 feet from work areas); the use of impact hammers would have the potential to produce groundborne vibrations that may be perceptible at distances greater than 400 feet from work areas. It is noted that, as required by Mitigation 13-1 (Reduce Construction Noise Levels), construction activities would be limited to daytime hours only and, therefore, potential construction-induced vibrations would not have the potential to be perceptible and annoy residential or commercial receptors during the more sensitive nighttime period.

The above vibration estimates represent potential vibration levels based on typical equipment operations and assume there is no change in elevation between work areas and receptor locations and no change in subsurface conditions that may affect vibration transmission through soil media and structures. As discussed above, the potential for structural damage to buildings is limited to instances of pile driving activities within approximately 30 feet of a building; however, construction-related groundborne vibrations have the potential to be perceptible at buildings within approximately 150 feet of typical construction work areas and 400 feet or more of construction work areas involving impact hammer equipment.

Although unlikely to occur, the potential for building structural damage is considered a potentially significant impact. With regards to annoyance, although typical construction activities may generate perceptible ground-borne vibration levels at structures within approximately 150 feet of work areas, these levels would not be excessive because they would be intermittent (not occur every day), limited in duration (equipment would move throughout work areas and not operate in the same location for a prolonged amount of time), occur during the daytime only (when receptors would not be sleeping and, therefore, are considered less sensitive to vibration levels). For these reasons, the proposed project's typical construction activities would have a less than significant impact on human annoyance and responses; however, pile driving and other specific vibration-generating equipment could result in excessive ground-borne vibration levels to residential receptors if not adequately mitigated (i.e., exceeding Caltrans' strongly perceptible threshold of 0.10 in/sec PPV).

The implementation of Mitigation Measure 13-2 would ensure future construction activities in the Plan Area do not result in significant structural damage or other excessively annoying vibration levels through a combination of combination of notification/disclosure, permissible work times, equipment vibration controls, and construction activity management measures designed to limit and reduce construction equipment vibration levels. This impact would be less than significant with mitigation.

According to the FTA, ground-borne noise that may accompany building vibration is usually perceptible only inside buildings and typically is only an issue at locations with subway or tunnel operations where there is no airborne noise path or for buildings with substantial sound insulation such as a recording studio (FTA, 2018). These conditions do not exist in the project area. Therefore, the proposed project's construction activities would have a less than significant impact from ground-borne noise.

Mitigation 13-2: Reduce Construction Vibration Levels. To reduce potential vibration-related structural damage and other excessive vibration levels from Specific Plan related construction activities, the City shall ensure future development projects within the Plan Area:

1) Notify Residential and Commercial Land Uses of Planned Construction Activities. See Patrick Henry Drive Specific Plan Draft Environmental Impact Report (EIR) Mitigation Measure 13-1, Section 1.

2) Restrict Work Hours. See Patrick Henry Drive Specific Plan Draft EIR Mitigation Measure 13-1, Section 2.

3) Prohibit Vibratory Equipment if Feasible. The use of large vibratory rollers, vibratory/impact hammers, and other potential large vibration-generating equipment (e.g., hydraulic breakers/hoe rams) shall be prohibited within 100 feet of any residential building façade and 50 feet of any commercial building façade during construction activities. Plate compactors and compactor rollers are acceptable, and deep foundation piers or caissons shall be auger drilled.

4) Prepare Project-Specific Construction Vibration Evaluation Plan. If it is not feasible to prohibit vibratory equipment per Section 3) due to site- or project-specific conditions or design considerations, the City shall review and approve a project-specific construction vibration evaluation that: A) Identifies the project's planned vibration-generating construction activities (e.g., demolition, pile driving, vibratory compaction); B) the potential project-specific vibration levels (given project-specific equipment and soil conditions, if known) at specific building locations that may be impacted by the vibration-generating work activities (generally buildings within 50

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Mitigation 13-2 (continued):

feet of the work area); C) Identifies the vibration control measures incorporated into the project that ensure equipment and work activities would not damage buildings or result in vibrations that exceed Caltrans' strongly perceptible vibration detection threshold for peak particle velocity (PPV) of 0.1 inches/second (in/sec). Such measures may include, but are not limited to: i) the requirements of Sections 1, 2, and 3; ii) the use of vibration monitoring to measure actual vibration levels; iii) the use of photo monitoring or other records to document building conditions prior to, during, and after construction activities; and iv) the use of other measures such as trenches or wave barriers; D) Identifies the name (or title) and contact information (including phone number and email) of the Contractor and City-representatives responsible for addressing construction vibration-related issues; and E) Includes procedures describing how the construction contractor will receive, respond, and resolve to construction vibration complaints. At a minimum, upon receipt of a vibration complaint, the Contractor and/or City representative described in the first sub-bullet above shall identify the vibration source generating the complaint, determine the cause of the complaint, and take steps to resolve the complaint by reducing ground-borne vibration levels to peak particle velocity levels that do not exceed accepted guidance or thresholds for structural damage that are best applicable to potentially impacted buildings (e.g., see Patrick Henry Drive Specific Plan Draft EIR Table 13-6) and Caltrans' strongly perceptible vibration detection threshold (PPV of 0.1 in/sec, see Patrick Henry Drive Specific Plan Draft EIR Table 13-7).

With implementation of these measures, this impact would be ***less than significant*** (see criterion [b] in subsection 13.3.1, "Significance Criteria," above).

Impact 13-3: On-site Noise Levels from Specific Plan Development. The implementation of the Patrick Henry Drive Specific Plan could result in new roadway and infrastructure improvements and new residential, office, and other land uses that generate noise from on-site equipment, activities, or other operations in excess of applicable City standards. This represents a ***potentially significant impact*** (see criterion [a] in subsection 13.3.1, "Significance Criteria," above).

The implementation of the Patrick Henry Drive Specific Plan could replace existing office, research and development, light industrial, church, and data center land uses with new residential, office, retail, flex, and community land uses. The existing land uses in the Plan Area generate noise from, garbage collection activities, landscaping activities, on-site vehicle parking, stationary mechanical equipment (e.g., pumps, heating, ventilation, and air conditioning (HVAC) units), and other office and commercial activities (deliveries, building maintenance, etc.). The new land uses identified in the Specific Plan are envisioned as a vibrant, mixed-use residential neighborhood with local amenities. These land uses would involve similar noise generating sources and activities as the existing land uses; however, the

amount of mechanical equipment, the frequency of landscaping and garbage collection activities, and the intensity of parking and, potentially, truck / van loading and unloading activities would likely increase due to the very high-density residential, urban village / urban center, high-density flex, and mixed-use overlay land uses envisioned by the Specific Plan.

Currently, the Plan Area is primarily directly bordered by recreational facilities (Calabazas Creek Trail and Mission College athletic fields) and parking areas (Levi's Stadium Blue and Green Lots), Mission College parking lots) for which the City's General Plan establishes 65 CNEL and 75 CNEL as normally acceptable and conditionally acceptable noise limits, respectively.[1] The northwest and southeast corners of the Plan Area are bordered by existing commercial land uses; the City's Municipal Code (see Table 13-9) establishes permissible exterior noise limits for commercial land uses of 65 dBA L_{max} during the daytime (7 AM to 7 PM) and 60 dBA L_{max} during the nighttime (10 PM to 7 AM), and the City's General Plan establishes 65 CNEL and 75 CNEL as the normally and conditionally acceptable noise limits for this land use type, respectively. While the Plan Area is not currently directly bordered by residential development, a residential area is located approximately 180 feet west of the Plan Area, across the Calabazas Creek Trail. In addition, the proposed Kylli Development, which directly borders the Plan Area to the north, could result in future residential receptors near the Plan Area. Finally, as development in the Plan Area proceeds over time, new residential and other sensitive land uses in the Plan Area could be affected by noise-generating sources and activities from Plan Area development.

Although the proposed Specific Plan could increase the amount of noise sources and noise-generating activities compared to existing conditions, the project would have a limited potential to generate significant on-site noise levels for the following reasons:

- In general, residential land uses (including the proposed high-density residential land uses) are not a substantial noise-generating land use type because:
  - They do not involve substantial noise-generating activities during the nighttime;
  - Mechanical equipment associated with elevators, residential amenities such as pools, and other building systems are typically enclosed within the closets, sheds, or equipment rooms; and
  - HVAC equipment is typically screened from public view by landscaping, fences, or walls and, therefore, shielded from adjacent property lines.

- The Plan Area would support residential and recreational land uses along shared property lines with Mission College, the Calabazas Creek Trail, and lands to the north of the Plan Area (which are currently commercial but may transition to residential in the future).

- The proposed high density flex land uses, which may consist of office/commercial developments with commercial-grade HVAC equipment, back-up generators, or other mechanical equipment, would be located along the eastern edge of the Plan Area, between Old Ironsides Drive and Great America Parkway, and would have little to no potential to impact on- or off-site receptors due to the distance between flex use boundaries and other nearby properties (estimated to be a minimum of 100 feet).

[1]As shown in Table 13-8, the City's General Plan also establishes 85 CNEL as the normally acceptable noise limit for open spaces such as the Calabazas Creek Trail.

- The proposed mixed-use overlay, which would permit residential development with ground-floor retail, flex, or community uses, would support an active street environment, and primarily provide local-serving retail and neighborhood services and amenities to meet the day-to-day needs of residents. These retail, flex, and community uses would be located on the interior of the Plan Area (along local roads) and would be unlikely to require substantial loading or unloading facilities or large, stationary sources of equipment.

- The Specific Plan includes design standard and guidelines for building orientation (Standard 5.5.2.5), building frontages and setbacks (Standard 5.5.3.3 and Standard 5.5.3.5), and alleys/service access (Guideline 5.5.4.11 and Standard 5.5.4.12) that screen residential uses from noise generating activities such as garage entrances and loading areas (see Section 13.3.2).

- The City's General Plan establishes procedures and standards to protect noise sensitive land uses from noise intrusion (see Section 13.2.4.1) and the City's Municipal Code establishes specific numeric standards for residential and commercial lands that are not be exceed by stationary equipment (see Section 13.2.4.2).

As explained above, the proposed Specific Plan is considered to have a limited potential to include on-site sources or activities that could generate noise levels that exceed City standards or otherwise substantially increase existing ambient noise levels; however since project-specific information is not available at this time, the potential exists for future development projects to include noise-generating equipment or involve noise generating activities that could exceed the City's standards or otherwise substantially exceed the ambient noise environment if not adequately mitigated. The implementation of Mitigation Measure 13-3 would require development projects in the Plan Area to include site design, noise attenuation, and/or other noise control measures to ensure project-specific fixed noise source levels do not exceed City standards. This impact would be less than significant with mitigation.

Mitigation 13-3: Control Fixed and Other On-site Noise-Generating Sources and Activities. To ensure on-site, operations-related equipment and activities associated with the Specific Plan do not generate noise levels that exceed City standards or otherwise result in a substantial permanent increase in ambient noise levels, future development projects shall submit a project-specific operational noise analysis to the City for review and approval prior to the issuance of the first building permit for the project, or as otherwise determined by the City. The noise analysis shall be prepared by a qualified acoustical consultant and shall identify all major fixed machinery and equipment, non-residential truck docks/dedicated loading zones, waste collection areas, and above ground parking garages included in the final project design/site plan. The noise analysis shall also document how project noise sources and activities will comply with the exterior sound limits established in Municipal Code Section 9.10.040, Schedule A and the noise compatibility guidelines in General Plan Table 8.14-1. Fixed machinery and equipment may include, but is not limited to, pumps, fans (including air intake or exhaust fans in parking garages),

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Mitigation 13-3 (continued):

compressors, air conditioners, generators, and refrigeration equipment. The control of noise from such equipment may be accomplished by selecting quiet equipment types, siting machinery and equipment inside buildings, within an enclosure (e.g., equipment cabinet or mechanical closets, or behind a parapet wall or other barrier/shielding. Truck docks/dedicated loading zones consist of a loading dock or other dedicated area for the regular loading and unloading of retail, commercial, or other non-residential goods from delivery trucks. The control of noise from such truck docks/loading areas, waste collection areas, and parking garages may be accomplished by placing such areas away from sensitive land uses, restricting activities or operating hours for certain areas, or other design means.

With implementation of these measures, this impact would be ***less than significant***.

Impact 13-4: Increases in Traffic Noise Levels from Specific Plan Development. The implementation of the Patrick Henry Drive Specific Plan could generate vehicle trips that substantially increase existing and future No Project traffic noise levels and/or exceed City noise and land use compatibility standards. This represents a ***potentially significant impact*** (see criterion [a] in subsection 13.3.1, "Significance Criteria," above).

The Specific Plan would have the potential to change the existing amounts and types of land uses within the Plan Area. These potential land use changes would increase residents and employees within the City and lead to an increase in vehicle trips and traffic-related noise levels that could pose land use compatibility issues and/or otherwise represent a substantial permanent increase in traffic noise levels on roadways used to access the Plan Area. Although the Specific Plan does not authorize any specific development project or increase in existing vehicular traffic levels, the City has contracted with a qualified transportation engineering firm to prepare estimates of the potential total net increase in trips associated with the land use changes contained in the proposed Specific Plan (Hexagon Transportation Consultants, 2021; see EIR Chapter 17, Transportation). The vehicle trip estimates prepared for the Plan provide a sufficient level of detail to generally evaluate the potential future increases in traffic-related noise levels associated with full development of the Plan Area by 2040.

Year 2040 traffic noise levels with full development of the Specific Plan were computed using the same methodology (TNM Version 2.5) and data sources used to calculate existing (Year 2019) and future baseline Year 2040 traffic noise levels (see Section 13.1.6.2) except that build-out traffic levels resulting from full implementation of the Specific Plan were obtained from the traffic consultant and entered into the traffic noise model. The 2040 vehicle mix was generated using the CARB's EMFAC2017 model and determined to be same as under existing conditions. Traffic noise levels were modeled based on the worst-case trip generation scenario for each impacted roadway segment considering circulation both with and without the potential new connector road to Mission College (e.g., if Scenario A with the connector road

generated more trips on Great America Parkway between Old Glory Lane and Patrick Henry Drive than Scenario B with or without the connector mode, Scenario A with the connector road was modeled). It is noted that the potential connector road only affected modeled traffic volumes on a small subset of modeled road segments (approximately 10 out of 66 segments), and that for all road segments except the Mission College Boulevard Loop north of Mission College Boulevard total traffic volumes were highest without the potential connector road.

The change in ADT and traffic noise levels that would occur with full development of the Specific Plan in Year 2040 are shown in Table 13-12.[1] Please refer to Appendix 25.5 for detailed traffic noise modeling results.

Table 13-12
COMPARISON OF 2040 TRAFFIC NOISE LEVELS WITH AND WITHOUT THE SPECIFIC PLAN

Road / Segment	**Year 2040 Without Specific Plan**		**Year 2040 With Specific Plan**		**Net Change**	
	ADT	**CNEL(A)**	**ADT**	**CNEL(A)**	**ADT**	**CNEL(B)**
Lawrence Expressway						
SR 237 to Tasman Dr	42,300	75.5	49,692	*76.5*	7,392	***0***
Tasman Dr to Sandia Ave / Lakehaven Rd	44,935	76.4	51,681	77.3	6,746	0.9
Sandia Ave / Lakehaven Rd to U.S. 101	61,777	77.1	67,945	77.9	6,169	0.8
U.S. 101 to E. Arques Ave	57,340	77.1	58,630	77.8	1,290	0.7
Patrick Henry Drive						
South of Tasman Drive	21,583	69.6	31,661	*70.8*	10,077	1.2
Great America Pkwy to Old Ironsides Drive	15,420	67.3	23,262	69.0	7,842	1.7
West of Old Ironsides Drive	7,020	60.4	22,620	63.6	15,600	3.2
Old Ironsides Drive						
Tasman Drive to Old Glory Lane	18,156	65.9	29,170	67.8	11,014	1.9
Old Glory Lane to Patrick Henry Drive	11,144	59.2	17,830	60.7	6,686	1.5

[1]Table 13-12 compares Year 2040 traffic volumes with and without full development of the Specific Plan where potentially significant impacts could occur. A comparison of Year 2040 traffic volumes with and without the Specific Plan, as well as a comparison of Year 2040 traffic volumes with full development of the Specific Plan to Year 2019 traffic volumes is presented in Appendix 25.5. The analysis of Year 2040 traffic noise levels with the Specific Plan to Year 2019 traffic noise levels indicates the Specific Plan would result in additional significant traffic noise impacts on Patrick Henry Drive and Old Ironsides Drive (beyond the traffic noise impacts shown in Table 13-12); however, it is improbable that this physical change would actually occur because: 1) Specific Plan buildout is not anticipated to occur until 2040; and 2) Traffic volumes on Patrick Henry Drive and Old Ironsides Drive would increase over time without approval of the Specific Plan (as evidenced by the increase in Year 2019 to Year 2040 traffic and traffic noise levels on these roadways shown in Table 13-4). Therefore, this EIR focuses on the Specific Plan's project- and cumulative-level contribution to the physical change in Year 2040 traffic noise levels.

Road / Segment	**Year 2040 Without Specific Plan**		**Year 2040 With Specific Plan**		**Net Change**	
	ADT	**CNEL[(A)]**	**ADT**	**CNEL[(A)]**	**ADT**	**CNEL[(B)]**
Great America Parkway						
SR 237 EB Ramp to Great America Way	40,125	72.3	41,260	73.1	1,135	0.8
Great America Way to Old Mountain View Alviso Road	40,205	74.2	41,955	74.9	1,750	0.7
Old Mountain View Alviso Road to Bunker Hill Lane	44,580	74.7	47,665	75.5	3,085	0.8
Bunker Hill Lane to Tasman Drive	51,442	75.0	54,524	75.7	3,081	0.7
Tasman Drive to Old Glory Lane	44,300	74.7	44,932	75.4	632	0.7
Old Glory Lane to Patrick Henry Drive	50,461	75.3	58,983	*76.5*	8,522	***1.2***
Patrick Henry Drive to Mission College Boulevard	76,227	77.1	96,860	*78.3*	20,633	***1.2***
Mission College Boulevard to Bowers Ave / U.S. 101 NB Ramp	77,220	76.7	86,865	77.4	9,645	0.7
Mission College Boulevard Loop						
North of Mission College Boulevard	4,953	63.2	17,949	68.4	12,996	***5.3***
South of Mission College Boulevard	17,531	68.5	14,021	68.9	-3,510	0.3
Tasman Drive						
Lawrence Expressway to Patrick Henry Drive	36,621	74.0	46,981	*75.2*	10,360	***1.2***
Patrick Henry Drive to Old Ironsides Drive	17,546	70.8	23,519	*72.1*	5,973	***1.3***
Old Ironsides Drive to Great America Parkway	30,519	72.6	37,071	73.6	6,552	1.0
Great America Parkway to Convention Center	32,018	72.7	34,895	73.5	2,877	0.8
Convention Center to Centennial Boulevard	35,145	73.7	37,445	74.5	2,300	0.8
Centennial Boulevard to Calle Del Sol	30,785	73.2	32,965	73.8	2,180	0.6
Calle Del Sol to Lick Mill Boulevard	25,840	72.0	27,865	72.8	2,025	0.8

Source: MIG, 2021 (see Appendix 25.5)

(A) *Italicized* text indicates the CNEL is above the City's normally or conditionally acceptable exterior noise compatibility threshold for the land uses that are directly adjacent to the modeled roadway segment (see Table 13-8).

(B) **Bold** text indicates the net increase in CNEL exceeds the significance criteria enumerated in Section 13.3.1. and thus represents a potentially significant impact (generally equal to or greater than a 1.0 increase in areas where noise levels are already normally unacceptable).

The results of the traffic noise modeling indicate that existing traffic noise levels in the vicinity of the Specific Plan would continue to be highest along major travel corridors such as Lawrence Expressway, Great America Boulevard, Mission College Boulevard, and Tasman Drive; traffic noise levels would also increase on local roadways that travel to and throughout the Plan Area, including Patrick Henry Drive and Old Ironsides Drive. Specifically, the modeling shows:

- Traffic noise levels along the segment of Lawrence Expressway from State Route (SR) 237 to Tasman Drive are estimated to be up to 75.1 CNEL under existing 2019 conditions and 75.5 CNEL under future baseline 2040 conditions. These noise levels are considered normally unacceptable for the commercial and residential land uses that border this segment of Lawrence Expressway. With full development of the Specific Plan, traffic noise levels are estimated to increase to approximately 76.5 CNEL under both development Scenario A and Scenario B (with and without the potential connector road). The Specific Plan, therefore, would increase noise levels by 1.0 decibel or more and contribute to normally unacceptable noise levels along this segment of Lawrence Expressway. This is considered a substantial increase in noise on a project and cumulative basis.

- Traffic noise levels along the segment of Great America Parkway from Old Glory Lane to Patrick Henry Drive are estimated to be up to 72.7 CNEL under existing 2019 conditions and 75.3 CNEL under future baseline 2040 conditions. These noise levels are considered conditionally acceptable (under existing conditions) and normally unacceptable (under future 2040 no project condition) for the commercial land uses that border this segment of Great America Parkway. With full development of the Specific Plan, traffic noise levels are estimated to increase to 76.5 CNEL under development Scenario B without the connector road (and no less than 76.0 CNEL with the connector road). In addition, land uses in the Plan Area may transition from commercial to residential development by 2040. The proposed project, therefore, would increase noise levels by 1.0 decibel or more and contribute to normally unacceptable noise levels along this segment of Great America Parkway. This is considered a substantial increase in noise on a project and cumulative basis.

- Traffic noise levels along the segment of Great America Parkway from Patrick Henry Drive to Mission College Boulevard are estimated to be up to 73.8 CNEL under existing 2019 conditions and 77.1 CNEL under future baseline 2040 conditions. These noise levels are considered conditionally acceptable (under existing conditions) and normally unacceptable (under future 2040 no project condition) for the commercial land uses that border this segment of Great America Parkway. With full development of the Specific Plan, traffic noise levels are estimated to approximately 78.3 CNEL under development Scenario A (without the connector road) and 78.2 CNEL under development Scenario B (without the connector road). Noise levels would no less than approximately 77.2 CNEL with the connector road. In addition, land uses along the eastern side of this road segment could transition from commercial to residential development as part of the proposed Freedom Circle Area Plan. The proposed project, therefore, would increase noise levels by 1.0 decibel or more and contribute to normally unacceptable noise levels along this segment of Great America Parkway. This is considered a substantial increase in noise on a project and cumulative basis.

- Traffic noise levels along the segment of Mission College Boulevard Loop north of Mission College Boulevard are estimated to be up 63.2 CNEL under existing 2019 and future baseline 2040 conditions. This noise level is considered acceptable for the commercial land uses that are present north of this road segment (within the Specific Plan Area) and conditionally acceptable for the educational land use that borders this road segment to the south (Mission College athletic fields and parking areas). With full development of the Specific Plan, traffic noise levels are estimated to increase to approximately 68.4 CNEL under both Scenario A and Scenario B development – provided the potential new connector road is also constructed (noise levels would be 64.1 CNEL without the connector road). This noise level would remain acceptable for adjacent commercial uses and conditionally acceptable for adjacent educational land uses. Nonetheless, the proposed project would increase noise levels by 5.0 decibels along this segment of the Mission College Boulevard Loops. This is considered a substantial increase in noise on a project and cumulative basis.

- Traffic noise levels along the segment of Tasman Drive from Patrick Henry Drive to Old Glory Lane are estimated to be up to 69.1 CNEL under existing 2019 conditions and 70.8 CNEL under future baseline 2040 conditions. These noise levels are considered conditionally acceptable for the commercial land uses that border this segment of Tasman Drive (both scenarios). With full development of the Specific Plan, traffic noise levels are estimated to increase to approximately 72.1 CNEL under both development Scenario A and Scenario B without the connector road (and no less than 71.1 CNEL with the connector road) . Based on the existing commercial land uses, this would not be a significant impact; however, land uses along the south side of this segment of Tasman Drive may transition from parking lot to residential land uses by 2040 as part of the potential Kylli Development Project. If this project were to move forward, Specific Plan would increase noise levels by 1.0 decibel or more and contribute to normally unacceptable noise levels for residential land uses along this segment of Tasman Drive. This is considered a substantial increase in noise on a project and cumulative basis.

- Traffic noise levels along the segment of Tasman Drive from Lawrence Expressway to Patrick Henry Drive are estimated to be up to 71.2 CNEL under existing 2019 conditions and 74.0 CNEL under future baseline 2040 conditions. These noise levels are considered normally unacceptable for the residential land use that border this segment of Tasman Drive (both scenarios), and conditionally acceptable for the commercial land uses that border this segment of Tasman Drive (both scenarios). With full development of the Specific Plan, traffic noise levels are estimated to increase to approximately 75.2 CNEL under both development Scenario A and Scenario B without the connector road (and no less than 74.2 CNEL with the connector road). The proposed project, therefore, would increase noise levels by 1.0 decibel or more and contribute to normally unacceptable noise levels for residential land uses along this segment of Tasman Drive. This is considered a substantial increase in noise on a project and cumulative basis.

- In addition to the change in traffic volumes and traffic noise levels on existing roads discussed above, the Specific Plan could result in new roads and changes in circulation patterns within the Plan Area, including a potential new collector road in the southern part

of the Plan Area that would connect Patrick Henry Drive to Mission College Boulevard. New local roads providing internal circulation would not carry substantial traffic volumes that result in significant noise levels or noise and land use compatibility concerns. If the new connector road to Mission College Boulevard is approved, worst-case traffic levels on the new connector road are estimated to be up to 1,934 trips during the AM peak hour (under Scenario B) and up to 2,984 trips during the PM peak hour (under Scenario A). Using the same peak hour factor (10%), ADT on the connector road could range between approximately 19,340 to 29,840 vehicle trips. This level of traffic is consistent with ADT estimates for Patrick Henry Drive segments (22,620 to 31,661, see Table 13-12) and would result in a traffic noise level between approximately 63 and 71 CNEL. These noise levels would be considered conditionally acceptable for the existing commercial and Mission College land uses that border the potential connector road; however, land uses along the connector road may transition from parking lot to residential land uses by 2040. The Specific Plan could, therefore, increase noise levels by 1.0 decibel or more and contribute to normally unacceptable noise levels for new residential land uses along the new connector road. This is considered a substantial increase in noise on a project and cumulative basis. If the new connector road does not occur, the Specific Plan would not result in elevated noise levels along the connector road.

The City's General Plan establishes the overall goal and intent of the City to protect residents from excessive noise by requiring the City to review the location of new noise-sensitive land uses, locate such land uses away from major noise sources, and ensure new land uses meet the City's noise standards (see Section 13.2.4.1) through evaluation and design considerations; however, these policies would not protect existing land uses from increases in vehicle traffic that would occur with and without the project. The installation of physical barriers to reduce noise levels at existing residential land uses is not feasible mitigation because barriers are already present along impacted road segments with residential land uses (Lawrence Expressway and Tasman Drive). The presence of these barriers likely reduces modeled traffic noise levels in exterior residential yards and other outdoor use areas by at least 5 to 10 dBA to between 65 and 67 CNEL in these areas, which is conditionally acceptable for residential land uses. Interior noise levels in residences that front the barrier / roadway segment could be approximately 40 CNEL (with windows closed) to 52 CNEL (with windows open), although the exact noise level would be contingent on traffic conditions and specific building design factors (e.g., window surface area, building orientation, etc.). The installation of physical barriers to reduce traffic noise levels at commercial land uses along impact roadway segments is not necessary because these land uses do not include sensitive outdoor areas that require mitigation.

The City's General Plan and Climate Action Plan include measures to reduce vehicle miles travelled from development projects, and the proposed Specific Plan and EIR Mitigation Measure AQ 5-2B require individual development projects to achieve a 20% reduction in VMT, which would reduce vehicle trips and lower traffic-related noise levels; however, the specific roadway segments where this mitigation would reduce vehicle trips and traffic-related noise is not known and, therefore, no noise reduction has been taken for VMT and trip reduction measures required by the Specific Plan and Mitigation Measure 5-2B. Is it worth noting that the Specific Plan does not substantially exceed the City's noise standards for traffic noise and

that even a small decreases in trips attributable the Plan Area on these roadway segments would avoid the potentially significant impacts identified in Table 13-12.[1]

Ordinarily, a 1 dB increase in ambient noise levels is not discernible; however, the Specific Plan would contribute to a 1 dB change in modeled traffic noise levels in areas already affected by high noise levels that exceed City guidelines for noise and land use compatibility. Since a reduction in vehicle trips on specific, impacted roadway segments cannot be guaranteed, and future traffic noise levels would increase by 1 dB or more and/or potentially expose noise-sensitive land uses to normally unacceptable noise levels, this impact would remain ***significant and unavoidable***.

Mitigation 13-4. No feasible mitigation is available.

Impact 13-5: Operational Vibrations. The Plan Area does not currently include any substantial vibration generating equipment. The Specific Plan would add a mix of residential, mixed-use, flex, and/or office land uses to the Plan Area over time, reaching full development by 2040. These new land uses could involve machinery and equipment such as pumps, compressors, generators, and other fixed equipment that produce vibrations; however, this equipment would not generate vibration levels that could exceed the City's vibration perception threshold of 0.01 in/sec PPV (see Section 13.2.4.2). As discussed under Impact 13-2, even large construction equipment such as a bulldozer does not generate a vibration level above 0.01 in/sec at distance of approximately 150 feet. Potential pumps, generators, and other typical equipment would be securely mounted and not large enough to generate substantial vibrations beyond the immediate vicinity of the equipment. The Specific Plan does not propose or support any large vibration-inducing equipment or land use activities and would not result in excessive ground-borne vibration levels. This represents a ***less-than-significant impact*** (see criterion [b] in subsection 13.3.1, "Significance Criteria," above).

Mitigation 13-5. No significant impact has been identified; no mitigation is required.

Impact 13-6: Exposure to Airport-Related Noise. The San Jose International Airport CLUP establishes the 65 CNEL contour as the noise restriction area for residential land uses, and the City's General Plan (Policy 5.10.6-P8) encourages safe and compatible land uses within the airport's noise restriction area. As described in Section 13.1.7, the part of the Plan Area north of Patrick Henry Drive and east of Old Ironsides Drive lies within the Norman Y. Mineta San Jose International Airport influence area; however, the Plan Area is not located within the 65 CNEL

[1]A 5% reduction in Specific Plan vehicle trips on Lawrence Expressway, Great America Parkway, and Tasman Drive (between Lawrence Expressway and Patrick Henry Drive) would avoid the significant traffic noise impact identified on these roadway segments (i.e., the SP would not result in more than a 1 dBA change in Year 2040 traffic noise levels on these roadways if Specific Plan trips on these roadways were reduced by 5%)with these trip reductions). A 10% reduction in vehicle trips on Patrick Henry Drive (south of Tasman Drive) and Tasman Drive (between Patrick Henry Drive and Old Glory Lane) would avoid the significant traffic noise impact identified on these roadway segments (i.e., the SP would not result in more than a 1 dBA change in Year 2040 traffic noise levels on these roadways if Specific Plan trips on these roadways were reduced by 10%). These estimates assume vehicle fleet mix and other factors do not change substantially from modeled conditions. Refer to Appendix 25.5 for detailed traffic noise modeling results.

contour associated with San Jose International Airport (SCC ALUC 2016; Figure 5). Accordingly, future development within the Plan Area would not be subjected to excessive airport-related noise levels.

Consistent with the CLUP (Policy N-5), future owners in the Plan Area that own property in the airport influence area and who rent or lease property for residential use will be required to include a disclosure in the rental/lease agreement with the tenant that the property is within a high noise area associated with airport operations and may be exposed to airport-related noise levels greater than 65 CNEL.

The Plan Area is not located within two miles of a private airstrip or related facility.

The Specific Plan would not expose people living or working in the Plan Area to excessive airport-related noise levels. This impact is considered a ***less-than-significant impact*** (see criterion [c] in subsection 13.3.1, "Significance Criteria," above).

Mitigation 13-6. No significant impact has been identified; no mitigation is required.

Other Disclosures and Planning Considerations (Potential Impacts of the Environment on the Project). The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) ruled that CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." Per this ruling, a Lead Agency is not required to analyze how existing conditions might impact a project's existing or future population except where specifically required by CEQA; however, a Lead Agency may elect to disclose information relevant to a project even if it not is considered an impact under CEQA. Furthermore, the City's Municipal Code and General Plan Noise Element set noise standards for receiving land uses which require evaluation for consistency and compliance even if such evaluation is not required by CEQA to be identified as a physical impact of the project.

This section discusses the existing noise environment and the degree to which the existing environment is compatible and consistent with City goals, policies, and standards for the Plan Area's noise environment.

General Plan Noise and Land Use Compatibility

Existing noise exposure levels in the Plan Area vary from east (near Great America Parkway) to west (near the Calabazas Creek Trail). Near Great America Parkway, ambient noise levels were measured to be 67.2 CNEL, and traffic noise modeling indicates future traffic noise levels could reach as high as 75.5 to 76.5 CNEL within 100 feet of the road center. Near the Calabazas Creek Trail, ambient noise levels were measured to be 55.3 CNEL, and traffic noise modeling indicates future traffic noise levels on some parts of Patrick Henry Drive could reach approximately 69.6 to 70.8 CNEL within 100 feet of the road center, although traffic calming measures in the Plan Area are likely to reduce traffic noise levels. In addition, the northern part of the Plan Area borders an existing parking lot that is periodically used for events at Levi's Stadium, which may cause temporary increases in ambient noise levels along the Plan Area's northern property line. Finally, the entire Plan Area would be subject to airport-related noise levels between 55 to 64 CNEL.

The City's General Plan establishes 70 CNEL as the conditionally acceptable noise limit for residential land uses and 75 CNEL as the conditionally acceptable noise limit for commercial and recreational land uses (see Table 13-9). General Plan Policy 5.10.6-P1 requires the City to review land use and development projects for consistency with these standards, and policies 5.10.6-P2 and -P3 require the incorporation of noise attenuation measures and noise control techniques where noise exposure levels are greater than normally acceptable levels. In addition, the California Building Standards Code (see Section 13.2.2.1) establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 CNEL (as established by the local General Plan) for residential developments. The California Green Building Standards Code also establishes additional standards for interior noise levels (50 dBA L_{eq}) that may apply if a building is located within a 65 CNEL noise contour of an airport, freeway, railroad, industrial source, etc. or otherwise exposed to a noise level of 65 dBA on an hourly L_{eq} basis, which would likely be the case for projects near Great America Parkway.

Based on the current Specific Plan development framework and land use plan, potential residential, commercial, and recreational land uses located east of Old Glory Lane (i.e., properties that directly front or have a clear line of sight to Great America Parkway) could be potential exposed to unacceptable noise levels above 70 CNEL (for residential land uses) and 75 CNEL (commercial and recreational land uses) unless site and building design features are incorporated into the project to reduce noise exposure in outdoor areas. Therefore, future land uses in this part of the Plan Area would require the incorporation of specific site design (e.g., setbacks), noise control (e.g., barriers or berms to block noise), and/or building attenuation measures (e.g., specific exterior wall assemblies, windows and doors with high STC ratings, etc.) to ensure interior noise levels meet applicable building code standards. Such measures may also be required to ensure exterior noise levels are generally suitable or compatible with planned exterior use areas (residential or commercial common areas, exterior recreational facilities, etc.). Based on existing and potential future CNEL values measured in and modeled for the Plan Area, between approximately 2 and 6 dBA of exterior noise attenuation may be needed to meet the conditionally acceptable noise levels for commercial and residential land uses, respectively, at exterior use areas such as open space, exterior recreational areas, and private yards and patios. Furthermore, exterior wall and ceiling assemblies may need to have a combined STC value of up to 32 dBA to achieve required indoor noise levels (45 CNEL).

Projects that are located west of Old Glory Lane would be located more than 400 feet west of Great America Parkway and subjected to lower noise levels (estimated to be less than 70 CNEL) but could still require specific site design and noise control measures to comply with land use compatibility standards and interior noise requirements.

Projects located along Patrick Henry Drive in the western part of the Plan Area would be unlikely to require special site design or noise control measures unless ambient noise levels were to substantially increase in the Plan Area as a result of development or increased vehicle traffic.

The actual level of exterior noise and exterior to interior noise attenuation required for each individual future development project will depend on factors such as the distance from major noise sources such as Great America Parkway, updated traffic noise modeling results or ambient noise measurements that capture actual development patterns over time, and the presence of any intervening shielding or other attenuating factors that may reduce noise levels in specific parts of the Plan Area.

To ensure future Specific Plan development projects are compatible with the Plan Area's ambient noise environment and consistent with the City's General Plan noise standards, the following Condition of Approval NOI-1 shall apply to the Specific Plan and future developments in the Plan Area.

Condition of Approval NOI-1: Prepare Final Acoustical Analysis. Future development projects shall submit a project-specific acoustical analysis to the City for review and approval prior to the issuance of the first building permit for the project, or as otherwise determined by the City. The analysis shall be prepared by a qualified acoustical consultant, based on the final design of the project, and identify:

1) Exterior noise levels at all property lines, building facades, and public or common open space, recreation, and/or other exterior use area boundaries.

2) Final site and building design measures that would attenuate noise in public open space and recreational lands to 65 CNEL or less, if feasible, but not more than 75 CNEL. This may be achieved by locating such areas away from major roadways or providing setbacks for facilities adjacent to major roadways (e.g., orienting parking and other support areas closer to roadways.)

3) Final site and building design measures that would attenuate noise to no more than 70 CNEL and 75 CNEL at common residential and commercial exterior use areas, respectively (this does not include private balconies).

4) Final site and building design measures that would achieve exterior to interior noise reduction levels necessary to meet a 45 CNEL interior noise level for residential and other sensitive land uses and a 50 dBA hourly L_{eq} noise level for offices, retail, and other less sensitive indoor spaces (when in operation). Such standards are to be achieved with a windows closed condition. The specific attenuation measures necessary for the project will depend on the specific project location, ambient noise levels, and project design. Potential noise insulation design features that may be required to achieve interior noise levels include sound barriers, enhanced exterior wall, ceiling, and roof assemblies with above average sound transmission class or outdoor/indoor transmission class values, enhanced insulation methods (acoustical caulking, louvered vents, etc.).

Condition of Approval NOI-1 would ensure future development projects in the Plan Area are designed and constructed in a manner that is compatible with the existing ambient noise environment and consistent with State noise requirements and City goals, policies, and standards for the types of land uses proposed for the Plan Area.

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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ALUC	Airport Land Use Commission
CalEEMod	California Emission Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CLUP	Comprehensive Land Use Plan
CNEL	Community Noise Equivalent Level
D	Distance
dB	Decibel (unweighted)
dBA	Decibels, A-Weighted
DNL / L_{dn}	Day-Night Noise Level
FHWA	Federal Highway Works Administration
FTA	Federal Transit Administration
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
In/sec	Inches per Second
kH	Kilohertz
L_{eq}	Average / Equivalent Noise Level
L_{max}	Maximum Noise Level
L_{min}	Minimum Noise Level
LT	Long-term
MTC	Metropolitan Transportation Commission

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
OITC	Outside-Indoor Transmission Class
OPR	Office of Planning and Research
Pa	Pascals
PRC	Public Resources Code
PPV	Peak Particle Velocity (inches/second)
SCC	Santa Clara County
SR	State Route
ST	Short-term
STC	Sound Transmission Class
TIA	Transportation Impact Analysis
TNM	Traffic Noise Model
UF	Usage Factor
VdB	Velocity Decibels
VMT	Vehicle Miles Travelled
§	Section
%	Percent

14. POPULATION AND HOUSING

This EIR chapter describes population and housing implications of the proposed Patrick Henry Drive Specific Plan. The chapter addresses the specific population and housing impact concerns identified by the CEQA Guidelines--i.e., would development under the proposed Plan induce substantial unplanned population growth or displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.[1]

14.1 SETTING

14.1.1 Population

In 2018, the population in Santa Clara was approximately 7 percent of the total population in the County, making it the third largest jurisdiction by population after San Jose and Sunnyvale. As shown in Table 14-1, the population increased from 116,468 to 129,604 between 2010 and 2018, an increase of 11.3 percent, or 1.3 percent per year. In comparison, the County grew by 9.8 percent, or 1.2 percent per year.[2] According to the Association of Bay Area Governments (ABAG), Santa Clara's population is expected to growth to 159,500 by 2040, a 37.7 percent increase over the 30-year period from 2010 to 2040. (See Table 14-2 in section 14.1.2.)

Table 14-1
POPULATION GROWTH TRENDS IN SANTA CLARA COUNTY

Jurisdictions in Santa Clara County	2010	2018	2010-2018		
			Total	Total %	Annual %
San Jose	945,942	1,051,316	105,374	11.1%	1.3%
Sunnyvale	140,081	153,389	13,308	9.5%	1.1%
Santa Clara (City)	**116,468**	**129,604**	**13,136**	**11.3%**	**1.3%**
Mountain View	74,066	81,527	7,461	10.1%	1.2%
Milpitas	66,790	74,865	8,075	12.1%	1.4%
Palo Alto	64,403	69,721	5,318	8.3%	1.0%
Other	373,892	396,176	22,284	6.0%	0.7%
Santa Clara County Total	**1,781,642**	**1,956,598**	**174,956**	**9.8%**	**1.2%**
SOURCE: Department of Finance; Economic & Planning Systems, February 2019.					

[1]CEQA Guidelines, appendix G, item XIV (a and b).

[2]Economic & Planning Systems, memorandum to City of Santa Clara, February 4, 2019.

14.1.2 Housing

(a) Housing Issues. The City of Santa Clara updated its housing element in 2014. The 2015-2023 Housing Element covers the 2015 to 2023 planning period outlined in the City's 2010-2035 General Plan. The Housing Element focuses on promoting residential infill development and addressing the City's housing needs, while also meeting State housing requirements. The following items of concern were identified at a Community Workshop/Planning Commission Study Session for the 2015-2023 Housing Element:[1]

- The high percentage of renters in Santa Clara [City] as compared to the County and Bay Area;
- Housing types the City should encourage during the upcoming planning period;
- High cost of rental housing as compared to ownership throughout the Bay Area;
- The HCD streamlined review process and how each section of the document will be updated;
- Densities appropriate to encourage more affordable housing;
- How the City has performed as compared to the 2007-2014 needs allocation;
- Effective tools to encourage lower income housing (i.e. overlays, specific plans, impact fees); and
- The need for senior housing to allow lower income residents to age in place.[2]

(b) Jobs/Housing Balance. A city's jobs-housing balance is an indicator of fiscal, social, and environmental health. It is expressed as a ratio of the number of jobs to the number of households, and shows whether a jurisdiction has a surplus or deficit of jobs relative to its population and housing supply. A jobs-housing balance greater than 1.0 could result in a shortage of affordable housing, with workers unable to reside near their place of employment and therefore having to commute from more distant areas where affordable housing is available. Data from ABAG indicates the City's jobs-housing ratio in 2010 was 1.19 (which means that the City had 1.19 jobs for every household). In 2010, Santa Clara County had an estimated ratio of 1.30. These ratios for the City and County indicate that both jurisdictions are "job-rich"—i.e., they have more jobs than households.[3] ABAG projects that by 2040, the City will have an estimated 170,575 jobs and 57,010 households.[4] Using this data, the City's projected 2040 jobs-housing ratio would be 3.0 jobs for every household (170,575 jobs divided by 57,010 households).

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[1]City of Santa Clara, 2015-2023 City of Santa Clara Housing Element, December 2014.

[2]Ibid, pp. 8.12-11 – 8.12-12.

[3]City of Santa Clara, 2010-2035 General Plan, November 2010.

[4]ABAG, Projections 2040 By Jurisdiction (available at http://projections.planbayarea.org/), 2018.

As indicated in Table 14-2, in 2010 there were approximately 44,925 housing units in the City of Santa Clara, according to ABAG. ABAG expects the number of housing units in the City to increase by about 29.5 percent between 2010 and 2040, reaching a projected total of 58,190 housing units by 2040.

Table 14-2
ESTIMATED POPULATION AND HOUSING GROWTH, 2010-2040 – SANTA CLARA (CITYWIDE)

	2010	2020	2035	2040	Percent Change 2010-2040
Total population (residents)	115,845	131,655	151,715	159,500	+37.7
Total households	43,020	48,555	54,855	57,010	+32.5
Persons per household	2.64	2.66	2.71	2.73	+3.4
Housing units	44,925	50,505	55,720	58,190	+29.5

SOURCE: ABAG, Projections 2040 By Jurisdiction (available at http://projections.planbayarea.org/), 2018.

(c) Affordable Housing. The City would require at least 15 percent of residential units in the Plan Area to be allocated toward housing people earning at or below 80 percent of the area median income (AMI).

14.2 REGULATORY SETTING

14.2.1 State

California Housing Accountability Act. The California Housing Accountability Act, enacted in 2017, ensures that local governments may not reject housing development projects (including emergency shelters) that contribute to meeting or exceeding its share of the regional housing need or otherwise make housing projects infeasible.

Housing Density Bonus Law. The California Government Code (sections 65915 through 65918) provides for an increase in the amount of housing allowed under a given land use designation or zoning ordinance (i.e., a “density bonus”) and other incentives or concessions (such as waivers or reductions of development standards) in exchange for building affordable housing or donating land for the building of affordable housing, including senior housing.

Senate Bill 35 (Affordable Housing; Streamlining). Senate Bill 35, as amended, provides for streamlined, ministerial approval (i.e., not subject to a conditional use permit) of housing development proposals to facilitate and expedite the approval and construction of affordable housing. Applicable housing development proposals must meet standards related to multi-family residential use, urban location, inclusion of below-market rate units, and consistency with objective zoning standards and objective design review standards in effect at the time the proposal is submitted.

14.2.2 City of Santa Clara

Santa Clara General Plan. The General Plan addresses housing needs and strategy in the City primarily in its Housing Element; however, the Land Use element contains the following applicable policies:

- Policy 5.3.2-P2: Encourage higher-density residential development in transit and mixed-use areas and in other locations throughout the City where appropriate.
- Policy 5.3.2-P8: Require new residential development to comply with applicable regulations for the provision of affordable housing.
- Policy 5.3.2-P9: Encourage senior and group residential facilities, and affordable housing developments near neighborhood retail, support services and transit facilities.
- Policy 5.3.2-P10: Create opportunities for affordable housing and housing to support special needs populations, including Extremely Low Income households.

City of Santa Clara General Plan Housing Element. Chapter 8.12 of the General Plan (the 2015-2023 Housing Element) sets forth the City's "plan for an adequate variety of safe, appropriate, and well-built housing for all residents of Santa Clara." The anticipated need for housing is identified in the City's "Housing Needs Assessment," which is based on data from the U.S. Census, the Association of Bay Area Governments (ABAG), and various online real estate resources. The Housing Element also identifies vacant and underutilized land that has potential for higher density residential or mixed-use development to meet the City's housing needs. (A discussion of the "Regional Housing Needs Allocation" follows below.) Applicable Housing Element goals and policies include:

- Goal B. Manage growth in the City by designating suitable vacant or underutilized sites for new residential development and ensuring compatibility with community goals and existing neighborhoods.
- Policy B-2: Encourage the building of higher density housing on appropriate vacant or underutilized sites.
- Policy B-4: Promote compatibility between neighborhoods while respecting differences in neighborhood character.
- Policy B-5: Work towards the mitigation of jobs/housing ratio impacts created by developments with significant employment.
- Policy B-6: Encourage higher density residential development in transit-oriented and mixed use areas where appropriate.

Santa Clara City Code. City Code Chapter 17.40 and Chapter 18.78 pertain to affordable housing within the City, including offering density bonuses and flexible zoning standards. These sections are intended to implement the General Plan Housing Element to meet the City's housing needs and provide additional incentives, consistent with State Government Code section 65915.

Chapter 17.40 - Citywide Affordable Housing Requirements. This City Code chapter requires development projects to submit a plan demonstrating how the project will comply with City affordable housing requirements, including a breakdown by income category for each affordable unit, design specifications, construction schedule, access to amenities and recreation, etc. The plan is required to meet City standards for the types of housing that qualify as well as the income requirements for prospective buyers or renters.

Chapter 18.78 - Residential Density Bonus Standards. This City Code chapter establishes incentives to encourage the production of quality housing for lower income and senior citizen segments of the community, the provision of day care centers, or the donation of land to the City to assist the City in fulfilling its affordable housing goals. One incentive is a density bonus, which allows a developer under certain conditions to build more units than the maximum allowed by the property's land use designation. Another incentive is waiver or reduction of development standards, as legally permitted.

City of Santa Clara Housing & Community Services Division. The City's Housing & Community Services Division is responsible for identifying affordable housing development opportunities in the City and administering the City's inclusionary housing program, which requires that a percentage of new development units be dedicated to low and moderate-income residents. The Division also provides assistance to first-time home buyers with a "below market purchase" program.

14.2.3 Regional Housing Needs Allocation

The State of California requires every city and county to accommodate its fair share of regional growth through a process called the Regional Housing Needs Allocation (RHNA). The Association of Bay Area Governments (ABAG) administers the RHNA process in the San Francisco Bay Area. ABAG allocates housing needs to each of the nine counties and 100+ cities in the region, identifying the number of units that must be accommodated in each of four income categories. Upon receiving its RHNA from ABAG, each local government must update the Housing Element of its General Plan to show how it plans to meet the housing needs in its community.[1]

Table 14-3 shows the current RHNA assignment for the City of Santa Clara for the period from 2015 to 2023. As the table shows, the RHNA assignment calls for the City to provide for development of a total of 4,093 housing units during the 2015-2023 period, consisting of 1,050 units for very low-income households, 695 units for low-income households, 755 units for moderate-income households, and 1,593 units for above-moderate-income households.

The 2015-2023 Housing Element states the City plans to meet the current RHNA needs allocation through the redevelopment of existing underutilized sites, including ones that contain functioning industrial, residential, and commercial sites, due to a lack of vacant land and relatively high value of new development in the City. The 2015-2023 Housing Element includes a residential sites analysis that identifies three focus areas from the 2010-2035 General Plan appropriate to accommodate the development of housing for the four income categories in the

[1]Association of Bay Area Governments (ABAG), Regional Housing Need Plan, San Francisco Bay Area: 2015–2023, July 2013.

RHNA allocation. These focus areas and the number of housing units they can accommodate are: Tasman East Focus Area - 1,676 units; Lawrence Station Focus Area - 2,127 units; and El Camino Real Focus Area - 2,274 units. The 2015-2023 Housing Element states the City can accommodate the 2015-2023 RHNA assignment shown in Table 14-3 through redevelopment of these three focus areas.[1] Currently, the City is not on track to meet its RHNA this cycle for affordable (very-low, low, and moderate income) units, although it is meeting the standard for above-moderate-income units.[2]

Table 14-3
REGIONAL HOUSING NEEDS ALLOCATION (RHNA) FOR SANTA CLARA, 2015-2023

Income Category[1]	Number of Housing Units
Very Low Income	1,050
Low Income	695
Moderate Income	755
Above Moderate Income	1,593
Total:	**4,093**

SOURCE: ABAG, Regional Housing Need Plan, San Francisco Bay Area: 2015–2023 (viewed at https://abag.ca.gov/sites/default/files/2015-2023_rhna_allocations.pdf), July 2013, pp. 21, 26.

[1] Income categories are defined as follows:
Very low income = up to 50 percent of area median income
Low income = between 51 and 80 percent of area median income
Moderate income = between 81 and 120 percent of area median income
Above moderate income = above 120 percent of area median income

14.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to population and housing that could result from the Patrick Henry Drive Specific Plan.

14.3.1 Significance Criteria

Based on the CEQA Guidelines,[3] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to population and housing if it would:

(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure), or

[1]City of Santa Clara, 2015-2023 City of Santa Clara Housing Element, December 2014, pp. 8.12-99, 8.12-103, 8.12-107, and 8.12-123.

[2]City of Santa Clara Planning Department, 12/30/20.

[3]CEQA Guidelines, appendix G, item XIV (a and b).

(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

14.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan Area does not contain any dwelling units. Under the Specific Plan, up to 10,300 (Scenario B) to 12,000 (Scenario A) residential units are anticipated.

The Plan itself is a specific plan, which is a policy and regulatory tool to implement the Santa Clara General Plan. A specific plan implements the General Plan through the establishment of more detailed policies, regulations, and actions, in this case specifically focused on the Patrick Henry Drive Specific Plan Area. State law requires the Specific Plan to be to be consistent with the General Plan, including all goals, policies, objectives, and standards of the General Plan. The Specific Plan's comprehensive framework encompasses goals, principles, policies, standards, and guidelines addressing, for example, land use, urban design, affordable housing, open space, sustainability, and mobility (see chapter 3, Project Description, of this EIR).

As discussed in chapter 3 of this EIR, one basic objective of the Specific Plan is to "[s]upport the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI)." In addition, Specific Plan Chapter 4 (Development Framework), section 4.4 (Affordable Housing), establishes the following policy addressing affordable housing: "Providing affordable housing is a high-priority goal of the City of Santa Clara. As one of the City's first high-density residential neighborhoods, Patrick Henry Drive will add thousands of units to better balance the City's jobs-housing ratio, a share of which will be income-restricted to help meet regional and local affordability goals. In recognition of the conversion of employment uses to residential land, the PHD Specific Plan calls for a higher level of affordability than is required by ordinance."

14.3.3 Impacts and Mitigations

This section describes potential impacts on population and housing that could result from the Patrick Henry Drive Specific Plan. Related to the significance criteria above, it is noted that the Plan is a long-term plan intended to guide expected growth in the Plan Area through approximately 2040. Because the Plan is not a specific development project, the forecasted development capacity in the Plan Area may or may not occur, based on market conditions. This EIR evaluates potential impacts based on the forecasted development capacity, consistent with a conservative approach.

Impact 14-1: Effects on Population Growth. Based on the forecasted development capacity under the proposed Specific Plan (see chapter 3, Project Description, of this EIR), the Plan is anticipated to result in up to the following new development in the Plan Area:

- 10,300 (Scenario B) to 12,000 (Scenario A) residential units,
- 150,000 square feet (sq. ft.) of new retail space,
- 90,000 sq. ft. of new flex space (residential, retail, and/or office),
- 70,000 sq. ft. of new community/civic space, and
- 785,000 sq. ft. of new office space (Scenario B only).

Both the Patrick Henry Drive Specific Plan and this EIR assume these numbers represent the maximum capacity for future anticipated development. As such, the City would monitor new

development approvals to ensure that there is remaining capacity as new projects are approved. Should the Plan Area approach capacity, the City would reevaluate both the Plan and the EIR and amend them as necessary to address and mitigate growth above and beyond these capacity numbers.

The Specific Plan assumes an average of 2.23 persons per new household (pph) in the Plan Area, based on demographic and economic research prepared for the Plan.[1] Using this factor, Plan implementation could accommodate up to approximately 22,970 (Scenario B) to 26,760 (Scenario A) new residents in the Plan Area by the year 2040 (the estimated Plan buildout horizon). The General Plan identified the Plan Area as a "future focus area" designated for "change from existing underutilized office and industrial uses to higher-density residential and mixed-use neighborhoods," with objectives outlined to establish the necessary infrastructure, amenities, and services to support potential growth, and the Plan Area has been included in the "General Plan Land Use Assumptions."[2] Due to the predominately residential nature of growth anticipated under the Specific Plan, the projected increase in residential units would help to address the balance between housing and jobs in the city (i.e., the shortage of affordable housing discussed in section 14.1.2).

As described throughout this EIR (e.g., chapter 3 - Project Description; chapter 17 - Transportation; chapter 18 - Utilities and Service Systems), Plan implementation would not extend roads or infrastructure through undeveloped or low-density areas and, therefore, would not induce substantial population growth beyond the Plan Area boundaries. Rather, Specific Plan implementation would facilitate the projected residential, commercial, and community growth within a mixed-use Plan Area identified for such growth in the Santa Clara General Plan. Therefore, this impact is considered ***less-than-significant*** (see criterion [a] in subsection 14.3.1, "Significance Criteria," above).

Mitigation 14-1. No significant impact has been identified; no mitigation is required.

Impact 14-2: Population and Housing Displacement Effects. As of October 2020, there is no housing in the Plan Area, and the Specific Plan would not displace any residents or housing. The Patrick Henry Drive Specific Plan is an integrated long-term plan of frameworks and design standards and guidelines. Development potential under the Plan would be initiated voluntarily by property owners. Infrastructure, roadway, open space, and other public improvements proposed under the Plan would not require the displacement of any housing. The mixed-use focus of the Specific Plan would provide for the addition of up to 10,300 to 12,000 residential units in the Plan Area. The Plan is intended to lower transportation costs for future residents currently dependent on private automobiles by providing a mixture of housing types near

[1] "Persons Per Household By Unit Type, City of Santa Clara, CA," provided by the City based on California Department of Finance Estimates for City of Santa Clara (as of 1/1/2018) and Persons Per Household by Unit Type for Santa Clara County from U.S. Census Bureau, American Community Survey, 2012-2016 Public Use Microdata Sample [PUMS] data set for Santa Clara County.

[2] As noted in the General Plan, potential development for areas north of U.S. 101 is anticipated to include greater intensification than under existing land use designations, with some areas expected to propose expansion from their allowed uses. The three General Plan phases (Phase I, Phase II, Phase III) were designed to provide opportunities to refine strategies and objectives as the City assesses new needs and conditions through an iterative planning process, such as the comprehensive planning process required prior to development approval in a future focus area, as is the case with this Specific Plan.

existing public transportation infrastructure, while also improving access and connectivity to these support services for existing residents through bicycle and pedestrian infrastructure improvements.

The Specific Plan framework noted above (subsection 14.3.2, "Relevant Patrick Henry Drive Specific Plan Components") would proactively facilitate affordable housing.

Based on the discussion above, impacts on population and housing displacement are considered ***less-than-significant*** (see criterion [b] in subsection 14.3.1, "Significance Criteria," above).

Mitigation 14-2. No significant impact has been identified; no mitigation is required.

Impact 14-3: Temporary Employment Impacts. Temporary construction jobs would be created over the timeframe of Plan implementation. It is anticipated that an adequate construction work force will continue to exist within commute distance of the Plan Area, thereby making highly unlikely a substantial increase in population due to project construction. The actual number of construction jobs facilitated by the Plan would depend on the construction dollars spent and the construction schedules; these variables cannot be accurately quantified at this time. Nevertheless, these project-generated employment opportunities would represent a beneficial temporary economic effect of the Patrick Henry Drive Specific Plan. In itself, any population growth associated with construction activity under the Plan would represent a ***less-than-significant environmental impact*** (see criterion [a] in subsection 14.3.1, "Significance Criteria," above).

Mitigation 14-3. No significant environmental impact has been identified; no mitigation is required.

15. PUBLIC SERVICES

This EIR chapter describes existing conditions for fire protection and emergency medical service, police protection, public schools, parks, and other public facilities in the Plan Area. The chapter addresses the public service impact concerns identified by the CEQA Guidelines--i.e., would significant environmental impacts result from the construction of new or physically altered government facilities proposed or required as part of the Plan.[1]

15.1 SETTING

15.1.1 Fire Protection and Emergency Medical Service

(a) Existing Fire Protection in Plan Area. The Santa Clara Fire Department (SCFD) has ten fire stations (one of which temporarily closed in March 2020 and is scheduled for replacement and relocation), with eight fire engines, two ladder trucks, one rescue unit, two ambulances, one hazardous materials unit, and one command vehicle. When fully staffed, SCFD consists of 167 full-time equivalent (FTE) personnel and has a daily staffing target of 40 personnel distributed among the stations.[2] SCFD deploys Advanced Life Support (ALS) emergency medical services from all stations; each fire engine and fire truck is staffed with at least one paramedic. All Field Operations personnel are certified Emergency Medical Technicians (EMT) as a minimum level of training.[3]

The Plan Area would be served by Station 8, until the new Station 10 has been completed. Station 8 is located at 2400 Agnew Road. Secondary responding stations to the area would be Station 6, located at 888 Agnew Road, Station 9, located at 3011 Corvin Drive, and Station 5, located at 1912 Bowers Avenue.

(b) Existing Fire Response Times. Santa Clara General Plan Policy 5.9.3-P4 establishes a Fire Department response time goal of maintaining a City-wide average of three minutes for fire emergency service calls.[4] After preparation of the current General Plan, the SCFD changed its method for reporting response times to be consistent with the National Fire Protection

[1]CEQA Guidelines, appendix G, item XV (a).

[2]Jake Tomlin, Fire Marshal-Battalion Chief, City of Santa Clara Fire Department, email dated June 2, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department; City of Santa Clara Fire Department, https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/about-us, accessed 3/26/20; City of Santa Clara Fire Department Annual Report 2019.

[3]City of Santa Clara Fire Department Emergency Medical Services Division, https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/divisions/emergency-medical-services, accessed 6/25/20.

[4]City of Santa Clara, 2010-2035 General Plan, November 16, 2010.

Association, which uses percent goals.[1] The Fire Department has a target benchmark (90th percentile) response time of seven minutes for arrival of the first unit to the scene (including time for alarm handling and dispatch, turnout time, and travel time).[2] In 2019, SCFD responded to 236 fire calls, 6,745 medical emergency calls, 1,129 alarm activation calls, 829 service calls, 35 hazardous materials calls, and 25 technical rescue calls. From 2014-2017, residential fires comprised about 62 percent of all structural fires in the city (183 residential fires out of a total of 296 structural fires); in 2017, residential fires comprised about 66 percent of all structural fires (37 of 56 fires).[3] The SCFD response time for structural fire calls was 5 minutes and 7 seconds (or less) 90 percent of the time, and for emergency medical calls was 5 minutes and 11 seconds (or less) 90 percent of the time.[4]

(c) Other Services. Additional programs and services provided by SCFD include rescue operations, community risk reduction, domestic preparedness planning and response, and fire investigation.[5] Rescue operations can involve the use of axes, sledgehammers, and pry bars, but more technical rescue operations can include extrications from elevators or vehicles, rope rescues, and trench or other confined space rescues. Community risk reduction includes fire and life safety education programs, active code enforcement, and inspection programs to prevent fires. Domestic preparedness planning and response programs include the Community Emergency Response Team program, designed to help Santa Clara citizens be self-sufficient after a major disaster. In addition to fire investigations, SCFD conducted more than 13,000 plan reviews and operational permit and construction inspections in 2019.[6]

(d) Emergency Services Plan. The Office of Emergency Services is located with SCFD Administration at Station 1 (777 Benton Street). Training includes exercises and workshops to prepare for earthquakes and other community-wide emergency needs. SCFD is the primary point of contact for the City of Santa Clara Emergency Operations Plan/Hazard Mitigation Plan. The Emergency Operations Plan includes actions for mitigating impacts from natural and man-made disasters, such as earthquakes, severe weather, floods, dam and levee failure, drought, landslides, and wildfires. (See chapter 10, Hazards and Hazardous Materials, of this EIR, for a discussion of the Emergency Operations Plan/Hazard Mitigation Plan.)

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[1]Use of percent goals is described in "NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments," which is the industry recognized standard for the organization and deployment of career fire departments.

[2]J. Tomlin, email dated June 2, 2020, to R. Bustos.

[3]Santa Clara Fire Department, Community Risk Assessment & Standards of Cover, March 2018, p. 74.

[4]City of Santa Clara, City of Santa Clara Fire Department Annual Report 2019, https://www.santaclaraca.gov/home/showdocument?id=70024, accessed 12/15/20.

[5]Santa Clara Fire Department, Strategic Plan 2017-2021, https://www.santaclaraca.gov/home/showdocument?id=57822, accessed 3/26/20.

[6]City of Santa Clara Fire Department Annual Report 2019.

In addition, as discussed above, the Community Emergency Response Team (CERT) program provides training for basic disaster response until public emergency responders can arrive.[1] Santa Clara firefighters provide training to participants in neighborhoods and workplaces for the CERT program, including medical care, utility control, building damage assessment, fire suppression, and search and rescue operations.

15.1.2 Police Protection

(a) Existing Police Services. The Santa Clara Police Department (SCPD) is located at 601 El Camino Real. The Northside Substation, at 3992 Rivermark Parkway, has been used recently as a satellite facility; however, it is currently closed, preliminarily as a result of the pandemic and more recently because of budget reductions.[2] SCPD is organized into four divisions: (1) the Field Operations Division, which responds to the majority of calls for service and is comprised of patrol teams, a motorcycle traffic unit, hit-and-run investigators, and parking control and abandonment vehicle abatement personnel; (2) the Investigations Division, which conducts the majority of follow-up investigations (especially major crimes) and also includes the Records Unit; (3) the Special Operations Division, which acts as liaison between the City and agencies for special events such as parades, festivals, and visits from dignitaries, and also provides special security support; and (4) the Administrative Services Division, which consists of the Chief's Office, the Property and Evidence Unit, the Communications Dispatch Center, and the Community Services Unit, and is also responsible for programs such as Neighborhood Watch, Crime Prevention, Permits and School Services (such as the Drug Abuse Resistance Education or "D.A.R.E." program in cooperation with the school district, parents, and the community, School Resource Officers and Crossing Guards, etc.).[3]

(b) Staffing and Equipment. For the 2019-2020 fiscal year, SCPD staff includes 239 full-time equivalent personnel (159 sworn and 80 civilian professionals). Based on Census population data (population 129,972) provided by the SCPD,[4] this generally corresponds to a ratio of 1.22 officers per 1,000 residents and 0.61 civilian professionals per 1,000 residents, though the actual ratio fluctuates over the year due to changes in the number of fully trained employees and/or vacancies or injuries, as well as temporary or intermittent population increases from "event" days such as Levi's Stadium events and festivals. The SCPD has nearly 200 "as-needed" employees to support operations (crossing guards, and per diem special event and other support), approximately 21 police reserves, and about 45 community volunteers, explorers, cadets, and chaplains. The SCPD notes that additional staffing resources (e.g., new civilian and sworn staffing) have not matched development in the city in recent years,[5] and has

[1]City of Santa Clara, CERT (Community Emergency Response Team), https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/community-resources/cert-community-emergency-response-team, accessed 3/26/20.

[2]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated May 24, 2021, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[3]Santa Clara Police Department Divisions, https://www.santaclaraca.gov/our-city/departments-g-z/police-department/about-us/divisions, accessed 3/17/20.

[4]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated June 11, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[5]C. McDowell, email dated June 11, 2020, to R. Bustos.

recently undergone a study that indicated possible benefits from modifications in staffing organization and shifting of responsibilities.[1] SCPD staff remained at the same level for the 2020-2021 fiscal year as it did for the 2019-2020 fiscal year; however, as a result of budget reductions approved by the City Council in 2021, SCPD staff for the 2021-2022 fiscal year included 221 employees (151 sworn and 70 civilian professionals).[2]

SCPD operations are broken into six beats, with one patrol officer assigned to each beat per shift, operating with four shifts a day. Beats 1 through 5 are south of U.S. 101. Beat 6 covers the entire city area north of U.S. 101 (plus the area between the Central Expressway and U.S. 101). The Plan Area is in Beat 6.

The SCPD has a vehicle fleet that includes 41 marked patrol vehicles, 41 unmarked vehicles, 11 motorcycle and 3 motorcycle trainers, 15 conventional bicycles, and 38 other (support) vehicles.[3]

(c) Existing Police Response. Santa Clara General Plan Policy 5.9.3-P3 establishes a response time goal of maintaining a City-wide average of three minutes for 90 percent of police emergency calls.[4] Although response times to specific locations are typically not measured by SCPD, average response times for priority one calls are collected. In 2020, the average response time for priority one service calls (from dispatch to first officer arrival) was two minutes and eight seconds. In 2020, of the 151,615 total calls to the Communications Center, 68,865 resulted in police calls for service and 2,768 arrests (2,713 adults, 55 juveniles). The total number of reported crimes (including violent and property felony crimes) in the city in 2020 was 3,966.[5]

15.1.3 Public Schools

(a) Existing School Facilities. The Plan Area is in the Santa Clara Unified School District (SCUSD). The SCUSD is comprised of 28 schools, six of which are located north of U.S. 101: four elementary schools (Don Callejon, George Mayne, Kathryn Hughes, Montague), one middle school (Don Callejon), and one high school (Mission Early College). Schools serving students in the Plan Area are Kathryn Hughes Elementary School at 4949 Calle De Escuela (capacity approximately 475), the future Dolores Huerta Middle School at 3556 Zanker Road in San Jose (capacity approximately 800 students; planned opening in 2021), and the future

[1]Center for Public Safety Management, Police Operations and Data Analysis Report, Santa Clara, California, November 2015.

[2]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated May 24, 2021, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[3]City of Santa Clara, Santa Clara Police Department Fact Sheet, Available at: https://www.santaclaraca.gov/our-city/departments-g-z/police-department/about-us/fact-sheet, accessed 3/26/20; C. McDowell, email dated June 11, 2020, to R. Bustos.

[4]City of Santa Clara, 2010-2035 General Plan, November 16, 2010.

[5]City of Santa Clara, Santa Clara Police Department Fact Sheet, https://www.santaclaraca.gov/our-city/departments-g-z/police-department/about-us/fact-sheet, accessed 7/17/21.

Kathleen MacDonald High School at 3588 Zanker Road in San Jose (capacity approximately 1,500 students; planned opening in 2022).[1]

Current (2019) and projected (2020-2022) resident students[2] for schools north of U.S. 101 are shown in Table 15-1.

Table 15-1
CURRENT AND PROJECTED RESIDENT STUDENTS: SCUSD SCHOOLS NORTH OF U.S. 101, 2019-2022

	2019[1]	**2020**	**2021[2]**	**2022**	**Capacity**
ELEMENTARY SCHOOL[3]					
Don Callejon	511	494	458	437	576
George Mayne (in Alviso)	580	580	339	355	480
Kathryn Hughes	477	477	347	355	475
Montague	407	408	268	247	423
Abram Agnew (opening Aug 2021)	--	--	585	685	600
MIDDLE SCHOOL					
Don Callejon (6–8)	450	445	200	197	297
Dolores Huerta (opening Aug 2021)	--	--	685	667	800
HIGH SCHOOL					
Mission Early College (10-11)	101	N/A	N/A	N/A	N/A
Kathleen MacDonald (opening Aug 2022)	--	--	--	1,227	1,500

SOURCE: Enrollment Projections Consultants, February 24, 2020; Cooperative Strategies, February 26, 2020; Santa Clara Unified School District, May 21, 2020; Agnews East School Campus Facilities Expansion Draft Supplemental EIR, Santa Clara Unified School District, January 2019.

Notes:

[1] Actual number of resident students in 2019; projected number of resident students in 2020-2022.
[2] Boundary realignment in 2021 could result in changes in resident student numbers for some schools.
[3] Elementary school numbers for grades 1-5 (i.e., excludes Transitional Kindergarten, "TK," students).

N/A = data not available

Bold means schools identified to serve future Patrick Henry Drive Specific Plan area resident students.

[1]Michal Healy, Director, Facility Development and Planning, Santa Clara Unified School District, memo dated May 21, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[2]"Resident students" refer to students whose residence in the district makes them eligible to attend district schools, as opposed to the actual number of students enrolled, who may come from out-of-district areas.

(b) School Capacity and Development-Related Enrollment. Table 15-2 shows existing 2019/2020 SCUSD facilities capacity by grade level. SCUSD elementary and middle schools overall have sufficient capacity for their current (2019/2020) enrollment (though Don Callejon Middle School enrollment exceeded its capacity by approximately 77 students), but SCUSD high school enrollment exceeds total capacity for all high school facilities by approximately 586 students.[1]

Table 15-3 shows student generation factors (rates) used by the SCUSD to determine school facility needs throughout its service area. Student generation rates are based on a calculation of the number of students per residential unit at a particular moment in time, so these rates can vary over time, as reflected in number of enrolled students and their respective grade levels, along with the number of residential units within the SCUSD.

Based on these rates, student generation from future development in the Plan Area (up to 12,000 residential units, including approximately 15 percent below market rate units as discussed in chapter 14, Population and Housing, of this EIR) would total up to 1,314 new students in the SCUSD over the course of Plan implementation. Compared to the total current (2019) SCUSD enrollment of 15,241,[2] this potential increase in students would represent approximately nine percent of SCUSD enrollment.[3]

The SCUSD is responsible for levying impact fees on new development. Each school district in the state analyzes the relationships between enrollment projections and facility needs to formulate school impact fees. New residential and commercial development in the Plan Area would be required to pay the State-authorized school impact fees approved by the SCUSD. Pursuant to section 65995(3)(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory school impact fees *"...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...".*

[1]Cooperative Strategies, "Residential and Commercial/Industrial Development School Fee Justification School Fee Justification Study—Santa Clara Unified School District," February 26, 2020, p. 10; Enrollment Projections Consultants, letter to Santa Clara Unified School District Superintendent and Board, re: enrollment forecast update, February 24, 2020.

[2]Enrollment Projections Consultants, February 24, 2020, p. 3.

[3]1,314 ÷ 15,241 = 0.086, or approximately 0.09 (with rounding).

Table 15-2
EXISTING SCUSD SCHOOL FACILITY CAPACITY, 2019-2020

School Level	Facilities Capacity	Student Enrollment	Excess Capacity/ (Shortage)
Elementary School (Grades K-5)	8,080	7,590	490
Middle School (Grades 6-8)	3,567	3,224	343
High School (Grades 9-12)	3,857	4,443	(586)
Total	15,504	15,257	247
SOURCE: Cooperative Strategies, February 26, 2020.			

Table 15-3
SANTA CLARA UNIFIED SCHOOL DISTRICT (SCUSD) STUDENT GENERATION RATES

Dwelling Type	Student Generation Rate
Multi-Family Dwellings—Apartments, Condominiums	0.03
Single Family Detached Homes, Townhouses	0.11
Below Market Rate—Apartments, Condominiums, Townhouses	0.56
SOURCE: Santa Clara Unified School District, May 21, 2020.	

15.1.4 Parks and Recreation

The Santa Clara Parks and Recreation Department (Department) provides parks and recreational services in the City. The department is responsible for maintaining and programming the various parks and recreation facilities and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, as of February 2021, the Department maintains and operates Central Park, a 45.04-acre community park (45.04 acres improved and Central Park North 34.93 acres unimproved, resulting in 79.97 acres), 30 neighborhood parks (124.517 acres improved and 6.132 acres unimproved resulting in 130.65 acres), 13 mini parks (2.59 acres improved and 3.189 acres unimproved resulting in 5.779 acres), public open space (16.13 acres improved and 40.08 acres unimproved resulting in 56.21 acres), recreational facilities (23.898 acres improved and excluding the Santa Clara Golf and Tennis Club/BMX track), recreational trails (7.59 acres improved and 0.20 acres unimproved resulting in 7.79 acres), and joint use facilities (48.588 acres) throughout the City totaling approximately 268.354 improved acres and 84.531 unimproved acres. Community parks are over fifteen acres, neighborhood parks are one to fifteen acres and mini parks are typically less than one acre in size.

Per Santa Clara City Code Chapter 17.35, new residential developments are required to provide developed park and recreational land and/or pay a fee in lieu of parkland dedication, pursuant to the State of California Quimby Act (Quimby) and/or the Mitigation Fee Act (MFA) to help mitigate the impacts of the new residential demand o existing parkland and recreational facilities. The City is meeting the standard of 3 acres per 1,000 residents per the Quimby

provisions of the City Code and 2.60 acres per 1,000 residents per the MFA provisions of the City Code with regard to neighborhood parks.

See chapter 16, Recreation, of this EIR, for a discussion of other City recreational facilities.

Also, the General Plan notes that, *"Ideally, parks should be located within a ten-minute walking distance* [approximately ½ mile] *from residential areas and be provided near employment centers."*[1] The nearest City park is Fuller Street Park, located at 61 Fuller Street, less than one mile east of the Plan Area (by straight line; travel distance via roads would be longer because of the need to cross San Tomas Aquino Creek).

15.1.5 Other Public Facilities

(a) Libraries.[2] The Central Park Library, at 2635 Homestead Road, was constructed in 1967, expanded in 1980, and reconstructed and expanded to over 80,000 square feet in 2004. It houses most of the City Library's collection. The library has group study rooms, large community rooms, over 100 public computers and a computer training facility, a café and bookstore, a genealogy and local history collection, and a children's garden.

The Northside Branch Library, at 695 Moreland Way, opened in August 2014. The library is a stand-alone 15,000-square-foot building with a community room, small group study areas, and a technology center.

The Mission Branch Library, at 1098 Lexington Street, opened in 1955 and was remodeled in 1999-2000. It is a full-service library and the headquarters of Read Santa Clara, the adult and family literacy program of the Santa Clara City Library system.

(b) Other Public Facilities.[3] The City's Community Recreation Center is located in Central Park. Many of the City's recreation programs and activities are held there. The Center has a multi-purpose room, stage, kitchen and activity rooms, ceramics rooms, and offices. The Teen Center, located at 2446 Cabrillo Avenue, offers an after-school program, recreation classes, and special events for teenagers (8th through 12th graders). The Walter E. Schmidt Youth Activity Center, at 2450 Cabrillo Avenue and next to the Santa Clara Skate Park, has an after-school program for elementary and middle school students. The Center also has an open gym program for elementary, middle, and high school participants (with parents welcome to participate with their children), a homework room and computer lab, and a variety of recreation activities ranging from high-energy games to more passive pursuits, and occasional special events. During the summer, the Center offers Camp YAC, which provides a variety of outdoor activities, non-contact sports, games, arts and crafts projects, and other recreation activities.

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[1]City of Santa Clara, 2010-2035 General Plan, November 16, 2010.

[2]Santa Clara City Library, Locations and Hours, https://www.sclibrary.org/about-us/locations-and-hours, accessed 3/17/20; City of Santa Clara, General Plan 2010-2035, November 16, 2010; City of Santa Clara, Santa Clara City Library History, https://www.sclibrary.org/home/showdocument?id=1460.

[3]City of Santa Clara, Community Centers, https://www.santaclaraca.gov/our-city/departments-g-z/parks-recreation/community-centers, accessed 3/17/20; City of Santa Clara Parks & Recreation Department, Activity Guide, Spring/Summer 2020.

The Santa Clara Senior Center, at 1303 Fremont Street, includes a fitness center, indoor pools, an auditorium, a ceramics studio, a conference room, dance aerobics and dance theater rooms, a kitchen and dining room, and auxiliary rooms. The Senior Center offers fitness, aquatics, and special interest classes, organized travel opportunities, dining services, a health and wellness program, daily games, and a computer lab among other programs and services.

15.2 REGULATORY SETTING

15.2.1 Fire Protection and Emergency Medical Service

15.2.1.1 Federal

Federal Emergency Management Agency. As part of the U.S. Department of Homeland Security, the Federal Emergency Management Agency (FEMA) helps communities nationwide prepare for, respond to, and recover from natural and manmade disasters. FEMA helps implement hazard mitigation practices to create safer communities, promote rapid recovery from floods and other disasters, and reduce the financial impact at the federal, tribal, state, and local levels. FEMA leads the effort to manage federal response and recovery efforts following any presidential disaster declaration. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the U.S. Fire Administration.

Occupational Safety and Health Administration Regulations. The Occupational Safety and Health Administration (OSHA), under the U.S. Department of Labor, sets and enforces workplace standards, and provides training, outreach, education, and assistance.

15.2.1.2 State

California Governor's Office of Emergency Services (Cal OES). Cal OES serves as the lead State agency for emergency management in California. Cal OES coordinates the State response to major emergencies in support of local government. It is also responsible for collecting, verifying, and evaluating information about the emergency, facilitating communication with local government, and providing affected jurisdictions with additional resources when necessary. Cal OES may task State agencies to perform work outside their day-to-day and statutory responsibilities. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the state through the Statewide Mutual Aid System.

California Fire Code (Title 24, Part 9, California Code of Regulations). The California Fire Code is based on the International Fire Code, with necessary California amendments. This code prescribes regulations consistent with nationally recognized good practices for the safeguarding, to a reasonable degree, of life and property from the hazards of fire and explosion. It also addresses: (1) dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; (2) conditions hazardous to life or property in the use or occupancy of buildings or premises; and (3) provisions to assist emergency response personnel.

California Building Standards Code. The 2019 California Building Code (CBC) became effective January 1, 2020, including Part 9 of Title 24, the California Fire Code.

California Code of Regulations, Title 19. Title 19, Division 2, chapters one through six of the California Code of Regulations, establishes regulations related to emergency response and preparedness.

California Health and Safety Code (Sections 13000 et seq.). This code establishes State fire regulations, including regulations for building standards (also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and child care facility standards, and fire suppression training.

15.2.1.3 Local

Santa Clara General Plan. The General Plan addresses fire protection/emergency medical service objectives with the following policies:

- Policy 5.9.3-P2: Provide police and fire services that respond to community goals for a safe and secure environment for people and property.
- Policy 5.9.3-P4: Maintain a City-wide average three minute response time for fire emergency service calls.
- Policy 5.9.3-P5: Maintain emergency traffic preemption controls for traffic signals.
- Policy 5.9.3-P6: Maintain the fire and hazardous materials mutual aid agreements with surrounding jurisdictions.

Santa Clara City Code. City Code Chapter 15.60 (Municipal Fire and Environmental Code) sets forth Fire Department regulations related to fire prevention, building code standards (including fire flow), permits, fire access standards, and fire protection systems in buildings (e.g., automatic fire extinguishing/sprinkler systems, fire alarms).

15.2.2 Police Protection

15.2.2.1 Local

Santa Clara General Plan. The General Plan addresses police service objectives with the following policies:

- Policy 5.9.3-P2: Provide police and fire services that respond to community goals for a safe and secure environment for people and property.
- Policy 5.9.3-P3: Maintain a City-wide average three-minute response time for 90 percent of police emergency service calls.

Santa Clara City Code. City Code Chapter 2.80 (Police Department) sets forth the Santa Clara Police Department organization and operational divisions. The Department administers adopted regulations within its jurisdiction.

15.2.3 Public Schools

15.2.3.1 State

California Code of Regulations. The California Code of Regulations, Title 5, Education Code, governs all aspects of education within the state.

California Government Code. Section 65995 of the California Government Code provides for school facility financing and the mitigation of impacts on the need for school facilities from land use approvals by establishing statutory fees that may be levied or imposed in connection with, or made a condition of, any land use approval, to be used for the construction or reconstruction of school facilities.

15.2.3.2 Local

Santa Clara General Plan. Applicable General Plan policies addressing citywide educational facility needs include:

- Policy 5.3.1-P21: Allow Public/Quasi Public uses, including places of assembly such as places of worship, schools, emergency shelters and convalescent homes, in all General Plan designations, provided that access is from a Collector or larger roadway, and that they are compatible with planned uses on neighboring properties and other applicable General Plan policies. Such uses not associated with government operations are prohibited in areas designated Light Industrial or Heavy Industrial, and in areas designated High or Low Intensity Office/Research and Development outside the Exception Area.

- Policy 5.8.4-P15: Work with school districts to implement a “Safe Routes to Schools” program to encourage children to walk to school.

- Policy 5.9.2-P5: Coordinate with Santa Clara Unified School District, Santa Clara University and Mission College to develop mutually supportive long range plans for school facilities.

- Policy 5.9.2-P7: Support efforts by school districts to maintain, improve and expand educational facilities and services, to meet the demands of new development.

- Policy 5.9.2-P8: Cooperate with local school districts in collecting fees for development projects as required by State regulations.

15.2.4 Parks and Recreation

15.2.4.1 State

Quimby Act – California Code Section 66477. The Quimby Act was approved by the California legislature to set aside parkland and/or payment of fees due in lieu of parkland dedication to help mitigate the impacts from new residential developments. This legislation was initiated in response to California’s increased rate of urbanization and the need to preserve open space and provide parks and recreation facilities for California’s growing communities. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parkland, pay a fee in-lieu of parkland dedication, or perform a combination of the two at the discretion of the City.

Mitigation Fee Act. In 1989, the State Legislature passed Assembly Bill 1600 (AB1600), adding Section 66000 et seq. to the California Government Code (the "Mitigation Fee Act"), which sets forth requirements for local agencies to follow if they collect fees from developers to defray the cost of the construction of public facilities related to development projects. These legal requirements are frequently referred to as "AB 1600 requirements." Each local agency imposing such development impact fees must prepare an annual report providing specific information about these fees (i.e., a "nexus study") that shows the proper connection of the fees to the project and how accounting and reporting for the fees collected are regulated.

15.2.4.2 Local

Santa Clara General Plan. The General Plan addresses park and recreational needs, and the objectives necessary for achieving citywide needs. Applicable General Plan policies include:

- Policy 5.5.1-P17: Allow new parks and open space uses under any General Plan Land Use classification, except in areas designated as Light Industrial or Heavy Industrial, provided that the use is compatible with planned uses on neighboring properties, consistent with other applicable General Plan policies.

- Policy 5.9.1-P1: Develop additional parkland in the City so that it is integrated into neighborhoods and meets the standards for size, amenities and location to serve residents and employees.

- Policy 5.9.1-P2: Develop new parks to serve the needs of the surrounding community based on the criteria defined on Table 5.9-1.

- Policy 5.9.1-P3: Provide trails along creeks and other rights-of-way to link parks, open spaces, bicycle facilities and transit services with residential neighborhoods and employment centers.

- Policy 5.9.1-P4: Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

- Policy 5.9.1-P5: Encourage public visibility for all parks, trails and open spaces.

- Policy 5.9.1-P6: Support construction of trails within the City of Santa Clara that connect to the Bay Trail, the Saratoga/San Tomas Aquino Creek and the Guadalupe River trails.

- Policy 5.9.1-P7: Allow new parks in the general locations shown on the Land Use Diagram in all General Plan designations, except in areas designated for Light and Heavy Industrial uses.

- Policy 5.9.1-P14: Encourage publicly accessible open space in new development.

- Policy 5.9.1-P16: Encourage non-residential development to contribute toward new park facilities to serve the needs of their employees.

- Policy 5.9.1-P17: Foster site design for new development so that building height and massing do not overshadow new parks and plazas.

- Policy 5.9.1-P18: Promote open space and recreation facilities in large-scale developments in order to meet a portion of the demand for parks generated by new development.

- Policy 5.9.1-P20: Promote the continuation of a parks per population ratio of 2.4 per 1,000 residents and explore the potential to increase the ratio to 3.0, based on the Parks and Recreation Needs Assessment (Parks Master Plan), referenced in Plan Prerequisite 5.1.1-P24.

Santa Clara City Code. City Code Chapter 17.35 (Park and Recreational Land) establishes requirements for new residential development to provide developed park and recreational facilities and/or pay a fee in lieu of such dedication, at the discretion of the City .

15.2.5 Other Public Facilities

15.2.5.1 Local

Santa Clara General Plan. The General Plan addresses other community facility needs, and the objectives necessary for achieving citywide needs. Applicable General Plan policies include:

- Policy 5.9.2-P1: Provide a diverse range of community, art, cultural and recreational facilities to meet the varying needs of residents in the City, including youth and seniors.

- Policy 5.9.2-P2: Periodically evaluate library services and facilities in order to respond to changing community demands.

- Policy 5.9.2-P3: Provide library services that are accessible and of adequate size to serve community residents, particularly for Future Focus Areas, north of the Caltrain corridor.

Santa Clara City Code. City Code Chapter 2.90 (Library Department) sets forth the organization and operational duties for the City Librarian and the various department divisions. The Department is charged with maintaining programs, services, and collections related to the community's informational, cultural, educational, technical, and entertainment interests.

15.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to public services that could result from the Patrick Henry Drive Specific Plan, and discusses components of the Plan that would avoid or reduce those potential impacts. The section also recommends any mitigation measures needed to reduce remaining significant impacts.

15.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to public services if it would:

[1]CEQA Guidelines, appendix G, items XV (a).

(a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

- fire protection,
- police protection,
- schools,
- parks, or
- other public facilities.

15.3.2 Relevant Patrick Henry Drive Specific Plan Components

The Specific Plan, mainly Chapter 4 (Development Framework) and Chapter 5 (Design Guidelines), includes components that would avoid or reduce potential public service impacts associated with future development in the Plan Area. Components particularly relevant to the evaluation of potential public service impacts are listed below. Note that within the context of the Specific Plan, a "standard" is mandatory, while a "guideline" is not mandatory, but encouraged.

EIR Figure 3.6 (Land Use Plan) in chapter 3 (Project Description) illustrates the proposed locations of public parks and open space in the Plan Area.

Specific Plan Section 4.5 Parks, Recreation and Open Space

The [Patrick Henry Drive] PHD Specific Plan Parks, Recreation and Open Space Plan includes policies and requirements to create a diverse network of public parks, green infrastructure, and private recreational spaces that support the physical, social and environmental health of the neighborhood while integrating with the community-wide City public parks and recreation system. This includes providing adequate park spaces of sufficient size, shape and location within the PHD Specific Plan Area.

The following policies establish the basis for providing parks, open spaces, and greenways in the PHD Specific Plan Area, including dedication requirements. Properties in the PHD Specific Plan Area are subject to City and Specific Plan requirements as described below. Design guidelines for the siting, sizing, design, and programming of open spaces are included in Chapter 5: Design Guidelines.

- Require 22 percent of total residential developable land to be allocated for public parks and publicly accessible open spaces, including not less than 11 percent of land dedicated to the City in fee title as public parkland.
- Implement Santa Clara City Code 17.35 to provide outdoor public parks and mini parks as well as indoor community facilities which may be connected by publicly accessible private greenways and open spaces that serve the neighborhood.
- Provide one neighborhood public park centrally located within the PHD Specific Plan Area, and one neighborhood park adjacent to Calabazas Creek.
- Distribute and site public parks so all residents can easily access a neighborhood park within a five to 10 minute walk.

- Allow public parks to be jointly sited between two or more existing parcels. New public parks will be mapped and dedicated to the City as new parcels.
- Connect parks and plazas with publicly accessible private greenways to provide safe, comfortable access while supporting connectivity throughout the PHD Specific Plan Area. Parks, plazas and greenways are subject to minimum dimensions and programming.
- Provide connection from public parks to existing and planned trails on the north and west of the PHD Specific Plan Area.
- Collaborate with property owners and the City Parks and Recreation Department to determine park and community space design and programming.
- Site and size public parks and indoor community facilities (e.g., library, gym), their features and amenities, to serve a variety of populations and programs throughout the day, from dawn to 10pm.

[Specific Plan] Table 4.5A:
Required Acreage by Park and Open Space Type

	Gross Residential Area (Acres)	Total Required Parkland (Acres)	Neighborhood Parkland (Acres)	Privately Owned (Acres)	
				POPOS	Private Open Space
Scenario A	73.59	16.19	8.09	4.05	4.05
Scenario B	63.72	14.02	7.01	3.50	3.50

Specific Plan 4.5.2 Parkland Dedication Ordinance
A minimum of 11 percent of the total developable residential land within the PHD Specific Plan Area is required to be dedicated to the City of Santa Clara for use as three public parks. A total of 8.09 acres shall be dedicated under Scenario A or 7.01 acres in Scenario B. The approximate size and location of these parks (shown in [Specific Plan] Figure 4.5A: Parks and Greenways [EIR Figure 3.6]) shall be improved and programmed prior to dedication to the City, except at the discretion of the City. Specific requirements for public parkland size and design are included in [Specific Plan] Chapter 5: Design Guidelines.

All development within the PHD Specific Plan Area is subject to the City's standard Park and Recreational Lands Ordinance requirements. Per the policies established within City Code Section 17.35, each project will have a developed parkland obligation which may be met through a combination of land dedication, and/or payment of in-lieu fees. Qualifying dedicated private recreational amenities may be eligible for 50% credit against any fees due in lieu of parkland dedication.

The Parks and Recreation Department staff administer the Ordinance and are responsible for evaluating what may qualify as parkland dedication, private open space, recreational amenities, etc., per the criteria established within the Ordinance. Private open space within the project area may be able to meet part of the Ordinance requirements per the staff evaluation. Related to parkland dedication encumbered by an easement, the land value for such dedication may be reduced due to encumbrance and other items required in City Code. The value of dedicated land is determined through the Ordinance and the Supplemental Instructions adopted by Council on June 7, 2016.

Specific Plan 4.5.3 Open Space Requirements
In addition to fulfillment of the City's Park & Recreational Land Dedication Ordinance, projects within the Specific Plan Area are subject to these requirements:

4.5.3.1 Land Dedication
Consistent with the Specific Plan Land Use Diagram – projects are required at a minimum to dedicate land areas identified in the Specific Plan as dedicated parkland as part of their fulfillment of the Park & Recreational Land Dedication Ordinance. This area totals eight acres* (or a reduced amount if the flex parcel is developed as commercial use), or more than eight acres if the City accepts additional unencumbered public parkland dedicated adjacent to required parkland dedication.

4.5.3.2 Greenways
Greenways are privately owned, publicly accessible linear open spaces that provide off-road connections for pedestrians, cyclists, scooter riders, and the like while providing additional green space throughout the PHD Specific Plan Area. Projects are required to incorporate publicly accessible greenways into their design consistent with the SP Land Use Diagram.

4.5.3.3 Open Space
Projects must provide at a minimum the specified amount of open space in addition to the minimum land use dedication. This open space is 8 acres, allocated on a proportional basis to each property so that it is provided when that parcel is developed. This requirement applies to both residential and commercial uses. The open space requirement may be satisfied through any of the following:

- Land dedicated specifically as public parkland in excess of and adjacent to the minimum amounts depicted on the land use plan or of sufficient size, shape and acceptable location to be activated as public parkland as determined by City.

- Land designed and designated through easement as a publicly accessible Greenway, plaza, or other accessible open space.

- Private open space designed per criteria established within the Specific Plan. These areas, subject to guidelines in SCCC17.35, may also receive credit if it meets the Ordinance requirements. Up to 50 percent of private space is eligible for credit towards the PHD Specific Plan requirements at the discretion of the Parks and Recreation Department.

The reader is encouraged to review Specific Plan chapters 4 and 5 for more detail. Pursuant to section 15150 (Incorporation By Reference) of the CEQA Guidelines, the Patrick Henry Drive Specific Plan is incorporated into this Draft EIR by reference. The Plan is posted on the Patrick Henry Drive Specific Plan website at:[1]

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

[1]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

15.3.2 Impacts and Mitigations

Impact 15-1: Increase in Fire Protection/Emergency Medical Service (EMS) Demands. The Santa Clara Fire Department (SCFD) would provide first response services to the Patrick Henry Drive Specific Plan Area. The Santa Clara General Plan defines the SCFD response time goal of a citywide average three-minute response time for fire emergency service calls. The average response time for medical calls in 2019 was 5 minutes and 11 seconds or less, 90 percent of the time, and for fire calls was in 5 minutes and 7 seconds or less, 90 percent of the time. In 90 percent of all high-level emergency calls, response time in 2018-2019 averaged five minutes and 38 seconds.[1] However, as discussed above in section 15.1.1, after preparation of the current General Plan, the SCFD changed its method for reporting response times to be consistent with the National Fire Protection Association (NFPA). The NFPA uses percent goals ("percentiles"), which accounts for differences between how the General Plan response time goals were determined (an "average" response time) and the current SCFD percent goals.[2] As also discussed above in section 15.1.1, the SCFD in 2019 responded to 236 fire calls, 6,745 medical emergency calls, 1,129 alarm activation calls, 829 service calls, 35 hazardous materials calls, and 25 technical rescue calls. Residential fires between 2014-2017 comprised about 62 percent of all structural fires (183 residential fires out of a total of 296 structural fires); in 2017, residential fires comprised about 66 percent of all structural fires (37 of 56 fires).[3]

Based on the 2020 city population, estimated at 129,104,[4] and the 2020/21 fiscal year SCFD budgeted staffing of 132 firefighters (full time equivalent; FTE),[5] the firefighter to population ratio is approximately 1.0 firefighter per 1,000 population, which, according to the SCFD, is the City's standard.[6]

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[1]City of Santa Clara 2010-2035 General Plan; City of Santa Clara Fire Department Annual Report 2019, https://www.santaclaraca.gov/home/showdocument?id=70024, accessed 12/15/20; City of Santa Clara Adopted Biennial Operating Budget, 2019-2020/2020-2021, p. 426.

[2]Use of percent goals is described in "NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments," which is the industry recognized standard for the organization and deployment of career fire departments.

[3]Santa Clara Fire Department, Community Risk Assessment & Standards of Cover, March 2018, p. 74.

[4]California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark," http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/, accessed 8/14/20.

[5]City of Santa Clara Fire Department, 12/22/20.

[6]132 ÷ (129,104 ÷ 1,000) = 1.022, or approximately 1.0; City of Santa Clara, 1/27/21.

With a potential buildout of 10,300 to 12,000 new residential units, the city's population would increase;[1] however, since the current land uses in the Plan Area do not contain any residences but do contain existing employees, this analysis uses "service population" to account for both residents and employees served within the Plan Area. Accounting for the existing employee population in the Plan Area, the net "service population" increase under the Specific Plan would range between 24,028 to 24,908. Using the City's firefighter staffing standard (1.0 firefighters per 1,000 population), population growth resulting from Specific Plan buildout would require approximately 25 additional firefighters (full-time equivalent; FTE) at buildout.[2]

The increase in demand for SCFD services resulting from Specific Plan buildout would be expected to generate additional calls for fire protection and suppression/EMS assistance that would require additional staff in order to maintain acceptable service ratios or response times. The SCFD has determined that 25 additional firefighters (FTE) would be sufficient to meet the fire protection and suppression/EMS assistance needs of the Specific Plan; in addition, the SCFD has also determined that three vehicles would also be required: one Fire Department EMS response vehicle or ambulance for Phase 1; a second Fire Department EMS response vehicle or ambulance for Phase 2; and one tiller aerial ladder truck for Phase 3.[3]

The City is currently planning the expansion and relocation of Fire Station 10 as part of its development agreement with the Related Santa Clara project, and has been part of the planning effort for the Related project since approximately 2014.[4] The Specific Plan Area is in the old SCFD District 10. Prior to its closure in 2019, Fire Station 10 was located at 5111 Stars &

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[1]As noted in chapter 14, Population and Housing, of this EIR, the Specific Plan assumes an average of 2.23 persons per new household (pph) in the Plan Area, based on demographic and economic research prepared for the Plan ("Persons Per Household By Unit Type, City of Santa Clara, CA," provided by the City based on California Department of Finance Estimates for City of Santa Clara (as of 1/1/2018) and Persons Per Household by Unit Type for Santa Clara County from U.S. Census Bureau, American Community Survey, 2012-2016 Public Use Microdata Sample [PUMS] data set for Santa Clara County). As a note, if a City department (for instance, SCPD or Parks & Recreation) uses a different population generation factor, then that factor has been included in their respective analyses.

[2]This service population range is based on resident and employment calculations in chapter 5, Air Quality, and derived as follows:

- Existing service population for the Plan Area = 2,592 (existing employees)
- Scenario A service population = 26,760 residents + 740 employees = 27,500; minus 2,592 (existing employees) = 24,908
- Scenario B service population = 22,970 residents + 3,650 employees = 26,620; minus 2,592 (existing employees) = 24,028
- For Scenario A, 24,908 population ÷ 1,000 x 1.00 = 24.908, or approximately 25.
- For Scenario B, 24,028 population ÷ 1,000 x 1.00 = 24.028, or approximately 24.

[3]Jeremy Ray, Deputy Fire Chief, City of Santa Clara Fire Department, email dated February 8, 2021, to Rebecca Bustos, Senior Planner, Santa Clara Community Development Department.

[4]Impacts related to the relocation and expansion of Fire Station 10 were previously analyzed in the City Place Santa Clara Project Draft Environmental Impact Report, October 2015, SCH number 2014072078, certified by the City on June 28, 2016 (now called the "Related Santa Clara" project). Construction period impacts typically associated with public service infrastructure construction such as a fire station (i.e., air emissions/dust, noise, and traffic interruption) would be reduced through mandatory City of Santa Clara construction mitigation procedures; these mitigations, as they would apply to construction activities in the Plan Area, are discussed in chapters 5 (Air Quality) and 13 (Noise) of this EIR). No additional significant environmental impact would be anticipated with such construction activity.

Stripes Drive. Then, the Fire Department was able to meet its response time standards to the Plan Area by utilizing a combination of resources from Station 10 and Station 8, at 2400 Agnew Road. The plan for relocation and expansion of Station 10 included GIS analysis to determine the site that would best serve the needs of the Fire Department and allow the best overall coverage of District 10. The Techmart site (on Great America Parkway north of Tasman) was selected because of its proximity to the Plan Area (less than a half-mile), which would allow for shorter response times than from the original Station 10 site.

According to the SCFD, based on review of the drawings, the Fire Station 10 expansion would have sufficient capacity to accommodate 25 additional firefighters (FTE) and equipment. The design concept for the new Fire Station 10 includes a 2-story, triple bay station (plus Battalion Chief quarters), totaling approximately 11,000 SF, which would be completely funded by Related. Based on the location and specifications for the new Fire Station 10, the Fire Department has determined that service to the Plan Area would be able to achieve acceptable response times (with the additional apparatus and staffing called for in the Specific Plan).[1] Therefore, with the Fire Station 10 expansion and relocation, there would be adequate fire department facilities to support Patrick Henry Drive Specific Plan development, and no new or expanded facilities would be required as a result of the Specific Plan.[2]

Demand for additional fire protection/EMS equipment resulting from Patrick Henry Specific Plan implementation (e.g., for higher buildings than allowed under current zoning) would be funded by the plan's infrastructure fee. In addition, as discussed in Specific Plan Chapter 7 (Implementation Plan), the City has several options to ensure adequate funds will be available for facilities required by Specific Plan development, including approaches and policies for both one-time and on-going costs of public infrastructure, improvements, and services. New development projects under the Specific Plan would be required to pay their share of the costs associated with provision of these facilities through the required infrastructure fee on a per unit basis.

Individual project proposals are subject to review and approval by the SCFD, based on uniformly applied standards and regulations. As part of the standard development review process for each individual project proposal, the project applicant must demonstrate compliance with Santa Clara City Code Chapter 15.60 (Municipal Fire and Environmental Code), the California Fire Code, and all other applicable regulations. Among other fire protection/EMS requirements, the project must provide adequate emergency water supply (fire flow), storage, and conveyance facilities, as well as unobstructed and adequate access for fire protection equipment and personnel. Without City approval of fire protection/EMS provisions, the project would not receive a building permit or occupancy permit, depending on the specific fire protection issue that needs to be addressed (e.g., emergency access provisions, hydrant pressure, fire alarm and smoke detector adequacy).

The Patrick Henry Specific Plan does not propose new or expanded fire protection/EMS facilities, the construction of which would cause significant environmental impacts, nor does the City anticipate the need for a new facility because of the approved Related Santa Clara (City

[1]Rebecca Bustos, Senior Planner, Santa Clara Community Development Department, email dated June 3, 2021, to MIG.

[2]J. Ray, email dated February 8, 2021, to R. Bustos.

Place) project, as discussed above.[1] Therefore, based on the above uniformly applied fire protection/EMS standards and regulations, the proximity of existing fire stations, the planned expansion and relocation of Fire Station 10, and the City's commitment to providing adequate fire/EMS service, Specific Plan impacts on fire protection/EMS demands are considered ***less-than-significant*** (see criterion [a] in subsection 15.3.1, "Significance Criteria," above).

Mitigation 15-1. No significant impact has been identified; no mitigation is required.

Impact 15-2: Increase in Police Service Demands. The Santa Clara Police Department (SCPD) would provide police services to the Patrick Henry Specific Plan Area. The General Plan states the SCPD response time goal is to maintain an average three-minute response time for 90 percent of police emergency service calls. In 2020, the average response time for priority one service calls (from dispatch to first officer arrival) was two minutes and eight seconds.[2]

According to the SCPD, based on Census population data and City budget information, the SCPD is currently allocated 1.22 officers per 1,000 residents and 0.61 civilian professionals per 1,000 residents[3] and would not want these allocations to fall below the current ratio (and in fact would prefer to enhance these ratios). Considering a potential buildout of 10,300 to 12,000 new residential units, this would equal approximately 23,690 to 27,600 new residents at Specific Plan buildout (based on Police Department planning estimates assuming 2.3 persons per unit, or household).[4] However, since the current land uses in the Plan Area do not contain any residences but do contain existing employees, this analysis uses "service population" to account for both residents and employees served within the Plan Area. Based on a pre-pandemic ratio of 1.83 police personnel (1.22 sworn personnel plus 0.61 civilian personnel) per 1,000 residents,[5] the increased population from Specific Plan buildout would require approximately 45 to 47 SCPD employees to maintain the 1.83 police personnel per 1,000 residents staffing ratio.[6]

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[1]In addition, as discussed in section 15.1.1, Fire Station 8 at Freedom Circle would also provide support to the Plan Area, with Station 6 and Station 9 as secondary responding stations.

[2]City of Santa Clara, Santa Clara Police Department Fact Sheet, https://www.santaclaraca.gov/our-city/departments-g-z/police-department/about-us/fact-sheet, accessed 7/17/21.

[3]The actual ratio varies depending on the number of fully trained and uninjured employees.

[4]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated June 11, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[5]The 1.83 police personnel per 1,000 residents figure is based on SCPD pre-pandemic service levels and represents a staffing standard the SCPD does not recommend dropping under. Due to recent City budget reductions, the current SCPD staff allocation would translate to 1.13 officers per 1,000 residents and 0.52 civilian professionals per 1,000 residents (1.65 police personnel per 1,000 residents). It is also important to note, according to SCPD, that since 2016, SCPD staffing resources have not matched development in the City. (Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated June 17, 2021, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.)

[6]This range of police personnel is based on resident and employment calculations using employment figures from the "service population" estimate provided in chapter 5, Air Quality (to account for existing employees in the Plan Area) and resident population figures based on the SCPD "persons per household" (pph) factor, as follows: *[footnote continued on following page]*

The SCPD has stated that the Police Department building is at capacity (parking, locker room, work spaces, etc.).[1] The SCPD has determined that new or reconfigured space will be needed as SCPD staff grows, and the feasibility for expansion of the Police Department building, if any, would need to be evaluated by a professional design consultant who would assess the existing building/footprint and SCPD space needs.[2] The SCPD also noted that the planning and building process for a new or expanded facility can be lengthy and costly, and that currently there are no expansion plans for the Police Building.[3] Projected SCPD staffing needs for Specific Plan development have been determined based on full plan build-out, which would occur over a 20-year period. Therefore, the City has determined that reconfiguration of existing facility space for additional workforce would be the near-term approach. As Specific Plan development occurs, if reconfiguration is not feasible or is insufficient, then additional analysis would need to be undertaken at the time to consider possible options for expansion or a new facility; however, because no determination on an expanded or new facility has been made or proposed, nor have any plans or sites been identified, any further analysis at this time would be speculative.[4]

Individual project proposals under the Specific Plan would be subject to review and approval by the SCPD, based on uniformly applied standards and regulations. As part of the standard development review process for each individual project proposal, the SCPD would determine the ability of the department to provide services and would make project-specific recommendations in order to maintain acceptable levels of service. Without City approval of police service provisions, the project would not receive a building permit or occupancy permit, depending on the specific police protection/security issue (e.g., security lighting, parking area security provisions, public visibility/defensible space -"eyes on the street" or, in the case of new parks and plazas, “eyes on the park”).[5]

[footnote continued from following page]

- Existing service population for the Plan Area = 2,592 (existing employees)
- Scenario A service population = 27,600 residents + 740 (new) employees = 28,340; minus 2,592 (existing employees) = 25,748
- Scenario B service population = 23,690 residents + 3,650 employees = 27,340; minus 2,592 (existing employees) = 24,748
- For Scenario A, 25,748 population ÷ 1,000 x 1.83 = 47.12, or approximately 47.
- For Scenario B, 24,748 population ÷ 1,000 x 1.83 = 45.28, or approximately 45.

[1]C. McDowell, email dated June 11, 2020, to R. Bustos.

[2]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated June 17, 2021, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[3]Carolyn McDowell, Management Analyst, City of Santa Clara Police Department, email dated May 24, 2021, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[4]Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department, email dated June 24, 2021, to MIG.

[5]"Eyes on the street" is a concept derived from defensible space, which is a model for residential environments in which urban design, architecture, and site planning are used to enable residents to maintain views of, and collectively use, a site's public areas in order to indirectly inhibit the potential for crime. (Newman, Oscar. Defensible Space: Crime Prevention Through Urban Design, 1973.)

The Patrick Henry Specific Plan does not propose new or expanded police facilities, the construction of which would cause significant environmental impacts; any decision whether to build a new facility or expand an existing facility would be the responsibility of the City Council. The SCPD has noted that more vehicle traffic from anticipated development in the city is expected to occur (along with an associated increase in service calls due to traffic-related enforcement and accident investigations and potentially increased service call response times), which would contribute to the need for additional staff. Therefore, as development proceeds in the Plan Area and vicinity, the City would need to determine if and when to conduct an assessment related to providing additional police facilities (i.e., a new police station or expansion of an existing facility). Any new or expanded facility project located outside of the Plan Area would require its own evaluation of environmental impact topics similar to that provided in this EIR. (If a site for a new facility in the Plan Area were to become available and selected, then the construction of the facility would be subject to the mitigations in this EIR as they apply to all development in the Plan Area.)

In assessing the additional population anticipated from development under the Specific Plan, the SCPD has identified management measures to help minimize the effects, including:[1]

- a new patrol staffing model (e.g., shifts, log-on schedule) that would allow for more officers within each beat (i.e., adjustments to shift timing could provide more balance in personnel levels that better reflect operational demands and allow more personnel to be available for patrol);

- "civilianizing" select positions or redistributing job functions to another Department to free up officers from "desk" jobs (i.e., sworn officers who are responsible for duties that don't require the expertise of a sworn officer could be replaced by appropriately trained civilians, thus allowing the reassignment of the sworn officer); and

- creating development impact fees to support the City's infrastructure (funding mechanisms are discussed in Specific Plan Chapter 7, Implementation Plan, and described in chapter 3, Project Description, of this EIR).

Demand for additional police personnel or equipment resulting from Patrick Henry Drive Specific Plan implementation (e.g., to account for an increased residential population) would be funded by established annual City General Fund budget review and allocation. Any potential future need for a separate development impact fee for police services is a policy issue under the purview of the City Council. Under CEQA, the Specific Plan impacts on police service demands are considered ***less-than-significant*** (see criterion [a] in subsection 15.3.1, "Significance Criteria," above).

Specific Plan buildout and its contribution to *cumulative needs for police facilities* is discussed in chapter 20, CEQA-Mandated Sections.

Mitigation 15-2. No significant impact has been identified; no mitigation is required.

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[1] C. McDowell, email dated June 11, 2020, to R. Bustos.

Impact 15-3: Impacts on Public Schools. The Plan Area is in the Santa Clara Unified School District (SCUSD). At full net residential development capacity, Plan implementation could result in up to approximately 12,000 net new residences, all multi-family. According to the SCUSD student generation rates for multi-family units (see Table 15-3), these residences would generate up to approximately 1,314 new students in the district schools, incrementally over the Specific Plan timeframe.

Although impacts on individual school facilities would depend on the timing of development and associated occupancy rates, the SCUSD anticipates that the new Dolores Huerta Middle School would likely open at capacity. The SCUSD also anticipates that enrollment growth associated with development in the Lawrence Station Area Plan would fill both Cabrillo Middle and Peterson Middle schools. While the student population at Hughes Elementary would be expected to drop after the opening of Abram Agnew Elementary School (planned for 2021), which may add some capacity, it is possible that by the time any new units are developed under the Patrick Henry Specific Plan, Hughes Elementary could be at capacity due to reasonably foreseeable development. Therefore, SCUSD has determined that a new elementary school would be necessary to serve students in the Patrick Henry Specific Plan Area, preferably in the Plan Area itself (see discussion below) to allow for students to be able to walk or bike to school.[1] The SCUSD has also determined that to address future student needs for the area north of U.S. 101, a new middle school would also be necessary (this potential school would also be able to serve Plan Area students) and possibly a second new elementary school for other increases in enrollment demand north of U.S. 101 resulting from new development.[2]

In addition, the proposed Patrick Henry Specific Plan is too far from existing schools to allow for safe walking or biking to school, which means all students would likely need to arrive by car or bus. However, the potential for a new elementary school constructed in the Specific Plan Area could allow students to walk or bike to school. The City and SCUSD collaborate on "Safe Routes to Schools" projects and have completed many large capital improvements to the routes students take to school.[3] The traffic analysis prepared for this EIR used trips rates that reflect all trip types associated with residential uses, including school trips.

New or physically altered school facilities determined necessary by the SCUSD to accommodate students generated by future development under the Specific Plan could cause significant environmental impacts; however, any School District proposal for a new school would be subject to its own evaluation under the California Environmental Quality Act (CEQA), which would be expected to involve an evaluation of environmental impact topics similar to that provided in this EIR. If a school site is ultimately determined to be located in the Plan Area, then the impact and mitigation analysis already conducted for this EIR would apply, plus any additional evaluation requirements as stipulated by State codes (e.g., Education Code, California Code of Regulations, Public Resources Code) and California Department of Education policies.

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[1]Michal Healy, Director, Facility Development and Planning, Santa Clara Unified School District, memo dated May 21, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[2]M. Healy, memo dated May 21, 2020, to R. Bustos.

[3]M. Healy, memo dated May 21, 2020, to R. Bustos.

If a school site is identified outside of the Plan Area, then depending on the location and characteristics, construction the school facility could cause environmental impacts; however, the location, timing, nature, extent, and severity of any potential environmental impacts cannot be predicted or evaluated at this time because no new schools have been proposed. However, an environmental review of a facility outside of the Plan Area would typically cover the same topics as discussed in this EIR, such as construction period dust control and air emissions, ground-disturbance impacts on special status species and potential tree removal, impacts on potentially historic structures and/or cultural resources, erosion control measures and building code design standards, GHG- and energy-reducing measures applicable to construction equipment; construction-period hazardous materials use and transport protocols and consideration of potential hazardous waste sites, storm water runoff provisions, and construction-period noise control, among others, though specific impacts and mitigations would possibly vary based on differences in setting.

As discussed in chapter 3, Project Description, of this EIR, a potential school site to be located possibly within the Plan Area is being studied; however, this possibility would require the school district to purchase property in the Plan Area and initiate the development process. In addition, although the potential increase of 1,314 new students would be expected to occur over the course of Specific Plan implementation, the SCUSD typically plans ahead (10 to 20 years) in order to ensure that school sites are purchased and school facilities are planned and constructed in accordance with the City's General Plan and the State Department of Education.

The SCUSD is responsible for levying impact fees on new development. The residential and commercial development in the Plan Area would be required to pay the State-authorized school impact fees approved by the SCUSD. Pursuant to section 65995(3)(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory school impact fees *"...is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...."* Therefore, subsequent to payment of statutory fees, school impacts would be considered ***less-than-significant*** (see criterion [a] in subsection 15.3.1, "Significance Criteria," above).

Mitigation 15-3. No significant impact has been identified; no mitigation is required.

Impact 15-4: Impacts on Parks and Recreational Facilities. The Patrick Henry Specific Plan calls for a maximum residential development of between 10,300 and 12,000 new units. According to City Parks & Recreation Department calculations, this could result in an increase in local population of between 24,720 and 28,800 new residents (based on Parks & Recreation Department planning estimates assuming 2.4 persons per unit).[1] These residents would be expected to increase demand for parks and recreational facilities. Based on the Santa Clara General Plan service standard of 2.4 acres of parkland per 1,000 residents, new Plan Area residents could therefore result in a need for between approximately 59 acres (24.72 x 2.4) and 69 acres (28.8 x 2.4) of new parkland. However, according to the City Parks & Recreation Department, to continue meeting the 2.60 acres per 1,000 residents Mitigation Fee Act (MFA) standard and the 3.0 acres per 1,000 residents Quimby Act standard, the City would require

[1]This EIR uses a limited range of persons-per-unit ratios, consistent with the particular ratios incorporated by individual City departments when making calculations. The 2.4 persons per unit figure is census-based, and is required by the City's parkland dedication ordinance.

developed parkland totaling between 64 and 86 acres.[1] The City does not anticipate creating this amount of new parkland within the Plan Area.[2] However, as identified in section 15.3.2 above (Relevant Patrick Henry Drive Specific Plan Components), the Specific Plan would require between approximately 14.02 and 16.19 acres of park and open space area in the Plan Area. Also, new residential development facilitated by the Specific Plan would be subject to the City's adopted in-lieu park fee (see "Parkland Dedication and Fees," above) and would be required to pay a park fee and/or dedicate land for park development. Based on current (2021) City fees of $37,609 per residential unit (for the Mitigation Fee Act; based on a fair market value formula) and $42,338 per residential unit (for the Quimby Act; based on a fair market value formula), the total park fee under the current formula would be between approximately $387.4 million ($37,609 x 10,300) and $508.1 million ($42,338 x 12,000),[3] although the City may impose a combination of a parkland dedication requirement and fee in lieu of such dedication (though for development proposals with fewer than 50 units, the City may elect to accept a fee only).

The City ensures a project meets its dedication requirements through the development review process. Parkland, as required, must be included as part of a project's "land use plan" with the location identified on the project property. A project that does not comply with the parkland dedication requirement would not be approved. In addition, the City requires that parkland be improved (i.e., "turn-key") and dedicated to the City prior to issuance of a Certificate of Occupancy. Therefore, mandatory, future development of parkland and open space in the Specific Plan Area plus individual project payment of City adopted in-lieu park fees and/or dedication of parkland would ensure that impacts on parks and recreational facilities would be ***less-than-significant*** (see criterion [a] in subsection 15.3.1, "Significance Criteria," above).

Mitigation 15-4. No significant impact has been identified; no mitigation is required. See "Construction Period Impacts" below.

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[1]The City's park and recreation facilities fee program (City Code Chapter 17.35) was updated in 2014 under the Mitigation Fee Act and the Quimby Act, which allow the City to impose public facilities fees under authority granted by the Mitigation Fee Act (California Government Code Sections 66000 et seq.) or, depending on the characteristics of the development project, to use the Quimby Act to calculate impact fees. Resolution #21-8970, passed by City Council on June 10, 2021, set the following parkland dedication standards: "In calculation of parkland dedication or fees due in lieu thereof, new residential developments subject to the Mitigation Fee Act will use the existing parkland ratio of 2.6 acres per thousand residents; and, new residential subdivisions subject to the Quimby Act will use the City parkland standard of 3.0 acres of property for each one thousand residents for public park and recreational facilities." (Also, as noted, General Plan policy calls for maintaining a standard of 2.4 acres of parkland per 1,000 residents.) For determining the range of parkland discussed above, the 2.6 acres per 1,000 residents standard (per the Mitigation Fee Act) was used with the lower population figure of 24,720 residents, which resulted in 64 acres (24,720 ÷ 1,000 x 2.6 = approximately 64), and the 3.0 acres per 1,000 residents standard (per the Quimby Act) was used with the higher population figure of 28,800 residents, which resulted in 86 acres (28,800 ÷ 1,000 x 3.0 = approximately 86).

[2]Gina Saporito, Staff Aide II, Parks & Recreation Department, email dated June 1, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[3]The parkland in-lieu fee schedule for new residential development was amended by City Council adoption of Resolution 21-8970 on June 10, 2021.

Impact 15-5: Impacts on Other Public Facilities. The Specific Plan-facilitated increase in residential, commercial, and public activity in the Plan Area, and associated job creation and increase in business activity, would result in a corresponding incremental increase in demand for other public, municipal services (e.g., Santa Clara Public Libraries). However, the City is requiring the Plan to include approximately 45,000 square feet of additional City library facilities to accommodate anticipated incremental library service demand. The Specific Plan has identified areas where community facilities (including a library) would be located; however, particular library development plans would be subject to discussions between the City and a future project applicant. Funding options could include those provided in Specific Plan Chapter 7 (Implementation), which discusses options for ensuring adequate funds for facilities required by Specific Plan development, including approaches and policies for both one-time and on-going costs of public infrastructure and related improvements. As an option, the City could consider working out a separate arrangement with a property owner for providing a "community benefit," though the precise terms of such a future arrangement are beyond the scope of this analysis. A future library facility proposal would be subject to its own evaluation under the California Environmental Quality Act (CEQA); however, because the site would be in the Plan Area, then library construction would be required to follow the mitigation measures already identified elsewhere in this EIR (chapters 5 [Air Quality], 6 [Biological Resources], 7 [Cultural and Historical Resources], etc.), and review would be limited to ensuring consistency with the provisions of this EIR (see below for construction period impacts). Therefore, this impact would be ***less-than-significant*** (see criterion [a] in subsection 15.3.1, "Significance Criteria," above).

Mitigation 15-5. No significant impact has been identified; no mitigation is required.

Impact 15-6: Construction Period Impacts. The construction of Plan-related open space, parkland, and recreational and other public facilities would be temporary and would occur within either existing public rights-of-way or on City property, a project development site, or private property subject to a municipal easement. Construction period air emissions (dust), noise, and traffic interruption typically associated with parks and recreational facilities construction would be reduced through mandatory, uniformly applied City of Santa Clara construction standards and regulations, as well as mitigations already identified elsewhere in this EIR, which analyzes both operational and construction impacts. For instance, see EIR chapters 5 (Air Quality) for construction period dust control and air emissions reduction measures; 6 (Biological Resources) for ground-disturbance impacts on special status species and potential tree removal; 7 (Cultural and Historical Resources) for impacts on potentially historic structures and/or cultural resources; 8 (Geology and Soils) for erosion control measures and building code design standards; 9 (Greenhouse Gas Emissions/Energy) for GHG- and energy-reducing measures applicable to construction equipment; 10 (Hazards and Hazardous Materials) for potential construction-period hazardous materials use and transport and for potential hazardous waste sites; 11 (Hydrology and Water Quality) for construction-period storm water runoff provisions; and 13 (Noise) for construction-period noise control. No additional significant environmental impact is anticipated with such construction activity beyond those impacts and mitigations already identified in this EIR.

Mitigation 15-6. No significant impact has been identified; no mitigation is required.

16. RECREATION

This EIR chapter describes existing conditions for recreational facilities in the Patrick Henry Drive Specific Plan Area. The chapter addresses the recreation impact concerns identified by the CEQA Guidelines--i.e., would the project result in substantial physical deterioration of a park or recreational facility, or would the project include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment.[1] This EIR chapter has been prepared in collaboration with the City's Parks & Recreation Department and is closely coordinated with the "parks" sections of chapter 15 (Public Services). The reader is encouraged to review these chapters together.

16.1 SETTING

16.1.1 Existing Parks and Recreational Facilities

The Plan Area is in the northwest part of the City of Santa Clara, north of U.S. 101 (and adjacent to Mission College), south of State Route 237 (SR 237), and next to Calabazas Creek, which runs along the Santa Clara City limits on the west.

The Santa Clara Parks and Recreation Department (Department) provides parks and recreational services in the City. The department is responsible for maintaining and programming the various parks and recreation facilities and works cooperatively with public agencies in coordinating all recreational activities within the City. Overall, as of May 2021, the Department maintains and operates Central Park, a 45.04-acre community park (45.04 acres improved and Central Park North 34.93 acres unimproved, resulting in 79.97 acres), 30 neighborhood parks (124.517 acres improved and 6.132 acres unimproved resulting in 130.649 acres), 13 mini parks (2.59 acres improved and 3.189 acres unimproved resulting in 5.779 acres), public open space (16.13 acres improved and 40.08 acres unimproved resulting in 56.21 acres), recreational facilities (23.898 acres improved and excluding the Santa Clara Golf and Tennis Club/BMX track), recreational trails (7.59 acres improved and 0.20 acres unimproved resulting in 7.79 acres), and joint use facilities (48.588 acres) throughout the City totaling approximately 268.354 improved acres and 84.531 unimproved acres. Community parks are over fifteen acres, neighborhood parks are one to fifteen acres and mini parks are typically less than one acre in size.

As discussed in chapter 12, Land Use and Planning, of this EIR, the Plan Area is in an area of the city primarily designated Light Industrial, with commercial and light industrial uses. The Plan Area does not currently contain parks or recreational facilities. None of the parks north of U.S. 101 is within a "ten minute walk" of the Plan Area.

[1] CEQA Guidelines, appendix G, items XVI(a and b).

The nearest City recreational facility is Youth Soccer Park, about .60 miles east of the Plan Area (by straight line; travel distance via roads would be longer because of the need to cross San Tomas Aquino Creek). The nearest City park is Fuller Street Park, located at 61 Fuller Street, less than one mile east of the Plan Area (by straight line; travel distance via roads would be longer because of the need to cross San Tomas Aquino Creek).

16.1.2 Regional Park and Recreational Facilities

The closest regional recreational facility is Baylands Park, about one mile north of the Plan Area and adjacent to SR 237. Baylands Park is a Santa Clara County Park operated by the City of Sunnyvale. The park offers biking and hiking opportunities and picnic and play areas. The park has over 105 acres of wetlands protected as a preserve. In addition, the Baylands Park Trail connects to the San Francisco Bay Trail.

Though not in Santa Clara, other nearby recreational opportunities include the John W. Christian Greenbelt located near the northwestern corner of the Plan Area. This greenbelt connects the Calabazas Creek bicycle-pedestrian trail with Sunnyvale and allows access to Sunnyvale parks such as nearby Fairwood Park and Lakewood Park.

There are no other regional facilities in the immediate vicinity of the Plan Area.

16.1.3 Bicycle and Pedestrian Facilities

(a) Bicycle Facilities. The City of Santa Clara General Plan classifies the City's bicycle infrastructure, according to Caltrans standards, by the following types of facilities:

- **Bicycle Paths and Trails (Class I):** Bicycle paths and trails are paved facilities designated for bicycle use that are physically separated from roadways by space or a physical barrier. These paths often accommodate pedestrians and include creek trails within the City.

- **Bicycle Lanes (Class II):** These facilities are lanes on the outside edge of roadways reserved for the exclusive use of bicycles, and are designated with special signage and pavement markings.

- **Bicycle Routes (Class III):** Roadways recommended for bicycle use and often connecting to bicycle lanes and bicycle paths are defined as bicycle routes. Routes are designated with signs only and may not include additional pavement width.

The City has a bicycle network of approximately 70 miles, including about 11 miles of Class I shared-use (pedestrian and bicycle) paths, 34 miles of Class II striped lanes on city streets (bicycle-only), and 25 miles of Class III routes where bicycles share an un-striped travel lane with motor vehicles. The General Plan does not include Class IV bicycle facilities (separated bikeway), and there are no Class IV bikeways in Santa Clara. However, according to Caltrans standards, Class IV separated bikeways are on-street bicycle facilities that are physically separated from motor vehicle traffic by a barrier or vertical element such as curbs, bollards, or vehicle parking aisles, and can allow for one- or two-way travel on one or both sides of the roadway.

Although there are bike lanes and bike paths/trails in the vicinity of the Plan Area, there are no marked bike lanes in the Plan Area itself (none on Patrick Henry Drive, Old Ironsides Drive, or Democracy Way). The City of Santa Clara Bicycle Master Plan Update includes in its list of proposed projects a Class IV separated bikeway on Patrick Henry Drive and Old Ironsides Drive, Great America Parkway/Bowers Avenue, and portions of Mission College Boulevard.[1]

(b) Pedestrian Facilities. Santa Clara has over 550 miles of sidewalks, with almost half in residential areas. In those residential areas, most of the sidewalks are on both sides of the street. About one-fifth (18 percent) of City streets lack any kind of sidewalk, especially on the eastern side of the city and in some of the industrialized and office-use areas.[2] As discussed in chapter 12, Land Use and Planning, of this EIR, pedestrian linkages in the Plan Area are limited.

Pedestrian pathways differ from traditional sidewalks in that they are off-street walkways dedicated for pedestrians and typically are located mid-block through development, public space, or parks, and provide connections between buildings or through parks or public space.

Trails are also typically off-street routes and in Santa Clara follow existing creeks and riverbeds, such as the San Tomas Aquino/Saratoga Creek Trail and Guadalupe River Trail. As discussed in the General Plan, public and quasi-public rights-of-way (including Valley Water, school district, and other public agency and public utility lands) could provide opportunities for other trails and/or connections between off-street routes in the City.

Also, as mentioned above, Class I bicycle paths are shared-use facilities; i.e., can accommodate pedestrian use.

In addition, the City is currently preparing the *Creek Trail Network Expansion Master Plan (Trail Master Plan),* which addresses the Saratoga Creek, Hetch Hetchy, and Calabazas Creek corridors. This Trail Master Plan includes possible locations for accessing the Calabazas Creek Trail from the Specific Plan Area: at Mission College Boulevard as it turns east away from the creek, and at the northwest corner of the Specific Plan Area where the proposed Hetch-Hetchy Trail would intersect the Calabazas Creek Trail.

16.2 REGULATORY SETTING

16.2.1 State

Quimby Act – California Code Section 66477. The Quimby Act was approved by the California legislature to set aside parkland and/or payment of fees due in lieu of parkland dedication to help mitigate the impacts from new residential developments. This legislation was initiated in response to California's increased rate of urbanization and the need to preserve open space and provide parks and recreation facilities for California's growing communities. The Quimby Act authorizes local governments to establish ordinances requiring developers of

[1]City of Santa Clara, Bicycle Plan Update 2018, Appendix C.

[2]City of Santa Clara, Pedestrian Master Plan 2019, p. 4.

new residential subdivisions to dedicate parkland, pay a fee in-lieu of parkland dedication, or perform a combination of the two at the discretion of the City.

Mitigation Fee Act. In 1989, the State Legislature passed Assembly Bill 1600 (AB1600), adding Section 66000 et seq. to the California Government Code (the "Mitigation Fee Act"), which sets forth requirements for local agencies to follow if they collect fees from developers to defray the cost of the construction of public facilities related to development projects. These legal requirements are frequently referred to as "AB 1600 requirements." Each local agency imposing such development impact fees must prepare an annual report providing specific information about these fees (i.e., a "nexus study") that shows the proper connection of the fees to the project and how accounting and reporting for the fees collected are regulated.

16.2.2 Regional/Local

Santa Clara County Parks 2018 Strategic Plan. The County Parks Strategic Plan identifies and prioritizes current and future outdoor recreation values and needs, and provides, protects, and preserves regional parklands and trails. Plan goals and strategies include collaboration with partner agencies, such as city park and recreation departments, but also promote the County's role in regional open space access and preservation as well as outdoor recreation opportunities.

Santa Clara Countywide Bicycle Plan. Developed by the Santa Clara Valley Transportation Authority, the Countywide Bicycle Plan establishes a vision for the future of bicycling throughout Santa Clara County and promotes connectivity among the cities and other County areas, including regionally significant bicycle projects and programs such as bicycle "superhighways," connections across barriers (e.g., freeways, waterways, railways), and education and safety.

Santa Clara General Plan. The General Plan addresses citywide recreational needs and the objectives necessary to achieve them. Applicable General Plan goals and policies include:

- Goal 5.9.1-G1: Ample facilities for physical activities that promote community health.
- Goal 5.9.1-G2: Parks, trails and open space located within a ten-minute walk to residential neighborhoods and employment centers.
- Goal 5.9.1-G3: New parks, open space and recreation provided with new development so that existing facilities are not overburdened.
- Goal 5.9.1-G4: Park, trail and open space facilities that are accessible and provide connections to destination points and activity centers within the City.
- Goal 5.9.2-G2: Appropriate arts, cultural, recreational, schools and other community facilities in concert with new development.
- Policy 5.1.1-P15: Prior to 2023, update the Bicycle and Pedestrian Master Plan to support the City's vision for improving walkability and pedestrian safety, including identification of potential funding opportunities for implementation.

- Policy 5.5.1-P17: Allow new parks and open space uses under any General Plan Land Use classification, except in areas designated as Light Industrial or Heavy Industrial, provided that the use is compatible with planned uses on neighboring properties, consistent with other applicable General Plan policies.

- Policy 5.5.2-P9: Improve pedestrian amenities, including sidewalks and bicycle paths, to promote neighborhood compatibility.

- Policy 5.8.4-P6: Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.

- Policy 5.8.4-P7: Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.

- Policy 5.8.4-P8: Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

- Policy 5.9.1-P1: Develop additional parkland in the City so that it is integrated into neighborhoods and meets the standards for size, amenities and location to serve residents and employees.

- Policy 5.9.1-P2: Develop new parks to serve the needs of the surrounding community based on the criteria defined on Table 5.9-1.

- Policy 5.9.1-P3: Provide trails along creeks and other rights-of-way to link parks, open spaces, bicycle facilities and transit services with residential neighborhoods and employment centers.

- Policy 5.9.1-P4: Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

- Policy 5.9.1-P5: Encourage public visibility for all parks, trails and open spaces.

- Policy 5.9.1-P6: Support construction of trails within the City of Santa Clara that connect to the Bay Trail, the Saratoga/San Tomas Aquino Creek and the Guadalupe River trails.

- Policy 5.9.1-P7: Allow new parks in the general locations shown on the Land Use Diagram in all General Plan designations, except in areas designated for Light and Heavy Industrial uses.

- Policy 5.9.1-P14: Encourage publicly accessible open space in new development.

- Policy 5.9.1-P16: Encourage non-residential development to contribute toward new park facilities to serve the needs of their employees.

- Policy 5.9.1-P17: Foster site design for new development so that building height and massing do not overshadow new parks and plazas.

- Policy 5.9.1-P18: Promote open space and recreation facilities in large-scale developments in order to meet a portion of the demand for parks generated by new development.

- Policy 5.9.2-P1: Provide a diverse range of community, art, cultural and recreational facilities to meet the varying needs of residents in the City, including youth and seniors.

Santa Clara City Code. City Code Chapter 17.35 (Park and Recreational Land) establishes requirements for new development to provide developed park and recreational land and/or pay a fee in lieu of parkland dedication pursuant to the State of California Quimby Act (Quimby) and/or the Mitigation Fee Act (MFA) to help mitigate the impacts of the new resident demand on existing parkland and recreational facilities. The City is meeting the standard of 3 acres per 1,000 residents and 2.60 acres per 1,000 residents per the MFA provisions of the City Code with regard to neighborhood parks.

City of Santa Clara Bicycle Plan Update 2018. The Bicycle Plan Update establishes the city's long-term vision for improving bicycling in Santa Clara and recommends policies, programs, and projects to develop a comprehensive bicycling network with access to transit, schools, and other destinations, as well as address the design of accessible facilities. The Plan also focuses on improving corridors and intersections to promote safety, connectivity, and comfort, plus providing amenities at "end-of-trip" destinations (such as short- and long-term bike parking, and lockers, showers, and repair stations). In addition, the Plan addresses the need for wayfinding and guide signs and other information and education programs that promote bicycling and walking as fun and efficient modes of transportation and recreation.

City of Santa Clara Pedestrian Master Plan 2019. The Pedestrian Master Plan establishes the framework for how the city can achieve its vision of being a walkable community and create safe, comfortable, accessible, and enjoyable walking opportunities for residents. The Plan identifies improvements to the pedestrian network, including designation of "Priority Pedestrian Zones" across the city (zones with the highest potential for increasing walkability), roadway crossings, traffic signals, and other environment enhancements such as shade structures and enclosures, benches, and trees and planters, that would make walking in Santa Clara safer and more comfortable. In addition, lighting on sidewalks and paths, bus stop amenities, improvements to navigation (wayfinding), opportunities for physical activity along routes, and building connectedness and destination accessibility are prioritized.

16.3 IMPACTS AND MITIGATION MEASURES

16.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to recreation if it would:

[1]CEQA Guidelines, appendix G, items XVI(a and b).

(a) Result in an increased use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

(b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

16.3.2 Relevant Patrick Henry Drive Specific Plan Components

Please see section 15.3.2, of the same title, in EIR chapter 15 (Public Services) for Specific Plan frameworks, standards, and guidelines particularly relevant to the evaluation of impacts on recreation.

16.3.3 Impacts and Mitigations

Impact 16-1: Impacts on Parks and Recreational Facilities. Implementation of the proposed projects totaling between 10,300 and 12,000 units would contribute to an increase in demand for parkland because the proposed projects would potentially add an additional 24,720 to 28,800 residents (U.S. Census Bureau, 2017 American Community Survey, Tables B25024 and B25033, per the August 27, 2019 "Park and Recreation Facilities Development Impact Fee Update Study") to the City. The increased population associated with the proposed project would contribute to the overuse of existing parks that would potentially lead to physical deterioration of park facilities and overcrowding. In addition, the proposed projects would require the City to add more parkland to the City's inventory in order to continue to meet the City's minimum parkland standard of 2.60 acres of parkland per 1,000 residents for Mitigation Fee Act (non-subdivided projects) and 3.0 acres of parkland per 1,000 residents for new subdivision under the Quimby Act.

Based on the City's minimum standards, the proposed projects combined would be estimated to require a total of 64 to 86 acres of parkland to serve the increased population. The projects in this area will include dedicated parkland, public open spaces, private open spaces, and amenities. The Parks and Recreation Department would apply credit for eligible park, recreation, and open spaces against the parkland dedication requirement. These credits would not be enough to satisfy the City's parkland dedication requirement. Therefore, to address the park needs of the proposed projects, avoid overuse of existing parks, and avoid a deficiency of parkland acreage in the City, the proposed projects would be required to also pay park in-lieu fees per City Code (Chapter 17.35) to provide for the balance of the necessary parkland to serve the increased population. However, as identified in section 4.5 in Chapter 4 (Relevant Patrick Henry Drive Specific Plan Components), the Specific Plan would require between approximately 7.01 and 8.09-acres of public parkland in the Plan Area.

The City ensures that a project meets its dedication requirements through the development review process. Parkland, as required, must be included as part of a project's "land use plan" with the location identified on the project property. A project that does not comply with the parkland dedication requirement would not be approved. In addition, the City requires that parkland be improved (i.e., "turn-key") and dedicated to the City. Therefore, mandatory, future development of public parks in the Specific Plan Area plus individual project payment of City adopted park in-lieu fees and/or dedication of parkland to the City in fee title and free of

encumbrances would ensure that impacts on parks and recreational facilities would ***less-than-significant*** (see criterion [a] in subsection 16.3.1, "Significance Criteria," above).

Mitigation 16-1. No significant impact has been identified; no mitigation is required. See "Construction Period Impacts" below.

Impact 16-2: Construction Period Impacts. No specific project development application has been advanced, and any future specific park or recreational facility proposal would be speculative at this time. However, construction of Plan-facilitated open space, parkland, and recreational facilities would be considered temporary and would occur within either existing public rights-of-way, City property, a project development site, or private property subject to a municipal easement. Construction period air emissions (dust), noise, and traffic interruption typically associated with parks and recreational facilities construction would be reduced through mandatory, uniformly applied City of Santa Clara construction standards and regulations, as well as mitigations already identified elsewhere in this EIR, which analyzes both operational and construction impacts. For instance, see EIR chapters 5 (Air Quality) for construction period dust control and air emissions reduction measures; 6 (Biological Resources) for ground-disturbance impacts on special status species and potential tree removal; 7 (Cultural and Historical Resources) for impacts on potentially historic structures and/or cultural resources; 8 (Geology and Soils) for erosion control measures and building code design standards; 9 (Greenhouse Gas Emissions/Energy) for GHG- and energy-reducing measures applicable to construction equipment; 10 (Hazards and Hazardous Materials) for potential construction-period hazardous materials use and transport and for potential hazardous waste sites; 11 (Hydrology and Water Quality) for construction-period storm water runoff provisions; and 13 (Noise) for construction-period noise control. No additional significant environmental impact is anticipated with such construction activity beyond those impacts and mitigations already identified in this EIR (see criterion [b] in subsection 16.3.1, "Significance Criteria," above).

Mitigation 16-2. No significant impact has been identified; no mitigation is required.

17. TRANSPORTATION

This EIR chapter addresses impacts of development under the Specific Plan on transportation operations for public transit, pedestrians, bicyclists, and autos relevant to CEQA requirements. The chapter identifies potential impacts of the Specific Plan and recommends mitigation measures for identified significant impacts associated with the two development scenarios and two road connection options (one with and one without a road) to connect the Plan Area to Mission College Boulevard. The Patrick Henry Drive Specific Plan and EIR transportation consultants, Hexagon Transportation Consultants, Inc., conducted the technical analysis for this EIR chapter.

17.1 SETTING

17.1.1 Specific Plan Area and Proposed Development

As described in chapter 3, Project Description, of this EIR, the Patrick Henry Drive Specific Plan Area[1] encompasses approximately 73.59 acres in an area of northern Santa Clara with several moderate-intensity office and industrial parks accompanied by surface parking. The Plan Area is bounded by the City of Sunnyvale and Calabazas Creek to the west, the Hetch Hetchy right-of-way to the north, Great America Parkway to the east, and Mission College to the south. The green and orange light rail lines on Tasman Drive are approximately a ten-minute walk from any portion of the Plan Area, and VTA bus service is available on Great America Parkway.

A local transportation analysis prepared by Hexagon[2] evaluated two development scenarios (described in more detail in chapter 3 of this EIR): Scenario A would include approximately 12,000 residential units and 310,000 square feet (SF) of non-residential uses; Scenario B would be almost the same as Scenario A but would substitute office for high-density residential in a "High Density Flex" zone along the east edge of the Plan Area, thereby reducing total residential development within the Plan Area by 1,700 units but adding 785,000 SF of office space.

In addition, as part of the proposed Specific Plan, a grid system of new Plan Area streets would be constructed to provide vehicular connections between parking garages and Patrick Henry Drive and Old Ironsides Drive. Three new street connections would be planned on Patrick Henry Drive, and two new street connections would be planned on Old Ironsides Drive. The Specific Plan also includes a road connection option that would connect the Plan Area to Mission College Boulevard. This option which would construct a road between Patrick Henry Drive in the southern part of the Plan Area. The Specific Plan also includes an option where no

[1]The words "project," "project site," "Specific Plan," "Specific Plan Area," and "Plan Area" as used in this chapter all refer to the Patrick Henry Drive Specific Plan and its corresponding Plan Area.

[2]Hexagon Transportation Consultants, Inc., "Patrick Henry Drive Specific Plan Transportation Analysis," prepared for MIG, Inc., April 5, 2021. The Hexagon Traffic Analysis (with appendices) is on file with the City of Santa Clara; the Hexagon report is also included as Appendix 25.6 of this EIR.

road connection is constructed. For this connection between Patrick Henry Drive and Mission College Boulevard, the Hexagon transportation analysis considered two different alignments (a "western alignment" and an "eastern alignment") but determined that the eastern alignment would fall too close to the intersection of another new street with Patrick Henry Drive so that vehicle movements would conflict at these two intersections. Also, because traffic volumes would increase closer to Great America Parkway ("farther east"), additional traffic movement conflicts would be expected for the eastern alignment. Thus, the western alignment was selected as the preferable choice between the two for a road connection, as shown on EIR Figure 3.6, Land Use Plan, in chapter 3, Project Description. This western alignment would be located on the O2Micro parcel. The Specific Plan "no road connection" option would mean that no road would be constructed on O2Micro's property or on the Mission College Campus; this option was also evaluated in the Hexagon transportation analysis.[1]

17.1.2 Scope of Traffic Analysis

The Hexagon traffic analysis was prepared to satisfy the requirements of the City of Santa Clara, the Congestion Management Program (CMP) of the Santa Clara Valley Transportation Authority (VTA), and the California Environmental Quality Act (CEQA). The City of Santa Clara and the VTA both require using the intersection levels of service (LOS) analysis methodology for operational analysis purposes, and the LOS study was prepared by Hexagon and included in Appendix 25.6. However, as of July 1, 2020, LOS is no longer allowed to be used in traffic impact analysis for CEQA review purposes. (Public Resources Code section 21099, subdivision (b)(2).) Instead, CEQA requires analysis of project vehicle miles traveled (VMT), pursuant to Senate Bill 743 (SB 743). CEQA Guidelines section 15064.3 (Determining the Significance of Transportation Impacts) provides the framework for the CEQA transportation impact analysis included in this chapter.

In addition to VMT, the traffic analysis addressed other CEQA transportation-related issues, including hazards, emergency access, and impacts on bicycle, pedestrian, and transit facilities, plus potential conflicts with any adopted program, plan, ordinance or policy addressing the circulation system (including transit, roadway, bicycle and pedestrian facilities), both with and without road connection included in the Draft Specific Plan. These are also discussed in this chapter.

17.1.3 Existing Transportation Network

This subsection describes transportation facilities in and near the Specific Plan Area, including the roadway network and pedestrian, bicycle, and transit facilities. Figure 17.1 (Active

[1]As described in section 17.1.2, while the Hexagon transportation analysis included the CEQA-required transportation issues, including VMT, hazards, emergency access, impacts on bicycle, pedestrian, and transit facilities, and potential conflicts with transportation programs, plans, etc., it also included, for separate use by the City, an analysis of road operations. This road operation analysis identified potential adverse effects on intersection operations resulting from anticipated Plan-facilitated traffic; Hexagon recommended measures that could improve conditions, as explained in detail in the Hexagon Traffic Analysis (Appendix 25.6 of this EIR). Evaluation of the proposed internal circulation of the Plan Area (the new streets), both with and without a connection between Patrick Henry Drive and Mission College Boulevard, was also included as part of the Hexagon analysis of roadway operations. However, the Hexagon analysis noted that these adverse effects do not constitute significant impacts under CEQA and are included in this chapter solely for information purposes.

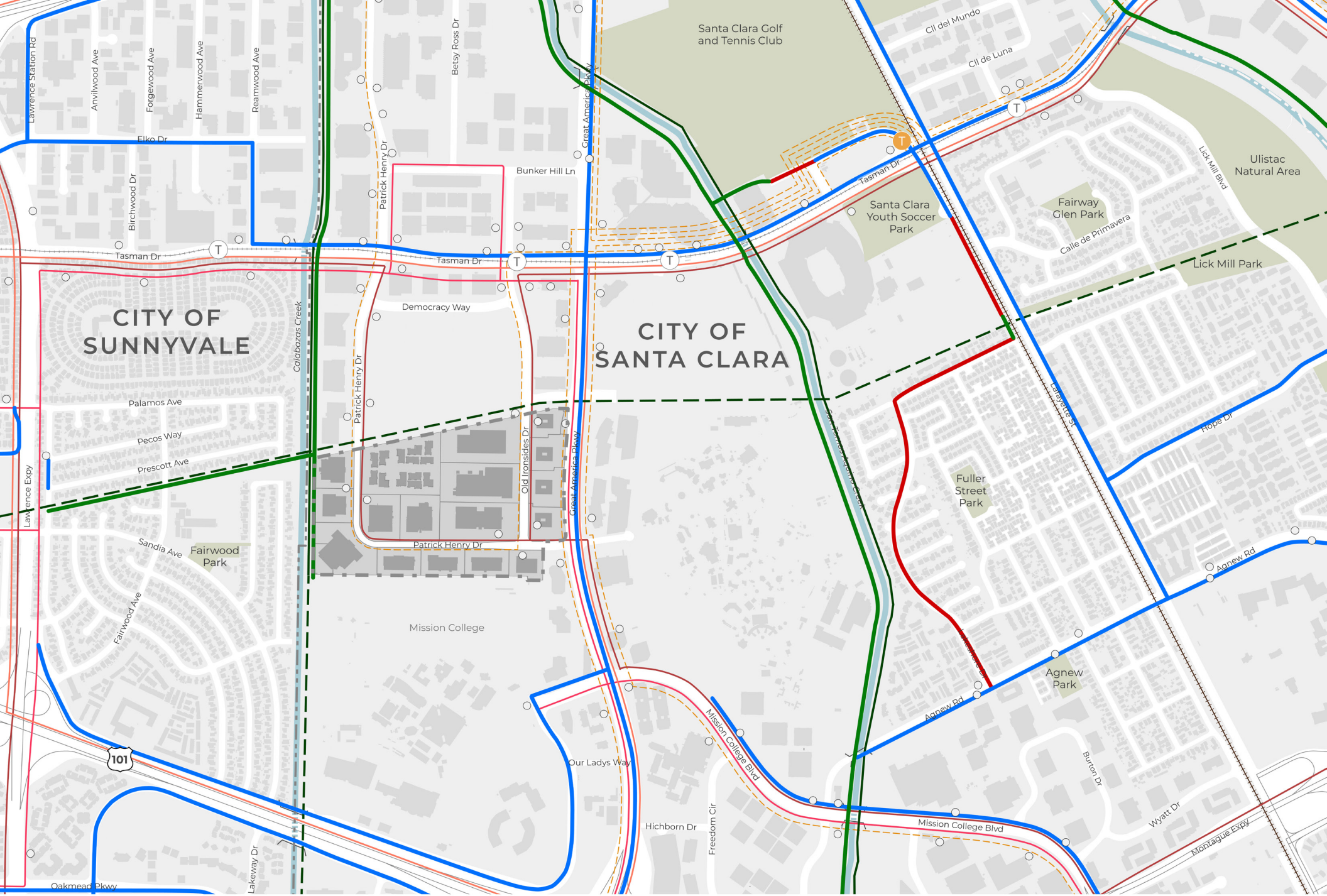

FIGURE 17.1: ACTIVE TRANSPORTATION NETWORK

Patrick Henry Drive Specific Plan

- Study Area Parcel
- City Boundary
- Park/Open Space
- Creeks/Water Bodies
- VTA Light Rail Line
- VTA Light Rail Stop
- ACE/Capitol Corridor
- ACE/Amtrak Station
- Local Bus Route
- Limited Bus Route
- Express Bus Route
- Bus Stop
- ACE Shuttle
- Class I - Paved Bike Lane
- Class II - On-Street Bike Lane
- Class III - Shared Bike Lane
- Trail
- Proposed Trail

N

0 750 1,500 3,000 Feet

Transportation Network) shows roadways, transit routes, and bike paths in the Plan Area and vicinity.

(a) Roadway Network. Regional access to the project area is provided via U.S. 101 and State Route (SR) 237.

U.S. 101 is an eight-lane freeway with three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction in the vicinity of the site. It extends north through San Francisco and south through Gilroy. Regional access to the project site is provided via its interchanges with Great America Parkway and Lawrence Expressway.

SR 237 is a four-lane to six-lane freeway within the vicinity of the site that extends west to El Camino Real and east to I-880 in Milpitas. East of Mathilda Avenue, SR 237 has two mixed-flow lanes and one HOV lane in each direction. West of Mathilda Avenue, SR 237 has two mixed-flow lanes in each direction. SR 237 provides access to the site via its interchanges at Great America Parkway and Lawrence Expressway.

Major roadways serving the Plan Area include Lawrence Expressway, Montague Expressway, Great America Parkway, Bowers Avenue, Mission College Boulevard, and Tasman Drive. Local roads serving the Plan Area include Patrick Henry Drive, Old Ironside Drive, and Old Glory Lane.

Lawrence Expressway is a north-south, eight-lane expressway with a raised median and a posted speed limit of 50 mph. It begins at Saratoga Avenue in the south, crosses through Sunnyvale, and extends northward where it transitions into Caribbean Drive at SR 237. HOV lanes are present on Lawrence Expressway between Stevens Creek Boulevard and Arques Avenue. Lawrence Expressway connects with U.S. 101 and SR 237 via full-access freeway interchanges. Lawrence Expressway includes sidewalks along both sides on most segments and crosswalks at signalized intersections. There are no bike lanes on Lawrence Expressway, but bikes are allowed to ride on the shoulders.

Montague Expressway is an east-west expressway that begins at U.S. 101 and extends northeastward to Milpitas where it transitions into Landess Avenue at I-680. Full interchanges are located at I-680, I-880, and U.S. 101. Montague Expressway transitions to San Tomas Expressway at U.S. 101. West of McCarthy Boulevard, Montague Expressway has carpool lanes (i.e., HOV lanes). The HOV lane designation is in effect in both directions of travel during the AM and PM peak commute hours. During other times, the lane is open to all users.

Central Expressway is a six-lane east-west expressway that begins at De La Cruz Boulevard and extends westward to San Antonio Road where it transitions into Alma Street in Mountain View. East of San Tomas Expressway, Central Expressway has HOV lanes. It has a posted speed limit of 50 miles per hour (mph).

Great America Parkway is a north-south thoroughfare that begins at U.S. 101 and extends northward to SR 237. Full interchanges are located at both U.S. 101 and SR 237. Great America Parkway is primarily a six-lane roadway with a raised median and a posted speed limit of 40 mph. There is an additional northbound lane between Tasman Drive and U.S. 101. Bike lanes are present along both directions of the roadway and on-street parking is not permitted. There are sidewalks on both sides of the street for the whole length of the roadway. Great

America Parkway serves the east boundary of the Specific Plan Area and provides access to and from the project site via its intersections with Patrick Henry Drive and Old Glory Lane.

Bowers Avenue is a six-lane north-south street north of Kifer Road, and a four-lane street south of Kifer Road. It transitions from Great America Parkway north of U.S. 101 and extends southerly to El Camino Real, where it transitions to Kiely Boulevard. Bowers Avenue has a speed limit of 35 mph. Bike lanes exist along most of Bowers Avenue except between Central Expressway and Kifer Road.

Tasman Drive is an east-west, two-lane to four-lane roadway with a posted speed limit of 40 mph in the project vicinity. Tasman Drive begins at Morse Avenue in the west and extends east past I-880 and transitions into Great Mall Parkway. The VTA Light Rail tracks are present in the middle of Tasman Drive east of Fair Oaks Avenue. Tasman Drive includes sidewalks along most segments and crosswalks at signalized intersections. Bike routes or lanes are provided.

Mission College Boulevard to the west of Great America Parkway is a loop road circumnavigating Mission College and the Mercado Shopping Center. The eastern portion of Mission College Boulevard is a four-lane east-west thoroughfare, running between Great America Parkway and Montague Expressway.

Old Glory Lane serves as the primary entrance to the Great America Amusement Park east of Great America Parkway. West of Great America Parkway, Old Glory Lane is a two-lane roadway with a raised center median that connects to Old Ironsides Drive. Old Glory Lane and the Hetch Hetchy right-of-way form the northern boundary of the Plan Area.

Old Ironsides Drive is a two-lane roadway with a center two-way left-turn lane that runs between Tasman Drive and Patrick Henry Drive. Old Ironsides Drive provides direct access to and from the Plan Area. On-street parking is prohibited along Old Ironsides Drive. The speed limit on Old Ironsides Drive is 25 mph.

Patrick Henry Drive is a two-lane roadway with a center two-way left-turn lane that runs between Tasman Drive and Great America Parkway. The speed limit on Patrick Henry Drive is 25 mph. On-street parking is prohibited. Between Great America Parkway and Old Ironsides Drive, sidewalks are available on both sides of Patrick Henry Drive. West of Old Ironsides Drive, sidewalks are available on the west and south sides of the roadway and only a small section on the north side of the road. Patrick Henry Drive runs through the Plan Area and provides direct access to and from the development in the Plan Area.

(b) Pedestrian Facilities. Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the Plan Area or immediate vicinity, sidewalks and separated pedestrian walkways are provided on the following roadways:

- Both sides of Patrick Henry Drive between Great America Parkway and Old Ironsides Drive;
- South and west sides of Patrick Henry Drive between Old Ironsides Drive and Democracy Way;
- Both sides of Patrick Henry Drive between Democracy Way and Tasman Drive;
- North side of Patrick Henry Drive for a small section west of Old Ironsides Drive;
- East side of Old Ironsides Drive between Patrick Henry Drive and Tasman Drive;
- West side of Old Ironsides Drive, north of Patrick Henry Drive for approximately 700 feet;

- Both sides of Old Glory Lane between Great America Parkway and Old Ironsides Drive;
- Both sides of Mission College Boulevard;
- One or both sides of the Mission College Boulevard Loop (varies);
- Both sides of Great America Parkway;
- Both sides of Tasman Drive; and
- Both sides of Freedom Circle.

Crosswalks are provided at the following intersections in the Plan Area or immediate vicinity:

- Old Ironsides Drive and Patrick Henry Drive;
- Great America Parkway and Patrick Henry Drive;
- Old Ironsides Drive and Old Glory Lane;
- Great America Parkway and Old Glory Lane;
- Old Ironsides Drive and Democracy Way;
- Old Ironsides Drive and Tasman Drive;
- Patrick Henry Drive and Tasman Drive;
- Patrick Henry Drive and Democracy Way; and
- Midblock on Patrick Henry Drive.

All crosswalks at signalized intersections include pedestrian signal heads and push buttons. However, at some intersections the existing pedestrian transition does not comply with Americans with Disabilities Act (ADA) guidelines.

In addition, pedestrians are permitted to use the shared-use paths, such as the Calabazas Creek Trail, which is immediately adjacent to the western edge of the Plan Area, as well as other trails described below.

(c) Bicycle Facilities. Bicycle facilities that exist in the vicinity of the Plan Area include multi-use trails/paths (Class I bikeway), striped bike lanes (Class II bikeway), and shared bike routes (Class III bikeway).

Class I Trail or Path is an off-street path with exclusive right-of-way for non-motorized transportation used for commuting as well as recreation.

The San Tomas Aquino Creek trail extends from Sunnyvale Baylands Park, north of SR 237, southward to San Tomas Expressway, where it connects to a bike path along the west side of San Tomas Expressway north of Cabrillo Avenue and extends southward to Homestead Road. The trail connects to bike lanes on Great America Parkway, Tasman Drive, and Mission College Boulevard.

The Calabazas Creek Trail connects Mountain View-Alviso Road to Mission College and passes near Levi's Stadium. This trail can be accessed via Tasman Drive or Mission College Boulevard. (Though the Calabazas Creek Trail runs directly adjacent to the western edge of the Plan Area, the Plan Area does not have a direct connection to the trail.) A pedestrian/bike bridge connects the Calabazas Creek Trail with the John W. Christian Greenbelt near the northwestern corner of the Plan Area.

The John W. Christian Greenbelt is a shared-use path that extends from the Calabazas Creek Trail westward into Sunnyvale to Blazingwood Drive near the Lawrence Expressway/Lakehaven Drive/Sandia Avenue intersection.

The Guadalupe River Trail is located approximately two miles east of the Plan Area. The northern segment of this trail begins at Gold Street in Alviso and connects to the SR 237 Bikeway. Continuing south, the trail passes beneath most roadways, including SR 237, U.S. 101, and I-880, and connects to downtown San José. The trail can be accessed via the bike lanes on Tasman Drive, via a pathway from Lick Mill Boulevard through Thamien Park, and from Montague Expressway.

The Baylands Park Trail is located north of the Specific Plan Area and runs from the Baylands Park in Sunnyvale parallel to SR 237. It serves as the northern trailhead for some of the South Bay's major "north-to-south" trails, including the Calabazas Creek Trail, San Tomas Aquino Creek Trail, and Guadalupe River Trail.

Class II Bike Lanes are lanes on roadways designated for use by bicycles with special lane markings. Within a one-mile radius of the Plan Area, striped bike lanes are present along the following roadway segments:

- Great America Parkway, south of Great America Way (except for a small segment just north and south of Mission College Boulevard);
- Tasman Drive, east of Patrick Henry Drive and west of Calabazas Creek Trail;
- Mission College Boulevard, from Montague Expressway to west of Great America Parkway at Marriott Driveway;
- Mission College Boulevard Loop south of the intersection at Mission College Boulevard;
- Bowers Avenue, from Chromite Drive extending onto Great America Parkway;
- Lafayette Street, from Gold Street Connector to Agnew Road;
- Old Mountain View-Alviso/Lawrence Station Road, from Elko Drive to Great America Parkway;
- Agnew Road, from San Tomas Aquino Creek Trail to Montague Expressway;
- Elko Drive, from Reamwood Avenue to Lawrence Expressway;
- Reamwood Avenue, from Tasman Drive to Elko Drive;
- Scott Boulevard, from Monroe Street to Arques Avenue;
- Lakeside Drive, from Scott Boulevard to Arques Avenue;
- Oakmead Parkway, from Central Expressway to Lawrence Expressway;
- Octavius Drive, from Scott Boulevard to Montgomery Drive;
- Hope Drive, from Lafayette Street to Lick Mill Boulevard;
- N. First Street, from Liberty Street to Charcot Avenue; and
- River Oaks Parkway, from Guadalupe River Trail to Montague Expressway.

Class III Bike Routes are streets designated for bike travel and shared with motor vehicles. Within a one-mile radius of the Plan Area, bike routes are present along the following roadway segment:

- Great America Way, from Great America Parkway to Lafayette Street.

Bicycles are also permitted on Central Expressway, Lawrence Expressway, and Montague Expressway. However, due to high speeds and traffic volumes, the expressways are recommended for use only by bicyclists of intermediate to advanced skills.

(d) Transit Facilities. Existing transit services serving the Plan Area are provided by the VTA, the San Joaquin Regional Rail Commission (SJRRC), and the Capitol Corridor Joint Powers Authority. The following discussion of the project accessibility via transit is based on transit service as of February 2020, prior to reductions in transit service that have occurred since the COVID-19 pandemic.

The VTA provides scheduled bus and light rail transit (LRT) routes through Santa Clara County. In the vicinity of the Plan Area, VTA provides rapid and local bus services as well as LRT service. VTA bus service near the Plan Area is provided along Tasman Drive, Great America Parkway, Lawrence Expressway, Mission College Boulevard, and Agnew Road. The closest VTA bus stops are located on Tasman Drive, Great America Parkway, and Mission College Boulevard. VTA LRT service includes the Mountain View-Alum Rock (Orange) LRT line and the Winchester-Old Ironsides (Green) LRT line, which run along Tasman Drive in the project vicinity. Old Ironsides and Great America Stations are the LRT stops nearest the Plan Area.

The SJRRC manages the Altamont Corridor Express (ACE) commuter rail service between the Central Valley and Silicon Valley with a shuttle that connects the Plan Area to the Great America Transit Station. There are several bus stops served by an ACE shuttle along Patrick Henry Drive, Old Ironsides Drive, Tasman Drive, and Great America Parkway in the immediate vicinity of the Plan Area. The Capitol Corridor Joint Powers Authority also operates passenger train service (Amtrak) between San José and Sacramento and the foothills of the Sierra Nevada with stops at the Great America Transit Station.

Although not within walking distance of the Plan Area, commuters to the Plan Area also use Caltrain, which provides commuter rail service from San Francisco in the north through San Mateo County to Santa Clara County in the south. Commuters to the Plan Area can access the Sunnyvale and Santa Clara Caltrain Stations, which are located approximately five miles from the Plan Area, via VTA bus routes or a Caltrain shuttle.

Transit services within walking distance (½ mile) of the Plan Area are described below:

- Mountain View-Alum Rock (Orange) LRT line provides service with headways of 10 to 20 minutes during peak hours between Mountain View station and Alum Rock station.

- Winchester-Old Ironsides (Green) LRT line provides service with headways of 10 to 20 minutes during peak hours between Winchester Station and Old Ironsides Station.

- VTA Route 20 is a local route, which provides service with headways of 15 minutes during peak hours and 30 minutes during non-peak hours between Milpitas BART station and Sunnyvale Transit Center via Agnew Road near the project site.

- VTA Route 55 is a local route, which provides service with headways of 30 minutes between Old Ironsides Station and De Anza College via Lawrence Expressway near the project site.

- VTA Route 57 is a rapid route, which provides service with headways of 15 minutes between Old Ironsides Station and West Valley College via Great America Parkway near the project site.

- VTA Route 59 is a local route, which provides service with headways of 30 minutes between Valley Fair and Baypointe station via Great America Parkway near the project site.

17.2 REGULATORY SETTING

17.2.1 State

California Department of Transportation. The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining all State-owned roadways in Santa Clara County. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the State highway system within the City of Santa Clara need to be approved by Caltrans. The City of Santa Clara does not have the jurisdictional authority to unilaterally make improvements to the State highway system.

17.2.2 Regional

Santa Clara Valley Transportation Authority Congestion Management Plan. The Santa Clara Valley Transportation Authority (VTA) provides sustainable, accessible, community-focused transportation options in the Santa Clara region. The VTA is also the county's congestion management agency, responsible for countywide and regional transportation planning and programming, such as developing, implementing, and monitoring the Congestion Management Plan (which links transportation and land use planning within Santa Clara County); design and construction of specific highway, pedestrian, and bicycle improvement projects; transit planning, construction, and service; and promotion of transit oriented development.

17.2.3 Local

Santa Clara General Plan. The General Plan addresses citywide transportation and circulation needs (including transit provisions and facilities for pedestrians and bicyclists) and the objectives necessary to achieve them. Applicable General Plan goals and policies include:

- Policy 5.3.1-P13: Support high density and intensity development within a quarter-mile of transit hubs and stations and along transit corridors.

- Policy 5.3.1-P14: Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development greater than 25 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the [Climate Action Plan] CAP.

- Policy 5.3.1-P16: Consolidate curb cuts with new development on arterial roadways to minimize pedestrian/vehicle conflicts at driveway locations and improve traffic flow.

- Policy 5.5.2-P9: Improve pedestrian amenities, including sidewalks and bicycle paths, to promote neighborhood compatibility.

- Goal 5.8.1-G2: Transportation networks that provide a safe, efficient, convenient and integrated system to move people and goods.

- Goal 5.8.1-G3: Transportation networks that promote a reduction in the use of personal vehicles and vehicle miles traveled.

- Policy 5.8.1-P1: Create accessible transportation network systems to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

- Policy 5.8.1-P2: Link all City transportation networks, including pedestrian and bicycle circulation, to existing and planned regional networks.

- Goal 5.8.2-G3: A roadway network designed to accommodate alternate transportation modes in addition to vehicles.

- Policy 5.8.2-P12: Coordinate transportation planning with emergency service providers to ensure continued emergency service operations and services.

- Policy 5.8.4-P6: Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.

- Policy 5.8.4-P8: Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

- Goal 5.8.5-G1: Transportation demand management programs for all new development in order to decrease vehicle miles traveled and single occupant vehicle use.

- Policy 5.8.5-P2: Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.

- Policy 5.8.5-P3: Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.

- Policy 5.8.5-P4: Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/Walsh Shuttle services.

- Policy 5.8.5-P5: Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.

- Policy 5.8.5-P6: Encourage transportation demand management programs that include shared bicycle and autos for part-time use by employees and residents to reduce the need for personal vehicles.

- Policy 5.8.5-P7: Promote programs that reduce peak hour trips, such as flexible work hours, telecommuting, home-based businesses and off-site business centers, and encourage businesses to provide alternate, off-peak hours for operations.

- Policy 5.8.5-P9: Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities.

- Policy 5.9.1-P4: Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

- Policy 5.9.3-P5: Maintain emergency traffic preemption controls for traffic signals.

City of Santa Clara Bicycle Plan Update 2018. The Bicycle Plan Update establishes the city's long-term vision for improving bicycling in Santa Clara and recommends policies, programs, and projects to develop a comprehensive bicycling network with access to transit, schools, and other destinations, as well as address the design of accessible facilities. The Plan also focuses on improving corridors and intersections to promote safety, connectivity, and comfort, plus providing amenities at "end-of-trip" destinations (such as short- and long-term bike parking, and lockers, showers, and repair stations).

City of Santa Clara Pedestrian Master Plan 2019. The Pedestrian Master Plan establishes the framework for how the city can achieve its vision of being a walkable community and create safe, comfortable, accessible, and enjoyable walking opportunities for residents. The Plan identifies improvements to the pedestrian network, including designation of "Priority Pedestrian Zones" across the city (zones with the highest potential for increasing walkability), roadway crossings, traffic signals, and other environment enhancements such as shade structures and enclosures, benches, and trees and planters, that would make walking in Santa Clara safer and more comfortable. In addition, lighting on sidewalks and paths, bus stop amenities, improvements to navigation (wayfinding), opportunities for physical activity along routes, and building connectedness and destination accessibility are prioritized.

17.3 IMPACTS AND MITIGATION MEASURES

17.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would have a significant impact related to transportation if it would:

(a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities;

[1]CEQA Guidelines, appendix G, items XVII (a) through (d).

(b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);

(c) Substantially increase hazards due to geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or

(d) Result in inadequate emergency access.

17.3.2 Relevant Specific Plan Components

Specific Plan chapter 5 (Design Guidelines), section 5.1 (Travel Ways) includes components that would avoid or reduce potential impacts on transportation. Additional details are provided in Specific Plan chapter 5, which, along with the entire Specific Plan, is incorporated by reference into the EIR. The overarching multimodal transportation goals for the Specific Plan Area include the following:

- Create a system of safe, interconnected travel ways for all modes.
- Promote walking and biking.
- Facilitate resident and employee access to and from the PHD Specific Plan Area via transit.
- Promote slow vehicle speeds in residential neighborhoods.
- Improve connections to destinations within and near the PHD Specific Plan Area.
- Provide universal access for all ages and abilities.
- Facilitate provision of emergency services.
- Accommodate emerging transportation and micro-mobility modes.
- Prioritize use of curb space for multi-function and high turnover purposes.

17.3.3 Impacts and Mitigation Measures

Impact 17-1: Impacts Related to Vehicle Miles Traveled; Conflict With Adopted Policies, Plans, or Programs Regarding Roadways. Traffic impacts under CEQA have traditionally been assessed based on increases in intersection delay measured by Level of Service (LOS). However, in 2013, Governor Brown signed Senate Bill 743, which directed the State Office of Planning and Research (OPR) to develop new California Environmental Quality Act (CEQA) guidelines to replace LOS with another measure for evaluating transportation impacts under CEQA. OPR recommended using Vehicle Miles Traveled (VMT), which measures the amount of vehicle trip making and trip length and is a direct measurement of greenhouse gas emissions.[1] In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update and VMT approach. CEQA Guidelines section 15064.3

[1]A reduction in VMT would promote (1) the reduction of greenhouse gas emissions, (2) the development of multimodal transportation networks, and (3) a diversity of land uses that reduces the reliance on individual vehicles.

(Determining the Significance of Transportation Impacts) provides the framework for CEQA transportation analyses.

The City of Santa Clara recently adopted a VMT Transportation Analysis Policy for Environmental Review,[1] which constitutes the City transportation policy, to align with State law and define City transportation analysis requirements for CEQA review purposes. The Policy sets forth screening criteria for certain types of development that are presumed to have a less-than-significant impact on VMT due to their characteristics, such as infill development, small projects, and/or transit supportive projects near major transit corridors. The Patrick Henry Drive Specific Plan qualifies as a transit supportive project because it meets the criteria established by the City related to proximity to transit, density, multimodal transportation networks, transit-oriented design elements, parking, and affordable housing, as discussed below.

Proximity to Transit. Transit supportive projects must be located within ½ mile of an existing Major Transit Stop[2] or an existing transit stop along a High-Quality Transit Corridor,[3] as those terms are defined by Public Resources Code sections 21064.3 and 21155. Several parcels in the Plan Area are within ½ mile of the Old Ironsides LRT station, which meets the definition of a Major Transit Stop. In addition, VTA provides frequent bus service via Route 57, which runs along Great America Parkway, and meets the definition of a High-Quality Transit Corridor. All parcels in the Plan Area are within ½ mile of the nearest Route 57 bus stops on Great America Parkway at either Patrick Henry Drive or Old Glory Lane.

Density. For office/R&D projects, transit supportive projects must have a minimum floor area ratio (FAR) of 0.75. Similarly, residential projects must have a minimum density of 35 dwelling units per acre (DU/ac). Residential densities within the Plan Area are proposed to range from a minimum of 65 DU/ac to a maximum of 250 DU/ac. Under Scenario A, flex space would be permitted in addition to proposed residential and community-oriented development. Under Scenario B, 785,000 square feet of office space would be allowed on a 9.86-acre parcel, in place of the residential use designated on that parcel under Scenario A. The office development on this parcel would have an FAR of approximately 1.83. Thus, development densities permitted within the Plan Area would meet the minimum requirements to be considered a transit supportive project.

Multimodal Transportation Networks. City Policy requires that transit supportive projects promote multimodal transportation networks. The Specific Plan would provide balanced, multimodal internal circulation as well as convenient access to nearby destinations and transit

[1]City of Santa Clara, Resolution No. 20-8861, "A Resolution of the City of Santa Clara, California to Amend Resolution 5713 to Adopt a Transportation Analysis Policy to Comply with the California Environmental Quality Act Pursuant to State Senate Bill 743 (2013) and CEQA Guidelines Section 15064.3," adopted June 23, 2020.

[2]"Major transit stop" means a site containing any of the following: (a) an existing rail or bus rapid transit station; (b) the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods; or (c) a major transit stop that is included in Plan Bay Area 2040. Pub. Res. Code §§ 21064.3, 21155(b).

[3]"High-Quality Transit Corridor" means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. Pub. Res. Code § 21155(b).

stations. The Specific Plan would include the following policies to support safe, active, and sustainable travel options for residents and visitors:

- Prioritize the comfort and safety for pedestrians and cyclists;
- Retrofit the right-of-way to accommodate all travel modes including walking, cycling, driving, micro-mobility, and transit;
- Support access to transit stops on Tasman Drive and Great America Parkway;
- Improve infrastructure for pedestrians, cyclists, and micro-mobility (e.g., scooters) to mitigate the impact of urban-scale development on traffic congestion;
- Improve connections to the Calabazas Creek Trail and other trails and greenways;
- Design flexible street environments that allow for innovative transit and ride-share options (e.g., jitneys) as well as emerging technology (e.g., autonomous vehicles);
- Use Transportation Demand Management (TDM) strategies in partnership with area employers and property owners to minimize vehicle miles traveled;
- Limit vehicle parking spaces for residences and businesses; and
- Reduce carbon emissions from transportation.

Transit-Oriented Design Elements. Transit supportive projects would be required to include transit-oriented design elements. The Specific Plan proposes design guidelines and standards to ensure a pedestrian-oriented, mixed-use residential neighborhood that is walkable, with convenient connections to transit. The following urban design principles would ensure the Specific Plan is a transit-oriented development:

- Create a human-scaled public realm with a distinctly urban feel;
- Enliven the street environment and create multi-use activity nodes;
- Prioritize the safety and comfort of pedestrians of all ages and abilities;
- Create a fine-grained network of pedestrian paths;
- Use landscaping to create a comfortable pedestrian realm and contribute color and depth; and
- Use signage appropriate in scale and orientation to the primary audience (i.e., pedestrians versus motorists).

Parking. Transit supportive projects may not include more parking for use by residents, customers, or employees than required by the City Code. Because no specific development applications have been submitted for consideration under the Specific Plan, the proposed on-site parking supply is not known. However, the Specific Plan would not require parking at a higher rate than code requirements in effect in other areas, and therefore, it is assumed that future development in the Plan Area would not include excess parking and would qualify as transit supportive under this metric. Future development proposals would undergo City review, and any applications proposing excess parking would not qualify as transit supportive and would then be subject to separate evaluation of their potential impacts on VMT.

Affordable Housing. Affordable housing has been shown to generate fewer vehicle miles traveled per capita than market rate housing. City VMT Policy states that transit supportive projects must not replace affordable residential units with fewer affordable units. In addition, any replacement units are required to maintain the same level of affordability. Currently, the Specific Plan Area does not contain any residential dwelling units. The Specific Plan proposes 15 percent of new residential dwelling units to be affordable to those earning less than 80

percent of the Area Median Income (AMI). Therefore, the Specific Plan would ***add*** new affordable dwelling units and not result in a loss of affordable units.

The previous City-identified topics related to "transit-supportive" projects have been discussed in the Specific Plan and in the policy evaluation that follows—i.e., proximity to transit, proposed density in the Plan Area, features to strengthen multimodal connections, transit-oriented design elements, requirements for parking, and affordable housing policies. The proximity to transit and the projected reduction in trips associated with mixed-use developments (where both the origin and destination are in the development and therefore do not create "off-site" or "external" trips) would generally result in residents generating fewer single-occupancy vehicle trips than for residents in projects that are not "transit-supportive." In addition, Specific Plan Chapter 7 (Implementation Plan) discusses transportation demand management (TDM) measures, such as providing both short- and long-term bicycle parking in convenient, secure and prominent locations in each building; providing information about transit options and passes; distributing transportation news and commuter alerts; and providing information to residents (through links to appropriate websites, apps and other resources like "511"); and assisting with rideshare matching, which would also reduce single-occupancy vehicle trips and VMT. Therefore, because the Patrick Henry Drive Specific Plan qualifies as a transit supportive project (per State guidance[1] and City VMT Policy), the Specific Plan would have a less-than-significant impact on VMT.

In addition, the Specific Plan would be substantially consistent with General Plan policies regarding transportation (see section 17.2, Regulatory Setting), although there could be some potential conflicts as the details of site-specific projects are proposed over time:

- Policy 5.3.1-P13: Support high density and intensity development within a quarter-mile of transit hubs and stations and along transit corridors.

  No conflict. The Specific Plan is designed for high-density/intensity development and the Plan Area is roughly a quarter-mile from Old Ironsides LRT station, a Major Transit Stop. In addition, the eastern border of the Plan Area is adjacent to Great America Parkway, a High-Quality Transit Corridor, and therefore within a quarter-mile of a transit corridor.

- Policy 5.3.1-P14: Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development greater than 25 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the [Climate Action Plan] CAP.

  No conflict. Approval of the Specific Plan would include Transportation Demand Management strategies and goals to be applied to individual development projects, such as transit subsidy passes, employer rideshare assistance, transit and bicycle subsidies, emergency ride home services, telecommute/flex commute options, car- and bike-sharing solutions, consistent with the City's climate action plan.

[1]State of California, Office of Planning and Research, "Technical Advisory on Evaluating Transportation Impacts in CEQA", December 2018.

- Policy 5.3.1-P16: Consolidate curb cuts with new development on arterial roadways to minimize pedestrian/vehicle conflicts at driveway locations and improve traffic flow.

  No conflict. The Specific Plan would include standards related to use of curb cuts and driveways along the pedestrian zone to minimize impacts on pedestrian movement and to improve the overall quality of the pedestrian environment.

- Policy 5.5.2-P9: Improve pedestrian amenities, including sidewalks and bicycle paths, to promote neighborhood compatibility.

  No conflict. The Specific Plan would include new and improved pedestrian and bicycle connections, trails, and public parks with links to neighborhoods and would enhance connections to nearby amenities and recreation destinations through creative use of plazas and pathways.

- Goal 5.8.1-G2: Transportation networks that provide a safe, efficient, convenient and integrated system to move people and goods.

  No conflict. The Specific Plan would foster strong connectivity, access, and circulation for a mix of travel modes, including walking, cycling, driving, and transit.

- Goal 5.8.1-G3: Transportation networks that promote a reduction in the use of personal vehicles and vehicle miles traveled.

  No conflict. The Specific Plan would foster strong connectivity, access, and circulation for a mix of travel modes, including walking, cycling, driving, and transit; in addition, Transportation Demand Management strategies and goals would be applied to individual development projects to reduce personal vehicle use and vehicle miles traveled.

- Policy 5.8.1-P1: Create accessible transportation network systems to meet the needs of all segments of the population, including youth, seniors, persons with disabilities and low-income households.

  No conflict. The Specific Plan would include infrastructure and pedestrian amenities designed to augment safety for pedestrians of all ages and abilities, with safety improvements such as pedestrian zones, and would facilitate slow vehicle speeds on streets in residential neighborhoods.

- Policy 5.8.1-P2: Link all City transportation networks, including pedestrian and bicycle circulation, to existing and planned regional networks.

  No conflict. The Specific Plan would provide connections to all forms of transportation in the vicinity of the Plan Area, including pedestrian and bicycle facilities, local and regional roadways, and transit.

- Goal 5.8.2-G3: A roadway network designed to accommodate alternate transportation modes in addition to vehicles.

No conflict. The Specific Plan would foster strong connectivity, access, and circulation for a mix of travel modes through design standards and guidelines that support all travel modes, including walking, cycling, transit, micro-mobility, and driving. In addition, the Specific Plan would accommodate rideshare, shuttle, and emerging and evolving transportation modes.

- Policy 5.8.2-P12: Coordinate transportation planning with emergency service providers to ensure continued emergency service operations and services.

  No conflict. Approval of the Specific Plan and future development proposed under the Specific Plan would include review of circulation provisions by City planning and emergency service provider staff.

- Policy 5.8.4-P6: Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.

  No conflict. The Specific Plan would include an internal circulation design that connects to all forms of transportation in the vicinity of the Plan Area, including pedestrian and bicycle facilities and transit.

- Policy 5.8.4-P8: Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.

  No conflict. The Specific Plan includes guidelines for sidewalk and landscaping design to coordinate pedestrian zones and bicycle facilities.

- Goal 5.8.5-G1: Transportation demand management programs for all new development in order to decrease vehicle miles traveled and single occupant vehicle use.

  No conflict. Approval of the Specific Plan would include Transportation Demand Management strategies and goals to be applied to individual development projects.

- Policy 5.8.5-P2: Require development to offer on-site services, such as ATMs, dry cleaning, exercise rooms, cafeterias and concierge services, to reduce daytime trips.

  Potential conflict. *Approval of the Specific Plan would support ground-floor retail, flex space, and community space to be used as an active place of commerce, outdoor dining, informal food kiosks, etc.; however, although Plan Area services would be encouraged, specific uses would depend on the type of future individual projects proposed.*

- Policy 5.8.5-P3: Encourage all new development to provide on-site bicycle facilities and pedestrian circulation.

  No conflict. The Specific Plan would provide for bicycle parking and locker facilities to be included on development sites in the Plan Area.

- Policy 5.8.5-P4: Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle and Lawrence Caltrain Bowers/Walsh Shuttle services.

  No conflict. Approval of the Specific Plan would include guidelines and design standards formulated to promote transit and shuttle ridership. The Specific Plan includes provisions for potential ride-share and transit within the Plan Area that allows for shuttle or other micro transit services (whether provided by Valley Transportation Authority, a transportation management agency, or a private provider) and has identified prospective bus/shuttle stops on Patrick Henry Drive and Old Ironsides Drive.

- Policy 5.8.5-P5: Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.

  No conflict. Approval of the Specific Plan would include Transportation Demand Management strategies and goals to be applied to individual development projects.

- Policy 5.8.5-P6: Encourage transportation demand management programs that include shared bicycle and autos for part-time use by employees and residents to reduce the need for personal vehicles.

  No conflict. Approval of the Specific Plan would include Transportation Demand Management strategies and goals to be applied to individual development projects, such as employer rideshare assistance, transit and bicycle subsidies, and car- and bike-sharing solutions.

- Policy 5.8.5-P7: Promote programs that reduce peak hour trips, such as flexible work hours, telecommuting, home-based businesses and off-site business centers, and encourage businesses to provide alternate, off-peak hours for operations.

  No conflict. Approval of the Specific Plan would include Transportation Demand Management strategies and goals to be applied to individual development projects, such as telecommute and flex commute options.

- Policy 5.8.5-P9: Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities.

  No conflict. Approval of the Specific Plan would include working with VTA to install real-time bus information system at transit stops. In addition, the Specific Plan would require each parcel to provide a TDM program with measures such as including short- and long-term bicycle parking in convenient, secure and prominent locations in each building; providing information about transit options and passes; distributing transportation news and commuter alerts; providing information to residents (through links to appropriate websites, apps and other resources like "511"); and assisting with rideshare matching. Optional TDM items could include car sharing programs, parking spaces for car-share

operators, and/or car-share memberships for residents or employees as well as transit pass subsidies.

- Policy 5.9.1-P4: Provide connections between private and public open space through publicly accessible trails and pathways and by orienting open spaces to public streets.

  No conflict. The Specific Plan would include design guidelines to connect pedestrian and bicycle pathways to public parks and open spaces.

- Policy 5.9.3-P5: Maintain emergency traffic preemption controls for traffic signals.

  No conflict. Approval of the Specific Plan would facilitate provision of emergency services and would not conflict with City emergency traffic preemption controls for traffic signals.

Therefore, as explained in the foregoing discussion, the Specific Plan would be substantially consistent with City General Plan policies regarding transportation. Because the Specific Plan qualifies as a transit supportive project and is substantially consistent with City General Plan policies regarding transportation, this impact would be ***less-than-significant*** (see criteria [a] and [b] in subsection 17.3.1, "Significance Criteria," above).

Mitigation 17-1. No impact has been identified; no mitigation is required.

Conflict With Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities. The Specific Plan proposes policies and programs that are purposely consistent with the City's General Plan and other relevant plans and programs. Potential conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities (including possible decreases in the performance or safety of such facilities) are discussed in more detail below.

Impact 17-2: Impacts on Transit. Existing transit service for the Plan Area includes an ACE shuttle and three VTA routes along Great America Parkway (though service is currently limited due to COVID-19). The Plan Area is about a 10-minute walk (approximately one-half mile) from the Old Ironsides light rail station on Tasman Drive. Bus stops are currently located within the Plan Area on Patrick Henry Drive and Old Ironsides Drive, with additional bus stops on Great America Parkway and Mission College Boulevard. The Specific Plan would not interfere or conflict with these transit facilities and would be consistent with VTA Transit Service Guidelines, which guide VTA service planning, including route determination, service levels, and capacity (ridership coverage).[1]

[1]According to VTA's "Transit Service Guidelines" (Revised September 2019), route frequency is determined by demand and policy, with higher ridership demand warranting more frequent bus service (p. 10); in addition, the Guidelines note that high-density land uses that are transit-supportive generate higher ridership (p. 3). VTA's focus on "ridership-oriented service" (p. 2) depends on three elements: attractive transit service, dense and transit-supportive land uses, and pedestrian-oriented street design (p. 3). The Specific Plan is consistent with the second and third elements; although the Specific Plan promotes facilities for transit and shuttle ridership that would enhance passenger comfort and safety, such as amenities like shelters and seating, trash cans, and real-time bus information system at transit stops, the first element, "attractive transit service," would be dependent on VTA policy.

The Specific Plan proposes to contribute to grade separation projects at intersections with light rail in the median, HOV-type signal improvements that could support future bus rapid transit facilities, and transit signal priority at signalized intersections. While the VTA's "New Transit Service Plan" (2019)[1] does not call for transit service within the Plan Area, the Specific Plan proposes to include "shuttle stops" along Patrick Henry Drive and Old Ironsides Drive that would allow for shuttle or other micro transit services provided by VTA, a Transportation Management Agency (TMA), or a private provider. Thus, the project is expected to have a positive effect on transit services.

Therefore, this impact would be ***less-than-significant*** (see criterion [a] in subsection 17.3.1, "Significance Criteria," above).

Mitigation 17-2. No significant impact has been identified; no mitigation is required.

Impact 17-3: Impacts on Bicycle Facilities. The Plan Area is located near many existing bicycle facilities, including trails along Calabazas Creek and San Tomas Aquino Creek, and bike lanes on Tasman Drive, Mission College Boulevard, and other streets. In addition, the bike and pedestrian bridge over Calabazas Creek, along the western edge of the Plan Area, connects to the John W. Christian trail in Sunnyvale.

Future Plan Area residents would be able to ride to work using bike lane and bike trail connections to surrounding employment areas. Existing employment zones to the north of the Plan Area would be accessible via bike lanes on Great America Parkway or via the Calabazas Creek trail. Bike lanes on Tasman Drive would provide a route to other opportunities planned as part of the Related Santa Clara (formerly "City Place") development. These bike lanes could also be used to reach the North San José employment area, and the Guadalupe River trail could be used to reach downtown San José. Employment areas south of the project site would be reached via the San Tomas Aquino Creek trail or bike lanes on Great America Parkway/ Bowers Avenue.

As described earlier in the setting (section 17.1), the Specific Plan proposes to add a grid system of new streets, which would include the addition of Class IV protected bike lanes on Patrick Henry Drive and Old Ironsides Drive within the Plan Area. Internal Plan Area streets would also be designated as Class III bike routes. Some of the new streets would be designed only for pedestrians and bicycles.

Because the Specific Plan would improve bicycle facilities in the Plan Area and provide safer conditions for bicyclists relative to existing conditions, consistent with the City's General Plan and the Bicycle Master Plan Update 2018, this would be a ***beneficial effect*** (see criterion [a] in subsection 17.3.1, "Significance Criteria," above).

Mitigation 17-3. No significant impact has been identified; no mitigation is required.

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[1]The VTA is currently updating its Transit Service Plan to reflect effects related to the COVID-19 pandemic, including lower sales tax revenues, new travel patterns, and potentially lower ridership. VTA is committed to preserving system-wide ridership and minimizing service reductions.

Impact 17-4: Impacts on Pedestrian Facilities. The Plan Area currently comprises very large parcels that create excessive walking distances between properties. In addition, portions of Patrick Henry Drive and Old Ironsides Drive lack sidewalks. The intersections of Old Ironsides Drive and Old Glory Lane, Old Ironsides Drive and Patrick Henry Drive, Old Glory Lane and Patrick Henry Drive, and Old Glory Lane and Great America Parkway lack ADA-compliant crosswalks.

As described earlier in the setting (section 17.1), the Specific Plan proposes to add a grid system of new streets, which would be designed with new continuous sidewalk facilities and high visibility crosswalks at intersections. Some of the new streets would be designed only for pedestrians and bicycles. Where currently present, sidewalks would be improved. All of these intersections would be upgraded to ensure they comply with current ADA standards.

Currently, the only connection to Mission College from the Plan Area is via Great America Parkway. The Specific Plan includes proposed construction of a new street in the southern part of the Plan Area that would connect to Mission College Boulevard; the Plan also includes a "no-road connection" option. Regardless of whether or not the Specific Plan is approved and the proposed road connection is constructed, traffic conditions at the Mission College entrance (the Mission College Boulevard Loop/Mission College Boulevard intersection) would be expected to change (i.e., traffic is projected to increase) due to future development anticipated in this area of the city.

Without approval of the Specific Plan, traffic (by 2040) at the Mission College entrance would be expected to increase, compared to existing traffic conditions, by approximately 74 trips during the AM peak hour (an 8 percent increase) and approximately 738 trips during the PM peak hour (a 62 percent increase).

With approval of the Specific Plan and the new road connection option, traffic (by 2040) at the Mission College entrance would be expected to increase, compared to existing traffic conditions, by approximately 988 trips (Scenario A) and 1,006 trips (Scenario B) during the AM peak hour, and by approximately 1,644 trips (Scenario A) and 1,634 trips (Scenario B) during the PM peak hour. During the AM peak hour, this would represent a 108 percent increase and a 110 percent increase, respectively, over existing conditions (i.e., no Specific Plan, no connector road), and during the PM peak hour, a 138 percent increase and a 140 percent increase, respectively, over existing conditions.

With approval of the Specific Plan but without the new road connection option, traffic (by 2040) at the Mission College entrance would also be expected to increase, compared to existing traffic conditions, by approximately 117 trips (Scenario A) and 131 trips (Scenario B) during the AM peak hour and approximately 610 trips (Scenario A) and 564 trips (Scenario B) during the PM peak hour. During the AM peak hour, this would represent a 13 percent increase and a 14 percent increase, respectively, over existing conditions (i.e., no Specific Plan), and during the PM peak hour, a 51 percent increase and a 47 percent increase, respectively, over existing conditions.

Continuous sidewalk facilities would be provided along this new street to improve walking access to the College. If the proposed new street connection does not occur, then pedestrians from the Plan Area heading to Mission College or beyond (e.g., the Mercado Shopping Center), and vice versa, would need to walk along Great America Parkway, which could increase walking

distances by about .5 and .75 miles, although there are sidewalks along the route that would provide safe pedestrian access. Pedestrians can also walk and bicyclists can ride bikes along Calabazas Creek greenway to access Mission College and Mercado Shopping Center. The walking distance is about 0.25 and 0.5 miles.

The Specific Plan also proposes a new greenway west of Patrick Henry Drive that would connect the Plan Area to the Calabazas Creek Trail. There is a bridge across Calabazas Creek which allows the Sunnyvale residents on the other side of the creek to walk to Mission College and Mercado Shopping Center. Additional greenways would be added along the entire length of Patrick Henry Drive and Old Ironsides Drive, and for the proposed Specific Plan parks.[1]

Because the Specific Plan would improve pedestrian facilities in the Plan Area and provide safer conditions for pedestrians relative to existing conditions, consistent with the City's General Plan and the City of Santa Clara Pedestrian Master Plan 2019, this would be a ***beneficial effect*** (see criterion [a] in subsection 17.3.1, "Significance Criteria," above).

Mitigation 17-4. No significant impact has been identified; no mitigation is required.

Impact 17-5: Hazards Due to Design Features or Incompatible Uses. Conflicts between modes would be reduced through better accommodations, including Specific Plan elements such as new and/or improved sidewalks, bike lanes, and more accessible and comfortable bus stops. The Specific Plan proposes an improved internal roadway network designed to accommodate vehicular traffic that is balanced with other modes (including walking, cycling, micro-mobility, and transit).

In particular, the Specific Plan includes roadway standards to ensure safe, comfortable mobility options through a coordinated network of streets, roadways, greenways, and bicycle paths.

The following Specific Plan standards would promote safety by reducing potential conflicts between vehicles, pedestrians, bicyclists, and buses via designs that would accommodate all modes and would also remove potential hazards by establishing design requirements that provide for adequate sightlines and distances:

- Standards 5.1.1.1, 5.1.1.2, and 5.1.1.3 establish width requirements for vehicle travel ways that allow room for protected bicycle lanes.

- Standards 5.1.3.1, 5.1.3.2, and 5.1.3.3 establish that bicycle facility designs comply with Caltrans and (National Association of City Transportation Officials) NACTO Standards, including: Class IV protected bicycle lanes on Patrick Henry Drive and Old Ironsides Drive; use of bollards and buffer space for bicycles; and pavement coloring in intersections, transition zones, and other areas with possible conflict.

- Standard 5.1.3.5 requires New Roadways and Slow Streets to incorporate shared Class III bicycle boulevards following MUTCD (Manual of Uniform Traffic Control Devices) standards.

[1]As noted in chapter 3, Project Description, Specific Plan section 4.5.1 (Parks, Recreation and Open Space Policies) includes the following policy: "Connect parks and plazas with publicly accessible private greenways to provide safe, comfortable access while supporting connectivity throughout the PHD Specific Plan Area."

- Standards 5.1.4.1 and 5.1.4.2 establish travel lane widths to accommodate bus transit; these standards also designate locations for shuttle and bus stops to improve pedestrian safety and travel efficiency.

- Standard 5.1.5.1 provides for ensuring adequate signal timing for pedestrians to cross the street, consistent with the California MUTCD.

- Standards 5.2.1.1 through 5.2.1.4 establish walkway widths and pedestrian and amenity zones that define clear, contiguous, unobstructed, ADA-accessible pedestrian routes along all Plan Area roadways.

- Standards 5.2.2.1 through 5.2.2.3 ensure safety in crosswalks through use of high-visibility roadway markings with thick vertical striping at uncontrolled intersections; minimum crosswalk widths; ADA-compliant directional ramps; and crosswalk design that includes clear sight lines for pedestrians and vehicles approaching the crosswalk.

Designs would be subject to City review as detailed site plans are not yet available; however, compliance with Specific Plan and City standards would be required, which would ensure adequacy of circulation patterns and safety standards; reduce potential conflicts between vehicles, pedestrians, bicyclists, and buses; and remove potential hazards due to design features (i.e., insufficient sightlines or distances) or incompatible uses. Therefore, this impact would be ***less-than-significant*** (see criterion [c] in subsection 17.3.1, "Significance Criteria," above).

Mitigation 17-5. No significant impact has been identified; no mitigation is required.

Impact 17-6: Emergency Access. Existing access to the Plan Area for emergency vehicles is via connections to Great America Parkway from Old Glory Lane and Patrick Henry Drive. These connections would remain. In addition, the Specific Plan proposes an improved internal roadway network, which would increase the number of connection points that could facilitate emergency access. With the Mission College Boulevard connector road (between Patrick Henry Drive and Mission College Boulevard), emergency access would be improved through creation of an additional route off-site. Without the Mission College Boulevard connector road, emergency access would not be substantially reduced; however, as noted in the Hexagon analysis, elimination of this proposed connector road would generally result in worse traffic at many intersections, though those traffic effects would not constitute impacts under CEQA, as explained in the Hexagon analysis, and improvements recommended by Hexagon for most intersections would be the same with or without the connector road. Designs of the streets would be subject to City review, as detailed site plans are not yet available, to ensure the adequacy of circulation patterns and compliance with City emergency vehicle access standards, such as requiring that alleys have a minimum width of 25 feet to allow for emergency vehicles and connecting "dead end" street sections (i.e., cul-de-sacs) with multi-modal paths that would allow emergency vehicles. City review of future driveway and drive aisle design would ensure compliance with City emergency vehicle access requirements. Therefore, this impact would be ***less-than-significant*** (see criterion [d] in subsection 17.3.1, "Significance Criteria," above).

Mitigation 17-6. No significant impact has been identified; no mitigation is required.

18. UTILITIES AND SERVICE SYSTEMS

This EIR chapter describes public utility and service system implications of the proposed Patrick Henry Drive Specific Plan. This analysis provides a programmatic review of the existing utility and service systems servicing the Patrick Henry Drive Specific Plan Area, identifies existing limitations, and recommends improvements. The chapter addresses the utility and service system issues identified by the CEQA Guidelines--i.e., would development under the proposed Plan: result in the construction of water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities which would cause significant environmental impacts; have an insufficient water supply; have insufficient wastewater treatment capacity or landfill capacity; or not comply with solid waste regulations.[1]

18.1 SETTING

18.1.1 Water

(a) Existing Domestic Water Supply. The City of Santa Clara Water & Sewer Utilities Department provides water service to the city, an area of approximately 19.3 square miles, with over 97 percent of its land area developed primarily in a low density, suburban form. The City's water supplies come from four sources: treated water from Valley Water (Santa Clara Valley Water District), treated water from the San Francisco Public Utilities Commission (SFPUC), local groundwater from City-owned wells, and recycled water from South Bay Water Recycling (SBWR). The City's potable water supply comes from treated water (Valley Water and SFPUC) and City groundwater wells. Recycled water is used only for landscape irrigation and some industrial uses.[2]

Groundwater makes up about 65 percent of the City's potable water supply via 26 City-owned wells, which, as discussed in chapter 11, Hydrology and Water Quality, of this EIR, obtain water from the Santa Clara Subbasin. Valley Water estimates the storage capacity of the Santa Clara Subbasin to be 350,000 acre-feet. Historically, high groundwater pumping and land subsidence have resulted in saltwater intrusion into aquifers in the northern portion of the Subbasin near salt ponds and tidal creeks; however, the Subbasin's groundwater is typically of good quality and does not require treatment beyond disinfection. The City monitors groundwater levels and meters the groundwater pumping. SFPUC water makes up approximately 14 percent of the City's potable water supply. Valley Water makes up approximately 21 percent of the City's potable water supply. In 2015, the City's total potable water supply was approximately 17,621 acre-feet.[3]

[1]CEQA Guidelines, appendix G, item XIX (a through e).

[2]City of Santa Clara, 2015 Urban Water Management Plan, November 22, 2016.

[3]2015 UWMP.

The City of Santa Clara's 2015 Urban Water Management Plan (UWMP), adopted in 2016, provides estimated future water demands used in regional water supply planning efforts coordinated with the City's wholesale providers. The 2015 UWMP also addresses water supply, water quality, and system (infrastructure) reliability through the year 2040.[1] According to the 2015 UWMP, the Plan Area is located in an area of the city that receives a blend of potable water from City wells and treated surface water from SFPUC.

In 2015, the City Water & Sewer Utilities Department had an average potable water demand of 16.8 million gallons per day (mgd), with residential uses consuming approximately 50 percent (single family and multi-family residential uses are split 50-50, or 25 percent each). Commercial uses consumed approximately 32 percent, with remaining water use going to industrial, institutional, and municipal uses. The City implements a variety of demand management measures to conserve water and promote water conservation, including addressing leaks and flaws in the distribution system, providing public information and school education on water conservation, implementing conservation pricing, and setting metering and commodity rates, among others. Valley Water and SFPUC also implement demand management measures.[2]

According to the 2015 UWMP, total City water supplies in 2015 would cover expected water shortages in dry years through 2040. The City participates in the Water Shortage Allocation Plan, an agreement between the City, San Francisco, and 27 other Bay Area Water Supply and Conservation Agency members, which provides for the City to receive up to 22 percent of its usual water supply from SFPUC during system wide shortages. Depending on whether the City maintains its water supply contract with the SFPUC, the City anticipates the need to rely on regional drought allocations to cover water shortages after 2040 for a single-year drought scenario and after 2035 for a multi-year drought scenario. The City "Water Shortage Contingency Plan" outlines four water condition stages and their respective water use reductions: Stage 1 – 10 percent advisory reduction; Stage 2 – 20 percent voluntary reduction; Stage 3 – 40 percent mandatory reduction; and Stage 4 – 50 percent emergency curtailment.

(b) Patrick Henry Drive Water Supply. A Water Supply Assessment (WSA) for the Patrick Henry Drive Specific Plan was prepared by the City (February 9, 2021)[3] pursuant to State Senate Bill (SB) 610, SB 221, and CEQA, which require projects proposing more than 500 dwelling units to describe the project's (i.e., Specific Plan's) water demand over a 20-year period, identify the sources of water available to meet the demand, and include an assessment of whether those water supplies are, or will be, sufficient to meet the demand for water associated with proposed Specific Plan in addition to the demand of existing customers and other planned future development. The WSA is required to follow a similar water supply scenario analysis as the UWMP: normal year, single dry year, and multiple dry years. In addition, if the WSA concludes that water supplies are or will be insufficient, then it must

[1]At the time of the NOP for this EIR, the City was in the process of updating the 2015 UWMP and anticipated approving a 2020 UWMP update in 2021. On June 22, 2021, the City Council approved the 2020 UWMP, which provided the state-required estimates of future water demands, water supply, water quality, and system (infrastructure) reliability. However, the water supply and demand analysis in this EIR chapter was based on the then-current 2015 UWMP.

[2]2015 UWMP.

[3]The "Patrick Henry Drive Specific Plan Water Supply Assessment" is subject to review and approval by the City Council; however, the draft analysis and conclusions have been included herein for CEQA purposes.

describe any plans for acquiring additional water supplies and the measures being undertaken to acquire and develop those supplies.

The WSA provided an overview of the City's current and projected water supply and demand through 2040, including the Plan Area with and without the Specific Plan (under both development scenarios). Projections also included water demand for projects assessed since the adoption of the 2015 UWMP as well as previous water supply assessments for projects that were accounted for in the 2015 UWMP but have yet to be completed. The WSA considered potential changes in future water supplies based on potential loss of SFPUC water after 2028 and analyzed single and multiple dry year scenarios with and without SFPUC water.

According to the WSA, based on parcel information, existing water use in the Plan Area is approximately 79.6 acre-feet per year (AF/year).

(c) Water Delivery Infrastructure. The City's water system consists of 335 miles of distribution mains, seven storage tanks with a total storage capacity of 28.8 million gallons, 26 groundwater wells, and 3 booster pump stations. In the Plan Area, water lines installed in the mid-1960s to early 1980s provide distribution. A 12-inch asbestos cement (AC) domestic water main (installed in 1966) runs along Great America Parkway at the eastern Plan Area boundary and connects with another 12-inch AC mains on Old Glory Lane (installed in 1976). The main on Old Glory Lane runs west and connects with another 12-inch AC main on Old Ironsides Drive, which runs south and connects with a 12-inch AC main on Patrick Henry Drive. The 12-inch AC main on Patrick Henry Drive runs west toward the western Plan Area boundary and then heads north, eventually extending beyond the SFPUC "Hetch Hetchy" right-of-way. In addition, there is an 8-inch AC loop (installed in 1981) located within an easement at the Great America Technology Park plaza (4701 Patrick Henry Drive).

(d) Recycled Water Supply and Delivery Infrastructure. The City receives recycled water from South Bay Water Recycling (SBWR), a recycled water wholesaler. SBWR's recycled water system consists of over 150 miles of pipelines, five pump stations, and a total storage capacity of ten million gallons. SBWR's recycled water is treated at the San Jose-Santa Clara Regional Wastewater Facility and transported to City customers through 33 miles of recycled water pipelines located within City limits. Use of recycled water for irrigation and other non-potable water uses offsets the use of potable sources. City customers use recycled water for landscape irrigation and some industrial uses. Recycled water composes about 17 percent of the City's total water supply.[1]

In the Plan Area, an 8-inch PVC main runs south along Patrick Henry Drive in the western Plan Area, then transitions to a 12-inch Yelowmine main flowing east. At the intersection of Patrick Henry Drive and Old Ironsides Drive, this main splits in two, with a 12-inch main continuing north on Old Ironsides Drive and an 8-inch PVC main continuing east to Great America Parkway.

(e) Fire Flow. Water flow tests are performed for new developments. The City requires developers provide on-site fire protection and allow a municipal hydrant located in the public right-of-way. Final sizing of water lines would be subject to hydraulic modeling analysis based

[1]City of San Jose, Recycled Water https://www.sanjoseca.gov/your-government/environment/water-utilities/recycled-water, accessed 3/18/20.

on final land plans, building types, water demands, fire flow requirement, and phasing, to establish final, actual line sizes in each street.

18.1.2 Wastewater

(a) Wastewater Collection and Treatment. The City's Water & Sewer Utilities Department provides wastewater collection for the City, with approximately 270 miles of sewer pipelines and seven sewage pump stations. Wastewater from the City, along with wastewater from the Cupertino Sanitary District, is conveyed to the San Jose/Santa Clara Regional Wastewater Facility for treatment and disposal. The City's Sanitary Sewer Master Plan Update (April 2016)[1] addresses management, operation, and maintenance of the sanitary sewer system in compliance with the Water Board's Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The Sewer Master Plan evaluated potential capacity deficiencies and backups in the existing sewer system and identified areas likely to experience these conditions with future (2035) flows. The Sewer Master Plan recommended several pipe upgrades and lift station pump adjustments.

(b) Existing Wastewater Infrastructure in the Plan Area. The existing sanitary sewer system in the Plan Area consists of 6-inch, 10-inch, and 12-inch vitrified clay pipe (VCP) mains. A 12-inch VCP main runs around the western and southern part of the Plan Area along Patrick Henry Drive, beginning on Patrick Henry Drive in front of the Great America Technology Park plaza (4701 Patrick Henry Drive) and heading south, then rounding the curve and heading east to a 12-inch main on Old Ironsides Drive. The 12-inch main on Old Ironsides Drive continues north to Tasman Boulevard from where it then heads east to the Tasman Lift Station. Two other mains connect to the 12-inch main on Patrick Henry Drive: a 6-inch VCP main on Mission College Boulevard, which connects to the Patrick Henry Drive main via a 10-foot easement between 3118 and 3200 Patrick Henry Drive; and a 10-inch VCP main at the southeast corner of 4701 Patrick Henry Drive, which runs south between 3055 and 2929 Patrick Henry Drive before connecting to the Patrick Henry Drive main.

18.1.3 Storm Drainage

(a) Local Topography and Drainage. The Plan Area is generally flat with surface elevations ranging from 15 to 22 feet above MSL and a slope of less than one percent. Overall, the Plan Area slopes downward from south to north. The Plan Area drains to San Tomas Aquino Creek through a network of storm water drainage pipes ranging in size from 27 inches to 54 inches in diameter.

(b) Rainfall and Runoff. Average annual precipitation in the Plan Area and the Santa Clara Subbasin ranges from about 15 inches in the valley to about 45 inches in the Santa Cruz Mountains. Average rainfall in the City is about 14.5 inches per year, with most of it occurring during winter, and almost all of it occurring as rainfall. The Plan Area is located in the San Tomas Aquino Creek drainage area, which covers approximately 7.3 square miles. The 2015 Storm Drain Master Plan identified several areas that experience frequent flooding and recommended improvements to address these deficiencies. No storm drainage improvements

[1]City of Santa Clara, Sanitary Sewer Master Plan Update Final Report, April 2016.

were recommended for the Plan Area.[1] (For a discussion of the "100-year" flood, see chapter 11, Hydrology and Water Quality, of this EIR.)

(c) Existing Storm Drainage Infrastructure. Storm drain pipes in the Plan Area begin upstream with a 33-inch main in front of the property at 4701 Patrick Henry Drive, which transitions successively to 36-inch, 39-inch, 48-inch, and 54-inch mains heading east to Great America Parkway. Along Old Ironsides Drive, a 27-inch main collects storm water and transitions to a 33-inch main, which connects to the 48-inch main on Patrick Henry Drive. These pipes continue flows north along Great America Parkway toward the Westside Storm Drain Pump Station on Old Mountain View-Alviso Road, where they drain into San Tomas Aquino Creek. Santa Clara's storm drain system relies heavily on pump stations to move runoff from pipe networks to creeks, which flow to San Francisco Bay.

18.1.4 Solid Waste Disposal and Recycling

The City has non-exclusive solid waste hauling franchise agreements with 12 haulers, including Mission Trail Waste Systems, for garbage hauling and recycling services to businesses in properties zoned Industrial. The City has an exclusive solid waste hauling franchise agreement with Mission Trail Waste Systems for garbage hauling services in commercial, institutional, residential, and Planned Development areas. Recology South Bay provides recyclables hauling services to City areas zoned commercial, industrial, and residential.[2]

Construction and demolition debris is taken to the Zanker Road Resource Recovery Operation, which has a throughput of 1,300 tons per day.[3]

Solid waste and recycling materials under non-exclusive agreements are taken to the hauler's designated location. Solid waste under the exclusive agreement is currently taken to the Mission Trail Transfer Station in Santa Clara, which has a maximum permitted throughput and capacity of 375 tons per day.[4] Solid waste from the Mission Trail Transfer Station is taken to the Newby Island Sanitary Landfill in Milpitas, which has a throughput of 4,000 tons per day and a remaining capacity of 21,200,000 cubic yards (with a cease operation date of 1/1/41).[5]

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[1]City of Santa Clara, Storm Drain Master Plan, December 2015.

[2]Santa Clara County, City of Santa 2019-2020 Garbage and Recycling Services Fact Sheet, https://www.recyclestuff.org/Guides/SantaClara.pdf; Public Works Department Environmental Programs, https://www.santaclaraca.gov/our-city/departments-g-z/public-works/environmental-programs/commercial-and-industrial-garbage-recycling, both accessed 3/26/20.

[3]CalRecycle, SWIS Facility/Site Activity Details, Zanker Road Resource Recovery Operations (Zanker Solid Waste Landfill), https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1367?siteID=3392, accessed 10/15/20.

[4]CalRecycle, https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1382?siteID=3405, accessed 9/15/20.

[5]CalRecycle, https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1362?siteID=3388, accessed 9/15/20.

In 2019, the City disposed of nearly 75 percent of its solid waste at Newby Island Sanitary Landfill.[1]

Starting January 1, 2021, all exclusive solid waste and recycling (which would include land uses designated for Planned Development, such as future development in the Plan Area) will be taken to the GreenWaste Recovery Facility in San Jose.[2] The GreenWaste Recovery Facility has a throughput of 3,500 tons per day.[3] Solid waste from the GreenWaste Recovery Facility is taken to the Newby Island Sanitary Landfill in Milpitas.[4]

Some forms of household hazardous waste (HHW)—used motor oil and oil filters, compact fluorescent light bulbs, and household batteries—can be collected as part of regular curbside service. The Santa Clara County Household Hazardous Waste Program also allows county residents to drop off other types of HHW, with both disposal services by appointment and during special drop-off events held each year. In addition, at "environmental days," sponsored by Recology twice a year, city residents may dispose of E-waste (computers, monitors, printers, etc.), universal waste (batteries, cell phones, compact fluorescent light bulbs, and fluorescent tubes), and other household items ranging from clothing to old documents to plastic toys and play structures, at the Recology San Jose facility.[5]

In the vicinity of the Plan Area, medicine kiosks accepting expired or unwanted medicines include the Mission College Police Department (3000 Mission College Boulevard), the Santa Clara Police Department Northside Substation (3992 Rivermark Plaza), Sunnyvale Fire Station #2 (795 E. Arques Avenue), and Sunnyvale Fire Station #6 (1282 N. Lawrence Station Road). In the vicinity of the Plan Area, sharps kiosks accepting hypodermic and intravenous needles, lancets, and other related sharply pointed or edged devices that can puncture or cut skin include the Santa Clara Police Department Northside Substation (3992 Rivermark Plaza) and Kaiser Permanente (1263 East Arques Avenue, Sunnyvale). In addition, some local drug stores also accept medicines and sharps for disposal. Also, medicine and sharps mail-back services are available.[6]

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[1]CalRecycle, Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility, https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility, accessed 9/15/20. Tons disposed at Newby Island Sanitary Landfill (113,256) ÷ total tons disposed (151,174) = 74.9 percent.

[2]Rinta Perkins, Compliance Manager, City of Santa Clara Public Works Department, email dated May 22, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

[3]CalRecycle, https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1379?siteID=3402, accessed 9/15/20.

[4]Emily Hanson, GreenWaste Recovery, voicemail message 8/19/20.

[5]City of Santa Clara, Residential Garbage & Recycling, https://www.santaclaraca.gov/our-city/departments-g-z/public-works/environmental-programs/residential-garbage-recycling, accessed 3/26/20.

[6]Santa Clara County Med-Project, Convenient Locations, https://med-project.org/locations/santa-clara/convenient-locations/, accessed 3/26/20.

18.1.5 Other Utilities (Electrical, Natural Gas, Telecommunications)

Electrical service to the Plan Area is currently provided by Silicon Valley Power (SVP), which is owned by the City. SVP generates or buys electricity from hydroelectric, renewable, and natural gas; as of January 1, 2018, SVP completely divested from coal, eliminating coal from the City's energy mix.[1] The Mission Substation, an electric power substation, is located to the south of the Plan Area, adjacent to one of the Mission College parking lots. The substation has a 60 kilovolt (kV) line coming in that is "stepped down" to 12 kV feeder outlets that lead out from the substation.

Natural gas service to the Plan Area is currently provided by Pacific Gas and Electric Company (PG&E). A PG&E gas main runs east-west from Great America Parkway to Old Ironsides Drive, roughly bisecting the eastern parcel, then heads south along Old Ironsides Drive to Patrick Henry Drive. From there the gas main runs east before passing between two parcels at the western boundary, crossing Calabazas Creek, and heading into the City of Sunnyvale.

Telecommunications services (phone, cable) are provided by AT&T and Comcast; major cell phone service providers include AT&T, Verizon, and T-Mobile.

18.2 REGULATORY SETTING

18.2.1 Water

18.2.1.1 Federal

U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency (EPA) is responsible for developing and enforcing regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, including the Safe Drinking Water Act (SDWA), passed in 1974 and since amended, which is the federal law that protects public drinking water supplies throughout the nation. Under the SDWA, EPA sets standards for drinking water quality and with its partners implements various technical and financial programs to ensure drinking water safety.

18.2.1.2 State

California Safe Drinking Water Act. The California Safe Drinking Water Act (SDWA) was enacted by the California State Legislature in 1976 (amended), to enforce the federal SDWA and ensure that the state's drinking water standards are at least as stringent as U.S. EPA standards.

California Water Code. The California Water Code is the governing law for all aspects of water management in California, including recycled water. In addition, California Code of Regulations, Title 17, Division 1 and Title 22, Division 4 provide technical standards for water quality, as further defined by the California Regional Water Quality Control Board.

[1]City of Santa Clara, Silicon Valley Power, "Commitment to Renewable Energy," https://www.siliconvalleypower.com/sustainability/commitment-to-renewable-energy, accessed, 1/19/21.

Water Conservation Act of 2009. Also known as Senate Bill (SB) 7x7, the Water Conservation Act of 2009 established a comprehensive package of water conservation legislation. In general, the Act requires a 20 percent reduction in per capita urban water use by 2020. The Act also requires urban water users to develop consistent water use targets and to use those targets in their urban water management plans (UWMPs).

Senate Bills 610 and 221, Water Supply Assessment and Verification. Senate Bills (SB) 610 and 221 amended State law to improve the link between the information on water supply availability and certain land use decisions made by cities and counties. Both statutes require detailed information regarding water availability (water supply assessment or WSA) to be provided to city and county decision-makers prior to approval of specified large (greater than 500 dwelling units) development projects. Under SB 610, WSAs must be furnished to local governments for inclusion in any environmental document for certain projects as defined in Water Code section 10912, subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply.

Consistent with Water Code sections 10910-10912, the Patrick Henry Specific Plan is subject to WSA requirements because Plan implementation at full net development capacity (10,300 to 12,000 new residential units plus between 310,000 and 1,095,000 square feet of non-residential uses) would demand an amount of water greater than the amount of water required by a 500 dwelling unit project. A WSA for the Patrick Henry Specific Plan has been prepared (October 8, 2020) and is included in the appendix of this EIR.

Urban Water Management Planning Act. In 1983 the California Legislature enacted the Urban Water Management Planning Act (Water Code sections 10610–10656). The Act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet (af) annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Act requires that urban water suppliers adopt an urban water management plan (UWMP) at least once every five years and submit it to the Department of Water Resources. Noncompliant urban water suppliers are ineligible to receive funding pursuant to Division 24 or Division 26 of the California Water Code, or receive drought assistance from the State, until the UWMP is submitted and deemed complete pursuant to the Urban Water Management Planning Act.

California Department of Water Resources. The California Department of Water Resources is responsible, in cooperation with other agencies, for managing the water resources of the state. Most important is the operation of the State Water Project, which supplies water to public water systems that serve the majority of state residents. The Department is also responsible for developing the California Water Plan, which serves as a guide to the development and management of the state's water resources.

State Water Resources Control Board. The State Water Resources Control Board (SWRCB) oversees public water systems, and has oversight of water recycling projects, issuance of water treatment permits, and certification of drinking water treatment and distribution operators. In addition, through the Drinking Water Programs, the SWRCB regulates public water systems and enforces the federal and State Safe Drinking Water acts, including performing field inspections, reviewing plans and specifications for new facilities, taking enforcement actions for non-

compliance with laws and regulations, reviewing water quality monitoring results, and supporting and promoting water system security.

18.2.2.3 Regional/Local

Valley Water (Santa Clara Valley Water District). Valley Water provides a safe and clean water supply for businesses and residents in the county, and also implements flood protection projects and programs to ensure the environmental health of streams and rivers. Valley Water prepares and adopts an Urban Water Management Plan (UWMP) as a planning tool for its water supply service area. The current UWMP provides an overview of the water supply system, water resources planning, the water shortage contingency plan, water demand, wastewater, recycled water, and water conservation. Valley Water is a wholesale water supplier and groundwater basin manager and also provides assistance to urban and agricultural water conservation programs. As the groundwater management agency for the County, Valley Water adopted a Groundwater Management Plan in 2016 to provide for replenishing groundwater, reducing groundwater demands, and monitoring groundwater to protect against contamination.

City of Santa Clara 2015 Urban Water Management Plan. The City adopted a UWMP in 2016 in compliance with State law.[1] The UWMP addresses water supplies (current and long-term), future water needs, conservation, and resource management programs to ensure adequate supplies are available to meet existing and future water demand. The UWMP, which was prepared in coordination with the City's two treated water wholesalers (San Francisco Public Utilities Commission and Valley Water) and with neighboring cities and water retailers, must be prepared every five years and submitted to the Department of Water Resources (DWR). See section 18.1.1 (Water) above.

Santa Clara General Plan. The General Plan addresses citywide water needs and the objectives necessary to achieve them. Applicable General Plan goals and policies include:

- Goal 5.10.4-G1: A reliable, safe supply of potable water adequate to meet present and future needs.
- Goal 5.10.4-G2: High water quality maintained throughout the City.
- Goal 5.10.4-G3: A reduction in the demand and consumption of water resources.
- Policy 5.10.4-P1: Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Landscaping Ordinance, incentives, and other applicable City-wide policies and programs.

[1]As noted in the section 18.1.1, Setting—Water, the City approved the 2020 UWMP on June 22, 2021. The 2020 UWMP provides an updated discussion of water supplies (current and long-term), future water needs, conservation, and resource management programs as the 2015 UWMP, plus an expanded discussion of drought risk assessment and related water shortage contingency planning. However, for preparation of this EIR, the 2015 UWMP was used to describe the physical environmental conditions as required by CEQA Guidelines section 15125(a)(1) (i.e., as conditions existed at the time the NOP was published on December 19, 2019).

- Policy 5.10.4-P2: Expand water conservation and reuse efforts throughout the City in order to meet the conservation goals in the City's adopted Urban Water Management Plan and CAP to reduce per capita water use by 2020.

- Policy 5.10.4-P3: Promote water conservation, recycled water use and sufficient water importation to ensure an adequate water supply.

- Policy 5.10.4-P4: Require an adequate water supply and water quality for all new development.

- Policy 5.10.4-P5: Prohibit new development that would reduce water quality below acceptable State and local standards.

- Policy 5.10.4-P6: Maximize the use of recycled water for construction, maintenance, irrigation and other appropriate applications.

- Policy 5.10.4-P7: Require installation of native and low-water-consumption plant species when landscaping new development and public spaces to reduce water usage.

- Policy 5.10.4-P8: Require all new development within a reasonable distance of existing or proposed recycled water distribution systems to connect to the system for landscape irrigation.

- Policy 5.10.4-P12: Encourage diversion of run-off from downspouts, and replacement of hardscapes to landscaped areas and permeable surfaces.

Santa Clara City Code. City Code Chapter 13.15 (Water) establishes regulations related to providing water to the city, including water conservation, best management practices, use of recycled water, and other matters related to the City's water supply and distribution system. Section 13.15.180 and Section 18.88.030 set forth the City's landscape water efficiency regulations, consistent with the California Water Conservation in Landscaping Act. Section 18.88.030 establishes water management practices that promote efficient use of water for projects that require a landscape permit.

Santa Clara Water & Sewer Utilities Department Development and Construction Requirements. The Water & Sewer Utilities Department applies general conditions to individual development proposals, many of which directly and proactively address environmental issues relevant to this CEQA EIR analysis, such as:

- new water service requests, review, and processing must include plans, for review and approval by the City, that show all existing and proposed utilities;

- developers must resolve any conflicts that occur with proposed water facilities; and

- minimum clearances from City water facilities to other underground systems, sanitary sewer facilities (mains, laterals, etc.), recycled water facilities, and trees must be provided.

In addition, residential and non-residential development are required to use water-conserving plumbing fixtures and fittings, and to comply with the City Water Service and Use Rules and

Regulations, Item No. 24, or the California Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

18.2.2 Wastewater

18.2.2.1 Federal

U.S. Environmental Protection Agency. The U.S. Environmental Protection Agency (EPA) Office of Wastewater Management (OWM) supports the Federal Water Pollution Control Act (Clean Water Act, CWA) by promoting effective and responsible water use, treatment, disposal, and management, and by encouraging the protection and restoration of watersheds. The OWM is responsible for directing the National Pollutant Discharge Elimination System (NPDES) permit, pretreatment, and municipal bio-solids management (including beneficial use) programs under the CWA. The OWM is also home to the Clean Water State Revolving Fund that provides communities a permanent, independent source of low-cost financing for a wide range of water quality infrastructure projects.

Clean Water Act. The CWA is the cornerstone of surface water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff.

18.2.2.2 State

State Water Resources Control Board. The SWRCB, in coordination with nine RWQCBs, performs functions related to water quality, including issuance and oversight of wastewater discharge permits (e.g., NPDES), other programs regulating stormwater runoff, and underground and above-ground storage tanks. The RWQCB requires all wastewater collection and disposal providers to prepare a Sewer System Management Plan (SSMP) according to the Statewide General Order Waste Discharge Requirements for Sanitary Sewer Systems.

Title 22 of California Code of Regulations. Title 22 regulates the use of reclaimed wastewater, which prescribes the standards and uses of disinfected tertiary water. Regulation of reclaimed water is governed by the nine RWQCBs and the California Department of Public Health (CDPH).

18.2.2.3 Local

Santa Clara Public Works Department General Development Conditions. The Public Works department applies general conditions to individual development proposals, many of which directly and proactively address environmental issues relevant to this CEQA EIR analysis, such as:

- Projects must include provide design calculations for sanitary sewer systems.
- Sanitary sewer hydraulic model runs, as required by the City, must demonstrate capacity in the existing sanitary sewer system, and required upgrades to the sewer system will be at developer's expense.

Santa Clara General Plan. The General Plan addresses citywide wastewater disposal needs and the objectives necessary to achieve them. Applicable General Plan goals and policies include:

- Goal 5.10.1-G4: Adequate wastewater treatment and conveyance capacities.

- Policy 5.10.1-P6: Require adequate wastewater treatment and sewer conveyance capacity for all new development.

Santa Clara City Code. City Code Chapter 13.10 (Sewers) establishes City regulations relating to the disposal of sanitary sewage into the City's sanitary sewer system in such manner as to protect the City and its personnel; preserve and protect the health, safety, and property of the public; and protect the environmental health of San Francisco Bay.

18.2.3 Storm Drainage

Storm drainage *infrastructure* is the topic covered in this EIR chapter and not stormwater *quality* and *flooding*. The Regulatory Setting relevant to stormwater quality and flooding is included in chapter 11 (Hydrology and Water Quality) of this EIR.

18.2.3.1 Local

Santa Clara General Plan. The General Plan addresses citywide storm drainage needs and the objectives necessary to achieve them. Applicable General Plan goals and policies include:

- Policy 5.10.5-P11: Require that new development meet stormwater and water management requirements in conformance with State and regional regulations.

- Policy 5.10.5-P20: Maintain, upgrade and replace storm drains throughout the City to reduce potential flooding.

- Policy 5.10.5-P21: Require that storm drain infrastructure is adequate to serve all new development and is in place prior to occupancy.

Santa Clara Water Public Works and Building Divisions. The Public Works and Building divisions apply general conditions to individual development proposals, many of which directly and proactively address environmental issues relevant to this CEQA EIR analysis, such as:

- Applicants must receive pre-construction verification of Stormwater Control Plan (SWCP), including sizing calculations, plan sheets, etc.

- Projects must receive third party certification from SCVURPPP's list of pre-qualified consultants verifying the proper installation of all stormwater treatment measures in accordance with approved plans.

- The property owner/manager or HOA (Homeowners' Association) is responsible for the maintenance of stormwater treatment measures.

- Grading and drainage plans must show proposed grades and all storm sewer lines and inlets.

- Storm drain pipe systems shall be designed to convey the 10-year event flow, and if near storm drain pump stations shall be designed to convey the 100-year event flow (as determined by the Director of Public Works/City Engineer).

18.2.4 Solid Waste Disposal and Recycling

18.2.4.1 Federal

Title 40 of the Code of Federal Regulations. Title 40 of the Code of Federal Regulations (CFR), Part 258 (Criteria for Municipal Solid Waste Landfills) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria related to location, operation, design, groundwater monitoring, and closure of landfills. The federal regulations establish minimum national criteria under the Resource Conservation and Recovery Act (RCRA) for all municipal solid waste landfill (MSWLF) units and under the Clean Water Act for municipal solid waste landfills that are used to dispose of sewage sludge.

18.2.4.2 State

California Department of Resources Recycling and Recovery (CalRecycle). CalRecycle oversees, manages, and monitors waste generated in California. It provides limited grants and loans to help California cities, counties, businesses, and organizations meet the State waste reduction, reuse, and recycling goals. It also provides funds to clean up solid waste disposal sites and co-disposal sites, including facilities that accept hazardous waste substances and non-hazardous waste. CalRecycle develops, manages, and enforces waste disposal and recycling regulations, including AB 939, SB 1016, and AB 341.

Assembly Bill 939. Assembly Bill 939 (AB 939) (Public Resources Code 41780, 41780.01) requires cities and counties to prepare integrated waste management plans (IWMPs) and to divert 50 percent of solid waste from landfills beginning in calendar year 2000, and 75 percent of solid waste by the year 2020, and each year thereafter. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements (SRRE) as part of the IWMP. These elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing, and stimulate the purchase of recycled products.

Senate Bill 1016. Senate Bill (SB) 1016 requires that the 50 percent solid waste diversion requirement established by AB 939 be expressed in pounds per person per day. SB 1016 changed the CalRecycle review process for each municipality's IWMP. The CalRecycle Board reviews a jurisdiction's per person disposal rate compliance in accordance with a specified schedule. Beginning January 1, 2018, the Board required review of a jurisdiction's source reduction and recycling element and hazardous waste element every two years.

Assembly Bill 341. Assembly Bill 341 (AB 341) sets forth the requirements for the State of California's mandatory commercial recycling program. AB 341 requires a business that generates four cubic yards or more of commercial solid waste per week or is a multi-family residential dwelling of five units or more, to arrange for recycling services. Local governments are required to implement a commercial solid waste recycling program that consists of education, outreach, and monitoring of businesses, and requires that these jurisdictions report the progress achieved in implementing its commercial recycling program to CalRecycle.

Short-Lived Climate Pollutant Reduction Strategy. The California Air Resources Board prepared and approved the Short-Lived Climate Pollutant Reduction Strategy (SLCP Strategy) as an integral part of the 2017 Climate Change Scoping Plan to reduce emissions of methane, hydrofluorocarbon gases, and anthropogenic black carbon by 2030 throughout a variety of economic sectors in the state. As required by State Senate Bill 1383 (2016), the SLCP Strategy requires a reduction in landfill organic waste disposal of 50 percent below 2014 levels by 2020 and 75 percent by 2025. (See chapter 9, Greenhouse Gas Emissions and Energy, of this EIR for more discussion of the 2017 Climate Change Scoping Plan.)

18.2.4.3 Local

Santa Clara Source Reduction and Recycling Element. The City's Source Reduction and Recycling Element (SRRE) was prepared for inclusion in the County Integrated Waste Management Plan. This SRRE was prepared in accordance with California Integrated Waste Management Board regulations to divert 25 percent of the City's solid waste by 1995, 50 percent by year 2000, and 75 percent by year 2020, and annually thereafter, in order to reduce waste going into landfills.

Santa Clara General Plan. The General Plan addresses citywide solid waste disposal and recycling needs and the objectives necessary to achieve them. Applicable General Plan goals and policies include:

- Goal 5.10.1-G3: Adequate solid waste disposal capacity through effective programs for recycling and composting.
- Policy 5.10.1-P7: Encourage the use of local recycling facilities to divert waste from landfills.
- Policy 5.10.1-P8: Increase to 80 percent reduction for solid waste tonnage by 2020, or as consistent with the CAP.
- Policy 5.10.1-P9: Encourage curbside recycling and composting of organic and yard waste.
- Policy 5.10.1-P10: Promote the reduction, recycling and safe disposal of household hazardous wastes through public education and awareness and through an increase in hazardous waste collection events.

Santa Clara City Code. City Code Chapter 8.25 (Accumulation, Transportation and Disposal of Solid Waste) establishes City regulations relating to the storage, accumulation, collection, and disposal of solid waste, and includes provisions for recycling (both residential and commercial) and disposal/recycling of construction and demolition waste.

18.2.5 Other Utilities (Electrical, Natural Gas, Telecommunications)

18.2.5.1 State

California Public Utilities Commission. The California Public Utilities Commission (CPUC) serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at just and reasonable rates, with a commitment to environmental enhancement and a healthy California economy. CPUC regulates utility services

(i.e., investor-owned electric and natural gas utilities operating in California), and oversees a number of energy-related initiatives designed to benefit consumers, the environment, and the economy. In addition, CPUC administers Renewables Portfolio Standard rules for California's retail sellers of electricity (including publicly owned utilities, investor-owned utilities, electric service providers, and community choice aggregators).

Senate Bill 350 (Clean Energy & Pollution Reduction Act) and Senate Bill 100. SB 350 was signed into Law in September 2015 and establishes tiered increases to the Renewables Portfolio Standard (RPS). The Bill requires 40 percent of the state's energy supply to come from renewable sources by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. The State's RPS program was further strengthened by the passage of SB 100 in 2018. SB 100 revised the State's RPS Program to require retail sellers of electricity to serve 50 percent and 60 percent of the total kilowatt-hours sold to retail end-use customers be served by renewable energy sources by 2026 and 2030, respectively, and requires 100 percent of all electricity supplied come from renewable sources by 2045.

18.2.5.2 Local

Santa Clara General Plan. The General Plan contains the following policies that apply to other utility infrastructure in the City:

- Policy 5.10.3-P1: Promote the use of renewable energy resources, conservation and recycling programs.
- Policy 5.10.3-P2: Transition away from using coal as an energy source to renewable resources by replacing coal in Silicon Valley Power's portfolio, exploring City owned property for renewable energy projects, developing solar projects, and incentivizing solar projects for residents and businesses, consistent with the CAP.[1]
- Policy 5.10.3-P3. Maximize the efficient use of energy throughout the community by achieving adopted electricity efficiency targets and promoting natural gas efficiency, consistent with the CAP.
- Policy 5.10.3-P10: Maintain the City's level of service for high quality utilities and telecommunications infrastructure.
- Policy 5.10.3-P11: Continue innovative energy programs to develop cost effective alternative power sources and encourage conservation.
- Policy 5.10.3-P12: Work with Silicon Valley Power to implement adequate energy distribution facilities to meet the demand generated by new development.
- Policy 5.10.3-P14: Work with Pacific Gas and Electric to ensure an adequate supply of natural gas to meet the demand generated by new development.

[1]As of January 1, 2018, Silicon Valley Power completely divested from coal, eliminating coal from the City's energy mix

Santa Clara Climate Action Plan. The Santa Clara Climate Action Plan (CAP), adopted in December 2013 as General Plan Appendix 8.13, includes a variety of strategies designed to reduce the carbon emissions associated with land use and activities in the City with a focus on energy efficiency, renewable energy, and other energy-related uses. (See chapter 9, Greenhouse Gas Emissions and Energy, of this EIR for more discussion of the CAP and Specific Plan energy consumption.)

Santa Clara City Code. City Code Chapter 17.05 (Subdivisions) establishes City regulations relating to the provision of adequate utilities, among other items, and includes requirements for undergrounding of utility infrastructure, unless exempted by Public Utilities Commission Regulations or otherwise by the City.

2018 Silicon Valley Power Integrated Resource Plan. Silicon Valley Power's Integrated Resource Plan (IRP) was prepared in response to the Clean Energy and Pollution Reduction Act of 2015 (California Senate Bill 350; SB 350) to establish a detailed plan for SVP to meet peak and energy needs in a safe, reliable, cost-effective, and environmentally responsible manner over the next 20 years (2019 through 2038). The IRP aims to meet State goals set forth in SB 350 and SB 100 by increasing the procurement of energy from renewable electricity sources and reducing GHG emissions consistent with the targets set forth by the California Air Resources Board (CARB).

18.3 IMPACTS AND MITIGATION MEASURES

This section describes potential impacts related to utilities and service systems that could result from the Patrick Henry Drive Specific Plan and discusses components of the Plan that would avoid or reduce those potential impacts. The utility infrastructure improvements recommended below are the result of the technical analyses prepared by BKF Engineering, Woodard & Curran, and Schaff & Wheeler during the Patrick Henry Drive Specific Plan planning process. The impact and mitigation discussion below identifies which significance criteria are addressed by which Plan components. The reader is encouraged to review Plan Chapter 6 (Infrastructure) with this EIR chapter.

Water quality and risk of flooding (distinguished from drainage utility *infrastructure*) are detailed in chapter 11 (Hydrology and Water Quality) of this EIR. *Energy consumption* (distinguished from energy utility *infrastructure*) is detailed in chapter 9 (Greenhouse Gas Emissions and Energy) of this EIR.

18.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] implementation of the Patrick Henry Drive Specific Plan would result in a significant impact related to utilities and service systems as described below. Would the project:

(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

[1]CEQA Guidelines, appendix G, item XIX (a through e).

(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;

(c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

(d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

(e) Comply federal, state, and local management and reduction statutes and regulations related to solid waste.

It should be noted that the need for new utility infrastructure in itself is not a significant impact under CEQA unless the *construction* of the infrastructure or the expanded infrastructure causes significant impacts on the environment or leads to the wasteful use of energy. Impacts of new utility infrastructure are considered in the topical sections of this EIR where construction impacts would require mitigation (e.g., air quality, biological resources, hydrology and water quality, noise).

18.3.2 Relevant Specific Plan Components

Specific Plan Chapter 4 (Development Framework), section 7 (Sustainability) includes a discussion of how the PHD Specific Plan will guide the redevelopment of this low-intensity, auto-oriented area into a high-density, mixed-use environment.

The CALGreen code establishes statewide standards for sustainable building practices. All development within the [Patrick Henry Drive] PHD Specific Plan Area will be required to comply with the most recent adopted CALGreen code and the following sustainability policies. Individual projects are expected to consider additional measures to advance sustainability through building and site design, recycled water use, and Transportation Demand Management (TDM). Additional detail on site and building measures are included in Chapter 5: Design Guidelines, and TDM is discussed in Chapter 7: Implementation Plan.

18.3.3 Impacts and Mitigations[1]

Project and Cumulative Water Supply Impacts. Specific Plan implementation would require additional potable water over existing demand. Water service in the Plan Area is provided by the City Water & Sewer Utilities Department. Each individual development project in the Plan Area would be obligated to comply with City Water & Sewer Utilities Department regulations governing water service and the schedule of rates and charges.

As noted under the "Regulatory Setting" above, the City of Santa Clara's 2015 Urban Water Management Plan (UWMP) addresses water supply, conservation, and long-term resource

[1]Although discussion of cumulative impacts is provided in chapter 20, CEQA-Mandated Sections, of this EIR, the analysis of utilities and service systems impacts, due to their inherently cumulative nature and related City-wide capital improvement planning implications, includes the cumulative analysis in the following section.

management programs up to the year 2040, based on the City's currently adopted General Plan.

Table 18-1 shows water demand estimates comparing existing (baseline) conditions with potential land use changes under the Patrick Henry Drive Specific Plan.

Table 18-1
EXISTING AND ESTIMATED ANNUAL WATER DEMAND IN SPECIFIC PLAN AREA[1]

	Size	Gallons per Day	Acre-Feet per Year
Scenario A:			
Residential	12,000 DU	1,452,000	1,626.4
Retail	110,000 SF	5,500	6.2
Flex/community/school	200,000 SF	22,000	24.7
Irrigation/landscaping	837,278 SF	64,470.4	72.2
(Minus existing development)		*(71,030.3)*	*(79.6)*
Total Net Annual Increase		**1,472,940.1**	**1,649.9**
Scenario B:			
Residential	10,300 DU	1,246,300	1,396.2
Retail	110,000 SF	5,500	6.2
Office	785,000 SF	70,650	79.1
Flex/community/school	200,000 SF	22,000	24.7
Irrigation/landscaping	750,158 SF	57,762.1	64.7
(Minus existing development)		*(71,030.3)*	*(79.6)*
Total Net Annual Increase		**1,331,181.8**	**1,491.2**

SOURCE: Patrick Henry Drive Specific Plan Water Supply Assessment, February 9, 2021.

Notes:
DU = dwelling unit
SF = square feet

As shown in Table 18-1, development proposed under either Scenario A or Scenario B of the Specific Plan would increase water demand above existing water demand in the Plan Area, which is approximately 79.6 acre-feet per year (AFY). As indicated in the table, increased water demand for Specific Plan development would range from approximately 1,491.2 AFY to 1,649.9 AFY.

Water demand increases would depend on development activity phasing. Table 18-2 shows estimated phasing of project development under the Patrick Henry Specific Plan and water demand increases to align with the following phases identified in the City's Urban Water Management Plan: 2020-2024, 2025-2029, 2030-2034, and 2035-2040. The phasing was estimated conservatively for the WSA to evaluate water demand over time. The Specific Plan does not mandate development limits according to these timeframes; however, Specific Plan water demand over these time periods has been distributed to align the UWMP time periods with the anticipated phasing of the Specific Plan, as described in chapter 3, Project Description,

[1]The retail square footage shown in Table 18-1 is less than what is shown in the Project Description and results in a more "conservative" estimate of water demand; i.e., because "flex" demands more water than "retail," any shift of the 40,000 SF difference from "flex" to "retail" would result in a reduced water demand.

Table 18-2
SPECIFIC PLAN DEVELOPMENT—WATER DEMAND INCREASE BY PHASE

	2020-2024	2025-2029	2030-2034	2035-2040
Scenario A:				
Residential	596.3	0.0	664.1	366.0
Retail	4.7	0.0	1.5	0.0
Flex/community/school	7.6	0.0	3.5	13.6
Irrigation/landscaping	24.3	0.0	30.8	17.1
(Minus existing development)	(42.8)	0.0	(33.0)	(3.8)
Increase per phase	**590.1**	**0.0**	**666.9**	**392.9**
Scenario B:				
Residential	366.0	0.0	664.1	366.0
Retail	4.7	0.0	1.5	0.0
Office	79.1	0.0	0.0	0.0
Flex/community/school	7.6	0.0	3.5	13.6
Irrigation/landscaping	16.8	0.0	30.8	17.1
(Minus existing development)	(42.8)	0.0	(33.0)	(3.8)
Increase per phase	**431.4**	**0.0**	**666.9**	**392.9**
SOURCE: Patrick Henry Drive Specific Plan Water Supply Assessment, February 9, 2021.				

of this EIR (although variations could occur, depending on market conditions and individual developer interest).

The 2015 UWMP identified sufficient water supplies to meet projected City water demand through 2040 but did not include the Patrick Henry Drive Specific Plan because the Specific Plan was not proposed until after preparation of the 2015 UWMP.

Table 18-3 shows only the changes in projected water demand by user category (i.e., Single Family, Multi-Family, Commercial, Industrial, Institutional, and Municipal) to match the use categories used in the 2015 UWMP (again, only including water demand identified in the 2015 UWMP). These were based on future water demand projections that take into consideration potential reductions in average consumption (based on water conservation programs) and natural replacement of less water efficient processes with more efficient processes. The basic methodology of the water model breaks down water usage into an average consumption per account type. The future water demand projections then adjust the future average consumption per water account factor, which is used for calculating total water demand for each user type during the designated time periods (i.e., residential demand with projected number of housing units, and industrial/commercial demand with projected number of jobs). Table 18-3 shows how water demand in the City is projected to change through 2040, the final year evaluated in the 2015 UWMP.

The 5-year increments in the table are used to be consistent with the time periods in the 2015 UWMP, which allows for comparison with projected water demand for projects approved after the 2015 UWMP but not including the Specific Plan (Table 18-4) and with projected water demand for projects approved after the 2015 UWMP and <u>including</u> the Specific Plan (Table 18-5).[1]

[1]The complete Patrick Henry Drive Specific Plan Water Supply Assessment, including all tables and calculations, is provided in EIR Appendix 25.3, “Water Supply Assessment,” of this EIR.

Table 18-3
PROJECTED CHANGES IN WATER DEMANDS SINCE 2015 UWMP (ACRE-FEET/YEAR)

	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
Single Family	1,773.6	393.9	84.7	62.1	25.4
Multi-Family	1,558.8	494.5	212.2	204.3	175.0
Commercial	1,861.4	538.6	179.2	223.8	174.3
Industrial	379.1	148.5	29.3	27.6	13.3
Institutional	250.0	83.1	41.7	40.0	35.8
Municipal	188.9	59.7	29.9	28.7	25.6
Recycled Water	1,717.0	1,000.0	400.0	400.0	400.0
Losses	-99.8[1]	89.7	30.1	30.6	23.4
TOTAL	7,083.0	2,808.0	1,007.1	1,017.1	872.8

SOURCE: Patrick Henry Drive Specific Plan Water Supply Assessment, February 9, 2021.

Note:
[1] Negative losses for 2015-2019 are due to anticipated reductions in water loss due to system improvements (including increased monitoring of water loss).

Table 18-4 shows proposed water demand for projects evaluated after the 2015 UWMP was adopted (such as the El Camino Real Specific Plan and Tasman East Specific Plan, to name two examples), and are included in WSA appendix A, and also includes WSAs for projects that were incorporated into the 2015 UWMP but not yet completed—this essentially provides an update to the projected water demand in the 2015 UWMP; however, Table 18-4 does not include the Patrick Henry Drive Specific Plan. Therefore, the WSA included a table that shows proposed water demand for projects evaluated after the 2015 UWMP was adopted plus the water demand proposed for the Specific Plan (Table 18-5).

Table 18-4
CHANGES IN WATER DEMAND AFTER 2015 UWMP—WITHOUT PATRICK HENRY DRIVE SPECIFIC PLAN (ACRE-FEET/YEAR)

	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
Single Family	-0-	-0-	-0-	-0-	-0-
Multi-Family	644.6	580.6	524.0	384.4	805.6
Commercial	1,050.6	496.6	676.4	103.7	(11.3)
Industrial	-0-	(35.7)	-0-	-0-	-0-
Institutional	39.9	-0-	-0-	-0-	10.1
Municipal	(311.3)	-0-	-0-	-0-	-0-
Total	1,423.8	1,041.5	1,200.4	488.1	804.4

SOURCE: Patrick Henry Drive Specific Plan Water Supply Assessment, February 9, 2021.

Table 18-5 shows water demand anticipated for development under the Specific Plan, with the same land use categories as Table 18-3. Numbers highlighted in yellow indicate water demand increases from anticipated Specific Plan development compared to Table 18-4 and reflect when Specific Plan development is anticipated to occur. These numbers are based on Scenario A demand because its greater number of residential units would be expected to generate a larger water demand compared to Scenario B, and therefore would represent a more conservative estimate for water planning purposes.

Table 18-5
CHANGES IN WATER DEMAND AFTER 2015 UWMP—WITH PATRICK HENRY DRIVE SPECIFIC PLAN (ACRE-FEET/YEAR)

	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
Single Family	-0-	-0-	-0-	-0-	-0-
Multi-Family	644.6	1,176.9	524.0	1,048.5	1,171.6
Commercial	1,050.60	478.6	676.4	95.2	-8.9
Industrial	-0-	(35.7)	-0-	-0-	-0-
Institutional	39.9	-0-	-0-	-0-	23.7
Municipal	(311.3)	11.8	-0-	11.4	10.8
Total	1,423.8	1,631.6	1,200.4	1,155.1	1,197.2

SOURCE: Patrick Henry Drive Specific Plan Water Supply Assessment, February 9, 2021.

Note:
Yellow highlighting indicates Specific Plan development water demand increases compared to water demand without Specific Plan development (see Table 18-4).

The WSA prepared by the Santa Clara Water & Sewer Utilities Department for the Patrick Henry Specific Plan (see EIR appendix 25.3) compared the total water demand by time period in Table 18-5 with the total water demand by time period in Table 18-3 (i.e., the water demand for projects evaluated after the 2015 UWMP was adopted plus the water demand proposed for the Specific Plan versus projected 2015 UWMP water demand, for which adequate supplies were determined in the 2015 UWMP). The WSA concludes that Specific Plan Scenario A, the more conservative of the two development scenarios in the Specific Plan, would add more projected water demand when combined with the City's 2015 UWMP projected growth water demands and would exceed the growth projections identified in Table 18-3 by 138 AFY during the 2030-2034 period and 324.4 AFY during the 2035-2040 period. These WSA conclusions were made by determining if the values in Table 18-5 (which include projects after the 2015 UWMP plus development under the Specific Plan) would be less than the values in Table 18-3 (which are from the 2015 UWMP). Values without parentheses indicate that the "updated" demand (i.e., includes post-2015 UWMP projects plus Specific Plan development) is projected to exceed demand from the 2015 UWMP growth projections. Therefore, as the City concluded, water demand for development under the Specific Plan would exceed 2015 UWMP water demand beginning in 2030.

However, though projected future demand with the Specific Plan would exceed demand projections under the 2015 UWMP, the City compared these future demand values to water supplies that are projected to be available during a multiple dry year to determine whether or not excess supply would be available, even under the multiple dry-year scenario. The City concluded that although future demand projections would exceed previous demand projections in 2035 and 2040, the available water supplies (even during a multiple dry year scenario) would still be sufficient to provide adequate water supplies for the Specific Plan. This conclusion was based on the City assumption, derived from the historical pattern of water contracts with SFPUC, that SFPUC water supplies would be extended beyond 2028; if SFPUC water no longer is available (for instance, no contract extension), then the City would need to use the resources described below (i.e., pumping additional groundwater, more recycled water, increased water conservation).

Projected future water supply projects discussed in the 2015 UWMP[1] include projects with Valley Water such as possible upgrades to the turnout from the Valley Water wholesale supply of treated imported water, which would allow the City flexibility in increasing treated surface water imports and decrease groundwater usage, if necessary, and intertie projects with San Jose and with Santa Clara (an intertie is a pipeline interconnection that would permit passage of water between two or more systems). As explained in the WSA, the City continues to explore future water supply projects (in addition to those referenced in the 2015 UWMP) with SFPUC and Valley Water such as indirect and direct potable reuse. In addition, the City also continues discussions with the SFPUC and Bay Area Water Supply and Conservation Agency (BAWSCA) representatives about related water projects, including SFPUC's Alternative Water Supply Planning Program, which SFPUC has initiated to ensure that it can meet its retail and wholesale customer water needs, address projected dry years shortages, and limit possible rationing. This program, though, is in early planning stages.

The City of Santa Clara currently has 21 active wells that provide potable supply to the system. The City plans to construct two new groundwater wells that could produce up to an estimate 3,226 to 4,032 acre-feet/year of additional water. In addition, the City has seven water pipeline interties with neighboring agencies that can be used for emergency water transfers.

However, because the City cannot guarantee that these anticipated future water sources will be available, the City, according to the WSA, currently plans to meet future water demand through the following:

- pumping additional groundwater,
- reliance on more recycled water, and
- increased water conservation.

Groundwater. The City does not currently use as much groundwater as it did during its historic peak for groundwater production (23,048 acre-feet in FY1986/87). For example, in the five years preceding the 2015 UWMP, City groundwater volume pumped ranged from 11,450 AF in 2015 to 14,958 AF in 2012. In addition, because of existing Valley Water programs to "bank" water locally (e.g., store surplus water in groundwater basins), part of the overall county water supply can be carried over from wet years to dry years, which helps protect against drought or emergency outages. Local water supply is recharged into the groundwater basin through natural stream channels, canals, or in-stream and off-stream ponds. With these groundwater management techniques, groundwater remains a primary source of City water.

The environmental consequences of expanding use of City groundwater would be carefully monitored, although it is important to consider that during the 1986-1987 peak groundwater production year, the groundwater basin was not approaching overdraft. To ensure against the possibility of overdraft problems, according to the 2015 UWMP,[2] "at all of the City's 26 production wells, the City monitors groundwater levels and meters the groundwater pumping. To further ensure that no over-drafting is occurring the City operates a recycled water system and requires new development along the recycled water distribution system to use recycled water for approved irrigation and industrial uses. Additionally, as an effort to minimize the amount of groundwater used, the City encourages and promotes water conservation. The Santa Clara

[1]City of Santa Clara 2015 Urban Water Management Plan, pp. 47-48.

[2]2015 UWMP, p. 33.

Valley Water District recharges the groundwater basins to bank water locally and protect against drought or emergency outages. This strategy allows the District to store surplus water in the groundwater basins and enables part of the county's supply to be carried over from wet years to dry years." In addition, as discussed in chapter 11, Hydrology and Water Quality, of this EIR, the Santa Clara Valley groundwater basin is not considered overdrafted by the Department of Water Resources nor is it adjudicated. As the Groundwater Sustainability Agency (GSA) for both the Santa Clara and the Llagas Subbasins, under the Sustainable Groundwater Management Act (SGMA), Valley Water monitors the basin for local subsidence and works with the various area water retailers to prevent subsidence and overdraft of the basin.[1] Therefore, expanded use of City groundwater would not be expected to result in significant environmental impacts.

Recycled Water. Existing City recycling water systems, operating since 1989, include approximately 33 miles of recycled water pipelines within the city limits. According to the 2015 UWMP, based on sites already utilizing recycled water and projected demands of projects currently in the permitting process to use recycled water (as of preparation of the 2015 UWMP), future recycled water use in the City of Santa Clara could grow to nearly 6,900 acre-feet per year (AFY) in 2040. Though the maximum possible amount of recycled water that could be used for the Specific Plan Area has not been estimated, recycled water use would replace potable water use, thereby reducing Specific Plan demand on potable water supplies. However, it should be noted that for conservative water supply assessment purposes, all water demands in the WSA were calculated using potable water demand.

The environmental consequences of using recycled water would not be considered significant because the City already has a recycled water distribution system in place throughout the city (including recycled water lines around Patrick Henry Drive and Old Ironsides Drive). New development along the recycled water distribution system would be required to use recycled water for approved irrigation and industrial uses. Connecting to recycled water mains would be generally similar to connecting to the City's potable water system. Construction effects would typically be temporary and would occur within either existing public rights-of-way, City property, a project development site, or private property subject to a municipal easement. The types of environmental impacts considered would include construction period air emissions (dust), noise, and traffic interruption typically associated with utility infrastructure construction and would be reduced through mandatory City of Santa Clara construction mitigation procedures and/or other mitigations determined by the City for an individual project—for example, projects in the Specific Plan Area would be required to apply the mitigations in this EIR (e.g., see chapters 5 [Air Quality] and 13 [Noise] of this EIR).

Conservation. Conservation measures could result in water demand reductions of up to 3,298 AFY. According to the Patrick Henry Drive Specific Plan WSA (and consistent with the 2015 UWMP), water conservation measures were projected to remain unchanged during a multiple dry year event in order to provide a conservative water assessment—i.e., did not include use of mandatory conservation measures, such as those that could be required during a multiple year drought like prohibitions on outdoor use (such as irrigation, car washing, and washing down

[1]For additional details on groundwater management, the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP) describes Valley Water's groundwater sustainability goals, and the strategies, programs, and activities that support those goals. The GWMP can be accessed here: https://s3.us-west-2.amazonaws.com/assets.valleywater.org/2016%20Groundwater%20Management%20Plan.pdf.

pavement) or water rationing. Generally, water conservation measures result in reduced potable water demand. For example, in 2020, the City achieved a 15.3 percent reduction in water use compared to water use prior to the 2013 drought.

The environmental consequences of increasing conservation measures would not be considered significant because conservation measures typically rely on voluntary changes in use or behavior (modifying or restricting water use), replacing older appliances with more water-efficient appliances (i.e., clothes washers, dishwashers, toilets, etc.), and programs to encourage drought-tolerant landscaping on private property and on City properties. These types of activities, and the more stringent mandatory conservation measures, do not involve physical construction of water conveyance or other infrastructure that would require ground-disturbing activity and its attendant environmental effects, as discussed above (i.e., construction-period impacts), and therefore are not considered to have significant adverse environmental effects.

These resources (pumping of additional groundwater, reliance on more recycled water, and increased water conservation) would also be available to the Specific Plan.

Therefore, the City determined that adequate water supplies would be available to meet the water demands for the Patrick Henry Drive Specific Plan, even during single and multiple dry year conditions although, as discussed in the WSA, additional conservation programs or other resources (such as increased groundwater pumping or additional use of recycled water as applicable) may be necessary, as detailed in both in the Specific Plan WSA and the 2015 UWMP.

However, the growth projected for the Specific Plan exceeds the growth projections in both the current General Plan and the 2015 UWMP, which would result in a conflict with General Plan policies related to ensuring adequate water capacity.

Impact 18-1: Specific Plan Inconsistency with General Plan and UWMP Growth Projections. The WSA prepared for the proposed Specific Plan includes development in the Plan Area that has not been identified in the General Plan (i.e., exceeds the General Plan land use projections for 2035, the General Plan horizon year), and therefore, because the 2015 Urban Water Management Plan (UWMP) was based on General Plan buildout projections, this WSA is inconsistent with General Plan and UWMP buildout projections. (In addition, the recently adopted 2020 UWMP was based on 2018 ABAG growth projections that also did not include the Specific Plan growth projections.) Until the Specific Plan development exceeding General Plan growth projections is included in the General Plan and UWMP, (the Specific Plan is inconsistent with the General Plan/Urban Water Management Plan, and this inconsistency would represent a ***potentially significant project and cumulative impact*** (see criteria [b] in subsection 18.3.1, “Significance Criteria,” above).

Approval of the Patrick Henry Drive Specific Plan would include adoption of a General Plan amendment to incorporate the Specific Plan into the General Plan’s growth projections. In addition, the recently adopted 2020 UWMP, which was based on 2018 ABAG growth projections, also did not include Specific Plan growth. Until the General Plan is amended to

include Specific Plan development, its growth would continue to exceed the current General Plan growth projections for the Plan Area and would not be consistent with the City's prerequisite policy, prior to implementation of General Plan Phase III, of "undertak[ing] a comprehensive assessment of water…demand and facilities in order to ensure adequate capacity and funding to implement the necessary improvements to support development in the next phase" (General Plan Goal 5.1.1-P3). Therefore, to ensure consistency with General Plan and UWMP policies related to ensuring adequate water supplies for future, projected development, future project applications under the Specific Plan would need confirmation that the City-identified water supplies, as discussed previously, would be adequate to serve each project, in compliance with State law.

In addition, SB 221, adopted by the State in 2001, prohibits a city or county from approving a tentative subdivision map or parcel map, or a development agreement including land subdivision, of more than 500 units unless there is written verification that a sufficient and reliable water supply will be available prior to completion of the project. However, the Specific Plan would not entitle any specific development application, nor have any development applications been submitted under the Specific Plan, so while an adequate water supply must still be verified for individual, future project applications, the City in the Patrick Henry Drive Specific Plan WSA has identified water supplies and estimated water demand in compliance with State law.

A project-specific, confirmation of water supply (e.g., written verification from the City that sufficient water supply is available for the project) would need to be completed in connection with the City's approval of any tentative map or development agreement for the Patrick Henry Drive Specific Plan (regardless of the 500-unit or equivalent threshold under SB 221 and SB 610), when the individual project details have been more definitively established. This subsequent confirmation/verification would include any pertinent updates to the citywide water supply situation and would also include progress on City plans for expanding its recycled water program plus City requirements for implementing additional "best management practices" (BMPs) related to recycled water use and/or water conservation.

Mitigation 18-1. Consistent with SB 221 and SB 610, no tentative map, Architectural/Design Review, or development agreement for a proposed, individual project shall be approved until the City of Santa Clara Water & Sewer Utilities Department confirms that water supplies are adequate for each individual project. Such confirmation shall include an updated description of the citywide water supply situation (including any plans for pumping additional groundwater) at that future time, reflecting any progress on City plans for expanding its recycled water program and any City requirements for implementing additional "best management practices" (BMPs) related to recycled water use and/or water conservation. These City actions would ensure a continual monitoring of citywide water supply throughout implementation of the Specific Plan. Additionally, incorporation of measures to reduce water demand and, if necessary, identification of alternative water sources to offset project supply shortages would reduce this impact to a ***less-than-significant level.***

As part of a project-specific, subsequent, confirmation of water supply, the City may require individual projects proposed under the Specific Plan to incorporate additional measures to

offset possible water supply shortages, such as (1) payment of water supply or capacity fees, (2) use of additional water efficiency standards, and/or (3) establishment of annual water budgets. Alternative water supplies shall be utilized to the maximum extent possible, including recycled water, rainwater/stormwater capture and reuse, greywater reuse, reclaiming of onsite wastewater or other water supplies.

Impact 18-2: Project and Cumulative Need for Water, Wastewater, and Storm Drainage System Infrastructure.[1] The water, wastewater, and storm drainage infrastructure systems would require improvements, including the upgrading of existing deficiencies, in order to accommodate new development facilitated by the Patrick Henry Specific Plan. The information below is summarized mainly from Specific Plan Chapter 6 (Infrastructure) and identifies the water, sewer, and storm drainage infrastructure improvements that are incorporated into the Plan.

(a) Projected Water Demand and Infrastructure Needs. As indicated in Specific Plan Chapter 6 (Infrastructure), distribution mains would be required for new public streets proposed to serve Plan Area fire and domestic water needs. Additionally, existing asbestos-cement (AC) water mains within the Plan Area would need to be upgraded and replaced with the City's standard ductile iron pipe (DIP).

As new development proposals are brought forward, sizing of particular water mains would need to be considered to ensure meeting prescribed fire flows and domestic water needs, and line sizes may or may not need to be increased. Final sizing of any particular pipeline would need to be determined based on project-specific modeling of the system and would rely on water use parameters of the specific development proposal.

New distribution mains in backbone streets would be anticipated to require 8-inch or 12-inch diameter pipes, and distribution mains in local streets would be anticipated to require 8-inch or 12-inch diameter pipes. Any upgrading in pipe sizes would need to be determined using hydraulic modeling based on final land plans, building types, water demands, fire flow requirements, and phasing to establish final actual line sizes in each street.

Also, given the age and material of the water infrastructure in the Plan Area (AC pipes installed between 1966-1981), water mains that would otherwise remain due to their location within a proposed street will need to be upgraded to DIP to comply with current City of Santa Clara Water & Sewer Utilities Department standards. Developers would need to perform individual hydraulic modeling to determine whether existing pipes would require upsizing replacing the AC pipe with DIP.

Although existing recycled water infrastructure in the Plan Area is not expected to require upgrades due to age or materials based on current City of Santa Clara Water & Sewer Utilities Department standards, individual project applicants in the Plan Area would need to perform a hydraulic modeling analysis to evaluate the adequacy of the existing pipe sizes to determine if upgrades in pipe sizes are necessary to meet any projected recycled water capacity needs.

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[1]Although discussion of cumulative impacts is provided in chapter 20, CEQA-Mandated Sections, of this EIR, the analysis of utilities and service systems impacts, due to their inherently cumulative nature and related City-wide capital improvement planning implications, includes the cumulative analysis in the following section.

(b) Projected Wastewater Generation and Infrastructure Needs. The 2016 Sewer Master Plan determined that existing wastewater flows for the City in 2015 totaled 14.9 million gallons per day (mgd) under average dry weather flow (ADWF) conditions and 21.6 mgd under peak dry weather flow (PDWF) conditions, with an increase to 22.4 mgd on "game days" at Levi's Stadium (to account for additional flow). Existing peak wet weather flow (PWWF) conditions totaled 39.6 mgd. Santa Clara sewer connections accounted for the majority of these totals, with the Cupertino Sanitary District contributing between approximately 24 percent to 32 percent.

Using hydraulic modeling to estimate future flows, the 2016 Sewer Master Plan determined that future wastewater flows for the City in 2035 would total 34.4 mgd under ADWF conditions and 46.8 mgd under PDWF conditions (increasing to 47.7 mgd for "game days"). PWWF conditions were estimated to total 59.4 mgd. Similar to the existing flow conditions, Santa Clara sewer connections would be expected to account for the majority of these estimated future flow totals, with the Cupertino Sanitary District estimated to contribute between approximately 20 percent to 26 percent.

The hydraulic model evaluated potential capacity deficiencies and backups in the existing sewer system and identified areas currently experiencing surcharge due to "throttle" conditions (where peak flow exceeds pipe capacity), surcharge due to backwater from a downstream throttle condition, and related violations of City capacity criteria including system components likely to experience these conditions with future (2035) flows. The 2016 Sewer Master Plan recommended solutions to address these conditions, including several pipe upgrades and lift station pump adjustments.

Currently, wastewater flows from the Specific Plan Area are conveyed northeast to the Northside and Rabello pump stations, and from there pumped to the San Jose/Santa Clara Regional Wastewater Facility for treatment and disposal. Table 18-6 shows existing flows and future flow estimates for the Northside and Rabello pump stations, as analyzed in the 2016 Sewer Master Plan.

Sanitary sewer system capacity for development in the Plan Area was evaluated by Woodard & Curran (WC),[1] using the City's sanitary sewer hydraulic model, which includes improvements programmed in the 2016 Sewer Master Plan. Then, existing system capacity for the Plan Area was compared with projected wastewater generated anticipated for development under the two Specific Plan development scenarios. The WC Technical Memorandum (included as Appendix 25.4 of this EIR) based Specific Plan wastewater generation on 2035 sewer system base loads (recently updated for the 2016 Sewer Master Plan) and also included: (1) updated development assumptions consistent with the City's 2035 General Plan; (2) projected loads for additional development approved between 2009 and completion of the 2016 Sewer Master Plan; and (3) other developments that have been evaluated since completion of the 2016 Master Plan. In addition to the wastewater flows generated within the City's service area, the City also receives

[1]Woodard & Curran, "Technical Memorandum re: Sanitary Sewer Capacity Evaluation for Proposed Patrick Henry Drive Specific Plan (APN 104-04-076, 077, 078, 089, 093, 094, 095, 122, 123, 124, 128, 131, 136, 138, 139, 140, 141; APN 104-53-001 through 026)," prepared for Evelyn Liang, City of Santa Clara, May 7, 2020, and included as Appendix 25.4 of this EIR. (Referred to herein as "WC Technical Memo.")

Table 18-6
NORTHSIDE AND RABELLO PUMP STATIONS—FLOW ESTIMATES[1]

Existing ADWF[2] (mgd)	Existing PDWF[2] (mgd)	Existing PWWF[3] (mgd)	Future ADWF[2] (mgd)	Future PDWF[2] (mgd)	Future PWWF[3,4] (mgd)
10.2	15.2/16.0	27.9	24.6	33.5/34.4	41.0

SOURCE: City of Santa Clara 2016 Sewer Master Plan.

[1] Assumes that capital improvement projects recommended in the 2016 Sewer Master Plan relieve capacity deficiencies identified in the plan.
[2] The ADWF value and the first value shown for PDWF include typical non-game day flow from Levi's Stadium; the second value shown for PDWF includes a peak game day flow from Levi's Stadium.
[3] Calculated for a 10-year design storm; assumes non-game day flow from Levi's Stadium.
[4] Assumes peak wet weather flow from the Cupertino Sanitary District (CuSD) would not increase above its contractual maximum flow of 13.8 mgd.

Notes:
ADWF = average dry weather flow
PDWF = peak dry weather flow
PWWF = peak wet weather flow
mgd = million gallons per day

flow from the Cupertino Sanitary District (CuSD), which were factored into the model but capped at the contractual maximum peak wet weather flow (PWWF) discharge of 13.8 mgd.

Existing wastewater flows in the Plan Area were estimated at 0.12 mgd. As indicated in Table 18-7, projected wastewater generation from Specific Plan development would range between 1.97 and 2.15 million gallons per day (mgd), which represents an increase in existing wastewater generation of between 1.85 mgd and 2.03 mgd, mostly due to anticipated residential development.

According to the results of the hydraulic model, the WC Technical Memo determined that existing sanitary sewer infrastructure (including the 2016 Sewer Master Plan improvements) would generally be sufficient to handle future flows in the Plan Area without Specific Plan development, though a few manholes would be expected to experience surcharge due to throttle conditions (i.e., peak flow exceeding full pipe capacity),[1] with the exception that the capacity of the Tasman Lift Station would need to be increased to accommodate future flows (as discussed in more detail below).

The hydraulic model calculated that for development under Specific Plan Scenario A, future flows would result in extensive surcharging that exceeds City deficiency criteria along the Old Ironsides Drive 12-inch sewer pipeline. The model also projected sanitary sewer overflow conditions to occur at the Patrick Henry Drive/Old Ironsides Drive manhole. In addition, this additional future flow would be expected to cause backwater surcharge in upstream segments

[1]The surcharge would not be expected to exceed the City's deficiency criteria.

Table 18-7
ESTIMATED FUTURE DAILY WASTEWATER GENERATION IN PLAN AREA

Scenario	Generation factor	Res'l	Non-Res'l	Office	Ed/Public Facility	Totals (mgd)
Scenario A						***2.15***
12,000 DU	175 gpd/DU	2.1 mgd				2.1
200,000 SF non-res'l	0.1 gpd/SF		0.020 mgd			0.020
110,000 SF educational/ public facility (for 1,864 students)	15 gpd/ student				0.028 mgd	0.028
Scenario B						***1.97***
10,300 DU	175 gpd/DU	1.8025 mgd				1.8025
785,000 SF office	0.15 gpd/SF			0.118 mgd		0.118
200,000 SF non-res'l	0.1 gpd/SF		0.020 mgd			0.020
110,000 SF educational/ public facility (for 1,864 students)	15 gpd/ student				0.028 mgd	0.028

SOURCE: Woodard & Curran, May 7, 2020.

Notes:
Res'l = Residential
DU = dwelling unit
SF = square foot, square feet
gpd = gallons per day
mgd = million gallons per day

of Tasman Drive and Old Ironsides Drive (to Bunker Hill Lane). Other surcharging along the Great America Parkway sewer pipeline, however, would not be expected to exceed City deficiency criteria.

The hydraulic model calculated that for development under Specific Plan Scenario B, future flows would be similar to those under Scenario A, with extensive surcharging exceeding City deficiency criteria along the Old Ironsides Drive 12-inch sewer pipeline, sanitary sewer overflow conditions occurring at the Patrick Henry Drive/Old Ironsides Drive manhole, and backwater surcharge in the upstream segments of Tasman Drive and Old Ironsides Drive (to Bunker Hill Lane). Similar to Scenario A, other surcharging along the Great America Parkway sewer pipeline resulting from future flows under Scenario B would not be expected to exceed City deficiency criteria.

Based on the wastewater hydraulic model, the WC Technical Memo recommended the following sanitary sewer infrastructure improvements, which the City has incorporated into the Specific Plan (see Specific Plan Chapter 6, Infrastructure) and are also included in chapter 3, Project Description, of this EIR:

- Upsize the sewer on Old Ironside Drive to a 21- and 24- inch sewer, using City sizing criteria for new sewer facilities.

- Upsize the Tasman Drive sewer to a 24-inch sewer.

In addition, the Specific Plan (Chapter 6, Infrastructure) includes an additional upgrade requirement for a segment of 12" VCP on Patrick Henry Drive, which was not part of Woodard & Curran study, but has been identified as likely to require upsizing due to the downstream results from the Woodard & Curran study.[1] Further hydraulic modeling would be needed to determine the exact pipe sizes to be upgraded to.

However, even with implementation of these Specific Plan upgrades, flows reaching the Tasman Lift Station would be expected to exceed its current capacity. Therefore, the WC Technical Memorandum also recommends the following additional improvement as a component of the Specific Plan (which the City incorporates therein):

Upsize the Tasman Lift Station to accommodate the PWWF flow of 4.23 mgd (current rated capacity is 1.5 mgd) if the site allows the construction of a new lift station to accommodate the additional flow impacts from the Specific Plan.

Since completion of the WC Technical Memo, the City continues to study wastewater system needs and alternatives, including pump station and gravity systems. As of the writing of this EIR, no final decision has been reached.

Due to Tasman Lift Station site constraints, additional capacity improvements at the Tasman site may not be sufficient to accommodate 2035 PWWF. In that case, if the City cannot identify an alternative approach, then a new pump station would be necessary to handle Specific Plan wastewater. Ideally, a new pump station, if needed, would be located within the Plan Area. When the City decides on the approach, any related infrastructure improvements, to the extent they would serve Plan-facilitated development, would be incorporated into the Specific Plan (Chapter 6, Infrastructure, and Chapter 7, Implementation Plan). As standard conditions of approval, each individual project would need to provide sanitary sewer information to the City. No project would be approved by the City until the City determines that sufficient sewer capacity exists.

In general, construction of a new pump station would involve grading, excavation, truck activity (including delivery of pumps and other pump station equipment), and related activities. As design details are finalized, inclusion of air scrubbers for odor control, noise covers or shielding for equipment noise, and possible screening for pump station elements extending above ground level would be considered as applicable. Impacts related to new pump station construction in the Plan Area are addressed below. If an alternative location for a new pump station is identified outside of the Plan Area, that would be a separate project subject to its own CEQA review (i.e., the analysis in this EIR, including mitigations, would not apply). In addition, any improvements to the Tasman Lift station would also be subject to separate review, including CEQA, as deemed applicable by the City.

The pump station capacity values for the Northside and Rabello pump stations mentioned in the WC Technical Memo were updated by Schaaf & Wheeler in March 2021 to assist the City refine

[1]Habid Coronado, P.E., Senior Project Engineer, BKF Engineers, email dated March 5, 2021, to MIG.

its planning efforts.[1] Based on City Public Works review of the SW Technical Memo, the total pumping capacity (February 2021) of the Northside and Rabello Pump Stations is 46.1 mgd. The estimated 2035 General Plan PWWF flows were also updated, with a new total of 46.34 mgd. This total includes all other specific plan/focus area plan as of February 2021. According to Public Works, the difference between the revised PWWF flows and pump station capacity is 0.24 mgd (approximately 0.5 percent of the total pump station capacity) and is less than the 0.5 mgd accuracy limit (tolerance factor); therefore, no capacity improvements to the Northside or Rabello pump stations would be necessary at this time.[2]

(c) Projected Storm Drainage Infrastructure Requirements. Water quality and potential flooding are discussed in chapter 11, Hydrology and Water Quality, of this EIR. This section evaluates storm drainage infrastructure improvement needs (e.g., new pipelines) for the proposed Patrick Henry Drive Specific Plan.

The 2015 Storm Drain Master Plan identified a number of storm drainage improvement projects in the San Tomas Aquino Creek Drainage Area, but no storm drain projects were identified in or near the Specific Plan Area. Specific Plan Chapter 6 (Infrastructure Program) indicates that stormwater flows generated by future development under the Patrick Henry Drive Specific Plan would be adequately received by existing off-site storm drain systems. In addition, because the Plan Area is currently developed, no pipeline extensions are anticipated to serve the Plan Area.

Therefore, because no storm drainage improvements have been determined necessary as a result of future Specific Plan buildout, no impact has been identified. However, the City would continuously monitor new development approvals to ensure that stormwater flows are handled sufficiently. Although full development capacity might never be reached, if development in the Plan Area reaches 80 percent of capacity prior to 2040 (the Plan horizon year), the City would reevaluate both the Patrick Hendry Drive Specific Plan and the EIR, and amend them as necessary to address and mitigate growth exceeding the capacity numbers.

Conclusion. The utility (water, wastewater, storm drainage) infrastructure recommendations described above are based on projected utility demands. If the projected utility demands change as a result of development under the Specific Plan lower than the forecasted development capacity, or as a result of revisions to City or jurisdictional agency standards, or design criteria, the utility system modifications proposed to serve the Plan Area would be revised accordingly so that the modifications are adequate to meet the revised utility demands.

The construction of Plan-related utility infrastructure would be temporary and would occur within either existing public rights-of-way, City property, a project development site, or private property subject to a municipal easement. Construction impacts have been evaluated as part of this Specific Plan CEQA analysis, and construction period air emissions (dust), noise, and traffic interruption typically associated with utility infrastructure construction would be reduced through mandatory City of Santa Clara construction protocols and mitigations (e.g., see chapters 5 [Air

[1]Schaaf & Wheeler, "Memorandum re: Northside and Rabello Pump Station Firm Capacity Evaluation," prepared for Evelyn Liang, City of Santa Clara, March 16, 2021, and included as Appendix 25.4 of this EIR. (Referred to herein as "SW Technical Memo.")

[2]Gustavo Gomez, Principal Engineer (AN), City of Santa Clara Public Works Department, email dated June 29, 2021, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

Quality] and 13 [Noise] of this EIR), as they would apply to other development under the Specific Plan. No additional significant environmental impact beyond those already identified in this EIR would be anticipated with such construction activity. Based on the above analysis, the Plan's construction and operational impacts on water, wastewater, and storm drainage infrastructure would be ***less-than-significant*** (see criteria [a] and [c] in subsection 18.3.1, "Significance Criteria," above).

Mitigation 18-2. No significant impact has been identified; no mitigation is required.

Impact 18-3: Wastewater Treatment Capacity Impacts. Wastewater from the City of Santa Clara, with some flow from the Cupertino Sanitary District (CuSD), is conveyed to the San Jose-Santa Clara Regional Wastewater Facility (RWF) for treatment before the treated water is discharged into the South San Francisco Bay or recycled for other uses. The RWF has a Water Board/NPDES treatment capacity limit of 167 million gallons per day (mgd). Approximately 35 mgd of RWF treatment capacity is allocated to other wastewater agencies by agreement. The cities of San Jose and Santa Clara share the remaining treatment capacity. In 2020, the treatment capacity allotment for Santa Clara was approximately 25.147 mgd, and the City had approximately 9.606 mgd of unused treatment capacity remaining.[1]

According to the Woodard & Curran technical memo prepared for the Specific Plan, wastewater generation from Specific Plan development is projected to total approximately 2.15 mgd under Scenario A and 1.97 mgd under Scenario B. As noted in the technical memo, which based its future capacity analysis on updated General Plan Phase 3 loads, additional wastewater generation from other General Plan-approved development combined with wastewater generated from Patrick Henry Drive Specific Plan development would total approximately 4.3 mgd, which would not exceed the City's remaining capacity allocation of 9.606 mgd. Therefore, Specific Plan development would have a ***less-than-significant impact*** on wastewater treatment facility capacity (see criterion [c] in subsection 18.3.1, "Significance Criteria," above).

Mitigation 18-3. No significant impact has been identified; no mitigation is required.

Impact 18-4: Project Impacts on Solid Waste Disposal and Recycling Service. Solid waste in the Plan Area is under an exclusive agreement with Mission Trail Waste Systems and is currently taken to the Mission Trail Transfer Station in Santa Clara for processing. From there it goes to the Newby Island Sanitary Landfill in Milpitas. Construction and demolition debris is currently taken to the Zanker Road Resource Recovery Operation. Recology South Bay provides recyclables hauling services to City areas zoned commercial, industrial, and residential. As of January 1, 2021, all exclusive solid waste and recycling in the Plan Area will be collected by GreenWaste Recovery and taken to the GreenWaste Recovery Facility in San Jose for processing, and from there would be taken to the Newby Island Sanitary Landfill (see "Setting," above). The City has an agreement with GreenWaste Recovery that would provide the City with disposal capacity through June 30, 2036.

[1]"City of San Jose Environmental Services Department, San Jose - Santa Clara Regional Wastewater Facility Tributary Agencies' Estimated Available Plant Capacity – 2020, December 2020" (https://www.sanjoseca.gov/Home/ShowDocument?id=68283, accessed 2/24/21).

The Newby Island Sanitary Landfill has an estimated remaining capacity of nearly 21,200,000 cubic yards (with a cease operation date of January 1, 2041). The Zanker Road Resource Recovery Operation has a throughput of 1,300 tons per day. Government regulations stipulate the process through which landfills apply for permit extensions, so that regional solid waste disposal and recycling service can continue over time (i.e., beyond the Patrick Henry Drive Specific Plan's 2040 horizon year). Any expansion of those waste disposal and recycling facilities, or development of new facilities, would be subject to its own CEQA requirements.

The City's Solid Waste ordinance (No. 1948; City Code 8.25) stipulates solid waste and recycling requirements for garbage, recycling and organic services, construction & demolition debris recycling, solid waste management best management practices, service increases, and enforcement. In addition, the City's Development Guidelines for Solid Waste Service ("Solid Waste Guidelines") require for new and redevelopment projects to demonstrate their ability to manage, monitor trash/recycling materials generated to City's specifications.

The Guidelines specify solid waste generation rates for residential development: *"Multi-family residential garbage level of service must be calculated at a rate of no less than 32 gallons per week per unit (roughly 1 cubic yard per every 6 units)."* The Guidelines also specify solid waste generation rates for commercial, office, and other non-residential development: *"Office/ Commercial: 3 cubic yards per 20,000 square feet; Retail (including food stores): 3 cubic yards per 8,000 square feet; Restaurants and food service: 3 cubic yards per 2,000 square feet."*

New non-residential development projects must submit a solid waste management plan to the Department of Public Works. The plan would be required to include a site plan with all proposed solid waste container locations, enclosure locations, and street and alley widths, and would need to comply with the Solid Waste Guidelines.

Based on City solid waste generation rates, development under the Specific Plan would be anticipated to generate between 119,600 and 128,180 cubic yards of solid waste per year,[1] with most of the waste generated by residential use. This would represent approximately 0.6 percent of annual solid waste disposed of at the Newby Island Landfill.[2]

Because Patrick Henry Drive Specific Plan implementation would not be expected to generate an inordinate amount of solid waste for its size (i.e., a rate inconsistent with adopted plans, policies, and regulations) either during demolition/construction activities or operation, and would be served by solid waste disposal and recycling facilities with sufficient capacities to

[1]Scenario A (12,000 DUs and 310,000 SF Other Non-Residential Uses): 12,000 DU @ 1 CY/week per 6 DU; 12,000 DU ÷ 6 DU = 2,000 x 1 CY = 2,000 CY/week (for residential); plus 310,000 SF other non-residential @ 3 CY/week per 2,000 SF (highest generation rate, aka "worst case"); 310,000 SF ÷ 2,000 SF = 155 x 3 CY = 465 CY/week (for other non-residential) = 2,465 CY/week, or 128,180 CY annual solid waste.

Scenario B (10,300 DUs, 785,000 SF Office, and 310,000 SF Other Non-Residential Uses): 10,300 DU @ 1 CY/week per 6 DU; 10,300 DU ÷ 6 DU = 1,717 x 1 CY = 1,717 CY/week (for residential); plus 785,000 SF office @ 3 CY/week per 20,000 SF; 785,000 SF ÷ 20,000 SF = 39.25 x 3 CY = 117.75 CY/week, rounded up = 118 CY/week (for office); plus 310,000 SF other non-residential @ 3 CY/week per 2,000 SF (highest generation rate, aka "worst case"); 310,000 SF ÷ 2,000 SF = 155 x 3 CY = 465 CY/week (for other non-residential) = 2,300 CY/week, or 119,600 CY annual solid waste.

[2]119,600 CY ÷ 21,200,000 CY (landfill) = 0.56 percent, rounded up = 0.6 percent; 128,180 CY ÷ 21,200,000 CY (landfill) = 0.6 percent.

accommodate the Specific Plan's demolition/construction debris and solid waste disposal needs, the Specific Plan's effect on solid waste and recycling services would represent a ***less-than-significant impact*** (see criteria [d] and [e] in subsection 18.3.1, "Significance Criteria," above).

Mitigation 18-4. No significant impact has been identified; no mitigation is required.

Impact 18-5: Electricity, Natural Gas, and Telecommunications Infrastructure. Specific Plan needs for electricity, natural gas, and telecommunications infrastructure improvements are discussed below:

(a) Electrical System Infrastructure Needs. As discussed in Specific Plan Chapter 6 (Infrastructure), Silicon Valley Power (SVP) owns and operates the electric service within the City of Santa Clara. SVP has identified several electrical system improvements necessary to provide adequate service to Specific Plan development.[1]

For the Plan Area, SVP has identified the need for a new distribution duct bank to be built to provide a connection with the SVP Mission substation; in addition, other related electrical equipment improvements would be necessary along property frontages. Underground easements would be necessary for installation of substructures along frontages (either on the west end of parcel 6 or on the east end of parcel 3), as required of developers by City Code section 17.15.210. SVP anticipates that these frontage improvements for equipment would also be able to serve other projects in the Plan Area and not solely projects on whose property they are located.

According to SVP, funding for duct bank crossings required in the Plan Area would be the responsibility of the "first-come" developer; funding for relocating existing SVP equipment would be the responsibility of future project applicants.

In addition, though the Esperanca electrical substation (an SVP project currently in the planning stage) is intended to provide for the electrical needs of the Related Santa Clara project, SVP has determined that it would have sufficient capacity to handle the electrical system distribution needs of the Specific Plan. Transmission line upgrades for the Plan Area may be required, though construction of these would be the responsibility of SVP.

Future Specific Plan project applicants would be responsible for funding the offsite distribution duct bank (at the Mission substation). Other distribution and transmission system improvements that are not limited to serving the Plan Area would require future Specific Plan project applicants to pay a pro rata share of the cost, based on plans and cost estimates as they are developed (also, Specific Plan Chapter 7, Implementation Plan, outlines the approaches for one-time and on-going costs associated with public infrastructure improvement).

Other potential electrical system improvements that are being considered include a transmission and distribution interconnection study to evaluate the feasibility and impact of SVP improvements, and a Bulk Electric System/interconnection study, both currently in progress. Pro rata cost sharing of total transmission system improvements would be determined based on

[1]"Patrick Henry Drive Specific Plan, Stakeholders' Meeting," Silicon Valley Power, 9/18/20.

dollars per kVA (according to SVP) and applicable to individual project demand; however, cost and cost sharing mechanisms have not been finalized.

Electrical system improvements in the Plan Area would be expected to occur within either existing public rights-of-way or on City property, a project development site, or private property subject to a municipal easement. Construction impacts would be temporary. Construction period effects associated with these improvements (such as air emissions/dust, noise, and traffic interruption) would be reduced through mandatory, uniformly applied City of Santa Clara construction standards and regulations, and by mitigations already identified elsewhere in this EIR--for instance, see EIR chapters 5 (Air Quality) for construction period dust control and air emissions reduction measures; 6 (Biological Resources) for ground-disturbance impacts on special status species and potential tree removal; 7 (Cultural and Historical Resources) for impacts on potentially historic structures and/or cultural resources; 8 (Geology and Soils) for erosion control measures and building code design standards; 9 (Greenhouse Gas Emissions/Energy) for GHG- and energy-reducing measures applicable to construction equipment; 10 (Hazards and Hazardous Materials) for potential construction-period hazardous materials use and transport and for potential hazardous waste sites; 11 (Hydrology and Water Quality) for construction-period storm water runoff provisions; and 13 (Noise) for construction-period noise control. No additional significant environmental impacts would be anticipated with this construction activity beyond those impacts already identified in this EIR.

Construction period impacts associated with electrical system improvements outside of the Plan Area would also be expected to occur within either existing public rights-of-way or on City property, or private property subject to a municipal easement. Construction impacts would be temporary. Construction period effects associated with these improvements (such as air emissions/dust, noise, and traffic interruption) would be reduced through mandatory, uniformly applied City of Santa Clara construction standards and regulations. These off-site projects would be subject to their own individual CEQA review, which would be expected to involve an evaluation of environmental impact topics similar to that provided in this EIR; however, because no plans have been finalized nor sites identified for these potential additional electrical system improvements, any further analysis would be speculative. (In addition, it should be noted that further evaluation requirements may be required by the California Public Utilities Commission.[1])

Because Plan Area electrical system improvements would be required to comply with mitigation measures already identified in this EIR, impacts from Specific Plan electrical system improvements would be less than significant.

(b) Natural Gas Infrastructure Needs. As discussed in Specific Plan Chapter 6 (Infrastructure), Pacific Gas and Electric Company (PG&E) owns and operates the gas service within the City of Santa Clara, including the Specific Plan Area. A gas main runs east-west roughly midway through the eastern parcel between Great America Parkway and Old Ironsides Drive, then continues south along Old Ironsides Drive to Patrick Henry Drive, and from there heads west before crossing between the two southwestern parcels and past Calabazas Creek to the City of Sunnyvale. PG&E has stated that there are no known capacity limitations within the gas system in the Specific Plan Area. Gas mains would be subject to possible upgrading to comply with current PG&E standards. Any pipeline upgrade or connection to new buildings

[1]Depending on its size (usually greater than 100kV), a bulk electric system could involve additional evaluation and permitting from other State and federal agencies.

would be expected to occur within either existing public rights-of-way or on City property, a project development site, or private property subject to a municipal easement.

Construction impacts would be temporary. Construction period effects associated with potential pipeline upgrades and connections to buildings (such as air emissions/dust, noise, and traffic interruption) would be reduced through mandatory, uniformly applied City of Santa Clara construction standards and regulations, and by mitigations already identified elsewhere in this EIR--for instance, see EIR chapters 5 (Air Quality) for construction period dust control and air emissions reduction measures; 6 (Biological Resources) for ground-disturbance impacts on special status species and potential tree removal; 7 (Cultural and Historical Resources) for impacts on potentially historic structures and/or cultural resources; 8 (Geology and Soils) for erosion control measures and building code design standards; 9 (Greenhouse Gas Emissions/Energy) for GHG- and energy-reducing measures applicable to construction equipment; 10 (Hazards and Hazardous Materials) for potential construction-period hazardous materials use and transport and for potential hazardous waste sites; 11 (Hydrology and Water Quality) for construction-period storm water runoff provisions; and 13 (Noise) for construction-period noise control. No additional significant environmental impacts would be anticipated with this construction activity beyond those impacts and identified in this EIR. Therefore, impacts from Specific Plan natural gas infrastructure needs would be less than significant.

(c) Telecommunications Infrastructure Needs. AT&T and Xfinity (Comcast) currently provide communications and cable/internet infrastructure to the Plan Area, with cell phone service available from several of the larger providers (e.g., AT&T, Verizon, T-Mobile). In addition, a "small cell antenna" initiative is being proposed by telecommunication carriers in coordination with Silicon Valley Power to provide more capacity in congested areas and improve service in areas where more traditional cell phone towers can't reach. (These smaller antennas can be attached discreetly to street light poles.) Individual project applicants would be responsible for coordinating communications and cable/internet connections with AT&T and Xfinity (Comcast), which would be expected to occur within either existing public rights-of-way or on City property, a project development site, or private property subject to a municipal easement anticipated to be provided for by existing lines.

Construction impacts would be temporary. Construction period effects associated with potential telecommunication line upgrades and/or connections to buildings (such as air emissions/dust, noise, and traffic interruption) would be reduced through mandatory, uniformly applied City of Santa Clara construction standards and regulations, and by mitigations already identified elsewhere in this EIR--for instance, see EIR chapters 5 (Air Quality) for construction period dust control and air emissions reduction measures; 6 (Biological Resources) for ground-disturbance impacts on special status species and potential tree removal; 7 (Cultural and Historical Resources) for impacts on potentially historic structures and/or cultural resources; 8 (Geology and Soils) for erosion control measures and building code design standards; 9 (Greenhouse Gas Emissions/Energy) for GHG- and energy-reducing measures applicable to construction equipment; 10 (Hazards and Hazardous Materials) for potential construction-period hazardous materials use and transport and for potential hazardous waste sites; 11 (Hydrology and Water Quality) for construction-period storm water runoff provisions; and 13 (Noise) for construction-period noise control. No additional significant environmental impacts would be anticipated with this construction activity beyond those impacts already identified in this EIR. Therefore, impacts from Specific Plan telecommunications infrastructure needs would be less than significant.

Because construction of electrical system, natural gas, and telecommunications improvements in the Specific Plan Area would be required to comply with uniformly applied City of Santa Clara construction standards and regulations and the mitigations already identified elsewhere in this EIR, the construction period impacts associated with these improvements would represent a ***less-than-significant impact*** (see criterion [a] in subsection 18.3.1, "Significance Criteria," above).

Mitigation 18-5. No significant impact has been identified; no mitigation is required.

19. PROJECT CONSISTENCY WITH LOCAL AND REGIONAL PLANS

Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires EIRs to "...discuss any inconsistencies between the proposed project and applicable general plans, specific plans and regional plans." The Patrick Henry Drive Specific Plan would be substantially consistent with local and regional plans, as discussed in this chapter.

19.1 LOCAL PLANS

19.1.1 Project Consistency with Relevant General Plan Policies

The proposed Patrick Henry Drive Specific Plan is substantially consistent with all applicable policies of the City of Santa Clara 2010-2035 General Plan. Each EIR chapter (e.g., Land Use and Planning, Transportation) provides relevant identified General Plan policies that are applicable to the Specific Plan (see the "Regulatory Framework" section in each chapter).

The Patrick Henry Drive Specific Plan is a "specific plan," which is one of several policy and regulatory tools used by the City of Santa Clara to implement the City's 2010-2035 General Plan. A specific plan implements the General Plan through the establishment of more detailed policies, regulations, and actions specifically focused on a "plan area," in this case, the Patrick Henry Drive Specific Plan Area. Because the Patrick Henry Drive Specific Plan is a specific plan, State law requires the document to be substantially consistent with the 2010-2035 General Plan, including the goals, policies, objectives, and standards contained in the General Plan.[1] Under State law, the term "substantially consistent" allows for potential inconsistencies among the multitude of policies within general plans themselves, as well as unforeseen policy issues that can be rectified through the City development review and decision-making processes.

In practical terms and consistent with its legal status as a specific plan, the Patrick Henry Drive Specific Plan is intended to be an "action plan" and focuses on tools needed to achieve the community's desires for the Plan Area, including new land use frameworks and design standards and guidelines, economic and fee incentives, street and sidewalk enhancements, and infrastructure improvements. To help implement these actions, City staff is investigating potential financing tools that could be applied in the Plan Area during Plan implementation.

Chapter 3 (Project Description) of this EIR summarizes the Patrick Henry Drive Specific Plan. The reader is encouraged to review the entire Specific Plan at:[2]

[1]Two General Plan appendices, Appendix 8.12 (Housing Element) and Appendix 8.13 (Climate Action Plan), include additional policies and objectives that are discussed in more detail below under section 19.1.3.

[2]Due to Covid-19 restrictions, all City libraries and City Hall remain closed, and no hard copies of the EIR will be available.

https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/patrick-henry-drive

19.1.2 Patrick Henry Drive Specific Plan Land Use Designations

Both the City of Santa Clara 2010-2035 General Plan and the Patrick Henry Drive Specific Plan identify the Plan Area as the location of future higher-intensity residential development with other mixed-uses (including public facilities, neighborhood retail, and office), which may result in building heights and massing greater than existing conditions. Under the Patrick Henry Drive Specific Plan, heights in the Plan Area (see EIR Figure 3-8, Building Heights) would be allowed to reach a maximum of:

- 5 to 12 stories, mainly around the perimeter of the Plan Area but also some inner parcels; and
- 12+ stories, mainly inner parcels but also one parcel in the southern part of the Plan Area near Mission College Boulevard.

By general comparison, existing zoning in the Plan Area allows maximum heights of up to seventy (70) feet. However, as part of the Specific Plan approval, the City would adopt General Plan amendments and zoning changes as necessary to ensure consistency between the Patrick Henry Drive Specific Plan and the City of Santa Clara 2010-2035 General Plan and current zoning code (i.e., at the time of the Specific Plan approval, Zone Change and Zoning Text Amendments would be adopted by ordinance, and the entire Plan Area would be subject to General Plan amendments that incorporate the Plan Area's buildout potential in the overall City buildout projections).

The Specific Plan also includes components that would avoid or reduce other potential land use and planning impacts. The Specific Plan is intended to implement the basic project objectives (see chapter 3, Project Description, of this EIR), identify improvements, and adopt standards, guidelines, and implementation actions which can be consistently applied throughout the Plan Area. The Specific Plan is designed to ensure that housing and mixed-use development is conveniently located near public transportation, shopping, and employment.

New development throughout the Plan Area would include a combination of residential, retail, community, and "flex" uses, with optional office use in one potential development scenario ("Scenario B"). Residential uses would be located throughout the Plan Area. New uses would include combinations of, for example, residential, retail, restaurant, and/or office uses in single or mixed-use buildings.

Parks, open space, and recreation strategies in the Patrick Henry Drive Specific Plan (see EIR chapter 15, Public Services, and chapter 16, Recreation) focus on providing new park and open space areas within the Plan Area.

The Patrick Henry Drive Specific Plan would serve to achieve a coordinated, connected environment within the Plan Area and to surrounding neighborhoods, while increasing land use intensity through strategies and unified, context-sensitive design standards and guidelines which would result in the efficient use of existing resources and infrastructure. Specific Plan components are purposely designed to achieve and maintain a cohesive, compatible land use pattern and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas.

19.1.3 Project Consistency with Other Adopted Local Plans

The Patrick Henry Drive Specific Plan would be subject to the following City of Santa Clara adopted plans:

City of Santa Clara General Plan Appendix 8.13: Climate Action Plan. The City of Santa Clara Climate Action Plan (CAP) was adopted in December 2013 as General Plan Appendix 8.13. The CAP includes measures to reduce emissions by 23.4 percent below 2008 levels by 2020 and a series of measures to reduce emissions beyond. Reduction strategies applicable to the proposed Specific Plan include, but are not limited to, achieving City-adopted electricity efficiency targets to reduce electricity use by five percent through incentives, pilot projects, and rebate programs; incentivizing and facilitating installation of 6 MW of customer-owned residential and nonresidential solar PV projects; meeting the water conservation goals presented in the Urban Water Management Plan to reduce per capita water use by 2020; and a citywide tree-planting goal of 2,500.

> *Specific Plan Consistency:* As further discussed in chapter 9, Greenhouse Gas Emissions and Energy, of this EIR, the Specific Plan would be consistent with the Climate Action Plan because electricity for the Plan Area would be provided through Silicon Valley Power (SVP), which as of January 1, 2018 divested from coal and provides 100 percent carbon-free power to all residential customers). In addition, development under the Specific Plan would result in replacement of older, less-energy-efficient structures with newer structures that would comply with the CALGreen Code and thereby increase energy efficiency. The Specific Plan would not inhibit or otherwise interfere with the City's goal of installing solar PV projects, and proposed new development in the Plan Area would be required to be "solar-ready" (i.e., able to accommodate solar energy systems on rooftops, parking structure top decks, and similar flat surfaces). Also, the Specific Plan would provide for electrical vehicle (EV) parking.

City of Santa Clara 2015 Urban Water Management Plan. The City adopted an Urban Water Management Plan (UWMP) in 2016 in compliance with State law. The UWMP addresses water supplies (current and long-term), future water needs, conservation, and resource management programs to ensure adequate supplies are available to meet existing and future water demand. The UWMP, which was prepared in coordination with the City's two treated water wholesalers (San Francisco Public Utilities Commission and Valley Water) and with neighboring cities and water retailers, must be prepared every five years and submitted to the Department of Water Resources (DWR).

> *Specific Plan Consistency:* As further discussed in chapter 18, Utilities and Service Systems, of this EIR, the Specific Plan was proposed after completion of the City's 2015 UWMP and so is not consistent with that UWMP; however, in compliance with California Water Code Section 10910, a water supply assessment (WSA) was prepared for the Specific Plan, which provides the mandated discussion of water supplies available during a 20-year period to meet the projected water demand of Specific Plan development.

Santa Clara City Code. Relevant to trees, the Santa Clara City Code (Section 12.35.020) requires a written permit from the superintendent of streets prior to the alteration or removal of any tree, plant or shrub planted or growing in the streets or public places of the City (including trenching activities around or alongside any tree, plant or shrub with the intent of cutting the roots or otherwise causing damage).

Specific Plan Consistency: As further discussed in chapter 6, Biological Resources, of this EIR, the Specific Plan would be consistent with Santa Clara City Code provisions for street trees because any project plans that proposed to alter or remove any trees, plants, or shrubs along streets or public portions in the Plan Area would need a written permit from the superintendent of streets authorizing the work, as required by the City Code.

City of Santa Clara Green Stormwater Infrastructure Plan. As part of the City's NPDES compliance, the Green Stormwater Infrastructure Plan was approved by the City in 2019 to provide a citywide strategy for identifying and evaluating green stormwater infrastructure (GSI) opportunities, including estimating impervious surface target areas to be redeveloped with GSI facilities and providing technical tools for tracking projects. The Plan also identified coordinating with private developers as a key element in implementing GSI when Focus Areas are developed, for instance by installing green infrastructure facilities in public rights-of-way such as street frontages along properties being developed, and also by installing GSI facilities in industrial areas as they are redeveloped. The Plan supports the City's requirement for future development projects to comply with the Municipal Regional Permit C.3 requirements.

Specific Plan Consistency: As discussed in chapter 11, Hydrology and Water Quality, of this EIR, the Specific Plan would be consistent with the GSI because the City would coordinate with private property developers to install stormwater planters in pedestrian zones and incorporate bioretention areas between parking spaces and in curb extensions (bulbouts), greenways, and parkland.

City of Santa Clara General Plan Appendix 8.12: Housing Element. Chapter 8.12 of the General Plan, the 2015-2023 Housing Element, sets forth the City's "plan for an adequate variety of safe, appropriate, and well-built housing for all residents of Santa Clara." The anticipated need for housing is identified in the City's "Housing Needs Assessment," which is based on data from the U.S. Census, the Association of Bay Area Governments (ABAG), and various online real estate resources. The Housing Element also identifies vacant and underutilized land that has potential for higher density residential or mixed-use development to meet the City's housing needs.

Specific Plan Consistency: As discussed further in chapter 14, Population and Housing, of this EIR, the Specific Plan would be consistent with the 2015-2023 Housing Element because it would provide for building higher density housing on an underutilized site in a transit-oriented area, which would help mitigate the City's jobs/housing ratio imbalance. In addition, the Specific Plan would transition building heights adjacent to lower-density neighborhoods, which would promote neighborhood compatibility while preserving neighborhood character. In addition, the Specific Plan calls for achieving a higher level of housing affordability than required by the City Code (15 percent) and has stated as a planning principle that affordable housing units in the Plan Area will exceed the City minimum so that the area is accessible to more residents and support a diverse population.

City of Santa Clara Bicycle Plan Update 2018. The Bicycle Plan Update establishes the city's long-term vision for improving bicycling in Santa Clara and recommends policies, programs, and projects to develop a comprehensive bicycling network with access to transit, schools, and other destinations, as well as addresses the design of accessible facilities. The Plan also focuses on improving corridors and intersections to promote safety, connectivity, and comfort, plus

providing amenities at “end-of-trip” destinations (such as short- and long-term bike parking, and lockers, showers, and repair stations).

Specific Plan Consistency: The Specific Plan would be consistent with the City’s Bicycle Plan Update because it would include new and improved bicycle connections with links to neighborhoods; provide for inclusion of bicycle parking and locker facilities on development sites in the Plan Area; and require the Specific Plan to install Class IV protected bicycle lanes on Patrick Henry Drive and Old Ironsides Drive and Class III bicycle boulevards on interior Plan Area roads as identified in the Plan.

City of Santa Clara Pedestrian Master Plan 2019. The Pedestrian Master Plan establishes the framework for how the city can achieve its vision of being a walkable community and create safe, comfortable, accessible, and enjoyable walking opportunities for residents. The Plan identifies improvements to the pedestrian network, including designation of “Priority Pedestrian Zones” across the city (zones with the highest potential for increasing walkability), roadway crossings, traffic signals, and other environment enhancements such as shade structures and enclosures, benches, and trees and planters, that would make walking in Santa Clara safer and more comfortable. In addition, lighting on sidewalks and paths, bus stop amenities, improvements to navigation (wayfinding), opportunities for physical activity along routes, and building connectedness and destination accessibility are prioritized.

Specific Plan Consistency: The Specific Plan would be consistent with the City’s Pedestrian Master Plan because in addition to providing pedestrian lighting, pedestrian crossings, and bus stops, the Plan would create pedestrian zones with trees, planters, and street furniture. The Plan would also encourage plazas that include pedestrian-scaled lighting, benches or flexible seating, shade structures, trees and landscaping, water features, and public art.

19.2 REGIONAL PLANS

The Patrick Henry Drive Specific Plan would be subject to the adopted plans and regulations of the following regional agencies:

Bay Area Air Quality Management District (BAAQMD). The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the San Francisco Bay Area Air Basin (SFBAAB). The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards.

Specific Plan consistency with these plans, regulations, and rules is discussed below.

BAAQMD Regulations. The BAAQMD regulates and limits emission of air pollutants. The BAAQMD is vested with authority to regulate airborne pollutants through both inspection and law enforcement.

Specific Plan Consistency: As discussed in chapter 5, Air Quality, of this EIR, the Specific Plan would be consistent with BAAQMD regulations because review and permitting of projects under the Specific Plan would require use of Best Available Control Technology to achieve no net increase in nonattainment pollutants; reduce risk from toxic air contaminants;

limit visible particulate matter emissions; limit NOx and CO emissions from stationary internal gas combustion engines; and control asbestos emissions during demolition.

Bay Area Clean Air Plan (CAP). On April 29, 2017, the BAAQMD adopted its *Spare the Air-Cool the Climate 2017 Clean Air Plan* (Clean Air Plan). The 2017 Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, in fulfillment of state ozone planning requirements. The Plan focuses on the three following goals:

- Attain all state and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

The plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050. The control measures aggressively target the largest source of GHG, ozone pollutants, and particulate matter emissions – transportation. The 2017 plan includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives, and off-road equipment.

Specific Plan Consistency: As discussed in chapter 5, Air Quality, of this EIR, the Specific Plan would be consistent with the CAP because it would: (1) reduce VMT and trips due to its proximity to transit and its high density, mixed-use development design; (2) promote multimodal transportation, transit subsidies, carpool incentives, bicycling incentives, carshare memberships, and/or vanpools; (3) provide connections to regional and local transit; (4) provide amenities and improve safety for pedestrians; (5) limit parking; (6) support ZEV and Plug-in Electric Vehicles design standards for future charging stations; (7) comply with CALGreen sustainable building requirements; (8) require new development to be solar-ready; (9) require new development to utilize graywater systems and stormwater harvesting to promote water efficiency; (10) provide use of shading of pedestrian areas and climate-appropriate landscaping and ground cover to reduce the “heat island” effect; (11) require trees to be planted along greenways and roadways; and (12) provide recycling and composting facilities.

Planning Healthy Places. In May 2016, the BAAQMD released *Planning Health Places*, a guidebook that provides important air quality and public health information that is intended to assist local government in addressing and minimizing potential air quality issues. The BAAQMD intends that the information and recommendations in the guidebook be incorporated into city or county General Plans, neighborhood or specific plans, land use development ordinances, or into single projects. *Planning Healthy Places* recommends three primary strategies: (1) reduce or prevent emissions from pollution source(s) when possible; (2) implement best management practices where appropriate to reduce exposure to harmful pollutants; and (3) perform a more detailed study of an area when necessary.

Recommended best practices for reducing emissions of local air pollution include but are not limited to: including policies that limit the use of diesel generators, or control their emissions; limiting the idling of trucks to two minutes or less; requiring the electrification of loading docks in new and existing commercial land uses; and the implementation of transportation demand

management strategies, traffic management strategies, and stipulations on development projects to use only the cleanest equipment, vehicles and fuel during construction.

Specific Plan Consistency: As discussed in chapter 5, Air Quality, of this EIR, the Specific Plan would be consistent with the strategies outlined in *Planning Health Places* because it would only allow diesel generators or natural gas-fueled boilers as permitted by BAAQMD rules and regulations, which are designed to ensure no significant exposure for on- or off-site sensitive receptors; incorporate BAAQMD Basic Control Mitigation Measures that minimize construction vehicle idling times; incorporate transportation demand management (TDM) strategies; and require equipment to meet cleaner emission standards by using alternative fuel sources (e.g., electric-powered and liquefied or compressed natural gas).

San Francisco Regional Water Quality Control Board (Region 2). The San Francisco Regional Water Quality Control Board Region 2 (SFRWQCB) regulates stormwater quality under authority of both the Federal Clean Water Act and the Porter-Cologne Act. The SFRWQCB issues National Pollutant Discharge Elimination System (NPDES) permits to dischargers of municipal and industrial stormwater runoff and operators of large construction sites. In coordination with permittees of the San Francisco Bay Municipal Regional Stormwater Permit, including the City of Santa Clara, SFRWQCB staff performs an annual performance review and evaluation of the County's stormwater management program and NPDES compliance activities. The SFRWQCB also protects groundwater through its regulatory and planning programs.

The San Francisco Bay Municipal Regional Stormwater NPDES Permit (MRP) (1) issues the Waste Discharge Requirements and NPDES Permit for the discharge of stormwater runoff from the Municipal Separate Storm Sewer Systems (MS4s) of municipalities and local agencies in Bay Area counties, and (2) re-issued county-wide municipal stormwater permits as one Municipal Regional Stormwater NPDES Permit to regulate stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, Santa Clara, and Solano counties. In addition, the NPDES permit requires cities and towns in the Santa Clara Valley to develop green stormwater infrastructure (GSI) plans that incorporate green stormwater infrastructure features into new and existing drainage infrastructure, such as rights-of-way, including streets, storm drains, and parking lots.

The City of Santa Clara has joined other cities and towns in the County to form the Santa Clara Valley Urban Runoff Pollution Prevention Program, which is a regulated waste discharger under the MRP (Order No. R2-2015-0049: NPDES Permit No. CAS612008). All new projects in the Patrick Henry Drive Specific Plan Area that create or replace 10,000 square feet or more of roofs or pavement (including new development, redevelopment, and commercial and industrial sites) would be covered under this permit, which mandates a low impact development (LID) approach. LID treatment measures include rainwater harvesting and re-use, infiltration, evapotranspiration, and bio-treatment. The square footage standard is lowered for auto service facilities, retail gasoline outlets, restaurants, and stand-alone uncovered parking lots, which are also covered under the MRP if they create or replace 5,000 square feet or more of roofs or pavement.

Specific Plan Consistency: As discussed in chapter 11, Hydrology and Water Quality, of this EIR, the Specific Plan would be consistent with the SFRWQCB municipal regional stormwater permit because projects in the Plan Area would be required by the City to implement stormwater runoff reduction measures to reduce discharge of pollutants,

including site-specific erosion and sediment control plans (during construction), source control features such as roofed trash enclosures to keep pollutants from contacting stormwater, and use of techniques such as grassy swales, bioretention, flow-through planter boxes, and/or detention in landscaping to manage stormwater flows.

Association of Bay Area Governments (ABAG) Multi-Jurisdictional Local Hazard Mitigation Plan. The ABAG Multi-Jurisdictional Local Hazard Mitigation Plan ("Taming Natural Disasters") involves local agencies throughout its nine-county Bay Area jurisdiction, with an overall strategy to maintain and enhance disaster response of the region. The plan focuses on mitigation *before* rather than after disasters by: (1) identifying natural hazards faced by the community and region (e.g., earthquakes, flooding, severe weather), (2) assessing the community's and region's vulnerability to these hazards, and (3) identifying specific preventive actions that can be taken to reduce the risk from the hazards. The plan, which has been approved by FEMA and adopted by ABAG, fulfills the requirements of the Federal Disaster Mitigation Act of 2000. The City of Santa Clara adopted the Santa Clara County Annex to 2010 ABAG Local Hazard Mitigation Plan (December 2011), which was incorporated into the ABAG Plan and also approved by FEMA. Adoption of the Annex allows the City of Santa Clara to become eligible for State and federal disaster assistance.

Specific Plan Consistency: The Specific Plan would be consistent with the ABAG Multi-Jurisdictional Local Hazard Mitigation Plan because it addresses safety impacts due to flooding, hazardous materials, airport operations, and seismic and/or geologic and soil hazards. In addition, the Plan supports the City's Emergency Operations Plan though compliance with the City's General Plan, Climate Action Plan, and City Code; State building codes and Government and Civil Code statutes; Water Board and regional pollution prevention plans; and other policy documents and plans related to hazards and hazard planning.

Santa Clara County Airport Land Use Commission. The Santa Clara County Airport Land Use Commission (ALUC) reviews proposals for general plans, specific plans, zoning ordinances, and land use development proposals in the vicinity of Norman Y. Mineta San Jose International Airport to ensure that future land uses in the surrounding area remain compatible with the realistically foreseeable, ultimate potential aircraft activity. This review is based on the Comprehensive Land Use Plan, Santa Clara County, Norman Y. Mineta San Jose International Airport, adopted May 25, 2011 (amended November 16, 2016). The Comprehensive Land Use Plan sets forth land use compatibility criteria, compatibility zones, development standards, and policies pertaining to noise, safety, airspace protection, and overflight standards, and establishes the planning boundaries that define height, tall structures, noise, and safety zones for policy implementation. The Land Use Plan also includes areas within which notification of airport proximity is required as part of real estate transactions.

Specific Plan Consistency: As discussed in chapter 10, Hazards and Hazardous Materials, of this EIR, the Specific Plan would be consistent with the Airport Comprehensive Land Use Plan (CLUP) because it would comply with applicable CLUP development standards related to noise, structure height, and safety in areas surrounding the airport, such as the Federal Aviation Administration's (FAA) Federal Aviation Regulations (FAR) Part 77 imaginary surfaces maximum structure height restrictions and CLUP policies related to prohibited land use uses that might create hazards to aircraft, such as electrical interference, high intensity lighting, uses attracting birds, and activities producing smoke, dust, or glare.

Association of Bay Area Governments (ABAG) Plans and Policies. The Association of Bay Area Governments (ABAG) is the regional planning agency and council of governments for the nine-county San Francisco Bay Area responsible for addressing in a regional context such intraregional issues as land use, housing, environmental quality, and economic development. The following ABAG regional planning programs warrant consideration:

(1) Plan Bay Area 2040. The primary document and associated process used in implementing ABAG policies is Plan Bay Area 2040, adopted collectively by ABAG and the Metropolitan Transportation Commission (MTC) on July 26, 2017. Plan Bay Area 2040 states:

"Plan Bay Area 2040 neither funds specific transportation projects nor changes local land use policies. Importantly, individual jurisdictions retain all local land use authority. But Plan Bay Area 2040 does set a roadmap for future transportation investments and identifies what it would take to accommodate expected growth." (page 26)

Recognizing that local jurisdictions retain land use authority, Plan Bay Area 2040 integrates land use and transportation planning to comply with the State's sustainable communities strategy law (Senate Bill 375), which mandates both a reduction in greenhouse gas emissions from passenger vehicles and the provision of adequate housing for the region's 24-year projected population growth.

As of the writing of this EIR, Plan Bay Area 2050 is in process, with adoption anticipated in summer of 2021.

(2) FOCUS Program. The ABAG-led FOCUS program, established in 2007, was a regional development and conservation strategy – in partnership with the MTC and with support from the Bay Area Air Quality Management District (BAAQMD) and the Bay Conservation and Development Commission (BCDC) – that promoted a more compact land use pattern for the Bay Area and supported development of Plan Bay Area. Through the FOCUS program, regional agencies supported local government commitments to direct existing and future incentives toward Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs), which are an integral part of Plan Bay Area 2040.

(3) Regional Housing Needs Allocation. Though not an adopted plan per se, the Regional Housing Needs Allocation (RHNA) is the process by which the State of California requires every city and county to accommodate its fair share of regional growth. In the San Francisco Bay Area, the RHNA is administered by ABAG. ABAG allocates housing needs to each of the nine counties and 100+ cities in the region, identifying the number of units that must be accommodated in each of four income categories. Upon receiving its RHNA from ABAG, each local government must update the Housing Element of its General Plan to show how it plans to meet the housing needs in its community.

> *Specific Plan Consistency:* As discussed in chapter 12, Land Use and Planning, of this EIR, the Specific Plan would be consistent with Plan Bay Area 2040 and ABAG's FOCUS program because its proposed land uses would revitalize the Specific Plan Area by facilitating development where services and infrastructure can be most efficiently provided and by promoting higher residential densities within or near existing employment and public transportation areas, which would promote compact, transit-accessible, pedestrian-oriented, mixed-use development patterns and land use.

As discussed in chapter 14, Population and Housing, of this EIR, with respect to the City's RHNA, the City is not currently on track to meet its RHNA this cycle for affordable (very-low, low, and moderate income) units, although it is meeting the standard for above-moderate-income units. However, the Specific Plan would require at least 15 percent of residential units in the Plan Area to be allocated toward housing people earning at or below 80 percent of the area median income (AMI). In addition, due to the predominately residential nature of growth anticipated under the Specific Plan, the projected increase in residential units would help to address the balance between housing and jobs in the city (i.e., the shortage of affordable housing).

Santa Clara Valley Transportation Authority. The Santa Clara Valley Transportation Authority (VTA) provides sustainable, accessible, community-focused transportation options in the Santa Clara region. The VTA is also the county's congestion management agency, responsible for countywide and regional transportation planning and programming, such as developing, implementing, and monitoring the Congestion Management Plan (which links transportation and land use planning within Santa Clara County); design and construction of specific highway, pedestrian, and bicycle improvement projects; transit planning, construction, and service; and promotion of transit-oriented development.

Specific Plan Consistency: As discussed in chapter 17, Transportation, of this EIR, the Specific Plan would be consistent with the VTA Congestion Management Plan because as a transit-oriented development project (i.e., infill development along major transit corridors), it would concentrate high density residential and non-residential devleopment in proximity to regional transit amenities and would promote the use of alternatives to single-occupant automobiles through transit-supportive land use/transportation integration strategies and transportation demand management (TDM) measures.

Valley Water (Santa Clara Valley Water District). Valley Water provides a safe and clean water supply for businesses and residents in the county, and also implements flood protection projects and programs to ensure the environmental health of streams and rivers. As an urban water supplier, Valley Water prepares and adopts its own district Urban Water Management Plan (Valley Water UWMP) as a planning tool to define the future water supply for its water supply service area in Santa Clara County (including water to be made available, by agreement, to the City of Santa Clara). Preparation of the Valley Water UWMP involves coordination with major water retailers in Santa Clara County, the cities in Santa Clara County, the County of Santa Clara, the San Francisco Public Utilities Commission, and the Bay Area Water Supply and Conservation Agency. The current Valley Water UWMP provides an overview of the water supply system, water resources planning, the water shortage contingency plan, water demand, wastewater, recycled water, and water conservation. As a wholesale water supplier and groundwater basin manager, Valley Water also provides assistance to urban and agricultural water conservation programs. Valley Water adopted a Groundwater Management Plan in 2016 that provides for replenishing groundwater (i.e., groundwater recharge), reducing groundwater demands, and monitoring groundwater to protect against contamination.

Specific Plan Consistency: The City of Santa Clara is required by State law to prepare its own Urban Water Management Plan (discussed above); however, both Valley Water and the City coordinate preparation of their respective water management plans and strategies to provide for more efficient management of water resources, thus helping ensure Specific Plan consistency with the Valley Water UWMP and Groundwater Management Plan.

20. CEQA-MANDATED SECTIONS

20.1 CUMULATIVE IMPACTS

Section 15130(a) of the CEQA Guidelines requires that the EIR "discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable...." The CEQA Guidelines (Section 15355) define "cumulative impacts" as "...two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."

The quantitative cumulative growth recognized in this EIR is (1) the regional and city growth embedded in the City of Santa Clara's travel demand forecast model, including the current City of Santa Clara 2010-2035 General Plan, plus (2) the development capacity assumptions for the Patrick Henry Drive Specific Plan. Item 1, the travel demand model, is the most reliable source of quantitative data because it is based on the regional Metropolitan Transportation Commission (MTC) Travel Demand Model and on forecasted growth in various land uses (e.g., residential, retail, office) beyond the boundaries of Santa Clara, thereby capturing a cumulative local and regional perspective. Item 2 is described in chapter 3 (Project Description), section 3.5 (Development Capacity Assumptions) of this EIR.

As described above, the analyses of quantitative cumulative impacts in this EIR are based on the "summary of projections" method, as authorized by section 15130(b)(1)(B) of the CEQA Guidelines.

The proposed Patrick Henry Drive Specific Plan is itself a cumulative project because the Specific Plan would be implemented across the entire Plan Area incrementally and cumulatively over approximately 20 years (the horizon year of the Specific Plan is 2040). This program EIR evaluates the Patrick Henry Drive Specific Plan as one "project" in accordance with CEQA (see EIR chapter 1, Introduction). The cumulative analysis identifies potentially cumulatively significant impacts in order to evaluate whether the Specific Plan's contribution to those impacts is cumulatively considerable.

All potentially significant cumulative impacts are addressed in this chapter with the following exceptions:

(1) As the BAAQMD CEQA Guidelines explain, all regional air pollutant emission impacts and climate change impacts are inherently cumulative impacts because they contribute to regional and global conditions, and are not confined to physical boundaries. Accordingly, the analyses of these impacts in chapters 5 (Air Quality) and 9 (Greenhouse Gas Emissions and Energy) are analyses of cumulative impacts. These analyses are based on the Travel Demand Model as well as on the projections underlying BAAQMD's CEQA Guidelines and other information, as explained in chapters 5 and 9.

(2) EIR chapter 18 (Utilities and Service Systems) evaluates: (1) water supply sufficiency on a cumulative basis, consistent with the City of Santa Clara's adopted Urban Water Management

Plan (UWMP), and the Water Supply Assessment (WSA) prepared for the Patrick Henry Drive Specific Plan; (2) wastewater generation, collection, and treatment capacity on a cumulative basis; and (3) utility (water, wastewater, and storm drainage) infrastructure needs on a cumulative basis.

Additional cumulative effects are discussed below.

20.1.1 Cumulative Aesthetic Impacts

As discussed in chapter 4, Aesthetics, of this EIR, the City recognizes the Plan Area as a transit priority area (TPA) because it is within one-half mile of a major transit stop. Pursuant to State law, because the Plan Area has been previously developed, aesthetic impacts of residential, mixed-use residential, or employment center projects that may be developed in the Plan Area would not be considered significant environmental impacts. In addition, the Patrick Henry Drive Specific Plan Area does not afford expansive scenic views and is not near a state scenic highway; the Specific Plan also includes components that would avoid or reduce potential aesthetic impacts and is consistent with General Plan policies that reduce aesthetic impacts (see EIR chapter 4, Aesthetics). Therefore, the proposed project would not make a cumulatively considerable contribution to any significant cumulative impact with respect to aesthetics and visual resources.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.2 Cumulative Local Odor Impacts

There are no identified, odor-producing development projects proposed in the Patrick Henry Drive Specific Plan Area. Accordingly, the Specific Plan would not make a cumulatively considerable contribution to any significant cumulative odor impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.3 Cumulative Biological Resource Impacts

The Patrick Henry Drive Specific Plan Area is subject to various federal, State, regional, and local regulations for protecting biological resources (see EIR Chapter 6, Biological Resources). There are no identified habitat types occurring in the Plan Area that would be able to support special-status species; in addition, the Plan Area does not contain riparian habitat, sensitive natural communities, or wetlands. Potential project impacts on special-status species, nesting birds, and roosting bats would be mitigated on a site-specific basis (EIR Mitigations 6-2, 6-3, and 6-4) and would not make a cumulatively considerable contribution to any significant cumulative biological resource impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no additional mitigation is required.

20.1.4 Cumulative Cultural and Historic Resource Impacts

In its City Code (see EIR chapter 7), the City of Santa Clara recognizes the significance of preserving archaeological and historic resources. At the time of EIR preparation, no cultural or historic resources have been identified within the SP area. However, the identification of historic resources must account for change over time. Today's newer buildings may be recognized as historic within the lifetime of the Patrick Henry Drive Specific Plan. Today's older buildings may attain historic significance as more is uncovered about their past. Currently non-historic buildings may be recognized as historic in the future if the people or events associated with those buildings become historically or culturally distinguished. All these possibilities are accounted for in CEQA Guidelines section 15064.5 (Determining the Significance of Impacts to Archaeological and Historical Resources).

This EIR identifies mitigation (Mitigation 7-1) for preserving historic resources according to the Secretary of the Interior's Standards. If, in the future, the City determines that one or more local historic resources exist on a specific development site, any destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of the historical resource would be materially impaired, that results from proposed project development would constitute a significant and unavoidable impact under CEQA. Other potential developments in Santa Clara (outside the Plan Area) could also result in impacts on historic resources. Accordingly, if local historic resources are determined to exist on a development site, the proposed Patrick Henry Drive Specific Plan could result in a cumulatively considerable contribution to a potential significant cumulative impact on historic resources. The impact would be significant and unavoidable.

Mitigation. Unless the Secretary of the Interior's Standards are met, EIR Mitigation 7-1 would not fully mitigate the Specific Plan's contribution to the potential cumulative impact to a less-than-significant level. Therefore, if local historic resources are determined to exist on a future, specific development site and are demolished or altered in a manner that does not comply with the Secretary of the Interior's Standards, the Patrick Henry Drive Specific Plan's contribution to cumulative historic resource impacts would be significant and unavoidable.

20.1.5 Cumulative Archaeological/Tribal Cultural Resources Impacts

Impacts to archeological resources tend to be localized. The proposed Plan in combination with other future cumulative development would increase potential archaeological/tribal cultural resource impacts. Although almost all of the Specific Plan Area is developed and no archaeological or cultural resources have been identified, Mitigation Measures 7-2 would ensure that impacts on any as-yet unrecorded prehistoric cultural resources, or tribal cultural resources encountered during future project development (i.e., ground-disturbing activities) would be reduced to a less-than-significant level. Other development projects outside the Patrick Henry Drive Specific Plan Area also would be required to implement mitigation measures imposing the same requirements as the proposed EIR Mitigation 7-2. Therefore, implementation of this measure would reduce the cumulative impact on archaeological/tribal cultural resources to a less-than-significant level.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no additional mitigation is required.

20.1.6 Cumulative Geology and Soils Impacts

The proposed Specific Plan's impacts with respect to geology and soils would be site-specific and would not combine with the equally site-specific geology or soils impacts of other projects. Although it might be possible for two adjacent improperly constructed projects to cumulatively affect a third facility (e.g., an underground utility line), the implementation of adopted City regulations and required geotechnical investigations, as described in EIR chapter 8 (Geology and Soils), would avoid such impacts.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.7 Cumulative Paleontological Resources Impacts

The proposed Specific Plan in combination with other future cumulative development would increase potential paleontological resource impacts. Other development projects outside the Patrick Henry Drive Specific Plan Area also would be required to implement mitigation measures imposing the same requirements as the proposed EIR Mitigation 8-2. Implementation of this measure would reduce the cumulative impact on paleontological resources to a less-than-significant level.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no additional mitigation is required.

20.1.8 Cumulative Hazards and Hazardous Materials Impacts

Because of the applicable laws, adopted performance standards, and uniform protocols described in chapter 10 (Hazards and Hazardous Materials), the proposed Patrick Henry Drive Specific Plan would create minimal risk from hazards and hazardous materials. For all potential exposure pathways other than transport of hazardous waste outside the Plan Area, potential impacts would be limited to the particular development site and its immediate vicinity. Also, any new project outside the Plan Area would also be required to comply with applicable laws, standards, and protocols, so no significant cumulative impact is anticipated.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.9 Cumulative Hydrology and Water Quality Impacts

Future cumulative development outside the Plan Area could result in soil erosion, contaminant spills, and long-term water quality effects, but would be subject to the same regulations as the proposed Patrick Henry Drive Specific Plan (see EIR chapter 11, Hydrology and Water Quality). Compliance with these requirements would ensure that any cumulative impacts would be less-than-significant.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.10 Cumulative Land Use and Planning Impacts

The proposed Patrick Henry Drive Specific Plan would not make a cumulatively considerable contribution to any significant cumulative land use impact, for the following reasons. With respect to physically dividing an established community, as described in EIR chapter 12 (Land Use and Planning), the proposed project's effect would be positive rather than negative because the project is intended to provide for the expansion of housing choices by encouraging compact, transit-accessible, pedestrian-oriented housing and mixed-use (housing/retail/office) development in the Plan Area at densities and heights greater than currently developed and conveniently located near public transportation, shopping, employment, and other community facilities. Proposed development adjacent to the Plan Area includes the proposed Kylli Mixed Use Development project, currently under review, which is proposing to change the property's designation and allowed uses to allow for a high-intensity mix of office, commercial, and residential uses.

With respect to consistency with adopted City of Santa 2010-2035 Clara General Plan land use plans and policies, projects inside the Plan Area and any projects outside the Plan Area are required by law to be consistent with those General Plan plans and policies. Because a Lead Agency cannot approve projects that are inconsistent with adopted City plans and policies, no significant cumulative impact would occur. Accordingly, the proposed Patrick Henry Drive Specific Plan would not make a cumulatively considerable contribution to any significant cumulative land use or planning impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.11 Cumulative Noise Impacts

For purposes of this cumulative noise and vibration analysis, the geographic context is limited to the extent of potential noise impacts caused by the proposed Specific Plan that could combine with other relevant cumulative developments. Although construction and stationary source noise may theoretically be audible far from the source, in practice ambient noise from wind, roadway traffic, and other land uses is substantially louder than equipment operating hundreds or thousands of feet away. Therefore, the geographic context is limited to the area within approximately 1,000 feet of the Plan Area.

As discussed in chapter 13, Noise, of this EIR, the Specific Plan could result in construction noise and vibration as individual development projects are constructed over time. Construction noise and vibration from projects in the Plan Area could combine with other construction projects from the potential Freedom Circle Focus Area Plan (within 1,000 feet of the Plan Area) or the Kylli Mixed Use Development Project (adjacent to the Plan Area) if these projects are ultimately approved by the City. The combined construction noise levels would primarily impact new residential development in these projects but could, to a much lesser extent, impact sensitive school and residential receptors to the west of the Plan Area, as well as Mission College. Each development project in the Plan Area would be subject to City regulations and policies regarding construction noise and vibration (see Chapter 13) as well as Mitigation Measures 13-1 and 13-2, which would generally limit construction noise levels to levels that are not substantially higher (more than 5 dBA) above ambient conditions and ensure that groundborne vibration levels would not be excessive or result in structural damage to any building in or near the Plan Area. With these measures, Specific Plan construction noise levels

would not make a cumulatively considerable contribution to cumulative construction noise or vibration impacts at on- or off-site receptor locations.

As discussed in chapter 13, Noise, of this EIR, the Specific Plan could also result in operational noise and vibration from individual development projects in the Plan Area; however, the Specific Plan is not anticipated to result in land uses that involve substantial on-site noise generating sources or activities. Projects in the Plan Area as well other potential projects near the Plan area would be subject to the City Code requirements that limit noise levels from fixed equipment and machinery at adjacent property line locations. Mitigation Measure 13-3 would require future development projects to submit a project-specific noise analysis identifying project noise sources and demonstrating how these noise sources would not exceed the City's daytime and nighttime noise standards for receiving residential (55 dBA Lmax daytime and 50 dBA Lmax nighttime) and commercial (65 dBA Lmax daytime and 60 dBA Lmax nighttime) land uses. With these measures, Specific Plan noise levels from operation would not make a cumulatively considerable contribution to cumulative noise impacts at on- or off-site property lines or receptor locations. The Specific Plan does not propose or support any large vibration-inducing equipment or land use activities and would not result in excessive ground-borne vibration levels that have the potential to combine with vibration levels from other project within or outside of the Plan Area. No cumulative operational vibration impact would occur.

As discussed in chapter 13, Noise, of this EIR, the Specific Plan would result in long term increase in vehicle trips and traffic-related noise levels. Although the Specific Plan's individual contribution to traffic volumes is relatively small (less than a 33 percent increase in traffic volumes on all roadway segments near the Plan Area excepting Patrick Henry Drive), these vehicle trips would contribute to a 1 dB change in modeled traffic noise levels in areas already affected by high noise levels that exceed City guidelines for noise and land use compatibility. The City's General Plan and Climate Action Plan include measures to reduce vehicle miles travelled from development projects, and the proposed Specific Plan and EIR Mitigation Measure 5-2B require individual development projects to achieve 20 percent reduction in VMT, which would reduce vehicle trips and lower traffic-related noise levels; however, the specific roadway segments where this mitigation would reduce vehicle trips and traffic-related noise is not known and, therefore, no noise reduction has been taken for VMT and trip reduction measures required by the Specific Plan and Mitigation Measure 5-2B. Since a reduction in vehicle trips on specific, impacted roadway segments cannot be guaranteed, and future traffic noise levels would increase by 1 dB or more and/or potentially expose noise-sensitive land uses to normally unacceptable noise levels, the Specific Plan would result in a cumulatively considerable contribution to a significant and unavoidable cumulative traffic noise impact.

As discussed in chapter 13, Noise, of this EIR, the Specific Plan would not expose people living or working in the Plan Area to excessive airport-related noise levels. This impact is Plan-specific and would not combine with any other project. No cumulative impact would occur.

Mitigation. Because no noise reduction can be identified either for trip reduction measures required by the Specific Plan or from Mitigation Measure 5-2B, reductions in vehicle trips on specific, impacted roadway segments cannot be guaranteed. Future traffic noise level increases of 1 dB or more would potentially expose noise-sensitive land uses to normally unacceptable noise levels, and therefore, the Specific Plan would result in a cumulatively considerable contribution to a significant and unavoidable cumulative traffic noise impact. No other cumulatively considerable contributions to significant cumulative impacts have been identified; no additional mitigation is required.

20.1.12 Cumulative Population and Housing Impacts

The residential development capacity forecast for the Patrick Henry Drive Specific Plan (maximum 12,000 net new residential units, 26,760 new residents) is based on the proposed Specific Plan components and development standards. In 2019, the City designated the Patrick Henry Drive Specific Plan Area as a Priority Development Area (PDA) because of the local interest in encouraging infill development that can take advantage of regional transit facilities, and it will be included in the Association of Bay Area Governments (ABAG) *Plan Bay Area 2050*, which is the next iteration of *Plan Bay Area,* to be adopted in fall 2021. Also, (1) the Patrick Henry Drive Specific Plan is substantially consistent with the policies of the Santa Clara 2010-2035 General Plan (see EIR chapter 19, Project Consistency With Local and Regional Plans); and (2) Specific Plan implementation would not extend roads or infrastructure through undeveloped areas but, consistent with General Plan and City direction, would focus residential development in an underutilized area with the intention of helping to meet the City's housing needs. Plan implementation would not induce substantial population growth beyond the Plan Area boundaries because development would be focused within the Plan Area, and the Specific Plan does not include any components that would directly or indirectly involuntarily displace residents or housing (as of October 2020, the Plan Area had no housing). With these considerations, both the project and cumulative impacts of unplanned residential and population growth under the Patrick Henry Drive Specific Plan would be less-than-significant. The proposed Specific Plan would not make a cumulatively considerable contribution to a significant cumulative population or housing impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.13 Cumulative Fire Protection/Emergency Medical Service (EMS) Demand Impacts

Development facilitated by the proposed Patrick Henry Drive Specific Plan, in combination with other cumulative development by the year 2040 (the Specific Plan horizon year), would increase the demand for fire protection/EMS service, including additional firefighters and requisite training, support staff, equipment, or other resources in the future. However, the City of Santa Clara Fire Department has determined that the expansion/relocation of Fire Station 10[1] would provide sufficient fire facilities to support the additional firefighting staff and equipment identified in chapter 15, Public Services, of this EIR, and that service to the Plan Area would be able to achieve acceptable response times. Also, individual project proposals would continue to be subject to review and approval by the Fire Department, based on uniformly applied fire protection/EMS standards and regulations. Therefore, cumulative development would have a less-than-significant impact on fire protection/EMS. The proposed Specific Plan would not make a cumulatively considerable contribution to a significant cumulative fire protection/EMS impact.

New development projects under the Specific Plan would be required to pay their share of the costs associated with provision of additional fire protection/EMS equipment under the plan's infrastructure fee (the Fire Station 10 expansion/relocation project would be completely funded

[1]The Fire Station 10 relocation and expansion project was previously analyzed in the City Place Santa Clara Project Draft Environmental Impact Report, October 2015, SCH number 2014072078, certified by the City on June 28, 2016 (now called the "Related Santa Clara" project).

by Related). Any future demand for additional fire protection/EMS personnel or equipment resulting from Specific Plan implementation would be funded by the annual City General Fund budget review and allocation process. If cumulative development within the City requires new fire protection/EMS facilities in the future, they would be subject to their own CEQA review.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.14 Cumulative Police Service Demand Impacts

Development facilitated by the proposed Patrick Henry Drive Specific Plan, in combination with other cumulative development by the year 2040 (the Specific Plan horizon year), would cumulatively increase the demand for police services, including additional sworn police officers and requisite training, support staff, and equipment. However, as discussed in chapter 15, Public Services, of this EIR, although the City of Santa Clara Police Department has determined that new or reconfigured space will be needed as SCPD staff grows, projected SCPD staffing needs have been determined based on full Specific Plan build-out, which would occur over a 20-year period. Therefore, the City has determined that reconfiguration of existing facility space for additional workforce would be the near-term approach. The SCPD has identified management measures to minimize the effects of anticipated additional population, such as (1) a new patrol staffing model (e.g., shifts, log-on schedule) that allows for more officers within each beat; (2) "civilianizing" select positions or redistributing job functions to another Department to free up officers from "desk" jobs; and (3) creating development impact fees to support the City's infrastructure (such as discussed in Specific Plan Chapter 7, Implementation Plan, and described in chapter 3, Project Description, of this EIR).

Individual project proposals would continue to be subject to review and approval by the Police Department, based on uniformly applied standards and regulations. As also discussed in chapter 15, Public Services, of this EIR, as Specific Plan development occurs, if reconfiguration is not feasible or is insufficient, then additional analysis would need to be undertaken at the time to consider possible options for expansion or a new facility. [1] Any new or expanded facility project located outside of the Plan Area would require its own evaluation of environmental impact topics similar to that provided in this EIR. (If a site for a new facility in the Plan Area were to become available and selected, then the construction of the facility would be subject to the mitigations in this EIR as they apply to all development in the Plan Area.) However, because no determination on an expanded or new facility has been made or proposed, nor have any plans or sites been identified, any further analysis at this time would be speculative.[2]

Any future demand for additional police personnel or equipment resulting from Specific Plan implementation would be funded by the annual City General Fund budget review and allocation process, and funding mechanisms as discussed in Specific Plan Chapter 7, Implementation Plan, would provide for Specific Plan contributions to capital improvement costs related to any new or expanded police facilities. In addition, if cumulative development within the city requires new police facilities in the future, they would be subject to their own CEQA review.

[1]Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department, email dated June 24, 2021, to MIG.

[2]R. Bustos, email dated June 24, 2021, to MIG.

Mitigation. Individual development projects under the Specific Plan would be required to pay their fair-share of any future police facility construction or expansion costs. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.15 Cumulative Impacts on Public Schools

Development facilitated by the proposed Patrick Henry Drive Specific Plan, in combination with other cumulative development by the year 2040 (the Specific Plan horizon year), would result in a cumulative addition of new students attending Santa Clara Unified School District schools. Individual development projects would each be assessed school impact fees. The California State Legislature has determined that school impact fees shall be the exclusive method of mitigating the school facilities impacts of a project or plan, has set limits on school impact fees, and has determined that payment of school impact fees shall be deemed to provide full and complete school facilities mitigation (California Government Code sections 65995 and 65996[a and b]). The SCUSD has identified the schools that future Plan Area students would attend and considered current and potential development in the same attendance boundaries as the Patrick Henry Specific Plan (including the Tasman East Specific Plan, the proposed Kylli development, and the Greystar General Plan Amendment/Freedom Circle Focus Area Plan) and has determined that SCUSD does not have available capacity at the elementary or middle schools in north of U.S. 101 to accommodate all students anticipated to be generated by Specific Plan and other anticipated development.[1] As discussed in chapter 3, Project Description, of this EIR, a potential school site to be located possibly within the Plan Area is being studied; however, this possibility would require the school district to purchase property in the Plan Area and initiate the development process.

If a school site is identified outside of the Plan Area, then depending on the location and characteristics, the construction of a future new or expanded school facility could cause environmental impacts; however, the location, timing, nature, extent, and severity of any potential environmental impacts cannot be predicted or evaluated at this time because no new schools or sites have been proposed. School facilities construction would require its own environmental review in accordance with CEQA; however, if a site is identified in the Plan Area, then school construction would be required to follow the mitigation measures already identified elsewhere in this EIR (chapters 5 [Air Quality], 6 [Biological Resources], 7 [Cultural and Historical Resources], etc.), plus any additional evaluation requirements as stipulated by State codes (e.g., Education Code, California Code of Regulations, Public Resources Code) and California Department of Education policies.

Although development under the Specific Plan would contribute to a cumulative need for new schools, new residential and commercial development in the Plan Area would be required to pay the State-authorized school impact fees approved by the SCUSD, which pursuant to the Government Code are deemed full and complete mitigation of the impact of providing new schools. Consequently, cumulative impacts on public schools would be less-than-significant, and the proposed Specific Plan would not make a cumulatively considerable contribution to a significant impact on public schools.

[1]Michal Healy, Director, Facility Development and Planning, Santa Clara Unified School District, memo dated May 21, 2020, to Rebecca Bustos, Senior Planner, City of Santa Clara Community Development Department.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.16 Cumulative Impacts on Parks and Recreational Facilities

Implementation of the proposed projects totaling between 10,300 and 12,000 units would contribute to an increase in demand for parkland because the proposed projects would potentially add an additional 24,720 to 28,800 residents to the City (U.S. Census Bureau, 2017 American Community Survey, Tables B25024 and B25033 per the August 27, 2019 "Park and Recreation Facilities Development Impact Fee Update Study"). The increased population associated with the proposed project would contribute to the overuse of existing parks that would potentially lead to physical deterioration of park facilities and overcrowding. In addition, the proposed projects would require the City to add more parkland to the City's inventory in order to continue to meet the City's minimum parkland standard of 2.60 acres of parkland per 1,000 residents for Mitigation Fee Act (non-subdivided projects) and 3.0 acres of parkland per 1,000 residents for new subdivision under the Quimby Act.

Based on the City's minimum standards, the proposed projects combined would be estimated to require a total of 64 to 86 acres of parkland to serve the increased population. The projects in this area will include dedicated parkland, public open spaces, private open spaces, and amenities. The Parks and Recreation Department would apply credit for eligible park, recreation, and open spaces against the parkland dedication requirement. These credits would not be enough to satisfy the City's parkland dedication requirement. Therefore, to address the park needs of the proposed projects, avoid overuse of existing parks, and avoid a deficiency of parkland acreage in the City, the proposed projects would be required to also pay park in-lieu fees per City Code (Chapter 17.35) to provide for the balance of the necessary parkland to serve the increased population. However, as identified in section 4.5 in Chapter 4 (Relevant Patrick Henry Drive Specific Plan Components), the Specific Plan would require between approximately 7.01 and 8.09-acres of public parkland in the Plan Area.

The City ensures a project meets its dedication requirements through the development review process. Parkland, as required, must be included as part of a project's "land use plan" with the location identified on the project property. A project that does not comply with the parkland dedication requirement would not be approved. In addition, the City requires that parkland be improved (i.e., "turn-key") and dedicated to the City. Therefore, mandatory, future development of public parks in the Specific Plan Area plus individual project payment of City adopted park in-lieu fees and/or dedication of parkland to the City in fee title and free of encumbrances would ensure that impacts on parks and recreational facilities would be less than significant. Therefore, the Specific Plan would not make a cumulatively considerable contribution to cumulative impacts on parks and recreational facilities.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.1.17 Cumulative Impacts on Other Public Facilities

Development facilitated by the proposed Patrick Henry Drive Specific Plan, in combination with other cumulative development by the year 2040 (the Specific Plan horizon year), would cumulatively increase the demand for other public facilities, such as the library services. The City is requiring the Specific Plan to include approximately 45,000 square feet of additional City

library facilities to accommodate anticipated incremental library service demand. As discussed in chapter 15, Public Services, of this EIR, the Specific Plan has identified areas where community facilities (including a library) would be located; however, particular development plans would be subject to discussions between the City and a future project applicant. Funding options could include those provided in Specific Plan Chapter 7 (Implementation Plan), which discusses options for ensuring adequate funds for facilities required by Specific Plan development, including approaches and policies for both one-time and on-going costs of public infrastructure and related improvements. Or as an option, the City could consider working out a separate arrangement with a property owner for providing a "community benefit," though the precise terms of such a future arrangement are beyond the scope of this analysis. A future library facility proposal would be subject to its own evaluation under the California Environmental Quality Act (CEQA), which could use this PHD Specific Plan EIR as its foundation; for example, mitigation measures identified in this EIR, applied as appropriate, would reduce construction impacts to a less-than-significant level (with the exception of Impact 5-3 related to construction-period criteria air pollutant and toxic air contaminant generation, discussed in chapter 5, Air Quality). No other public facilities have been identified; therefore, the proposed Specific Plan would not make a cumulatively considerable contribution to a significant cumulative public facility impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required. (See chapter 5, Air Quality, for construction-period air quality impacts and mitigation measures.)

20.1.18 Cumulative Impacts on Transportation

Like the proposed Patrick Henry Drive Specific Plan, all development projects in Santa Clara (unless otherwise exempt) are required to comply with City transportation analysis policy, which requires development projects to use vehicle miles traveled (VMT) as the measure for transportation impact evaluation under CEQA. As described in chapter 17 (Transportation) of this EIR, because the Patrick Henry Drive Specific Plan qualifies as a transit supportive project (per State guidance[1] and City VMT Policy), the Specific Plan would have a less-than-significant impact on VMT. According to State guidance, a finding of a less-than-significant project impact implies a less than significant cumulative impact.

As also described in chapter 17, the Plan would be expected to have a positive effect on public transit, bicycle, and pedestrian facilities and transit due to inclusion of transit supportive features, improved bicycle facilities, and pedestrian amenities. In addition, compliance with Specific Plan and City standards would ensure adequacy of access for emergency vehicles and avoid potential hazards due to design features.

Therefore, the proposed Specific Plan would not make a cumulatively considerable contribution to a significant cumulative transportation impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

[1]State of California, Office of Planning and Research, "Technical Advisory on Evaluating Transportation Impacts in CEQA", December 2018.

20.1.19 Cumulative Impacts on Solid Waste Disposal and Recycling

Like the proposed Patrick Henry Drive Specific Plan, all development projects in Santa Clara are required to be consistent with adopted solid waste and recycling regulations and programs, including those described in chapter 18 (Utilities and Service Systems) of this EIR. The solid waste disposal and recycling facilities used by Santa Clara have ample capacity (e.g., Newby Island Sanitary Landfill, where approximately 75 percent of the City's solid waste was taken for disposal in 2019, has a cease operation date of January 1, 2041 and an estimated remaining capacity of nearly 21,200,000 cubic yards—solid waste generated by development under the Specific Plan would be anticipated to represent approximately 0.6 percent of annual solid waste disposed at Newby Island, based on City solid waste generation rates). As explained in chapter 18, the City has an agreement with GreenWaste Recovery that would provide the City with disposal capacity through June 30, 2036. In addition, the applicable regulations and programs, as provided by state law, have been deliberately designed and adopted to avoid or reduce cumulative solid waste/recycling impacts to less-than-significant levels. The overall cumulative solid waste/recycling impact of cumulative development would therefore be less-than-significant, and the proposed Specific Plan would not make a cumulatively considerable contribution to a significant cumulative public facility impact.

Mitigation. No cumulatively considerable contribution to a significant cumulative impact has been identified; no mitigation is required.

20.2 GROWTH-INDUCING EFFECTS

CEQA Guidelines Section 15126.2(e) requires that the EIR discuss "...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

As of October 2020, there were no residential units in the Plan Area. Patrick Henry Drive Specific Plan implementation would result in new housing and population in the Plan Area over existing conditions, as explained in section 3.5 (Development Capacity Assumptions) and chapter 14 (Population and Housing) of this EIR. The increases through the horizon year of 2040 would be between approximately 10,300 and 12,000 residential units and between about 22,970 and 26,760 residents. This capacity forecast is based on the potential development of projects in the Specific Plan Area consistent with the Plan frameworks and urban design standards and guidelines. The direct increase in residential units and population could have an indirect economic "multiplier" effect, generating additional employment in the broader region.

No substantial, detrimental, growth-inducing effect is expected. Patrick Henry Drive Specific Plan implementation would not extend roads or infrastructure through undeveloped or low-density areas, nor would it "oversize" infrastructure and lead to indirect growth in that way. A primary objective of the Specific Plan is to facilitate appropriate development efficiently and effectively in an area where roads and infrastructure already exist (see EIR chapter 3, Project Description).

Any future individual development proposals **outside** the Plan Area would require standard local review of associated development applications, including CEQA-mandated development-specific environmental review, to ensure that any adverse environmental impacts are adequately addressed. These existing requirements and procedures would be expected to

avoid or reduce the potential environmental impacts of such secondary growth inducement associated with the Patrick Henry Drive Specific Plan to less-than-significant levels, except where specific CEQA statements of overriding consideration are adopted. However, as explained above and throughout this EIR, the Patrick Henry Drive Specific Plan is being proposed to encourage infill and consolidated development within the Specific Plan Area, not in outlying portions of Santa Clara.

20.3 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines section 15126.2(c) requires that the EIR discuss "significant environmental effects which cannot be avoided if the proposed project is implemented." The impacts listed below are identified as significant and unavoidable for one of four reasons: (1) no potentially feasible mitigation has been identified; (2) potential mitigation has been identified but may be found by the Lead Agency to be infeasible; (3) with implementation of feasible mitigation, the impact still would not, or might not, be reduced to a less-than-significant level; or (4) implementation of the mitigation measure would require approval of another jurisdictional agency, whose approval will be pursued by the Lead Agency but cannot be guaranteed as of the publication of this EIR. Because these significant unavoidable impacts “cannot be alleviated without imposing an alternative design” (CEQA Guidelines Section 15126.2[c]), chapter 21 (Alternatives to the Proposed Project) of this EIR evaluates a range of feasible alternatives that could lessen the identified significant unavoidable impacts, and evaluates the alternatives’ ability to meet the project objectives.

The following impacts have been identified in this EIR as significant and unavoidable:

- Impact 5-2: Result in a Cumulatively Considerable Net Increase in Criteria Pollutants for which the Region is Non-Attainment (cumulative)
- Impact 5-3: Generate Toxic Air Contaminants that Expose Sensitive Receptors to Substantial Pollutant Concentrations During Construction (project and cumulative)
- Impact 7-1: Destruction/Degradation of Historic Resources (chapter 7 and Section 20.1.4 above) (project and cumulative)
- Impact 13-4: Increases in Traffic Noise Levels from Specific Plan Development (chapter 13 and Section 20.1.11 above) (project and cumulative)

The implications of each significant unavoidable impact identified above are described in the particular EIR chapter referenced with the impact. The Patrick Henry Drive Specific Plan is being proposed, notwithstanding these effects, to fully achieve the project objectives described in section 3.3 of this EIR. If the City approves the Specific Plan (or an alternative to the proposed Specific Plan) that would result in significant unavoidable impacts, the City must (1) make a finding per CEQA Guidelines section 15091(a)(3) that specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible any mitigation measures or project alternatives identified in the EIR that may avoid or substantially lessen the Specific Plan’s significant unavoidable impacts, and (2) adopt a “Statement of Overriding Considerations” per CEQA Guidelines section 15093, describing why the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of the approved Specific Plan outweigh its significant unavoidable impacts.

20.4 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines section 15126.2(d) requires that the EIR discuss "significant irreversible environmental changes which would be caused by the proposed project should it be implemented." Irreversible environmental changes caused by the proposed Patrick Henry Drive Specific Plan would include the following:

- As discussed in chapters 3 (Project Description), 12 (Land Use and Planning), and 17 (Transportation) of this EIR, Patrick Henry Drive Specific Plan implementation encourages a better balance of multi-modal circulation (auto, transit, bicycle, pedestrian) in the Specific Plan Area. This change would require implementation of planning and design strategies that would result in relatively permanent physical changes to the Specific Plan Area.

- Patrick Henry Drive Specific Plan implementation would result in the loss of an as-yet unknown number of existing buildings, landscaping, and infrastructure, and their replacement with new development, landscaping, and infrastructure in accordance with the frameworks and design standards and guidelines of the Specific Plan. It is emphasized that the Patrick Henry Drive Specific Plan would not give the City of Santa Clara eminent domain authority over any private property.

Specific Plan implementation would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for construction equipment and vehicles, as well as the use of these same resources during long-term operation of individual projects facilitated by the Specific Plan. Because development facilitated by the Patrick Henry Drive Specific Plan would be required by law to comply with California Code of Regulations Title 24 (including updates over time) and adopted City energy conservation ordinances and regulations, Specific Plan implementation would not be expected to use energy in a wasteful, inefficient, or unnecessary manner (see section 20.6 below and chapter 9, Greenhouse Gas Emissions and Energy). In addition, the Specific Plan would implement sustainability measures as described throughout the EIR, especially in chapter 9.

The consumption or destruction of other non-renewable or slowly renewable resources would also result during construction, occupancy, and use of individual development sites under the Specific Plan. These resources would include, but would not be limited to, lumber, concrete, sand, gravel, asphalt, masonry, metals, and water. Specific Plan implementation would also irreversibly use water and solid waste landfill resources. However, development under the Specific Plan would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully, inefficiently, or unnecessarily, especially considering ongoing City and County conservation and recycling programs.

Specific Plan implementation would contribute both directly and indirectly to long-term increases in greenhouse gas (GHG) emissions, although under the criteria established by the Bay Area Air Quality Management District (BAAQMD), the impact would be less-than-significant (see EIR chapter 9). As chapter 9 explains, the proposed Patrick Henry Drive Specific Plan is, deliberately and by design, consistent with State and regional GHG reduction strategies.

For practical purposes, these environmental changes would be permanent and irreversible. Because the proposed Specific Plan would incorporate the energy conservation and sustainability measures described below (section 20.6), the identified irreversible commitment of

resources is considered justified per CEQA Guidelines section 15126.2(d), and CEQA Guidelines section 15126.2(b) and CEQA Guidelines Appendix F (Energy Conservation).

20.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

CEQA Guidelines section 15128 requires that the EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." This EIR discusses all the environmental topic areas and questions included in CEQA Guidelines Appendix G (Environmental Checklist Form), with the potential significance of each impact evaluated in the appropriate EIR chapter (e.g., Chapter 4 - Aesthetics, Chapter 12 - Land Use and Planning), except for the following environmental topics:

- Agricultural and Forestry Resources (item II in CEQA appendix G): No agricultural use, forest land, or timberland is located in the Patrick Henry Drive Specific Plan Area. According to the Santa Clara County Important Farmland 2016 Map, the Specific Plan Area does not contain Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. No portion of the Specific Plan Area is designated for agricultural use on the City Santa Clara 2010-2035 General Plan Land Use Diagram, nor is any portion under a Williamson Act contract. The proposed project would not result in any impact on agriculture, forest land, or timberland.

- Mineral Resources (item XII in CEQA appendix G): According to the 2010-2035 General Plan, no mineral deposits exist in the Specific Plan Area. Therefore, the proposed project would not result in any impact on mineral resources.

- Wildfire (item XX in CEQA appendix G): According to CAL FIRE, the Plan Area is in a Local Responsibility Area and classified as a non-very high fire hazard severity zone. The 2010-2035 General Plan has determined, “The City of Santa Clara does not have the terrain or vegetation conditions for large or devastating wildfires.” Therefore, the proposed project would not result in any impact related to wildfire.

20.6 ENERGY CONSERVATION

CEQA Guidelines Appendix F (Energy Conservation) describes how energy conservation should be addressed in EIRs and states, “[CEQA] requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.” A discussion of energy use and conservation - including the City of Santa Clara Climate Action Plan, relevant Patrick Henry Drive Specific Plan components, and BAAQMD GHG reduction strategies - is included in chapter 9 (Greenhouse Gas Emissions and Energy) of this EIR.

The quantitative and qualitative analyses in chapter 9 conclude that: (1) Patrick Henry Drive Specific Plan implementation would not prevent the state from meeting the minimum CARB Scoping Plan threshold of a 40 percent reduction in GHG emissions below 1990 levels by 2030 or from meeting its 2050 goal; and (2) the Specific Plan is consistent with applicable State, regional, and local plans and requirements adopted to reduce GHG emissions.

As discussed in EIR chapters 3 (Project Description), 12 (Land Use and Planning), and 17 (Transportation) of this EIR, Patrick Henry Drive Specific Plan implementation would encourage a better balance of multi-modal circulation (auto, transit, bicycle, pedestrian) in the Specific Plan Area, with related energy conservation resulting from the more efficient use of transportation, circulation, and infrastructure systems. As discussed in EIR chapter 14, Population and Housing, the development anticipated by the Specific Plan responds to anticipated growth and helps address the City's jobs to housing balance (i.e., the shortage of affordable housing). Energy resources are necessary to construct and operate the buildings needed to accommodate such growth; however, implementation of the Specific Plan would be expected to result in replacement of older, less energy-efficient structures with newer structures built to the latest CALGreen Code standards (2019, at minimum), which would increase the efficiency of electricity consumed within the City. The proposed higher density land uses would result in more efficient energy use compared to energy use for lower density land uses (e.g., "sprawl") due to more residents being close to transit, which would reduce the amount of transportation energy spent on commuting. The proposed increase in residential development overall would be expected to result in a reduction in outcommuting and a decrease in the associated expenditure of transportation energy. Therefore, by ensuring the buildings are energy efficient, placing the buildings in a low VMT area, and providing space for a mix of uses and amenities that promote non-automobile transportation options, the project would use resources in a non-wasteful and efficient manner.

Based on the discussion above, the proposed Patrick Henry Drive Specific Plan would not cause inefficient, wasteful, and unnecessary consumption of energy and would not make a cumulatively considerable contribution to energy inefficiency during construction or operation.

21. ALTERNATIVES TO THE PROPOSED PROJECT

The overarching vision for Santa Clara City North is to develop as a complete community of distinct, complementary neighborhoods, each with its own unique identity built on placemaking, and an attractive public realm. As one of these distinctive neighborhoods, the Patrick Henry Drive (PHD) Specific Plan Area is set to transform into a new urban residential neighborhood composed of a fiscally sustainable mix of land uses including high-density residential and supportive services complemented by the full provision of necessary infrastructure.

Embraced by both the City and area stakeholders, higher-density residential development can help address the City's housing needs and create a vibrant and diverse community. The PHD Specific Plan targets the development of up to 12,000 residential units at full build-out, with densities ranging from 65 to 250 dwelling units per acre. A minimum of 15 percent of all units within the Plan Area will be affordable by deed restriction to households making at or below 80 percent of the area median income.

New development will be complemented by an attractive street environment complete with a highly walkable pedestrian realm and innovative mobility options. In the PHD Specific Plan, new parkland and open space standards will be established at 22 percent of the total PHD Specific Plan Area. Full build-out of the Plan Area is anticipated to occur over the next 20 years, as the development responds to the fluctuations of local and global market conditions.

Section 15126.6 of the CEQA Guidelines requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The section also states that the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the basic project objectives, or would be more costly.

Pursuant to section 15126.6, this chapter describes five alternatives to the Patrick Henry Drive Specific Plan and compares their impacts to those of the proposed Specific Plan. Pursuant to the CEQA Guidelines, the ability of the alternatives to meet the project objectives is also described, and the "environmentally superior" alternative among the four is identified.

Under CEQA, the analysis of alternatives needs only to evaluate how an alternative could avoid or reduce ***significant impacts***. Environmental impacts identified as "less-than-significant" do not require mitigation and, therefore, do not need to be further reduced under the analysis of alternatives. Similarly, potentially significant impacts that would be reduced to less-than-significant levels after mitigation could require less mitigation under an alternative. For a more thorough comparison, however, the evaluation below includes all 15 impact categories included in this EIR (aesthetics, air quality, biological resources, etc.).

This EIR has identified four ***significant unavoidable impacts*** that could result from the Patrick Henry Drive Specific Plan:

- Impact 5-2: Result in a Cumulatively Considerable Net Increase in Criteria Pollutants for which the Region is Non-Attainment (cumulative)
- Impact 5-3: Generate Toxic Air Contaminants that Expose Sensitive Receptors to Substantial Pollutant Concentrations During Construction (project and cumulative)
- Impact 7-1: Destruction/Degradation of Historic Resources (chapter 7 and chapter 20, section 20.1.4) (project and cumulative)
- Impact 13-4: Increases in Traffic Noise Levels from Specific Plan Development (chapter 13 and chapter 20, section 20.1.11) (project and cumulative)

In accordance with CEQA Guidelines section 15126.6(a), this EIR does not evaluate every conceivable alternative. A feasible range of alternatives that will allow decision-makers to make a reasoned choice and that meet most of the project objectives has been evaluated. Also, the Lead Agency may choose to adopt a combination of the alternatives described below.

The Patrick Henry Drive Specific Plan goals and objectives (chapter 1, section 1.3.1 Goals and Objectives) are listed below. In this EIR, these goals and objectives are referred to under the CEQA term “basic project objectives” (CEQA Guidelines section 15124[b]). These same eight objectives are also listed in chapter 3, section 3.3 (Basic Project Objectives) of this EIR, with more detail provided.

- Ensure an economically vibrant, safe, healthy, and sustainable neighborhood that supports a range of users, including residents, business owners, and visitors.

- Bring clarity and consistency to the regulation of individual development proposals within the [Patrick Henry Drive] PHD Specific Plan boundaries.

- Foster strong connectivity, access and circulation for a mix of travel modes including walking, cycling, driving, and transit.

- Plan parkland and open space standards consistent with City Code 17.35 to support a high quality of life within an urban environment.

- Provide community amenities and public facilities to support a “complete” neighborhood.

- Adopt infrastructure and funding plans to ensure infrastructure will adequately support planned densities and intensities.

- Support the City’s affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).

- Engage the entire community in a robust, creative, and ongoing and participation process.

The following alternatives have been evaluated in comparison to the proposed Patrick Henry Drive Specific Plan:

- Alternative 1: No Project--Existing City of Santa Clara 2010-2035 General Plan

- Alternative 2: All Commercial Office Development
- Alternative 3: All Residential Development
- Alternative 4: Reduced Overall Development
- Alternative 5: Alternative Project Location (Considered but Rejected)

In accordance with CEQA Guidelines section 15126.6, (1) an "environmentally superior alternative" has been chosen, and (2) the discussion in this chapter of the impacts of the alternatives is less detailed than the discussions in chapters 4 through 18 (the environmental topic chapters) of the impacts of the proposed Patrick Henry Drive Specific Plan. Table 21-1 quantitatively compares the alternatives with the proposed Plan. Table 21-2 at the end of this chapter qualitatively summarizes impacts of the alternatives compared to impacts of the proposed Specific Plan.

Table 21-1
ALTERNATIVES COMPARISON

Alternative	Residential Units (units)	Non-Residential/ Non-Office Square Footage (SF)	Office Square Footage (SF)	Parkland (acres)	Open Space (acres)	Buildout Population (residents)[1]	Average Daily Trips (ADT)	Differences Compared to the Proposed Plan
Patrick Henry Drive Specific Plan							*50,500 to 51,700*	
Scenario "A"	*12,000*	*310,000*	*--*	*8.09*	*8.09*	*26,760*		*--*
Scenario "B"	*10,300*	*310,000*	*785,000*	*7.01*	*7.01*	*22,970*		*--*
Alternative 1: No Project[2]	--	*3,205,580*	--		--	--	*20,003*	▪ no residential, retail, flex, office, or community development ▪ between 2,110,580 and 2,895,580 more ML SF ▪ no new residents
Alternative 2: All Commercial Office Development							*59,947*	
Alt 2-compared to Scenario "A"	--	--	*6,411,161*		--	--		▪ no residential, retail, flex, or community development ▪ 6.4 million SF more office ▪ no new residents
Alt 2-compared to Scenario "B"	--	--	*6,411,161*		--	--		▪ no residential, retail, flex, or community development ▪ 5.6 million SF more office ▪ no new residents

Alternative 3: All Residential Development							*80,610*	
Alt 3-compared to Scenario "A"	*16,727*	*--*	*--*	*8.09+*	*8.09+*	*37,301*		▪ no retail, flex, office, or community development ▪ 4,727 more residential units ▪ 10,541 additional new residents
Alt 3-compared to Scenario "B"	*16,727*	*--*	*--*	*8.09+*	*8.09+*	*37,301*		▪ no retail, flex, office, or community development ▪ 6,427 more residential units ▪ 14,332 additional new residents
Alternative 4: Reduced Overall Development							*40,400 to 41,360*	
Alt 4-compared to Scenario "A"	*9,600*	*248,000*	*--*	*6.47+*	*6.47+*	*21,408*		▪ 20% less retail, flex, office, and/or community development ▪ 2,400 fewer residential units ▪ 5,352 fewer new residents
Alt 4-compared to Scenario "B"	*8,240*	*248,000*	*628,000*	*5.61+*	*5.61+*	*18,376*		▪ 20% less retail, flex, office, and/or community development ▪ 2,060 fewer residential units ▪ 4,594 fewer new residents

SOURCE: MIG, 2021.

SF = square feet

Notes:

[1]Population based on a forecasted average of 2.23 persons per household, consistent with the Patrick Henry Drive Specific Plan. As noted earlier, this EIR uses a limited range of persons-per-unit ratios, consistent with the particular ratios incorporated by individual City departments when making calculations. (The 2.23 persons per household factor was provided by the City: "Persons Per Household By Unit Type, City of Santa Clara, CA," based on California Department of Finance Estimates for City of Santa Clara (as of 1/1/2018) and Persons Per Household by Unit Type for Santa Clara County from U.S. Census Bureau, American Community Survey, 2012-2016 Public Use Microdata Sample [PUMS] data set for Santa Clara County.)
[2]The "No Project" alternative incorporates the maximum allowable development in the Plan Area under the 2010-2035 General Plan.

21.1 ALTERNATIVE 1: NO PROJECT - EXISTING CITY OF SANTA CLARA 2010-2035 GENERAL PLAN

21.1.1 Alternative 1 Characteristics

Under Alternative 1 (No Project), there would be no change in the current land use and zoning controls in the Plan Area. The Patrick Henry Drive Specific Plan would not be adopted, and development would proceed under the current 2010-2035 General Plan. New infrastructure would be maintained or constructed as required to accommodate new development on a project-by-project basis, and not as a planned, integrated set of improvements specifically for the Plan Area. The No Project alternative would continue to allow development under the existing Light Industrial (ML) General Plan designation, which would accommodate manufacturing, distribution, warehousing, and other allowable uses with a maximum Floor Area Ratio (FAR) of 0.60. Because no residential uses would be developed, no new public parks or open spaces would be required.

The No Project alternative would result in an increase in uses allowed under the Light Industrial General Plan designation. Uses currently in the Plan Area include general office (500,499 square feet), research and development (207,667 square feet), light industrial (120,900 square feet), data center (214,522 square feet), and a church (29,400 square feet) (from Table 5-5 in chapter 5, Air Quality, of this EIR), for a current total of 1,072,988 square feet. Generally, using the 0.6 FAR for the 73.59-acre (3,205,580 square-foot) Plan Area, development over existing conditions in the Plan Area would increase by up to 2,132,592 square feet, for a total in the Plan Area of 3,205,580 square feet of land uses allowable under the Light Industrial General Plan designation. The frameworks and design standards and guidelines of the proposed Patrick Henry Drive Specific Plan would not be implemented, and no residential units would be developed.

Relevant to air quality, energy, GHG, and noise impacts, and based on vehicle trip ratios by land use included in the transportation analysis for the Specific Plan (including a 4 percent reduction for transit use), the No Project alternative would generate approximately 20,003 average daily vehicle trips (ADT). Existing conditions (what is on the ground now) generate about 6,963 ADT. The proposed Specific Plan would generate approximately 50,500 to 51,700 ADT. Therefore, the No Project alternative would generate about 30,497 to 31,697 fewer ADT than the proposed Specific Plan.

The No Project alternative would result in between 10,300 and 12,000 fewer residential units, 22,970 to 26,760 fewer new residents, and 2,110,580 and 2,895,580 more square feet of non-residential development compared to the proposed Specific Plan. Under this alternative, no Patrick Henry Drive Specific Plan would be adopted.

21.1.2 Comparative Impacts and Mitigating Effects

(a) Aesthetic Resources. From the perspective of less development, the No Project alternative could have reduced impacts on aesthetic and visual resources compared with the proposed Patrick Henry Drive Specific Plan. However, there would also be less enhanced visual character, identity, and cohesion without adoption of the Specific Plan, whose unified design standards and guidelines, and context-sensitive frameworks, are purposely designed to achieve and maintain a cohesive, compatible visual identity and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas.

(b) Air Quality. This alternative would result in decreased air pollutant emissions than the proposed Specific Plan because less development would occur, which would result in an approximately 60 percent reduction in vehicle trips (ADT). Also, with no new population, fewer sensitive receptors would be exposed to odors, particulates, and toxic air contaminants. However, based on the size of the Plan Area (73.59 acres) and the development already allowed under the Santa Clara General Plan, the significant unavoidable air quality impacts (Impacts 5-2 and 5-3, see above) would not be reduced to a less than significant level.

(c) Biological Resources. Because the same overall amount of developable area (73.59 acres) would be available and could be involved, under the No Project alternative, there would be similar potential for disturbance of existing urban landscape habitat, similar potential for disturbance of nesting birds during construction, and similar potential for existing trees to be removed from the Plan Area.

(d) Cultural and Historical Resources. Because the same overall amount of developable area (73.59 acres) would be available and could be involved, this alternative would have similar physical impacts on undiscovered cultural and tribal cultural resources and potential historic resources compared to the proposed Plan. There still would be significant unavoidable impacts if buildings that attain historic status are demolished or are not rehabilitated according to the Secretary of the Interior's Standards (see Impact 7-1, above).

(e) Geology and Soils. The reduced development under the No Project alternative would attract fewer people who could be exposed to potential ground shaking, liquefaction, lateral spreading, expansive soils, subsidence, and differential settlement hazards associated with geologic and soils conditions within the Plan Area.

(f) Greenhouse Gas Emissions and Energy. Buildout of the Plan Area under this alternative would result in an overall decrease in GHG emissions compared to the proposed Specific Plan generally because the reduced development would result in an approximately 60 percent reduction in vehicle trips. However, development under the existing General Plan would not be as pedestrian-, bicycle-, and transit-oriented as under the proposed Patrick Henry Drive Specific Plan. Also, this alternative would not include any residential uses, so it would not address the City's existing jobs/housing imbalance and could increase the length of commutes in Santa Clara. In addition, because development under the existing General Plan could include new energy-intensive uses (such as data centers), energy use under this alternative may not be reduced in comparison to the proposed Specific Plan and could increase based on a "service population" basis (i.e., more energy use per employee).

(g) Hazards and Hazardous Materials. The reduced development under the No Project alternative would attract fewer people, resulting in less potential exposure of people and property to hazards and hazardous materials compared to the proposed Specific Plan.

(h) Hydrology and Water Quality. The No Project alternative could have similar impacts on drainage and water quality compared to the proposed Patrick Henry Drive Specific Plan. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use or density. Even with less development under the No Project alternative, there could be limited change over existing conditions, and limited change compared to the Patrick Henry Drive Specific Plan, in terms of impervious surface area, stormwater runoff

generation, and pollutant loading. Development under this alternative still would be subject to standard City stormwater runoff requirements.

(i) Land Use and Planning. The proposed Specific Plan components to help ensure that new development would be compatible and integrated, including with adjacent neighborhoods, would not occur under this alternative, and despite reduced development, there could be an increase in impacts related to compatible land use patterns.

(j) Noise. Buildout under the No Project alternative would result in less noise than under the proposed Specific Plan due primarily to fewer vehicles added to local roadways, as well as fewer sensitive receptors (e.g., no new residents) exposed to traffic and construction noise. However, future traffic volumes without the Specific Plan would exceed normally acceptable noise levels, and therefore, significant unavoidable traffic noise impacts still would result (see Impact 13-4, above). Although less overall development would occur, the No Project alternative would likely result in a similar *magnitude* of construction noise, construction vibration, on-site operational noise and vibration, and airport-related noise level impacts compared to the proposed Specific Plan due to the nature and construction types of development allowed under the General Plan (Light Industrial). In addition, although the 0.6 FAR allowed for ML development would likely result in the need for more pile driving (e.g., potential for taller buildings), Mitigation Measures 13-1 and 13-2 include performance standards for pre-drilling with an auger to minimize pile driving equipment run times, which would reduce noise and vibration impacts.

(k) Population and Housing. This alternative would result in no increase in housing and population in the Plan Area, with no new housing available to meet community and regional needs for market-rate and affordable housing. The No Project alternative would not address the City's existing jobs/housing imbalance and could increase the length of commutes in Santa Clara.

(l) Public Services. Compared to the proposed Specific Plan, this alternative would result in fewer impacts on fire protection/emergency medical service, police service, public schools, public parks, and other public facilities (e.g., library, community center) because there would be no new residents and fewer employees requiring public services. However, less development could also mean fewer development fees and less tax revenue to maintain and enhance public services.

(m) Recreation. Because no residential uses would be developed, no new public parks or open spaces would be required under the No Project alternative. Compared to the proposed Specific Plan, this alternative would result in fewer impacts on City recreation resources because there would be no new residents requiring recreation services. However, less development could also mean fewer development fees and less tax revenue to maintain and enhance recreation facilities and services. The Specific Plan's requirement of between 7.01 to 8.09 acres of new public parks and between 7.01 to 8.09 acres of open spaces, depending on whether Scenario A or Scenario B is chosen, would not be implemented.

(n) Transportation. Under the No Project alternative, average daily traffic (ADT) and vehicle miles traveled (VMT) from new development within the Plan Area would generally be reduced compared to the proposed Patrick Henry Drive Specific Plan; however, the No Project alternative would not implement the improvements proposed by the Specific Plan for pedestrian, bicycle, and transit circulation and connectivity, and "longer" commutes would be likely (as

workers would need to commute to Plan Area businesses). Therefore, because VMT is typically evaluated on a per capita or per service population basis, and there would be potential for "longer" commutes, then on a per capita/service population basis, VMT under this alternative may increase compared to the Specific Plan. Also, this alternative would not include any residential uses, so it would not address the City's existing jobs/housing imbalance and could increase the length of commutes in Santa Clara.

(o) Utilities and Service Systems. This alternative would result in reduced water demand, wastewater generation, and solid waste compared to the proposed Specific Plan. New infrastructure would be maintained or constructed as required to accommodate new Light Industrial development on a project-by-project basis, and not as a planned, integrated set of improvements specifically for the Plan Area.

21.1.3 Attainment of Basic Project Objectives

This alternative would be less effective in achieving the eight basic project objectives (see beginning of this chapter):

- Ensure an economically vibrant, safe, healthy, and sustainable neighborhood that supports a range of users, including residents, business owners, and visitors.
- Bring clarity and consistency to the regulation of individual development proposals within the [Patrick Henry Drive] PHD Specific Plan boundaries.
- Foster strong connectivity, access and circulation for a mix of travel modes including walking, cycling, driving, and transit.
- Plan parkland and open space standards consistent with City Code 17.35 to support a high quality of life within an urban environment.
- Provide community amenities and public facilities to support a "complete" neighborhood.
- Adopt infrastructure and funding plans to ensure infrastructure will adequately support planned densities and intensities.
- Support the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).
- Engage the entire community in a robust, creative, and ongoing participation process

Unlike the current General Plan, the Patrick Henry Drive Specific Plan consolidates these basic project objectives into coordinated and integrated frameworks and design standards and guidelines intended to make their implementation more feasible and efficient.

21.2 ALTERNATIVE 2: ALL COMMERCIAL OFFICE DEVELOPMENT

21.2.1 Alternative 2 Characteristics

Under Alternative 2, a Patrick Henry Drive Specific Plan would be adopted, but all development would be commercial office, which would allow up to be 6,411,161 square feet of commercial office space. No residential, retail, flex, or community development would be included in the Specific Plan. Alternative 2 would result in a net reduction of: 10,300 to 12,000 residential units, 150,000 square feet of retail space, 90,000 square feet of flex space, and 70,000 square feet of community space, but would have a net gain of approximately 5,551,286 to 6,411,161 square feet of commercial office space.[1] Because no residential uses would be developed, no new public parks or open spaces would be required.

This alternative does not restrict development to fewer potential development sites or at a lower intensity on individual sites compared to the proposed Patrick Henry Drive Specific Plan. Specific Plan frameworks and design standards and guidelines would be revised/reformulated to apply to only commercial office development. Plan components and uniformly applicable development regulations and performance standards would be implemented on individual development sites. Overall impacts throughout the Plan Area would be expected to be higher, generally due to the single-use (commercial office) aspect of the alternative.

Relevant to air quality, energy, GHG, and noise impacts, and based on vehicle trip ratios by land use included in the transportation analysis for the Specific Plan (including a 4 percent reduction for transit use), the All Commercial Office Development alternative would result in approximately 59,947 average daily vehicle trips (ADT). Existing conditions (what is on the ground now) generate about 6,963 ADT. The proposed Specific Plan would generate approximately 50,500 to 51,700 ADT. Therefore, the All Commercial Development alternative would generate about 8,247 to 9,447 more ADT than the proposed Specific Plan.

The All Commercial Office Development alternative would result in approximately 5.6 to 6.4 million more square feet of commercial office development compared to the proposed Specific Plan. There would be no residential, retail, flex, or community development. Under this alternative, a Patrick Henry Drive Specific Plan would be adopted, but the frameworks and design standards and guidelines would be revised/reformulated only for commercial office development.

21.2.2 Comparative Impacts and Mitigating Effects

(a) Aesthetic Resources. From the perspective of all commercial office development, the alternative would be expected to result in similar aesthetic and visual impacts compared with the proposed Patrick Henry Drive Specific Plan. Specific Plan components designed to achieve and maintain a cohesive, compatible visual identity and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas, would be revised/ reformulated to apply only to commercial office development.

[1]The office space calculations are based on the gross acreage of the Plan Area (73.59 acres) multiplied by the 2.0 Floor Area Ratio (FAR) allowed in the Specific Plan High-Density Flex land use classification. Specific Plan Scenario B already proposes 785,000 square feet of office use on about ten acres; therefore, the alternative shows a range of net new office space.

(b) Air Quality. This alternative would result in increased air pollutant emissions compared to the proposed Plan generally because there would be approximately 16 to 19 percent more daily vehicle trips (ADT). Based on the size of the Plan Area (73.59 acres) and the development allowed under the All Commercial Office Development alternative, the significant unavoidable air quality impacts (Impacts 5-2 and 5-3, see beginning of this chapter) would not be reduced to a less than significant level.

(c) Biological Resources. Because the same overall amount of developable area (73.59 acres) would be available, and could be involved, under the All Commercial Office Development alternative, there would be similar potential for disturbance of existing urban landscape habitat, similar potential for disturbance of nesting birds during construction, and similar potential for existing trees to be removed from the Plan Area.

(d) Cultural and Historical Resources. Because the same overall amount of developable area (73.59 acres) would be available, and could be involved, there would be similar physical impacts on undiscovered cultural and tribal cultural resources compared to the proposed Patrick Henry Drive Specific Plan. There still would be significant unavoidable impacts if buildings that attain historic status are demolished or are not rehabilitated according to the Secretary of the Interior's Standards (see Impact 7-1, at the beginning of this chapter).

(e) Geology and Soils. With no residential development under the All Commercial Development alternative, there would be fewer people exposed to potential ground shaking, liquefaction, lateral spreading, expansive soils, subsidence, and differential settlement hazards associated with geologic and soils conditions within the Plan Area.

(f) Greenhouse Gas Emissions and Energy. Buildout of the Plan Area under this alternative would result in an overall increase in GHG emissions compared to the proposed Specific Plan generally because the alternative would result in approximately 16 to 19 percent more daily vehicle trips (ADT). Because a Patrick Henry Drive Specific Plan would be adopted, its pedestrian-, bicycle-, and transit-oriented components would be retained. However, this alternative would not include any residential uses, so it would not address the City's existing jobs/housing imbalance and could increase the length of commutes in Santa Clara. In addition, energy use under this alternative would likely be similar to the proposed Specific Plan because future development would be required to comply with CALGreen energy-efficiency standards, and a commercial workforce would typically use offices during "daytime" hours rather than throughout the evening and night, as opposed to residential energy usage.

(g) Hazards and Hazardous Materials. With no residential development under the All Commercial Development alternative, there would be less potential exposure of people to hazards and hazardous materials compared to the proposed Specific Plan.

(h) Hydrology and Water Quality. This alternative could have similar impacts on drainage and water quality compared to the proposed Patrick Henry Drive Specific Plan. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use or density. Depending on specific site development proposals, there could be minimal change compared to the proposed Patrick Henry Drive Specific Plan, in terms of impervious surface area, stormwater runoff generation, and pollutant loading. Development under this alternative would still be subject to standard City stormwater runoff requirements.

(i) Land Use and Planning. The All Commercial Development alternative would have similar impacts on land use and planning compared with the proposed Patrick Henry Drive Specific Plan. Plan components to help ensure that new commercial office development would be compatible and integrated, including with adjacent neighborhoods, would still be adopted.

(j) Noise. Buildout under this alternative would result in more noise than under the proposed Specific Plan due mainly to more vehicles added to the local roadways; however, with no residential development under the alternative, fewer residents would be exposed to traffic and construction noise. With more vehicle trips than under the proposed Plan, significant unavoidable traffic noise impacts still would result (see Impact 13-4, above). The All Commercial Office Development alternative would likely result in a similar *magnitude* of construction noise, construction vibration, on-site operational noise and vibration, and airport-related noise level impacts compared to the proposed Specific Plan due to the nature and construction types of development allowed under the alternative. As discussed in Alternative 1, Mitigation Measures 13-1 and 13-2 include performance standards for pre-drilling with an auger to minimize pile driving equipment run times, which would reduce noise and vibration impacts.

(k) Population and Housing. The All Commercial Office Development alternative would result in no change in housing and population in the Plan Area. This alternative would not provide any new housing available to meet community and regional needs for market-rate housing and affordable housing as with the proposed Patrick Henry Drive Specific Plan. The All Commercial Office Development alternative would not address the City's existing jobs/housing imbalance and could increase the length of commutes in Santa Clara.

(l) Public Services. With no new residents, compared to the proposed Specific Plan, this alternative would result in fewer impacts on fire protection/emergency medical service, police service, public schools, public parks, and other public facilities (e.g., library, community center).

(m) Recreation. Because no residential uses would be developed, no new public parks or open spaces would be required under the All Commercial Office Development alternative. Compared to the proposed Specific Plan, this alternative would result in fewer impacts on recreational services. However, the Specific Plan's requirement of between 7.01 to 8.09 acres of new public parks and 7.01 to 8.09 acres of open spaces would not be implemented.

(n) Transportation. Under the All Commercial Office Development alternative, ADT and VMT from new development within the Plan Area would increase compared to the proposed Patrick Henry Drive Specific Plan. Improvements proposed by the Specific Plan for pedestrian, bicycle, and transit circulation and connectivity still would be implemented. However, this alternative would not include any residential uses, so it would not address the City's existing jobs/housing imbalance and could increase the length of commutes in Santa Clara.

(o) Utilities and Service Systems. Because no residential uses would be developed, this alternative would result in reduced water demand, wastewater generation, and solid waste compared to the proposed Specific Plan. The planned, integrated set of infrastructure improvements proposed for the Plan Area would be implemented but redesigned to accommodate all commercial development.

21.2.3 Attainment of Basic Project Objectives

With no residential uses and all commercial development, the alternative would be less effective in achieving the following basic project objectives:

- Ensure an economically vibrant, safe, healthy, and sustainable neighborhood that supports a range of users, including residents, business owners, and visitors.
- Plan parkland and open space standards consistent with City Code 17.35 to support a high quality of life within an urban environment.
- Provide community amenities and public facilities to support a "complete" neighborhood.
- Support the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).

A Patrick Henry Drive Specific Plan would be adopted, but the frameworks and design standards and guidelines would be revised/reformulated only for commercial office development. Basic project objectives related to providing residential, retail, and open space/recreational opportunities would not be implemented.

21.3 ALTERNATIVE 3: ALL RESIDENTIAL DEVELOPMENT

21.3.1 Alternative 3 Characteristics

Under Alternative 3, a Patrick Henry Drive Specific Plan would be adopted, but all development would be multi-family residential. No retail, flex, office, or community development would be included in the Specific Plan. Alternative 3 would result in a net reduction of: 150,000 square feet of retail space, 90,000 square feet of flex space, 0 to 785,000 square feet of office space, and 70,000 square feet of community space, with a net gain of approximately 4,727 multi-family dwelling units, for a total of 16,727 dwelling units in the Plan Area.[1]

This alternative does not restrict development to fewer potential development sites or at a lower density on individual sites compared to the proposed Patrick Henry Drive Specific Plan. Specific Plan frameworks and design standards and guidelines would be revised/reformulated to apply only to residential development – and Specific Plan public parks and open space provisions would remain intact and could be expanded based on the increase in residents. Plan components and uniformly applicable development regulations and performance standards would be implemented on individual development sites. Overall impacts throughout the Plan

[1]The residential density calculations are based on the gross acreage of the Plan Area (73.59 acres) multiplied by 163 dwelling units (du) per acre (ac), which is the overall density of the proposed number of Specific Plan residential units in Scenario A divided by the gross Plan Area acreage (12,000 du/73.59 ac = 163 du/ac). In addition, using acreages included in the traffic impact analysis (TIA) prepared for the Specific Plan by Hexagon Transportation Consultants, the non-residential development proposed under the Plan could be accommodated on approximately 29 acres. Therefore, with all residential development, this alternative could add from 4,727 (Scenario A) to 6,427 (Scenario B) dwelling units to the units already proposed under Specific Plan, for a total of 16,727 dwelling units in the Plan Area.

Area would be expected to be higher, generally due to the single-use (residential) aspect of the alternative.

Relevant to air quality, energy, GHG, and noise impacts, and based on vehicle trip ratios by land use included in the transportation analysis for the Specific Plan (including a 4 percent reduction for transit use), the All Residential Development alternative would result in approximately 80,610 average daily vehicle trips (ADT). Existing conditions (what is on the ground now) generate about 6,963 ADT. The proposed Specific Plan would generate approximately 50,500 to 51,700 ADT. Therefore, the All Residential Development alternative would generate about 28,910 to 30,110 more ADT than the proposed Specific Plan.

The All Residential Development alternative would result in an increase of up to 4,727 additional multi-family residential units compared to the proposed Specific Plan. There would be no commercial office, retail, flex, or community development. Under this alternative, a Patrick Henry Drive Specific Plan would be adopted, but the frameworks and design standards and guidelines would be reformulated only for multi-family residential development.

21.3.2 Comparative Impacts and Mitigating Effects

(a) Aesthetic Resources. From the perspective of all residential development, the alternative would be expected to result in similar aesthetic and visual impacts compared with the proposed Patrick Henry Drive Specific Plan. Specific Plan components designed to achieve and maintain a cohesive, compatible visual identity and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas, would be revised/reformulated to apply only to residential development.

(b) Air Quality. This alternative would result in increased air pollutant emissions compared to the proposed Plan generally because there would be approximately 56 to 60 percent more daily vehicle trips (ADT). Based on the size of the Plan Area (73.59 acres) and the development allowed under the All Residential Development alternative, the significant unavoidable air quality impacts (Impacts 5-2 and 5-3, see beginning of this chapter) would not be reduced to a less than significant level.

(c) Biological Resources. Because the same overall amount of developable area (73.59 acres) would be available, and could be involved, under the All Residential Development alternative, there would be similar potential for disturbance of existing urban landscape habitat, similar potential for disturbance of nesting birds during construction, and similar potential for existing trees to be removed from the Plan Area.

(d) Cultural and Historical Resources. Because the same overall amount of developable area (73.59 acres) would be available, and could be involved, there would be similar physical impacts on undiscovered cultural and tribal cultural resources compared to the proposed Patrick Henry Drive Specific Plan. There still would be significant unavoidable impacts if buildings that attain historic status are demolished or are not rehabilitated according to the Secretary of the Interior's Standards (see Impact 7-1, at the beginning of this chapter).

(e) Geology and Soils. With more residential development under the alternative, there would be more people exposed to potential ground shaking, liquefaction, lateral spreading, expansive

soils, subsidence, and differential settlement hazards associated with geologic and soils conditions within the Plan Area.

(f) Greenhouse Gas Emissions and Energy. Buildout of the Plan Area under this alternative would result in an overall increase in GHG emissions compared to the proposed Specific Plan generally because the alternative would result in approximately 56 to 60 percent more daily vehicle trips (ADT). Because a Patrick Henry Drive Specific Plan would be adopted, its pedestrian-, bicycle-, and transit-oriented components would be retained. This alternative would include up to 4,727 additional residential units compared to the proposed Plan, so it would better address the City's existing jobs/housing imbalance. In addition, although this alternative would result in greater overall energy use (due to the increased number of residents), the energy impacts on a per capita or per "service population" basis would be similar to the proposed Specific Plan, and because new development would be required to comply with CALGreen energy-efficiency standards, the effects would be similar to the Specific Plan; i.e., would not result in an inefficient or wasteful use of energy.

(g) Hazards and Hazardous Materials. More new residents under the All Residential Development alternative would result in more potential exposure of people to hazards and hazardous materials compared to the proposed Specific Plan.

(h) Hydrology and Water Quality. This alternative could have similar impacts on drainage and water quality compared to the proposed Patrick Henry Drive Specific Plan, and generally an increase in parkland and/or open space would result in a beneficial increase in permeable surfaces. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use or density. Depending on specific site development proposals, there could be limited change compared to the proposed Patrick Henry Drive Specific Plan, in terms of impervious surface area, stormwater runoff generation, and pollutant loading. Development under this alternative would still be subject to standard City stormwater runoff requirements.

(i) Land Use and Planning. The All Residential Development alternative would have similar impacts on land use and planning compared with the proposed Patrick Henry Drive Specific Plan. Plan components to help ensure that new residential development would be compatible and integrated, including with adjacent neighborhoods, would still be adopted.

(j) Noise. Buildout under this alternative would result in more noise than under the proposed Specific Plan due mainly to more vehicles added to the local roadways. With more residential development under the alternative, more residents would be exposed to traffic and construction noise. With more vehicle trips than under the proposed Plan, significant unavoidable traffic noise impacts still would result (see Impact 13-4, above). The All Residential Development alternative would likely result in a similar *magnitude* of construction noise, construction vibration, on-site operational noise and vibration, and airport-related noise level impacts compared to the proposed Specific Plan due to the nature and construction types of development allowed under the alternative.

(k) Population and Housing. The All Residential Development alternative would increase housing and population in the Plan Area by up to 6,427 residential units and 14,332 residents over the proposed Specific Plan. This alternative would increase the new housing available to meet community and regional needs for market-rate housing and affordable housing compared with the proposed Patrick Henry Drive Specific Plan. The All Residential Development

alternative would address the City's existing jobs/housing imbalance and could reduce the length of commutes in Santa Clara.

(l) Public Services. With more new residents compared to the proposed Specific Plan, this alternative could result in more impacts on fire protection/emergency medical service, police service, public schools, public parks, and other public facilities (e.g., library, community center).

(m) Recreation. Compared to the proposed Specific Plan, this alternative would result in similar impacts on recreational services. The Specific Plan's requirement of between 7.01 to 8.09 acres of new public parks and between 7.01 to 8.09 acres of open spaces would still be provided, and probably expanded, depending on the mandated application of City Code Chapter 17.35 (Park & Recreational Land) requirements.

(n) Transportation. Under the All Residential Development alternative, ADT from new development within the Plan Area would increase compared to the proposed Patrick Henry Drive Specific Plan. Total VMT would likely increase compared to the Specific Plan (generally due to the likely increase in number of commuting residents); however, the per capita or per service population VMT would tend to be similar to the Specific Plan due to the substantially similar residential characteristics of this alternative. Improvements proposed by the Specific Plan for pedestrian, bicycle, and transit circulation and connectivity still would be implemented. This alternative would include more residential units, so it would better address the City's existing jobs/housing imbalance and could decrease the length of commutes in Santa Clara.

(o) Utilities and Service Systems. This alternative would result in increased water demand, wastewater generation, and solid waste compared to the proposed Specific Plan because of the increase in residential units. The planned, integrated set of infrastructure improvements proposed for the Plan Area would be implemented but redesigned to accommodate all residential development.

21.3.3 Attainment of Basic Project Objectives

The All Residential Development alternative overall would be as effective as the proposed Plan in achieving the basic project objectives listed at the beginning of this chapter. With more residential development, the alternative would be *more effective* in achieving the following basic project objective:

- Support the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).

This alternative would be *less effective* in achieving the following basic project objectives:

- Ensure an economically vibrant, safe, healthy, and sustainable neighborhood that supports a range of users, including residents, business owners, and visitors.

- Provide community amenities and public facilities to support a "complete" neighborhood.

A Patrick Henry Drive Specific Plan would be adopted, but the frameworks and design standards and guidelines would be revised/reformulated only for residential development.

21.4 ALTERNATIVE 4: REDUCED OVERALL DEVELOPMENT

21.4.1 Alternative 4 Characteristics

Under Alternative 4, a Patrick Henry Drive Specific Plan would be adopted, but overall development would be reduced by 20 percent. Alternative 4 would result in between 8,240 and 9,600 residential units (a net reduction of 2,060 to 2,400 units); 248,000 square feet of non-residential/non-office development (a net reduction of 62,000 square feet); 628,000 square feet of commercial office (Scenario B only; a net reduction of 157,000 square feet); and between 5.6 acres and 6.5 acres of new public parkland and, similarly, 5.6 and 6.5 acres of new open space (a net reduction of 1.41 to 1.6 acres). This alternative would not restrict development in the Plan Area, and all other Plan frameworks and design standards and guidelines would remain the same. Plan components and uniformly applicable development regulations and performance standards would be implemented on individual development sites. Overall impacts throughout the Plan Area would be expected to be lower.

Relevant to air quality, energy, GHG, and noise impacts, and based on vehicle trip ratios by land use included in the transportation analysis for the Specific Plan (including a 4 percent reduction for transit use), the Reduced Overall Development alternative would result in approximately 40,400 to 41,360 average daily vehicle trips (ADT).[1] Existing conditions (what is on the ground now) generate about 6,963 ADT. The proposed Specific Plan would generate approximately 50,500 to 51,700 ADT. Therefore, the Reduced Overall Development alternative would generate about 9,140 to 11,300 fewer ADT than the proposed Specific Plan.

The Reduced Overall Development alternative would result in between 2,060 and 2,400 fewer residential units, 62,000 less square feet of non-residential development, and 157,000 less square feet of commercial office (Scenario B only) compared to the proposed Specific Plan. Under this alternative, a Patrick Henry Drive Specific Plan would be adopted with the sane frameworks and design standards and guidelines, but with a lower total development capacity.

21.4.2 Comparative Impacts and Mitigating Effects

(a) Aesthetic Resources. From the perspective of a reduced development plan, the alternative would be expected to result in similar aesthetic and visual impacts compared with the proposed Patrick Henry Drive Specific Plan, though there would be some potential for reduced building heights. Specific Plan components designed to achieve and maintain a cohesive, compatible visual identity and sense of place in the Plan Area, as well as provide smooth transitions with adjacent neighborhoods and areas, would be the same.

(b) Air Quality. This alternative would result in decreased air pollutant emissions compared to the proposed Plan generally because there would be approximately 20 percent fewer daily vehicle trips (ADT). Based on the size of the Plan Area (73.59 acres) and the development

[1]It should be kept in mind that because the travel demand modeling for Specific Plan development shows different distributions on the roadway system, a broadly defined 20 percent reduction in overall development would not automatically mean a 20 percent reduction in trips on any particular roadway segment. More detailed analysis requiring model runs would be required to determine the reduction in trips, but as noted above, CEQA Guidelines 15126.6 allows a less detailed discussion of alternatives.

allowed under the Reduced Overall Development alternative, the significant unavoidable air quality impacts (Impacts 5-2 and 5-3, see beginning of this chapter) would not be reduced to a less than significant level.

(c) Biological Resources. Because the same overall amount of developable area (73.59 acres) would be available, and could be involved, under the Reduced Overall Development alternative, there would be similar potential for disturbance of existing urban landscape habitat, similar potential for disturbance of nesting birds during construction, and similar potential for existing trees to be removed from the Plan Area.

(d) Cultural and Historical Resources. Because the same overall amount of developable area (73.59 acres) would be available, and could be involved, there would be similar physical impacts on undiscovered cultural and tribal cultural resources compared to the proposed Patrick Henry Drive Specific Plan. There still would be significant unavoidable impacts if buildings that attain historic status are demolished or are not rehabilitated according to the Secretary of the Interior's Standards (see Impact 7-1, at the beginning of this chapter).

(e) Geology and Soils. With less residential development under the alternative, there would be fewer people exposed to potential ground shaking, liquefaction, lateral spreading, expansive soils, subsidence, and differential settlement hazards associated with geologic and soils conditions within the Plan Area.

(f) Greenhouse Gas Emissions and Energy. Buildout of the Plan Area under this alternative would result in an overall decrease in GHG emissions compared to the proposed Specific Plan generally because the alternative would result in approximately 20 percent fewer daily vehicle trips (ADT). Because a Patrick Henry Drive Specific Plan would be adopted, its pedestrian-, bicycle-, and transit-oriented components would be retained. This alternative would include up to 2,400 fewer residential units compared to the proposed Plan, so it would be less effective at addressing the City's existing jobs/housing imbalance. This alternative would also result in lower overall energy use (due to the decreased number of residents and reduced non-residential and/or commercial office square footage). In addition, new development would be required to comply with CALGreen energy-efficiency standards, so this alternative would not result in an inefficient or wasteful use of energy, similar to the Specific Plan.

(g) Hazards and Hazardous Materials. Fewer new residents under the Reduced Overall Development alternative would result in less potential exposure of people to hazards and hazardous materials compared to the proposed Specific Plan.

(h) Hydrology and Water Quality. This alternative could have similar impacts on drainage and water quality compared to the proposed Patrick Henry Drive Specific Plan, although the decrease in parkland and/or open space would result in the creation of less permeable surface area. From an engineering standpoint, surface runoff is determined by a parcel's impervious surface area and not by land use or density. Depending on specific site development proposals, there could be limited change compared to the proposed Patrick Henry Drive Specific Plan, in terms of impervious surface area, stormwater runoff generation, and pollutant loading. Development under this alternative would still be subject to standard City stormwater runoff requirements.

(i) Land Use and Planning. The Reduced Overall Development alternative would have similar impacts on land use and planning compared with the proposed Patrick Henry Drive Specific

Plan. Plan components to help ensure that new residential development would be compatible and integrated, including with adjacent neighborhoods, would still be adopted.

(j) Noise. Despite a decrease in traffic expected from this alternative, buildout of this alternative would likely result in similar noise compared to the proposed Specific Plan due to existing noise conditions on local roadways. However, fewer residents would be exposed to traffic and construction noise under this alternative than under the Specific Plan. And with fewer vehicle trips than under the proposed Plan, significant unavoidable traffic noise impacts could possibly be reduced to a less-than-significant level.[1] The Reduced Overall Development alternative would also likely result in a similar *magnitude* of construction noise, construction vibration, on-site operational noise and vibration, and airport-related noise level impacts compared to the proposed Specific Plan due to the similar nature and construction types of development allowed under the alternative.

(k) Population and Housing. The Reduced Total Development alternative would result in reduced housing and population in the Plan Area by up to 2,400 residential units and 5,352 residents compared to the proposed Specific Plan. This alternative would provide less new housing to meet community and regional needs for market-rate housing and affordable housing compared with the proposed Patrick Henry Drive Specific Plan. The Reduced Overall Development alternative would still address the City's existing jobs/housing imbalance to some extent and could also result in reduced commute lengths in Santa Clara.

(l) Public Services. With fewer new residents compared to the proposed Specific Plan, this alternative could result in fewer impacts on fire protection/emergency medical service, police service, public schools, public parks, and other public facilities (e.g., library, community center).

(m) Recreation. Compared to the proposed Specific Plan, this alternative would generally result in similar impacts on recreational services. However, the Reduced Overall Development alternative would result in the requirement of between 5.61 to 6.47 acres of new public parks and 5.61 to 6.47 acres of open spaces, which would be less than the 7.01 to 8.09 acres of each required by the Specific Plan.

(n) Transportation. Under the Reduced Overall Development alternative, ADT from new development within the Plan Area would decrease compared to the proposed Patrick Henry Drive Specific Plan. Total VMT would likely also decrease compared to the Specific Plan (generally due to the likely decrease in the number of commuting residents); however, the per capita or per service population VMT would tend to be similar to the Specific Plan due to the similar residential characteristics of this alternative. Improvements proposed by the Specific Plan for pedestrian, bicycle, and transit circulation and connectivity still would be implemented. This alternative would include fewer residential units, so it would not address the City's existing jobs/housing imbalance as well as the Specific Plan, although it might still decrease commute lengths in Santa Clara.

[1]As explained in in chapter 13 (Noise) under the discussion for Impact 13-4, a 5 percent or 10 percent reduction in trips along some roads would be sufficient to reduce impacts to a less-than-significant level. Although as noted above, a broadly defined 20 percent reduction in overall development would not necessarily translate into a 20 percent reduction in trips on any particular roadway segment, the noise analysis also acknowledges that because the Specific Plan does not substantially exceed the City's noise standards for traffic noise, a small decrease in trips attributable to the Plan Area could avoid potentially significant impacts.

(o) Utilities and Service Systems. This alternative would result in decreased water demand, wastewater generation, and solid waste compared to the proposed Specific Plan because of the decrease in residential units. The planned, integrated set of infrastructure improvements proposed for the Plan Area would be implemented but redesigned to accommodate the reduced residential and non-residential development characteristics.

21.4.3 Attainment of Basic Project Objectives

With a reduced scale of the development, the Reduced Overall Development alternative would be less effective in achieving the following basic project objectives, although it would promote all of the project objectives:

- Plan parkland and open space standards consistent with City Code 17.35 to support a high quality of life within an urban environment.
- Provide community amenities and public facilities to support a complete neighborhood.
- Support the City's affordable housing goals by requiring 15 percent of all developed residential units to be affordable to households at or below 80 percent of the Average Median Income (AMI).

A Patrick Henry Drive Specific Plan would be adopted, and the frameworks and design standards and guidelines would remain the same.

21.5 ALTERNATIVE 5: ALTERNATIVE PROJECT LOCATION (CONSIDERED BUT REJECTED)

Section 15126.6(a) of the CEQA Guidelines states, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project[.]" Further, section 15126.6(c) explains, "Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental effects." To help clarify the meaning of "feasibility," CEQA Guidelines section 15126.6(f)(1) (Rule of Reason/Feasibility) states, "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries...and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site….No one of these factors establishes a fixed limit on the scope of reasonable alternatives."

Santa Clara is an incorporated city bordered by the cities of Sunnyvale and Cupertino to the west, San Jose to the south and east, and Milpitas to the northeast. The approximately 73.59-acre Plan Area is almost completely surrounded by existing development (the proposed Kylli mixed-use development is proposed for the parking area adjacent to the northern Plan Area border and is currently under review). The Plan Area has been identified in the adopted Santa Clara 2010-2035 General Plan and designated a Priority Development Area by ABAG as an area of growth due primarily to its location, the presence of nearby employment opportunities, and the availability of infrastructure (e.g., utility systems, transportation network - including light

trail and Alameda Corridor Express and freeways). This situation provides an opportunity to accommodate projected growth while allowing the City to preserve its existing single family and other low-density neighborhoods.

An alternative location for the Patrick Henry Drive Specific Plan is not feasible primarily because other areas that could accommodate similar high-density residential development are either currently under development review or are the focus of future study.

In addition, the CEQA Guidelines note that the alternatives evaluated in an EIR should be selected based on their ability to avoid or substantially lessen the significant impacts of the proposed project. Even if an alternative location for the project could implement the basic project objectives, only those locations that would avoid or substantially lessen any of the significant impacts of the project need to be considered in the EIR.

In the case of identified significant impacts under the proposed Patrick Henry Drive Specific Plan, (1) feasible mitigation measures are available to reduce most impacts to less-than-significant levels (with the exception of air quality, cultural resources, and traffic noise impacts), and (2) transferring these potentially significant impacts to an alternative location still could substantially affect the environment, possibly worse than in the Plan Area, where coordinated infrastructure, services, regulations, plans, and proximity to transit resources already are in place to avoid or reduce significant environmental impacts.

The Patrick Henry Drive Specific Plan objectives consist of a range of coordinated frameworks and urban design standards and guidelines intended to improve the area for residents, employees, and visitors – in both the short term and long term. The purpose of the Specific Plan is to create new housing balanced with non-residential development appropriate for the location. An alternative to the Specific Plan that focused on a different location in Santa Clara would not necessarily be able to implement the City's basic objectives for the project.

Because an alternative project location would be infeasible, would not necessarily avoid or lessen the significant impacts of the proposed project and might result in new significant impacts, and would not necessarily be able to achieve the basic project objectives, a project alternative in a different location was eliminated from further detailed consideration. No further evaluation of alternative project locations is required under CEQA.[1]

[1]CEQA Guidelines section 15126.6(c) explains that alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the basic project objectives, are infeasible, or do not avoid significant environmental effects. CEQA Guidelines section 15126.6(f) indicates that the Lead Agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitation, jurisdictional boundaries, and the proponent's control over alternative sites in determining the range of alternatives to be evaluated in an EIR. With respect to alternative locations, CEQA Guidelines section 15126.6(f) indicates that alternative locations need not be evaluated in every case. The key question in determining whether to evaluate alterative locations is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen significant effects need be evaluated in the EIR. CEQA Guidelines section 15126(f)(2) indicates that alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered.

21.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (section 15126.6[e][2]) stipulate, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Of all the identified alternatives other than the No Project alternative, Alternative 4: Reduced Overall Development would result in the least adverse overall environmental impacts and would therefore be the “environmentally superior alternative.” This conclusion is based on the overall reduction in the severity of impacts compared to the proposed project (the Specific Plan), as indicated in Table 20-2. In addition, Alternative 4 would meet, to some degree, all of the eight basic project objectives, though it would be less effective in meeting parkland and open space standards, providing community amenities and public facilities, and developing affordable housing (but would still support the City percentage goals – i.e., 15 percent – for affordable housing) due to the reduced size of development proposed.

As discussed above for each alternative, based on the sheer size of the Specific Plan Area (73.59 acres) and the development already allowed under the existing Santa Clara General Plan (No Project), none of the significant unavoidable project or cumulative impacts are expected to be reduced to a level of less than significant under any of the alternatives with the exception that Alternative 4 would be likely to reduce Impact 13-4 to a less-than-significant level.[1]

[1]Reducing Impact 5-3 (related to construction period impacts on sensitive receptors) to a less-than-significant level cannot be assured because when and where construction would occur cannot be definitively determined and thus the risk would remain, as described in the EIR chapter 5 (Air Quality), despite reductions in the amount of development. Reducing Impact 7-1 (related to historic resources) to a less-than-significant level cannot be assured because whether or not an as-yet undefined historic resource may be identified for demolition cannot be determined until a proposal is considered. Reducing Impact 5-2 (related to net increase in criteria air pollutants) to a less-than-significant level would also pose a challenge because as discussed in EIR chapter 5, Air Quality, the existing land use operational emissions projected for 2040 would amount to approximately 62 percent of the BAAQMD threshold without any additional development; therefore, any development would necessarily be limited in order not to exceed the threshold. Reducing Impact 13-4 (traffic noise levels) to a less-than-significant level would require a reduction in the amount of development such as proposed by Alternative 4 (although there would be no definitive guarantee that a less-than-significant finding would result without modeling).

Table 21-2
ALTERNATIVES COMPARISON TO THE PATRICK HENRY DRIVE SPECIFIC PLAN

Impact Area	Alternatives[1]			
	Alternative 1: No Project--Existing Santa Clara General Plan	Alternative 2: All Commercial Office	Alternative 3: All Residential	Alternative 4: Reduced Overall Development
(a) Aesthetic Resources	Reduced impacts but less visual cohesion.	Similar impacts.	Similar impacts.	Similar impacts.
(b) Air Quality	Reduced impacts but still significant unavoidable impacts.	Increased impacts and still significant unavoidable impacts.	Increased impacts and still significant unavoidable impacts.	Reduced impacts but still significant unavoidable impacts.
(c) Biological Resources	Similar impacts.	Similar impacts.	Similar impacts.	Similar impacts.
(d) Cultural and Historic Resources	Similar impacts and still potential for significant unavoidable impacts.	Similar impacts and still potential for significant unavoidable impacts.	Similar impacts and still potential for significant unavoidable impacts.	Similar impacts and still potential for significant unavoidable impacts.
(e) Geology and Soils	Reduced impacts.	Reduced impacts.	Increased impacts.	Reduced impacts.
(f) Greenhouse Gas Emissions and Energy	Reduced GHG impacts; possible increased energy impacts.	Increased GHG impacts but possible reduced energy impacts.	Increased GHG impacts but similar overall energy impacts.	Reduced impacts.
(g) Hazards and Hazardous Materials	Reduced impacts.	Reduced impacts.	Increased impacts.	Reduced impacts.
(h) Hydrology and Water Quality	Similar impacts.	Similar impacts.	Similar impacts.	Similar impacts.
(i) Land Use and Planning	Greater impacts from less compatibility and less integration of land use policies.	Similar impacts.	Similar impacts.	Similar impacts.
(j) Noise	Reduced impacts but still significant unavoidable impacts.	Increased impacts and still significant unavoidable impacts.	Increased impacts and still significant unavoidable impacts.	Reduced impacts; potential to reduce significant unavoidable impact to less-than-significant.
(k) Population and Housing	No new housing to meet need. Does not address jobs/housing imbalance.	No new housing to meet demand. Does not address jobs/housing imbalance.	Increased benefits. Better addresses jobs/housing balance.	Reduced benefits, including extent of addressing jobs/housing balance.
(l) Public Services	Reduced impacts but no park improvements.	Reduced impacts.	Increased impacts.	Reduced impacts.

(m) Recreation	Reduced impacts but fewer new public parks and less open space.	Reduced impacts but no new public parks or open spaces.	Similar impacts.	Reduced impacts but fewer new public parks and less open space.
(n) Transportation	Possibly increased VMT impacts; no multi-modal improvements.	Increased impacts.	Possibly increased VMT impacts.	Reduced impacts.
(o) Utilities and Service Systems	Reduced impacts.	Reduced impacts.	Increased impacts.	Reduced impacts.
Attainment of Project Objectives	No attainment.	Less attainment.	Similar attainment. Provides more affordable housing, but does not support a range of users and mix of uses.	Less attainment for some objectives but supports all objectives.

SOURCE: MIG, 2021.

[1] Alternative 5: Alternative Project Location would not achieve most of the project objectives, would not avoid or lessen the significant impacts of the proposed project, may result in new significant impacts, and would be infeasible, and thus was eliminated from further consideration. See section 21.5.

22. MITIGATION MONITORING

22.1 MITIGATION MONITORING REQUIREMENTS

CEQA Statute section 21081.6 requires all public agencies to adopt reporting or monitoring programs when they approve projects subject to environmental impact reports or mitigated negative declarations. A mitigation monitoring program would therefore be required for implementation subsequent to certification of the Patrick Henry Drive Specific Plan EIR. Most of the environmental mitigation needs that have been identified in this EIR would be subject to effective monitoring through the City's standard development review and approval procedures, as well as during associated plan check and field inspection procedures. However, to satisfy CEQA Statute section 21081.6 and CEQA Guidelines section 15097 (Mitigation Monitoring and Reporting), a documented record of implementation will be necessary.

22.2 MITIGATION MONITORING CHECKLIST FORMAT

While adoption of a mitigation monitoring program would not occur until this EIR is certified, the mitigation monitoring framework to be followed can be described. The attached checklist format (Table 22-1) is based upon the impacts and mitigations in Table 2-1 in EIR chapter 2, Summary and includes individual columns for identifying the following, pursuant to CEQA Guidelines section 15097:

22.1.1 Identified Impact

This column would include each identified impact as it is described in the EIR summary table (Table 2-1 in chapter 2)—such as Impact 4-1, Impact 4-2, Impact 4-3 for Aesthetics; Impact 5-1, Impact 5-2, Impact 5-3, Impact 5-4, Impact 5-5 for Air Quality, etc.

22.1.2 Related Mitigation Measure (Performance Criteria)

This column would include each mitigation measure as it is described in the EIR summary table (Table 2-1 in EIR chapter 2)—such as Mitigation 4-1, Mitigation 4-2, Mitigation 4-3, Mitigation 5-1, Mitigation 5-2, Mitigation 5-3, Mitigation 5-4, Mitigation 5-5, etc. The description could be supplemented by applicable performance criteria (i.e., the criteria by which the success of the mitigation can be gauged).

22.1.3 Monitoring

This column would describe (1) the “implementation entity” responsible for carrying out each mitigation measure (such a “future project applicant” or “City”); (2) the “monitoring and verification entity” responsible for performing the monitoring of each mitigation (e.g., a City department, another public agency, or some other entity); and (3) specific implementation timing requirements (e.g., at the completion of a particular future individual project development review or construction phase, prior to occupancy, or when some other specific threshold is reached).

22.1.4 Verification

The verification column would provide a space for the signature and date of the “monitoring and verification” entity when a monitoring milestone is reached.

Table 22-1

MITIGATION MONITORING CHECKLIST—PATRICK HENRY DRIVE SPECIFIC PLAN

The environmental mitigation measures listed in column two below have been incorporated into the conditions of approval for the Patrick Henry Drive Specific Plan in order to mitigate identified environmental impacts. A completed and signed chart will indicate that each mitigation requirement has been complied with, and that City and state monitoring requirements have been fulfilled with respect to Public Resources Code section 21081.6.

		MONITORING			VERIFICATION	
IDENTIFIED IMPACT	**RELATED MITIGATION MEASURE (Performance Criteria)**	**Implementation Entity**	**Monitoring and Verification Entity**	**Timing Requirements**	**Signature**	**Date**
AESTHETICS						
Impact 4-1: Project Effects on Scenic Vistas.						
Impact 4-2: Project Impacts on Existing Visual Character and Quality.						
Impact 4-3: Project Light and Glare Effects.						
AIR QUALITY						
Impact 5-1: Conflict with 2017 Clean Air Plan.						
Impact 5-2: Result in a Cumulatively Considerable Net Increase in Criteria Pollutants for which the Region is Non-Attainment.						
Impact 5-3: Generate Toxic Air Contaminant Emissions that Expose Sensitive Receptors to Substantial Pollutant Concentrations During Construction.						
Impact 5-4: Expose Sensitive Receptors to Substantial Operational Pollutant Concentrations.						
Impact 5-5: Odors.						
*BIOLOGICAL RESOURCES …***[etc.]…**						

23. ORGANIZATIONS AND PERSONS CONTACTED

23.1 CITY STAFF

Reena Brilliot, Planning Manager, Community Development Department
John Davidson, Principal Planner, Community Development Department
Rebecca Bustos, Senior Planner, Community Development Department
Manuel Pineda, Assistant City Manager
Jeremy Ray, Deputy Fire Chief, Fire Department
Jake Tomlin, Fire Marshal-Battalion Chief, Fire Department
Frederick Chun, Assistant Fire Marshal, Fire Department
Jonathan Yee, T.E., Transportation Manager, Department of Public Works Traffic Division,
Carol Shariat, Principal Transportation Planner, Department of Public Works Traffic Division
Shilpa Mehta, Assistant Director, Water & Sewer Utilities Department
Allie Jackman, Principal Engineer, Department of Public Works
Gustavo Gomez, Principal Engineer (AN), Department of Public Works
Evelyn Liang, PE, SE, Senior Civil Engineer, Department of Public Works
Diane Asuncion, Acting Compliance Manager, Water & Sewer Utilities Department
Rinta Perkins, Compliance Manager, Public Works Department
Carolyn McDowell, Management Analyst, Police Department
Gina Saporito, Staff Aide II, Parks & Recreation Department

23.2 OTHERS

Michal Healy, Director, Facility Development and Planning, Santa Clara Unified School District
Areana Flores, MSc, Environmental Planner, Bay Area Air Quality Management District
Rochele Henderson, Public Records Coordinator, Bay Area Air Quality Management District
Emily Hanson, Green Waste Recovery

24. EIR PREPARERS

MIG, INC.

Lead Consultant

Ellie Fiore, AICP, Director of Planning Services
Ray Pendro, Director of Environmental Planning
Taylor Peterson, Director of Biological Analysis
Chris Dugan, Director of Air Quality, Greenhouse Gas, and Noise Services
Melinda Mohamed, Wildlife Biologist & Project Manager
Rishi Dhody, Project Manager
Phillip Gleason, Senior Environmental Analyst
Robert Templar, Senior Archaeologist
Steve Ridone, Senior Environmental Planner
David Gallagher, Senior Biologist I
Alex Broskoff, Biologist I
Fernanda Suarez, Project Associate
Miranda Miller, Project Assistant

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Transportation Consultants

Michelle Hunt, Vice President and Principal Associate

25. APPENDICES

25.1 Notice of Preparation and NOP Comment Letters
25.2 Supplemental Air Quality/GHG Information
25.3 Water Supply Assessment
25.4 Sanitary Sewer Technical Memoranda (Woodard & Curran, 5-7-20; Schaaf & Wheeler, 3-16-21)
25.5 Supplemental Noise Information
25.6 Hexagon Transportation Analysis

APPENDIX 25.1

NOTICE OF PREPARATION AND NOP COMMENT LETTERS

NOTICE

NOTICE OF PREPARATION
OF AN ENVIRONMENTAL IMPACT REPORT
AND PUBLIC SCOPING MEETING NOTICE
Distribution Date: December 19, 2019

Project Title:	Patrick Henry Drive Specific Plan
File Nos.:	PLN2019-14257
Location:	Approximately 76 gross acre plan area bounded by Sunnyvale and Calabazas Creek to the west, the Hetch Hetchy right-of-way to the north, Great America Parkway to the east, and Mission College to the south.
Applicant/Owner:	City of Santa Clara / Various Owners
Mailing Address:	1500 Warburton Avenue, Santa Clara, CA 95050
Request:	The City is proposing a Specific Plan to create a policy framework to guide future commercial and residential development within the Plan area. The Specific Plan assumes buildout of one of two scenarios. The first would include approximately 12,000 net new residential units and 310,000 net new square feet of non-residential uses, including retail and education facilities. The second scenario would be the same as the first but would substitute office for high-density residential along the east edge of the Plan Area, amounting to an approximate total of 10,300 net new residential units, 785,000 net new square feet of office, and 310,000 net new square feet of other non-residential uses.

As authorized by the City of Santa Clara as a Lead Agency, the City is seeking the views of responsible agencies and the public as to the scope and content of the environmental information that should be considered for inclusion in the Program Environmental Impact Report (EIR) for the proposed project. The project description, location, and potential environmental effects are contained in the materials provided in the form of a Notice of Preparation (NOP). The NOP is available from the Planning Division Office at the address below, and is available on line at the City's website (www.santaclaraca.gov/CEQA).
Written comments for the Program EIR scope and content will be accepted if they are received by **January 21, 2020**. If you wish to respond in writing, please send your comments to:

Lead Agency:	City of Santa Clara, Planning Division
Contact:	Rebecca Bustos, rbustos@santaclaraca.gov
	1500 Warburton Avenue Santa Clara, CA 95050
Phone:	(408) 615-2450, Fax: (408) 247-9857

In addition to providing a written response, you may attend the **Scoping Meeting** that has been set for **January 8, 2020 from 6:30 p.m. - 8:00 p.m.** in the Mission Branch Library Community Room (1098 Lexington Street). The session will include a presentation on the project description and will provide an opportunity for agencies and the public to identify issues that they wish to see addressed in the EIR analysis.

Andrew Crabtree _____ Date December 19, 2019
Director of Community Development, City of Santa Clara

NOTICE OF PREPARATION

DATE:	**December 19, 2019**
TO:	**Responsible Agencies, Trustee Agencies, and Interested Parties**
LEAD AGENCY:	**City of Santa Clara** **Contact: Rebecca Bustos, Associate Planner** **1500 Warburton Avenue** **Santa Clara, CA 95050**
SUBJECT:	**Notice of Preparation of a Draft Environmental Impact Report for the Patrick Henry Drive Specific Plan**[1]

The City of Santa Clara (City) will be the Lead Agency and will prepare a Draft Environmental Impact Report (DEIR) for the proposed Patrick Henry Drive Specific Plan (project) described below. The City is interested in your agency's views as to the appropriate scope and content of the DEIR's environmental information pertaining to your agency's statutory responsibilities related to the project. Your agency may need to use the environmental impact report prepared by the City when considering permits or other approvals for the project. The City will need the name of a contact person for your agency. For interested individuals, the City would like to be informed of environmental topic(s) of interest to you regarding the project.

The Patrick Henry Drive Specific Plan[2] is located in the northernmost neighborhood of the City of Santa Clara, encompassing several office and industrial parks. The City of Santa Clara will be responsible for certifying the EIR and adopting the Specific Plan for the parcels within its jurisdiction. Because the City of Santa Clara has already determined that an EIR is required for the proposed Patrick Henry Drive Specific Plan, and as permitted by CEQA Guidelines section 15060(d) (Preliminary Review), the City will not prepare an Initial Study for the project.

[1] References: Title 14, California Code of Regulations, California Environmental Quality Act (CEQA) Guidelines, sections 15082, 15103, and 15375.

[2] A "specific plan" is a planning tool used by the City of Santa Clara for the systematic implementation of the general plan for individual public and private development proposals in a defined area. The requirements of a specific plan are defined in sections 65450 – 65457 of the California Government Code.

The proposed project, its location, and its potential environmental effects are described below. The City of Santa Clara welcomes public input during the Notice of Preparation (NOP) review period. The purpose of the scoping process is to solicit public comment regarding the full spectrum of issues and concerns, including a suitable range of alternatives, and the nature and extent of potential environmental impacts and appropriate mitigation measures that should be addressed in the EIR process.

Due to the time limits mandated by the CEQA Guidelines, your response must be sent ***not later than 30 days after your receipt of this notice.*** In the event no response or request for additional time is received by the end of the review period, the City may presume that you have no response. Please send your comments to:

City of Santa Clara
Contact: Rebecca Bustos, Associate Planner
1500 Warburton Avenue
Santa Clara, CA 95050
RBustos@santaclaraca.gov

To allow for mailing, receipt, and 30-day review of this NOP, the comment period closes on ***January 21, 2020.***

Notice of Scoping Meeting:

Pursuant to CEQA Guidelines section 15082(c) (Notice of Preparation and Determination of Scope of EIR), the City of Santa Clara will conduct a scoping meeting for the purpose of soliciting comments of adjacent cities, responsible agencies, trustee agencies, and interested parties requesting notice as to the appropriate scope and content of the DEIR.

The scoping meeting will include a presentation of the proposed project and a summary of the environmental issues to be analyzed in the DEIR. Following the presentation, interested agencies, organizations, and members of the public will be encouraged to present views concerning what environmental issues should be included in the DEIR. The oral and written comments provided during the scoping meeting will assist the City in scoping the potential environmental effects of the project to be addressed by the DEIR.

The scoping meeting will be held on ***January 8, 2020 from 6:30 p.m. - 8:00 p.m.***, at the Mission Branch Library Community Room, located at 1098 Lexington Street, Santa Clara, CA.

Rebecca Bustos

Rebecca Bustos
Associate Planner
Phone (408) 615-2464
RBustos@santaclaraca.gov

Project Title: Patrick Henry Drive Specific Plan

Project Applicant: City of Santa Clara

Project Location: The Patrick Henry Drive Specific Plan encompasses approximately 76 gross acres in an employment-rich area of northern Santa Clara, comprising several moderate-intensity office and industrial parks accompanied by surface parking. The Plan Area is bounded by Sunnyvale and Calabazas Creek to the west, the Hetch Hetchy right-of-way to the north, Great America Parkway to the east, and Mission College to the south. It is proximate to a range of regional destinations and amenities, including Levi's Stadium, Great America Theme Park, and the Santa Clara Convention Center. The Tasman Drive light rail line is approximately ten minutes walking from any portion of the Patrick Henry focus area, and public transit is also available on Great America Parkway.

Project Description: The Patrick Henry Drive Future Focus Area is identified in the City's 2010-2035 General Plan for conversion from industrial to high-density residential uses in Phase III of the City of Santa Clara General Plan. Consistent with General Plan policies, early initiation of a comprehensive planning process for a Future Focus Area is allowed if one or more private parties provide funding to the City for the planning of the entire Focus Area. The Patrick Henry Drive Area, along with other future focus areas, provide opportunities for reaching housing goals identified in the City's share of the State-required Regional Housing Needs Allocation (RHNA), and for meeting the demand for housing that addresses job and retail growth in the City and region.

The Patrick Henry Drive Specific Plan represents a collaborative planning effort between the City of Santa Clara, area property owners, and the general public in an effort to increase housing supply and promote sustainability through dense, compact, transit-oriented development. The planning framework envisions the comprehensive transformation of this industrial area into a high-density, mixed-use residential community supported by walkable streets and a range of neighborhood-serving amenities, including parks, trails, ground-floor retail, and new community spaces, potentially including a new public branch library. Residential densities are proposed to range from a minimum of 65 dwelling units per acre (du/ac) to a maximum of 250 du/ac.

The Specific Plan would maintain the existing roadways and vehicle connections from Great America Parkway and Mission College Boulevard. Slow-speed interior roadways will be added to provide emergency vehicle and resident access, and to increase the walkability of the neighborhood by breaking down large blocks and parcels. One new vehicle connection to Mission College Boulevard will be included in the Specific Plan, pending further traffic studies and discussions with Mission College.

Development Capacity:

As shown in Table 1, the Specific Plan assumes buildout of one of two scenarios. The first would include approximately 12,000 net new residential units and 310,000 net new square feet of non-residential uses, of which 200,000 square feet would include net new retail or public facilities space for uses such as library and or community space. The remaining non-residential uses would include 110,000 square feet for educational facility uses. The second scenario would be the same as the first but would substitute office for high-density residential in the "High Density Flex" zone along the west edge of the Plan Area, amounting to an approximate total of 10,300 net new residential units, 785,000 net new square feet of office, and 310,000 net new square feet of other non-residential uses (e.g., retail,

community space, library, educational facility uses). As illustrated on Figure 1 (Draft Conceptual Land Use Plan), the highest-intensity uses are anticipated within the core and along the southern border of the Plan Area, with development intensity scaling down to the west approaching the Sunnyvale border.

Both the Patrick Henry Drive Specific Plan and associated EIR will assume that these numbers represent the maximum capacity for future development. As such, the City will continuously monitor new development approvals to ensure that there is remaining capacity as new projects are approved.

Table 1 – Development Capacity

	Residential Units	Office	Other Non-Residential Uses
Scenario A	12,000	-	310,000 SF
Scenario B	10,300	785,000 SF	310,000 SF

Required Approvals:

City of Santa Clara Discretionary Approvals. Implementation of the Patrick Henry Drive Specific Plan will require, but is not limited to, the following discretionary approvals by the City of Santa Clara:

- Certification of the Final Environmental Impact Report
- Adoption of a Mitigation Monitoring and Reporting Program
- Adoption of the Patrick Henry Drive Specific Plan
- Adoption of General Plan amendments and zoning changes as necessary to ensure consistency between the Patrick Henry Drive Plan and the City of Santa Clara 2010-2035 General Plan and current zoning code
- Discretionary review as necessary, including CEQA review, for future individual public and private development proposals in the Plan Area

Other Government Agency Approvals. Future individual public and private development proposals in the Plan Area would be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- Santa Clara Valley Transportation Authority (VTA)
- Santa Clara Water and Sewer Utilities
- Silicon Valley Power (SVP)
- San Francisco Bay Regional Water Quality Control Board (RWQCB)
- Bay Area Air Quality Management District (BAAQMD)
- California Department of Transportation (Caltrans)

EIR Scope:

The City of Santa Clara has determined that the proposed Patrick Henry Drive Specific Plan (Specific Plan) will require preparation of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA). The following probable environmental effects of the project and any required mitigation measures will be evaluated in the EIR:

- **Aesthetics:** The EIR will describe the aesthetic and urban design implications of the proposed Specific Plan, including its visual relationships to the surrounding vicinity and the potential impacts of Specific Plan development (e.g., the proposed array of building masses, heights, view corridors) on important surrounding public vantage points.

- **Air Quality:** The EIR will describe the potential short- and long-term impacts of Specific Plan development capacity on local and regional air quality based on methodologies defined by the Bay Area Air Quality Management District (BAAQMD).

- **Biological Resources:** The EIR will evaluate potential impacts on biological resources resulting from Specific Plan implementation, including potential impacts on nesting and migratory birds.

- **Cultural, Historic, and Tribal Cultural Resources:** The EIR will describe any potential Specific Plan impacts and mitigation needs associated with historic and cultural resources. The EIR also will determine whether the project would case a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074.

- **Energy**: The EIR will evaluate whether project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Any conflicts with State or local plans for renewable energy and energy efficiency will also be described.

- **Geology and Soils:** The EIR will describe the potential geotechnical implications of the Specific Plan implementation.

- **Greenhouse Gas Emissions:** The EIR will describe the potential Specific Plan impacts on local greenhouse gas emissions and global climate change (including sea level rise), following the latest approach and methodologies recommended by State and regional agencies.

- **Hazards and Hazardous Materials:** The EIR will describe any hazardous material activities anticipated in the Plan Area and will describe any associated potential impacts and mitigation needs. Any potential construction period hazards and hazardous material impacts and mitigation needs will also be described.

- **Hydrology and Water Quality:** The EIR will evaluate potential impacts on hydrology and water quality resulting from Specific Plan implementation, including possible effects related to drainage and flooding. Specific Plan components that address hydrology and water quality also will be described.

- **Land Use and Planning:** The EIR will describe the potential effects of Specific Plan implementation on existing and planned land use characteristics in the Specific Plan vicinity, including the Specific Plan's relationship to other adopted regional and local plans.

- **Noise:** The EIR will describe project-related construction and long-term operation (e.g., traffic, mechanical systems) noise impacts and related mitigation needs.

- **Population and Housing:** The EIR will describe the anticipated effects of Specific Plan development capacity on existing and projected population and housing characteristics. This information will be used to forecast public service and utility needs in the Plan Area.

- **Public Services:** The EIR will describe potential impacts on public services (police and fire protection, parks, and schools) and any mitigation needs.

- **Recreation:** The EIR will evaluate whether buildout of the Specific Plan would accelerate the physical deterioration of existing parks and/or other recreational facilities as a result of increased use. It will also assess whether the construction of any planned recreational amenities in the Plan Area would have an adverse physical impact on the environment.

- **Transportation:** The EIR transportation analysis will satisfy the requirements of the City, including Level of Service (LoS) and the Santa Clara Valley Transportation Authority (VTA), including the project's relationship to regional vehicle miles traveled (VMT), transit implications, and effects on pedestrian and bicycle circulation.

- **Utilities and Service Systems:** The EIR will describe potential Specific Plan impacts on local utility and service systems, including water supply, water and wastewater treatment, and solid waste and recycling.

- **Agriculture and Forestry Resources, Mineral Resources, and Wildfire:** The EIR will briefly describe why these environmental topics do not apply to the project, based on the Plan Area's location.

- **Alternatives:** Pursuant to CEQA Guidelines section 15126.6, the EIR will identify and compare a reasonable range of alternatives to the Specific Plan.

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
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www.dot.ca.gov

Making Conservation a California Way of Life.

January 21, 2020

SCH # 2019120515
GTS # 04-SCL-2019-00717
GTS ID: 18111
SCL/101/42.76

Rebecca Bustos, Associate Planner
City of Santa Clara, Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050

Patrick Henry Drive Specific Plan – Notice of Preparation (NOP)

Dear Rebecca Bustos:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Patrick Henry Drive Specific Plan. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the December NOP.

Project Understanding

The Patrick Henry Drive Future Focus Area is identified in the City's 2010-2035 General Plan for conversion from industrial to high-density residential uses in Phase III of the City of Santa Clara General Plan. The Patrick Henry Drive Area, along with other future focus areas, provide opportunities for reaching housing goals identified in the City's share of the State-required Regional Housing Needs Allocation (RHNA), and for meeting the demand for housing that addresses job and retail growth in the City and region.

The Specific Plan will evaluate two scenarios. The first would include approximately 12,000 net new residential units and 310,000 net new square feet of non-residential uses, of which 200,000 square feet would include net new retail or public facilities space for uses such as library and or community space. The remaining non-residential uses would include 110,000 square feet for educational facility uses. The second scenario would be the same as the first but would substitute office for high-density residential in the "High Density Flex" zone along the west edge of the Plan Area, amounting to an approximate total of

10,300 net new residential uses, 785,000 net new square feet of office, and 310,000 net new square feet of other non-residential uses.

Travel Demand Analysis

Please submit a travel demand analysis that provides a Vehicle Miles Traveled (VMT) analysis resulting from the proposed project. With the enactment of Senate Bill (SB) 743, Caltrans is focusing on transportation infrastructure that supports smart growth and efficient development to ensure alignment with State policies using efficient development patterns, innovative travel demand reduction strategies, multimodal improvements, and VMT as the primary transportation impact metric. Please ensure that the travel demand analysis includes:

- A vicinity map, regional location map, and site plan clearly showing project access in relation to the State Transportation Network (STN). Ingress and egress for all project components should be clearly identified. Project driveways, local roads and intersections, car/bike parking, and transit facilities should be mapped.

- A VMT analysis pursuant to the City's guidelines. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies such as Caltrans are fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the City.

- A schematic illustration of walking, biking and auto conditions at the project site and study area roadways. Potential safety issues for all road users should be identified and fully mitigated.

- The project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities and transit performance should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access to pedestrians, bicycle, and transit facilities must be maintained.

- Analysis of the impacts of transportation network companies (TNCs)and ways to mitigate these impacts.

The project shall include the added trips from the proposed specific plan. Impacts due to the project generated trips on state routes I-880, SR-237, SR-82,

SR-85, I-280, and US 101 shall be analyzed. Traffic operations analysis shall include intersections, ramps and freeway segments of state facilities. If there are any impacts on these facilities, the project shall identify mitigation measures of these impacts. The project shall mitigate the project impacts on state facilities or contribute fair share fees for mitigations.

Multimodal Planning
The project's primary and secondary effects on pedestrians, bicyclists, travelers with disabilities, and transit users should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT increases. Access for pedestrians and bicyclists to transit facilities must be maintained. These smart growth approaches can be consistent with MTC's Regional Transportation Plan/SCS and would help meet Caltrans Strategic Management Plan targets.

Vehicle Trip Reduction
From Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the project site is identified as **Place Type 1b: Urban Centers** where location efficiency factors, such as community design and regional accessibility, are strong. Given the place, type and size of the project, it should include a robust Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions. Such measures are critical to facilitating efficient site access. The measures listed below can promote smart mobility and reduce regional VMT.

- Project design to encourage walking, bicycling and transit access;
- Transit and trip planning resources such as a commute information kiosk;
- Real-time transit information system;
- Transit subsidies on an ongoing basis;
- Ten percent vehicle parking reductions;
- Charging stations and designated parking spaces for electric vehicles;
- Carpool and clean-fuel parking spaces;
- Designated parking spaces for a car share program;
- Showers, changing rooms and clothing lockers for employees that commute via active transportation;
- Emergency Ride Home program;
- Employee transportation coordinator;
- Secured bicycle storage facilities;
- Fix-it bicycle repair station(s);
- Bicycle route mapping resources;
- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area; and

- Aggressive trip reduction targets with Lead Agency monitoring and enforcement.

TDM programs should be documented with annual monitoring reports by a TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage multimodal and active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities.

For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Transportation Impact Fees
The Lead Agency should identify project-generated travel demand and estimate the costs of transit and active transportation improvements necessitated by the proposed project; viable funding sources such as development and/or transportation impact fees should also be identified. We encourage a sufficient allocation of fair share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT. The Lead Agency should also consider fair share fees for shuttles that use the public curb space.

The City should also ensure that a capital improvement plan identifying the cost of needed improvements, funding sources, and a scheduled plan for implementation is prepared along with the Specific and General Plan. Caltrans welcomes the opportunity to work with the City and local partners to secure the funding for needed mitigation. Traffic mitigation- or cooperative agreements are examples of such measures.

Lead Agency
As the Lead Agency, the City of Santa Clara is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Catharine Crayne at 510-286-6973 or catharine.crayne@dot.ca.gov.

Sincerely,

Mark Leong
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

January 14, 2020

Ms. Rebecca Bustos
City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Patrick Henry Drive Specific Plan

Dear Ms. Bustos:

This letter is in response to the notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the Patrick Henry Drive Specific Plan (Project). The Santa Clara Valley Habitat Agency, as a responsible public agency tasked with conserving natural communities and the recovery of state and federal special status species covered by the Santa Clara Valley Habitat Plan (Plan), wishes to bring to the Lead Agency's (City of Santa Clara) attention Project impacts that could detrimentally affect the Santa Clara Valley Habitat Agency's ability to implement certain of the Plan's conservation goals and objectives. The Project proposes a General Plan conversion of the Project area from industrial to high-density residential land use. This conversion may have the potential to result in increased traffic and associated traffic emissions. Cumulative nitrogen deposition on the local serpentine grassland community could be significant. The serpentine grassland community is the focus of Plan preservation and enhancement actions to offset the effects of nitrogen deposition on this community.

Atmospheric nitrogen deposition is a complex process by which reactive chemical species of nitrogen (N)—nitrogen oxides (NOX), ammonia (NH3), and their reaction products – are deposited onto surfaces and enter ecosystems as N-fertilizer. N-deposition estimates (from varied studies) for the Santa Clara Valley range from 8–20 kilograms of nitrogen per hectare per year (kg-N/ha/y). In Santa Clara County, N-deposition threatens serpentine grasslands that support numerous covered species, including the threatened Bay checkerspot butterfly (Euphydryas editha bayensis). The added N allows nutrient-poor serpentine soils to be invaded by non-native annual grasses that displace the native forbs that provide caterpillar food and adult

nectar for the butterfly. N-deposition is the largest indirect impact of urban development on the serpentine grassland ecosystem.

The effects of N-deposition on non-serpentine annual grasslands and the grassland understory of oak woodlands are similar to those on serpentine grassland—increased annual grass growth displaces native forbs. Non-serpentine annual grasslands and oak woodlands in the study are extensive (310,875 acres, or 60% of the Plan area), so these adverse effects could be widespread. Although an indirect effect, the impacts from new development like the Patrick Henry Drive Specific Plan on the local serpentine grassland communities may significant.

Through the CEQA process, the Habitat Agency allows for voluntary contributions to mitigate through our Plan. The Habitat Agency will accept voluntary fee payments received from applicable public and private entity projects, such as the Patrick Henry Drive Specific Plan, to mitigate said project impacts associated with N-deposition. Each voluntary fee payment would be applied to the Plan conservation strategy and tracked by the Habitat Agency. Nitrogen deposition voluntary fee payments will be applied toward land acquisition, management, and monitoring for Bay checkerspot butterfly and serpentine covered plant species. The Voluntary Fee Payment Policy can be accessed at the following link: https://www.scv-habitatagency.org/273/Policies

Thank you for this opportunity to comment at this early stage of the environmental review process. If you have any questions, please feel free to contact me at (408) 779-7265 or edmund.sullivan@scv-habitatagency.org.

Sincerely,



Edmund Sullivan,
Executive Officer

SANTA CLARA VALLEY
HABITAT AGENCY

City of Gilroy | City of Morgan Hill | City of San José | County of Santa Clara | Santa Clara Valley Water District | Santa Clara Valley Transportation Authority

535 Alkire Avenue, Suite 100 • Morgan Hill, CA 95037 • Phone (408) 779-7261 • Fax (408) 778-7869

References

City of San José. 2000. Burrowing Owl Habitat Conservation Strategy and Implementation Plan. Draft Final Report. April. Department of Planning, Building and Code Enforcement. Prepared by Albion Environmental, Inc. San José, CA.

DeSante, D.F. and E.D. Ruhlen. 1995. *A Census of Burrowing Owls in California, 1991–1993.* Point Reyes Station, CA: Institute for Bird Populations.

DeSante, D.F., E.D. Ruhlen, and R. Scalf. 2007. The distribution and relative abundance of burrowing owls in California during 1991–1993: Evidence for a declining population and thoughts on its conservation. Pages 1–41 *in* Barclay, J.H., K.W. Hunting, J.L. Lincer, J. Linthicum, and T.A. Roberts (Eds.). 2007. *Proceedings of the California Burrowing Owl Symposium, November 2003*. Bird Populations Monographs No. 1. The Institute for Bird Populations and Albion Environmental, Inc. Point Reyes Station, CA, vii + 197 pp.

DeSante, D.F., E.D. Ruhlen, S.L. Adamany, K.M. Burton and S. Amin. 1997. A census of burrowing owls in central California in 1991. Pages 38–48 *in* Lincer, J.L. and K. Steenhof. (Eds.). 1997. *The Burrowing Owl, its Biology and Management: Including the Proceedings of the First International Symposium*. Raptor Research Report Number 9.

From:	Greene, Cary
To:	Rebecca Bustos
Cc:	John Davidson; Sheelen, Ryan
Subject:	NOP Comments on Patrick Henry Drive Specific Plan (PLN2019-14257)
Date:	Wednesday, January 08, 2020 9:35:39 AM

Hello Rebecca,

The City of San Jose Airport Department has reviewed the EIR Notice of Preparation dated 12/19/19 for the subject project and offers the following comments:

Although the NOP Project Description does not identify proposed maximum building heights for project development, the EIR should reference required compliance with federal airspace safety regulations governing height of structures given the project site's proximity to the San Jose International Airport (SJC).

The following two paragraphs (in *italics*), similar in language used in other CEQA documents for projects in the SJC vicinity, is provided for consideration.

The project site is located approximately __miles from the Norman Y. Mineta San Jose International Airport. Federal Aviation Regulations, Part 77, "Objects Affecting Navigable Airspace" (commonly referred to as FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of proposed structures and minimizing other potential hazards to aircraft such as reflective surfaces, flashing lights, and electronic interference. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above ground.

The FAR Part 77 airspace notification surface ranges over the project site is at an approximate elevation of 150-170 feet above ground (assuming a ground elevation of roughly 20 feet). Notification to the FAA would therefore be required for individual proposed structures that would exceed this airspace surface. FAA review and issuance of determinations that a proposed structure would not be a hazard to air navigation, and project compliance with any conditions set forth in such FAA determinations, would ensure that the structure will not be an air safety hazard.

Staff or the CEQA consultant team are welcome to contact me or Ryan Sheelen (rsheelen@sjc.org, 408-392-1193) in the San Jose Airport's Planning Section for any clarification or questions regarding the above comments. Please include the San Jose

Airport Department in the distribution or Notice of Availability of the Draft EIR document when available for public review.

Thanks,

Cary Greene
Airport Planner, City of San Jose Airport Department
408-392-3623
cgreene@sjc.org

From:	Aghegnehu, Ben
To:	Rebecca Bustos
Cc:	Talbo, Ellen
Subject:	NOP-EIR-Patrick Henry Drive Specific Plan
Date:	Tuesday, January 21, 2020 9:09:59 AM

January 21, 2020

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

SUBJECT: NOP-EIR-Patrick Henry Drive Specific Plan

Dear Ms. Rebecca:

The County of Santa Clara Roads and Airports Department appreciates the opportunity to review the NOP-EIR-Patrick Henry Drive Specific Plan and is submitting the following comments:

- We agree, as stated on the NOP that the EIR transportation analysis should satisfy the requirements of the City, including Level of Service (LOS) and the project's relationship to regional vehicle miles traveled (VMT). We recommend Project Traffic Impact Analysis should be conducted on Lawrence, Central, San Tomas, and Montague Expressways, and identify specific mitigation measures for all County facilities. At the minimum the following locations:
  - Lawrence & Sandia
  - Lawrence & 101 NB & SB Off-ramps
  - San Tomas & Scott
  - Lawrence Expwy & Tasman Drive
  - Central Expwy & Bowers Ave
  - Montague Expwy & Mission College Blvd

- Please provide a Traffic Impact Analysis (TIA) for each individual proposed project when proposing projects.
- Is the Plan specifying that will be constructing over the existing parking lot used for Levi's Stadium? If so, how will the Plan accommodate for the loss of parking space during events at Levi's Stadium? If not, how will the Plan manage incoming traffic into the Plan area during events?
- Please explain how the new developments will affect residents on the other side of Calabazas Creek on the west side of the Plan area?

Thank you for considering these comments. If you have any questions or concerns about these comments, please contact me at 408-573-2462 or ben.aghegnehu@rda.sccgov.org

Thank you,

Ben Aghegnehu

Associate Transportation Planner
County of Santa Clara | Roads & Airports
101 Skyport Rd | San Jose, CA, 95110
408-573-2462 (o)

From:	Kevin Thai
To:	Rebecca Bustos
Cc:	Usha Chatwani
Subject:	Notice of Preparation of an Environmental Impact Report and Public Scope Meeting Notice for Patrick Henry Drive Specific Plan
Date:	Tuesday, January 21, 2020 11:30:50 AM
Attachments:	image003.png

Hi Rebecca,

Valley Water has received this notice and would like to review and comment on ALL the documents related to this project as they become available. Please send those documents to CPRU@valleywater.org.

Thanks,
Kevin

KEVIN THAI, CFM
ASSISTANT ENGINEER II
Community Projects Review Unit
Tel. (408) 630-3157 / CPRU Hotline: (408) 630-2650

Santa Clara Valley Water District is now known as:

Valley Water

Clean Water • Healthy Environment • Flood Protection

5750 Almaden Expressway, San Jose CA 95118
www.valleywater.org

From: Sudhanshu Jain
To: Rebecca Bustos; Reena Brilliot; John Davidson; Gloria Sciara
Subject: Re: Additional Public Comments for Patrick Henry Scoping Plan
Date: Monday, January 20, 2020 11:35:19 AM

One more:

Provisions for exterior outlets should be made to allow gardeners and landscapers to use electric leaf blowers and other electric gardening tools such as edge trimmers and lawnmowers.

From: Sudhanshu Jain <SJain@SantaClaraCA.gov>
Sent: Monday, January 20, 2020 11:29 AM
To: Rebecca Bustos <RBustos@SantaClaraCA.gov>; Reena Brilliot <RBrilliot@SantaClaraCA.gov>; John Davidson <JDavidson@SantaClaraCA.gov>; Gloria Sciara <GSciara@santaclaraca.gov>; Alexander Abbe <aabbe@SantaClaraCA.gov>
Subject: Additional Public Comments for Patrick Henry Scoping Plan

I have three more comments:

1. I just discovered the following which is a great idea:

The city of Austin, Texas, amended its zoning code to reduce minimum off-street parking requirements by “twenty (20) spaces for every car-sharing vehicle provided in a program that complies with its requirements,” under which it approves binding contracts between developers and car-sharing companies to gain reductions of up to 40 percent of required off-street spaces.

2. We put this requirement into conditions for the Hunter Storm Gateway project:

C15. Construction activity further than 300 feet from any occupied residence, with the exception of pile driving, may take place at any time on any day, subject to the restrictions of SCCC Chapter 9.10 ("Regulation of Noise and Vibration"); pile driving may take place only between 7:00 a.m. to 6:00 p.m. weekdays and is not permitted on Saturdays, Sundays and State and federal holidays. Upon occupancy of residential units on the project site, construction activity not confined within a building within 300 feet of an occupied residential unit shall be limited to the hours of 7:00 a.m. to 6:00 p.m. weekdays and limited to the hours of 9:00 a.m. to 6:00 p.m. on Saturdays and prohibited on Sundays and State and federal holidays. Construction activity confined within a building within 300 feet of an occupied residential unit shall be permitted during the hours of 7:00 a.m. to 6:00 p.m. weekdays and 9:00 a.m. to 6:00 p.m. on Saturdays.

C 16. Upon occupancy of residential units on the project site construction activity not confined within a building shall be limited to the hours of 7:00 a.m. to 6:00 p.m. weekdays and not permitted on Saturdays, Sundays and State and federal holidays for projects within 500 feet of a

residential use. Construction activity confined within a building shall be limited to the hours of 7:00 a.m. to 6:00 p.m. weekdays and 9:00 a.m. to 6:00 p.m. Saturdays for projects within 500 feet of a residential use, and prohibited on Sundays and State and federal holidays.

I would prefer that C16 be relaxed to indicate that construction activity within a building that is less than 500 feet from any occupied residence may take place at any time on any day as long as noise levels at the perimeter of the construction site do not exceed 60 decibels averaged over any 5 minute interval. A 24 hour phone number shall be posted to handle any nuisance complaints.

3. Since this project borders Calabazas Creek, design elements should be included to minimize bird collisions with windows.

From: Sudhanshu Jain
Sent: Sunday, January 19, 2020 10:58 PM
To: Rebecca Bustos <RBustos@SantaClaraCA.gov>; Reena Brilliot <RBrilliot@SantaClaraCA.gov>; John Davidson <JDavidson@SantaClaraCA.gov>; Gloria Sciara <GSciara@santaclaraca.gov>
Subject: Public Comments for Patrick Henry Scoping Plan

Here are my public comments for the Patrick Henry Scoping Plan:

1. I see two scenarios outlined
   Scenario A 12000 residential units + 310,000 SF non-residential
   Scenario B 10,300 residential, 785,000 SF office + 310,000 SF non-res

   My preference is Scenario B since having the office near residential helps to reduce traffic.

2. Using a number of 2.69 residents/unit number, I get 32,280 residents for scenario A and 27,707 residents for scenario B.

   It seems to me that you need 15,000 to 20,000 residents to support a full service grocery store. Both scenarios provide much more than 20,000 residents.

   I hear that Council and Planning commission insisted on a grocery store for Rivermark Plaza years ago. I would expect that we could do the same here. This would help with the traffic caused by this many residents. I would also expect that this population could support a drugstore like Walgreens or CVS. Rivermark has proved to be a very successful shopping center and I would like to see a very similar shopping center as part of the Patrick Henry Area Plan, with restaurants and coffee shops.

   At the very bare minimum there should be a grocery store like Sprouts or Trader Joes.

   Having some zoning for light medical like dentist and chiropractor services would also help with traffic. Also would be nice to have a couple of gyms and yoga studios. Some type of

daycare facility would also be nice.

Given that the senior center on Fremont street is so busy, it would be very nice to build a second senior center within the Patrick Henry project, hopefully with some senior housing very close by.

3. Scenario A has 32,280 residents so using the Mitigation Fee Act number of 2.53 acres of parkland per 1000 residents, there should be 81.668 acres of parkland dedicated for this project. Given that the entire land area is only 76 acres I don't understand how the City is going to find so much parkland. At the very least 20 acres should be reserved for open space/parkland

   A similar analysis applies to Scenario B.

4. There should be a community garden within the plan. I would also like to see almost all the buildings have rooftop gardens so that people can enjoy home grown fresh vegetables, especially tomatoes.
5. Affordable housing should include all income levels, not just 100% of AMI. There should be at least 15% inclusionary housing. If a developer needs to pay an in-lieu fee it should be the same cost as providing the onsite housing. The current affordable housing nexus study makes the in-lieu fee cheaper than the cost of providing onsite housing.
6. At least 40% of the units should be for-sale condos since having more home ownership leads to more civic engagement
7. The buildings should all be the equivalent of LEED Gold or better
8. All projects should have a TDM plan in which active measures reduce trips (VMT) by more than 25% (not including any implied reduction from proximity to public transit).
9. There should be one secured bike parking spot per unit in a bike room with outlets to charge electric bicycles. And there should also be outdoor unsecured guest bike parking spots per the VTA standard.
10. Since the City has yet to adopt a reach code for minimizing greenhouse gas emissions, I would like to see 15% of the parking spots have level 2 electric vehicle charging (EVSE) installed with prewiring for another 15%. For buildings with more than 200 units, there should be at least one DC fast charger available in a public area.
11. Parking ratios should be reduced to 1.2 parking spots per single bedroom unit and 1.8 parking spots per two bedroom unit and 2.2 parking spots per 3 bedroom unit.
12. Efforts should be made to share parking between residential and non-residential developments
13. I recommend that parking be unbundled and that the entire project have permit parking.
14. Per Transform's GreenTrips proposal, multifamily complexes should provide 2 free memberships for a carsharing service (ZipCar) per unit for 40 years.
15. Provisions should be made for rideshare service pickups and drop-offs
16. Provisions should be made for corrals (designated parking areas) for shared scooters and bicycles.
17. Buildings should all electric, forgoing natural gas connections
18. Sidewalks should be at least 6 feet wide to encourage walking.

19. Major streets should have Class 1 or Class 4 bicycle paths.
20. Canopy sized street trees should line all streets.
21. Traffic calming measures like bulbouts, rotaries and speed bumps should be considered to reduce traffic speeds so as to move towards Vision Zero.
22. Affordable housing buildings should provide community meeting rooms that can be used occasionally by non-residents.
23. Buildings of greater than 25,000 sq feet should be reviewed by an independent architect for aesthetics.
24. A public arts fee of 0.5% should be imposed on all developments
25. Recycled water should be used wherever possible

Santa Clara Valley Transportation Authority

January 28, 2020

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

Attention: Rebecca Bustos

Subject: City File No. PLN2019-14257
Notice of Preparation of a Draft Environmental Impact Report for the Patrick Henry Drive Specific Plan

Dear Ms. Bustos:

Thank you for the opportunity to review and comment on the Notice of Preparation (NOP) of a Draft Environmental Impact Report for the Patrick Henry Drive Specific Plan ("Specific Plan"). VTA has the following comments.

Land Use & Locational Significance

- VTA supports the proposed high-density residential, office, and other non-residential uses within the Specific Plan area. VTA commends the Plan's 135 to 157 dwelling units per acre range, which represents transit-supportive densities. This area is served by the Frequent 57 bus at Great America Parkway, VTA Old Ironsides Light Rail station (within a 10-minute walk), and ACE Green shuttle connections to regional rail service at the Santa Clara Great America Station served by ACE and Capitol Corridor (also within a 10-minute bicycle ride).
- VTA supports the broader City North/North Santa Clara area's development as a high-intensity, transit-supportive, and mixed-use district that creates opportunities for residents, employees, and visitors to reduce vehicle trips and greenhouse gas emissions.
- VTA recommends that the City designate the North Santa Clara area as a Priority Development Area (PDA) to leverage grant funding opportunities for sustainable transportation solutions through the regional agencies, the Association of Bay Area Governments (ABAG), and Metropolitan Transportation Commission (MTC).

Transportation Impact Analysis (TIA) Report

- VTA's Congestion Management Program requires a Transportation Impact Analysis (TIA) for any project expected to generate 100 or more net new peak-hour trips. For any questions about the *VTA Transportation Impact Analysis Guidelines (TIA Guidelines)*, please contact Brent Pearse of the VTA Planning and Programming Division at 408-546-7985 or Brent.Pearse@vta.org.
- VTA notes that the DEIR will include an analysis of Vehicle Miles Traveled (VMT) and encourages the City to identify measures in the DEIR to reduce VMT generated by future residents, employees, and visitors.

Congestion Impacts on Transit Travel Times/Transit Compatibility

- VTA supports increasing development densities within North Santa Clara in a manner which meets the shared goals for improving transit options to encourage the public to use transit and improving travel time reliability. The Specific Plan should complement nearby transit services and not diminish their speed and efficiency. Per the *TIA Guidelines* (Section 9.2 – Transit), the DEIR/TIA should address the Project's potential congestion impacts to transit travel times and operations for light rail and buses.
- If increased transit delay is found, appropriate offsetting measures should be identified. Once the transit delay analysis results are available, VTA requests that the City consult with VTA regarding alternatives or potential appropriate offsetting measures to avoid these impacts.

Transportation Analysis

- VTA recommends a multimodal approach to the DEIR/TIA, including meaningful analyses of impacts and mitigation measures for pedestrian, bicycle, and transit modes, such as a transit delay analysis, in addition to automobiles. VTA also recommends the use of other multimodal performance indicators such as non-auto mode shares, transit boardings, and pedestrian and bicycle quality-of-service measures.

Site Design

- VTA reviewed a draft land use and connectivity concept plan ("Draft Preferred Alternative") for the Specific Plan provided to VTA by City of Santa Clara staff on January 17, 2020. This concept plan displays an internal street/greenway network with some off-set streets, and some new connections to surrounding streets. VTA recommends a future internal street network with continuous streets that provide clear lines of sight. This creates a definition of space that provides a convenient environment for walking, biking, and taking transit and promotes interconnectedness with neighboring areas (e.g. Kylli development to the north and Mission College to the south). This approach may require the use of easements to ensure the linkage of streets.
- VTA recommends providing connections to the Calabazas Creek Trail, Mission College Boulevard, and the planned 'Neighborhood Street F' (Kylli conceptual plan).
- VTA recommends that the land uses and building orientation along the northern boundary of the Specific Plan (SFPUC/future Hetch Hetchy Trail) relate to the planned development area immediately to the north (Kylli site) so as not create a hard edge between two adjacent communities. In other words, the Specific Plan buildings should be oriented toward the future Hetch Hetchy Trail/planned Kylli street, and prohibited from orphaning the trail/street with the backs of buildings. Likewise, the land uses and building orientation along the southern boundary of the Specific Plan should be oriented toward the Mission College Boulevard. Such design encourages "eyes on the street" or natural surveillance that support walking, biking and transit use.

Pedestrian and Bicycle Accommodations

- VTA requests that the DEIR/TIA analysis of Pedestrian and Bicycle Accommodations consider the completeness of the pedestrian and bicycle network on roadways and intersections adjacent to and nearby the Project site. The analysis should address internal

pedestrian circulation within the site as well as pedestrian conditions on streets adjacent to the Project site.

- The Project should include exceptional pedestrian and bicycle accommodations, internally and along arterial roadways, to support the volumes of trips expect to, from, and within the area. This includes the study of opportunities to provide safe and convenient connections from the Specific Plan area to the Calabazas Creek Trails, John W. Christian Greenbelt, and the proposed Hetch Hetchy Trail. These trails are designated as Priority Bicycle and Pedestrian Corridors in the VTA Countywide Bike Plan, which can be accessed here: https://gis.vta.org/bikeplan/.
- VTA supports bicycling as an important transportation mode that provides local and regional connectivity. VTA provides a wide range of guidance on bicycle facilities that may be downloaded from www.vta.org/bikeprogram.

CMP Facilities

- The DEIR/TIA should include analysis of all freeway segments that may be impacted. For CMP guidance on the analysis of freeway segments, see Section 2.2.2 of the TIA Guidelines. If the freeway analysis indicates that there will be significant impacts according to CMP criteria, VTA suggests early coordination with the appropriate agencies to identify potential mitigation measures and voluntary contribution opportunities based on the latest Valley Transportation Plan (VTP) projects in the Project area.

Trip Generation Assumptions

- All auto trip reductions must be clearly explained, documented, and justified in the Project's TIA Report. Lead Agencies must state which of the above approaches is being used to develop auto trip reductions, if any reductions are claimed. Trip reductions shall be summarized in an Auto Trip Reduction Statement in the Executive Summary of the TIA Report, using the form provided in Appendix C.

Transportation Demand Management/Trip Reduction

- VTA recommends a TDM plan that establishes trip reduction target and third-party monitoring and enforcement. VTA recommends that the City consider the following TDM/Trip Reduction strategies:
    - Project design to encourage walking, bicycling, and convenient access to transit
    - Public-private partnerships or employer contributions to provide improved transit or shuttle service in the Project area
    - Parking pricing and parking cash-out programs
    - Transit fare incentives such as free or discounted transit passes on a continuing basis or pre-tax commuter benefits
    - Dockless scooters, bicycles, and other micro-transit solutions
    - Bicycle lockers and bicycle racks
    - Bicycle storage integrated into the residential units
    - Showers and clothes lockers for bicycle commuters
    - On-site or walk-accessible services (e.g. day care, dry cleaning, fitness, banking, convenience store)

- Preferentially located carpool parking
- Employee carpool matching services
- Parking for car-sharing vehicles
- First/last mile ride sharing services voucher

VTA looks forward to continuing and improving our coordinated planning efforts with the City of Santa Clara to contribute toward the sustainable future of the Patrick Henry Drive Specific Plan and City North District. Thank you for the opportunity to review this Project. If you have any questions, please contact me at (408) 321-7572.

Sincerely,



Melissa R. Cerezo, AICP
Senior Transportation Planner

SC1707

County of Santa Clara

Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95032-7669
(408) 355-2200 FAX 355-2290
Reservations (408) 355-2201
www.parkhere.org

January 15, 2020

Ms. Rebecca Bustos
City of Santa Clara, Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050

Submitted Via Email to rbustos@santaclaraca.gov

SUBJECT: City of Santa Clara Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Patrick Henry Drive Specific Plan (PLN2019-14257)

Dear Ms. Bustos,

Thank you for including the County of Santa Clara Parks and Recreation Department (Department) in the environmental review process for the Patrick Henry Drive Specific Plan (Proposed Project). The Department is charged with providing, protecting, and preserving regional parklands for the enjoyment, education and inspiration of this and future generations. The Department is also charged with the planning and implementation of *The Santa Clara County Countywide Trails Master Plan Update (Countywide Trails Plan)*, an element of the Parks and Recreation Section of the County General Plan adopted by the County of Santa Clara Board of Supervisors on November 14, 1995.

Project Understanding

The Proposed Project would redevelop an existing 76-acre site into 10,000 – 12,000 new residential units and 310,000 – 1.1 million square feet of new non-residential uses, including retail and educational facilities. The Proposed Project also includes the conversion of industrial uses to high-density residential uses as identified in Phase III of the City of Santa Clara General Plan 2010-2035. The Proposed Project is bordered by Calabazas Creek to the west, Tasman Drive to the north, Great America Parkway to the east, and Mission Community College to the south.

Connection to Regional Trails within Santa Clara County

An existing segment of the Calabazas Creek Connector Trail borders the Proposed Project to the west while a planned segment of the Hetch-Hetchy Connector Trail borders the Proposed Project to the north. Once complete, both the Calabazas Creek Connector Trail and the Hetch-Hetchy Connector Trail will be paved trails providing hikers and cyclists with connections to the San Francisco Bay Trail and the Coyote Creek Trail within the City of San Jose. The trails may be used for both recreation and transportation between the Cities of San Jose, Santa Clara, Sunnyvale, and more.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian

County Executive: Jeffrey V. Smith

SANTA CLARA COUNTY PARKS

The Department recommends the Proposed Project be conditioned to contribute proportionate fees to the City of Santa Clara towards the closure of the Hetch-Hetchy Connector Trail gap between Calabazas Creek and Great America Parkway. Completion of this gap in the Hetch-Hetchy Connector Trail would provide an east to west connection from Great America Parkway to the Plaza del Rey Neighborhood, Mission Community College, Levi's Stadium, and other commercial areas within the City of Santa Clara. Also, the Department respectfully suggests that the development of the trail gap be included as component of pedestrian- and bicycle-oriented amenities and facilities within the Proposed Project Site with such features as street trees and landscaping, benches, low-level lighting, signage, textured crosswalks, and bike lanes.

The Department also recommends the DEIR provide a complete analysis of biological, recreational and traffic impacts and include:

- Analyze potential impacts of increased use on the existing segment of the Calabazas Creek Connector Trail. A biological study to analyze the potential impacts of increased use of the existing segment of the Calabazas Creek Connector Trail on biological resources within the Proposed Project Site.

- Analyze impacts on public services and facilities, such as trails, bike paths, parks, and other recreational facilities. A traffic study to analyze the potential impacts on planned City of Santa Clara trails, bike paths, schools, parks, and residents within the vicinity of the Proposed Project Site.

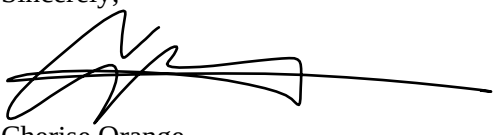
- A plan to temporarily reroute trail users during construction activities to avoid impacts to recreational trail use.

- All Draft EIR maps (circulation, aerial, recreation, etc.) depict the existing and planned trail alignments: Calabazas Creek Connector Trail and the Hetch-Hetchy Connector Trail.

The DEIR shall be consistent with the *Countywide Trails Plan* and the Calabazas Creek Trail Master Plan. A copy of these documents is available for review at the Department's website, www.parkhere.org.

Thank you again for including the County of Santa Clara Parks and Recreation Department in the environmental review process. Please provide notice to the Department for any future information regarding this project. If you have any questions related to these comments, please call me at (408) 355-2228 or e-mail me at cherise.orange@prk.sccgov.org.

Sincerely,



Cherise Orange
Associate Planner

SANTA CLARA COUNTY PARKS

Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian

County Executive: Jeffrey V. Smith

Sunnyvale

City Hall
456 West Olive Avenue
Sunnyvale, CA 94088-3707
TDD/TYY 408-730-7501
sunnyvale.ca.gov

January 21, 2020

Rebecca Bustos, Associate Planner
City of Santa Clara
Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050
Sent via e-mail: rbustos@santaclaraca.gov

Re: Comments on the Notice of Preparation of an Environmental Impact Report for the Patrick Henry Drive Specific Plan

Dear Ms. Bustos:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the proposed Patrick Henry Specific Plan in Santa Clara. This letter includes comprehensive comments from multiple City of Sunnyvale departments.

General Specific Plan Comments

The following are general comments on the specific plan the City of Sunnyvale would like to submit for the City of Santa Clara's review. We hope that we can schedule a meeting to discuss some of these comments in person and participate in the specific plan's development.

1. We support the development of a specific plan for the Patrick Henry Drive area. The draft land use diagram shows an urban village concept with good internal connections and housing opportunities within close proximity to employment centers. We understand that the following land use scenarios and densities/heights are being considered at this time:

   - Scenario A – 12,000 units, 310,000 sq. ft. of retail and public facilities
   - Scenario B – 10,300 units, 785,000 sq. ft. of office, and 310,000 sq. ft. of retail and public facilities

   - Densities ranging from 65 to 250 du/ac and heights ranging from 5-12 stories.

   As the City of Sunnyvale borders the specific plan area to the west across Calabazas Creek, we are interested in the transition in building scale and density from the existing low density, one-two story buildings in the Sunnyvale single-family neighborhoods. The draft land use diagram shows a sharp transition to very high

density residential (65-100 du/ac) along the edge of Calabazas Creek. We request that building heights and densities are lowered along Calabazas Creek to allow buildings to step down to and provide an appropriate transition to the Sunnyvale neighborhoods.

2. We are concerned with the effects of potential building heights ranging from 5-12 stories on solar access for property owners in the Sunnyvale single family neighborhoods west of Calabazas Creek. We would like to better understand the shading impacts of potential building heights in these neighborhoods, with computer modeling or other visual aids. For the analysis, please consider the guidance in Section 19.56.020 of the Sunnyvale Municipal Code:

   "No building permit shall be issued for any construction, the effect of which when completed would be to interfere with solar access to the rooftops of the sum of all permitted structures on an adjacent property or to any preexisting active solar collector on an adjacent property. Solar access means the absence of shadows blocking or reducing exposure to the sun to an extent greater than ten percent daily during the hours between nine a.m. to three p.m., Pacific Time, throughout any solar cycle."

3. Consider adding in more parks and open space in the specific plan. The eight acres plus the greenbelt shown in the draft land use diagram does not appear to be adequate for up to 12,000 net new dwelling units in the area. We suggest a minimum of five acres of park space per 1,000 persons.

4. We support the proposed greenbelt on the Hetch Hetchy right of way on the northern edge of the plan area. The John W. Christian Greenbelt to the west of Calabazas Creek is a beautiful and natural source of east-west connectivity and it would be good to continue into Santa Clara. We would like to understand whether there would be physical connections across Calabazas Creek to the new greenbelt. It would be beneficial for Sunnyvale residents to walk and bike across to the new greenbelt and enjoy additional open space opportunities. However, there is also a concern about the potential for people to park in Sunnyvale neighborhoods and walk across new bridges and the greenbelt for Levi's Stadium events. This is a topic that requires further discussion with City staff and the community.

5. If physical connections across Calabazas Creek are proposed, we would encourage the City of Santa Clara to include as part of the specific plan a bicycle/pedestrian connection to and construction of the Calabazas Creek Trail from US-101 to the Bay Trail. This would provide an excellent facility for commuting and recreational purposes to help reduce VMT and LOS impacts.

6. We would like to understand the City of Santa Clara's vision for the stretch of Patrick Henry Drive where the symbols of retail, community/civic, and residential uses are shown to be intertwined. We are interested in the acreage assigned to each of these uses and conceptual lot depth layouts, as these parcels are not very deep.

7. As part of the specific plan, we would like the City of Santa Clara to implement improvements as described in the Tasman Corridor Complete Streets study as prepared by VTA, the cities of Sunnyvale, Santa Clara, San Jose and Milpitas.

8. Due to the high densities and building heights proposed in the specific plan, we would like to request that a 2,000-foot radius is used and that tenants are noticed in addition to property owners. This would mirror the City of Sunnyvale's noticing radius requirements for a project that is over 50 feet in height. At 2,000 feet, a large portion of the existing single-family neighborhoods east of Lawrence Expressway would be notified. In addition, we highly recommend that future outreach meetings be held within the specific plan area, or within close proximity, for the benefit of the affected residents who may not be able to attend community outreach meetings that are held in central Santa Clara.

Environmental/NOP Comments

The following comments cover issues the City of Sunnyvale would like to be discussed in the specific plan's Environmental Impact Report (EIR):

1. Connectivity is very important to the City of Sunnyvale. The EIR should analyze the following connections:
   - Connections to major destinations in Sunnyvale, including shopping at Tasman/Fair Oaks.
   - Pedestrian and bicycle connectivity on public streets (including closing gaps along Tasman Drive).
   - Any proposed pedestrian and bicycle connections across Calabazas Creek.

2. Currently the parking on the east side of Old Ironsides Drive is used by the stadium for events. Please provide a discussion of where replacement parking will be located, and how the proposed specific plan will coexist with the traffic circulation plan for stadium events, especially during construction of future projects. We are concerned that a potential lack of parking options within Santa Clara may push stadium goers into Sunnyvale's streets looking for parking.

   Moreover, please provide an update to the current Levi's Stadium parking plan (as part of the Transportation Management and Operations Plan -- TMOP) to show how the Levi's Stadium project will still meet its commitments outlined in that project EIR without the parking the sites on the east side of Old Ironsides Drive provides.

3. Provide contextual aesthetic and visual information on the relationship of proposed building massing with the existing surrounding neighborhoods, including visibility in Sunnyvale.

4. It assumed that future projects within the specific plan may produce significant construction noise. We request that construction be restricted to weekdays between 7 a.m. and 6 p.m., Saturdays between 8 a.m. and 5 p.m., and that no construction activity occur on Sunday or federal holidays when City offices are closed out of respect for the nearby residential neighborhoods. These are the construction time regulations of the City of Sunnyvale.

   Please also consider assigning a community liaison for construction projects.

5. The City of Sunnyvale expects to see considerable information on how trips will be reduced when projects in the specific plan are developed. There are not robust transportation options in this area (i.e. Caltrain) and development projects may have lasting impacts on the surrounding neighborhoods (including Sunnyvale) if a very structured transportation demand management program is not implemented. Please identify specific measures to show how traffic would be reduced.

6. Please include information in the specific plan and EIR on how this project relates to the north-adjacent Kylli Mixed-Use Development Project in the City of Santa Clara.

7. Impacts to County of Santa Clara facilities should be mitigated based on projects listed in the County Expressway Planning Study.

8. Utilities will need to be studied in detail.
   a. Provide information on how the specific plan area will be serviced for sanitary sewers. As no capacity exists for this plan area within the Sunnyvale system, all sewage must flow into the Santa Clara borders and to the San Jose Treatment Plant.
   b. Provide information on how the specific plan will meet its domestic water needs. The City of Sunnyvale will be interested in water source information, provided in the specific plan's WSA, and the plan's impacts on water available to the City of Sunnyvale. The City of Sunnyvale has six emergency water interties within Santa Clara; however, it is important to note that there is currently no intertie that exists along Tasman Drive.

Sunnyvale

The City of Sunnyvale appreciates your consideration of the requested study scope elements described above. Please contact George Schroeder, Senior Planner, if you have any questions or concerns about items discussed in this letter at (408) 730-7443 or gschroeder@sunnyvale.ca.gov.

Sincerely,

Andrew Miner
Assistant Director, Community Development Department

cc: Kent Steffens, City Manager
Trudi Ryan, Director, Community Development Department
Chip Taylor, Director, Department of Public Works
Ramana Chinnakotla, Director, Environmental Services Department
Jennifer Ng, Assistant Director/City Engineer, Department of Public Works
Dennis Ng, Transportation/Traffic Manager, Department of Public Works

APPENDIX 25.2

SUPPLEMENTAL AIR QUALITY/GHG INFORMATION

Patrick Henry Drive Specific Plan (Existing Conditions; 2019)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	500.50	1000sqft	8.47	500,499.00	0
Research & Development	207.67	1000sqft	4.34	207,667.00	0
Place of Worship	29.40	1000sqft	0.67	29,400.00	0
General Light Industry	214.52	1000sqft	4.92	214,522.00	0
Industrial Park	120.90	1000sqft	2.78	120,900.00	0
Other Asphalt Surfaces	6.38	Acre	6.38	277,826.00	0
Parking Lot	2,109.70	1000sqft	48.43	2,109,700.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Patrick Henry Drive Specific Plan (Existing Conditions; 2019) - Santa Clara County, Annual

Project Characteristics - MIG Modeler: Phil Gleason. GHG intensity factors adjusted to reflect Silicon Valley Power energy mix in 2018.

Land Use - 214,522 square feet of light industrial land use represents data center; some land use values different than TIA to account for non-occupied building space in Planning Area.

Construction Phase - Existing Condition model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates based on Hexagon trip gen assumptions; specific rates adjusted since greater building space accounted for in existing run (vacant building space). Weekend rates adjusted also per Hex wkdy reductions.

Energy Use - T24 standards adjusted upward to reflect decreated efficiency bewtween 2013/2016 standards. See CalEEMod Appendix E, Tables 1, 3, and 4; Electricity emissions for data center calculated in separate sheet.

Water And Wastewater - Water consumption updated consistent with WSA prepared for the project; see WSA Table 7.

Vehicle Emission Factors - Annual vehicle emission factors updated per EMFAC2017 for Santa Clara County.

Vehicle Emission Factors -

Vehicle Emission Factors -

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tblVehicleEF	LHD1	722.52	851.61
tblVehicleEF	LHD1	35.60	13.11
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.53	1.17
tblVehicleEF	LHD1	1.17	0.39
tblVehicleEF	LHD1	8.4000e-004	7.5000e-004
tblVehicleEF	LHD1	9.8280e-003	9.5680e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	1.2210e-003	3.3100e-004
tblVehicleEF	LHD1	8.0300e-004	7.1800e-004
tblVehicleEF	LHD1	2.4570e-003	2.3920e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	1.1240e-003	3.0500e-004
tblVehicleEF	LHD1	2.9630e-003	2.5380e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.4290e-003	1.2250e-003
tblVehicleEF	LHD1	0.14	0.12
tblVehicleEF	LHD1	0.34	0.65
tblVehicleEF	LHD1	0.35	0.11

tblVehicleEF	LHD1	9.1000e-005	8.9000e-005
tblVehicleEF	LHD1	7.1160e-003	8.3290e-003
tblVehicleEF	LHD1	4.1900e-004	1.3000e-004
tblVehicleEF	LHD1	2.9630e-003	2.5380e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.4290e-003	1.2250e-003
tblVehicleEF	LHD1	0.18	0.15
tblVehicleEF	LHD1	0.34	0.65
tblVehicleEF	LHD1	0.38	0.12
tblVehicleEF	LHD2	4.2590e-003	3.6620e-003
tblVehicleEF	LHD2	0.01	9.6210e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	0.76	0.85
tblVehicleEF	LHD2	1.66	0.80
tblVehicleEF	LHD2	14.13	14.30
tblVehicleEF	LHD2	738.54	822.59
tblVehicleEF	LHD2	26.49	8.92
tblVehicleEF	LHD2	0.12	0.11
tblVehicleEF	LHD2	1.27	1.47
tblVehicleEF	LHD2	0.62	0.23
tblVehicleEF	LHD2	1.3260e-003	1.3630e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.6600e-004	1.7400e-004
tblVehicleEF	LHD2	1.2680e-003	1.3040e-003

tblVehicleEF	LHD2	2.6660e-003	2.6610e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.2000e-004	1.6000e-004
tblVehicleEF	LHD2	1.2250e-003	1.4760e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.9500e-004	6.9400e-004
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.12	0.41
tblVehicleEF	LHD2	0.16	0.06
tblVehicleEF	LHD2	1.3800e-004	1.3700e-004
tblVehicleEF	LHD2	7.1920e-003	7.9540e-003
tblVehicleEF	LHD2	2.9600e-004	8.8000e-005
tblVehicleEF	LHD2	1.2250e-003	1.4760e-003
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.9500e-004	6.9400e-004
tblVehicleEF	LHD2	0.15	0.16
tblVehicleEF	LHD2	0.12	0.41
tblVehicleEF	LHD2	0.17	0.07
tblVehicleEF	MCY	0.43	0.34
tblVehicleEF	MCY	0.17	0.26
tblVehicleEF	MCY	20.31	20.50
tblVehicleEF	MCY	10.09	8.91
tblVehicleEF	MCY	167.45	210.68
tblVehicleEF	MCY	46.87	62.57
tblVehicleEF	MCY	1.16	1.16

tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	1.8400e-003	1.7860e-003
tblVehicleEF	MCY	4.2320e-003	3.3400e-003
tblVehicleEF	MCY	1.7260e-003	1.6750e-003
tblVehicleEF	MCY	4.0030e-003	3.1570e-003
tblVehicleEF	MCY	0.92	1.83
tblVehicleEF	MCY	0.75	0.74
tblVehicleEF	MCY	0.51	1.01
tblVehicleEF	MCY	2.30	2.31
tblVehicleEF	MCY	0.66	2.30
tblVehicleEF	MCY	2.26	2.00
tblVehicleEF	MCY	2.0730e-003	2.0850e-003
tblVehicleEF	MCY	7.0100e-004	6.1900e-004
tblVehicleEF	MCY	0.92	1.83
tblVehicleEF	MCY	0.75	0.74
tblVehicleEF	MCY	0.51	1.01
tblVehicleEF	MCY	2.82	2.83
tblVehicleEF	MCY	0.66	2.30
tblVehicleEF	MCY	2.46	2.17
tblVehicleEF	MDV	0.01	7.1070e-003
tblVehicleEF	MDV	0.02	0.11
tblVehicleEF	MDV	1.59	1.37
tblVehicleEF	MDV	3.91	3.86
tblVehicleEF	MDV	499.19	433.87
tblVehicleEF	MDV	112.70	93.26
tblVehicleEF	MDV	0.21	0.16
tblVehicleEF	MDV	0.36	0.48

tblVehicleEF	MDV	1.9140e-003	1.8100e-003
tblVehicleEF	MDV	2.6670e-003	2.3190e-003
tblVehicleEF	MDV	1.7670e-003	1.6700e-003
tblVehicleEF	MDV	2.4560e-003	2.1340e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.19	0.17
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.52
tblVehicleEF	MDV	0.32	0.57
tblVehicleEF	MDV	5.0060e-003	4.2900e-003
tblVehicleEF	MDV	1.1970e-003	9.2300e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.19	0.17
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.11	0.52
tblVehicleEF	MDV	0.34	0.62
tblVehicleEF	MH	0.05	0.02
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	4.46	2.54
tblVehicleEF	MH	8.08	2.63
tblVehicleEF	MH	1,235.28	1,628.06
tblVehicleEF	MH	64.85	21.20
tblVehicleEF	MH	1.70	1.70
tblVehicleEF	MH	1.01	0.25
tblVehicleEF	MH	0.01	0.01

tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.9720e-003	3.9700e-004
tblVehicleEF	MH	3.2090e-003	3.2540e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.8330e-003	3.6700e-004
tblVehicleEF	MH	1.15	1.05
tblVehicleEF	MH	0.10	0.09
tblVehicleEF	MH	0.38	0.34
tblVehicleEF	MH	0.18	0.12
tblVehicleEF	MH	0.03	2.11
tblVehicleEF	MH	0.51	0.13
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.9100e-004	2.1000e-004
tblVehicleEF	MH	1.15	1.05
tblVehicleEF	MH	0.10	0.09
tblVehicleEF	MH	0.38	0.34
tblVehicleEF	MH	0.24	0.16
tblVehicleEF	MH	0.03	2.11
tblVehicleEF	MH	0.56	0.14
tblVehicleEF	MHD	0.02	3.2500e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.07	0.01
tblVehicleEF	MHD	0.51	0.36
tblVehicleEF	MHD	0.92	1.13
tblVehicleEF	MHD	8.76	1.33
tblVehicleEF	MHD	143.00	79.20
tblVehicleEF	MHD	1,215.35	1,193.87

tblVehicleEF	MHD	62.36	9.26
tblVehicleEF	MHD	1.13	0.80
tblVehicleEF	MHD	3.17	3.91
tblVehicleEF	MHD	10.66	0.96
tblVehicleEF	MHD	4.8580e-003	3.2810e-003
tblVehicleEF	MHD	0.08	0.12
tblVehicleEF	MHD	1.1530e-003	1.4600e-004
tblVehicleEF	MHD	4.6480e-003	3.1390e-003
tblVehicleEF	MHD	0.08	0.11
tblVehicleEF	MHD	1.0620e-003	1.3500e-004
tblVehicleEF	MHD	1.2920e-003	6.0800e-004
tblVehicleEF	MHD	0.06	0.03
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	6.1300e-004	2.8500e-004
tblVehicleEF	MHD	0.20	0.30
tblVehicleEF	MHD	0.03	0.15
tblVehicleEF	MHD	0.52	0.06
tblVehicleEF	MHD	1.3770e-003	7.5100e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.7700e-004	9.2000e-005
tblVehicleEF	MHD	1.2920e-003	6.0800e-004
tblVehicleEF	MHD	0.06	0.03
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	6.1300e-004	2.8500e-004
tblVehicleEF	MHD	0.24	0.35
tblVehicleEF	MHD	0.03	0.15
tblVehicleEF	MHD	0.57	0.07

tblVehicleEF	OBUS	0.01	7.7600e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.29	0.57
tblVehicleEF	OBUS	0.75	1.06
tblVehicleEF	OBUS	6.18	2.07
tblVehicleEF	OBUS	109.55	99.84
tblVehicleEF	OBUS	1,329.73	1,414.23
tblVehicleEF	OBUS	68.50	16.28
tblVehicleEF	OBUS	0.71	0.75
tblVehicleEF	OBUS	2.56	2.55
tblVehicleEF	OBUS	2.95	0.88
tblVehicleEF	OBUS	3.9400e-004	3.8820e-003
tblVehicleEF	OBUS	0.01	0.05
tblVehicleEF	OBUS	7.7800e-004	1.5500e-004
tblVehicleEF	OBUS	3.7700e-004	3.7150e-003
tblVehicleEF	OBUS	0.01	0.05
tblVehicleEF	OBUS	7.1800e-004	1.4300e-004
tblVehicleEF	OBUS	1.2500e-003	1.0980e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	5.2500e-004	4.6700e-004
tblVehicleEF	OBUS	0.09	0.16
tblVehicleEF	OBUS	0.03	0.17
tblVehicleEF	OBUS	0.39	0.10
tblVehicleEF	OBUS	1.0570e-003	9.4800e-004
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	7.9400e-004	1.6100e-004
tblVehicleEF	OBUS	1.2500e-003	1.0980e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.08
tblVehicleEF	OBUS	5.2500e-004	4.6700e-004
tblVehicleEF	OBUS	0.11	0.19
tblVehicleEF	OBUS	0.03	0.17
tblVehicleEF	OBUS	0.43	0.11
tblVehicleEF	SBUS	0.87	0.04
tblVehicleEF	SBUS	0.02	7.3050e-003
tblVehicleEF	SBUS	0.10	4.0260e-003
tblVehicleEF	SBUS	7.81	1.81
tblVehicleEF	SBUS	1.44	0.60
tblVehicleEF	SBUS	11.29	0.62
tblVehicleEF	SBUS	1,160.06	346.54
tblVehicleEF	SBUS	1,082.96	1,098.46
tblVehicleEF	SBUS	51.90	3.36
tblVehicleEF	SBUS	11.07	3.83
tblVehicleEF	SBUS	5.15	5.68
tblVehicleEF	SBUS	13.04	0.65
tblVehicleEF	SBUS	0.01	5.1040e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	8.5500e-004	3.5000e-005
tblVehicleEF	SBUS	0.01	4.8840e-003
tblVehicleEF	SBUS	2.6570e-003	2.7600e-003
tblVehicleEF	SBUS	0.03	0.03

tblVehicleEF	SBUS	7.8600e-004	3.2000e-005
tblVehicleEF	SBUS	4.1200e-003	4.1000e-004
tblVehicleEF	SBUS	0.04	3.9010e-003
tblVehicleEF	SBUS	0.94	0.20
tblVehicleEF	SBUS	1.5240e-003	1.5300e-004
tblVehicleEF	SBUS	0.14	0.10
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.56	0.02
tblVehicleEF	SBUS	0.01	3.2940e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.1400e-004	3.3000e-005
tblVehicleEF	SBUS	4.1200e-003	4.1000e-004
tblVehicleEF	SBUS	0.04	3.9010e-003
tblVehicleEF	SBUS	1.36	0.29
tblVehicleEF	SBUS	1.5240e-003	1.5300e-004
tblVehicleEF	SBUS	0.18	0.12
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.61	0.03
tblVehicleEF	UBUS	0.28	1.38
tblVehicleEF	UBUS	0.04	2.4590e-003
tblVehicleEF	UBUS	6.08	10.32
tblVehicleEF	UBUS	7.73	0.14
tblVehicleEF	UBUS	2,181.27	1,606.06
tblVehicleEF	UBUS	81.64	1.64
tblVehicleEF	UBUS	13.91	0.73
tblVehicleEF	UBUS	16.09	0.02
tblVehicleEF	UBUS	0.65	0.07

tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.32	5.2790e-003
tblVehicleEF	UBUS	8.8200e-004	2.0000e-006
tblVehicleEF	UBUS	0.28	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.31	5.0510e-003
tblVehicleEF	UBUS	8.1100e-004	1.0000e-006
tblVehicleEF	UBUS	2.2120e-003	1.3300e-004
tblVehicleEF	UBUS	0.04	1.9970e-003
tblVehicleEF	UBUS	9.9000e-004	8.2000e-005
tblVehicleEF	UBUS	0.87	0.02
tblVehicleEF	UBUS	7.6630e-003	0.01
tblVehicleEF	UBUS	0.51	0.01
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	9.5300e-004	1.6000e-005
tblVehicleEF	UBUS	2.2120e-003	1.3300e-004
tblVehicleEF	UBUS	0.04	1.9970e-003
tblVehicleEF	UBUS	9.9000e-004	8.2000e-005
tblVehicleEF	UBUS	1.22	1.40
tblVehicleEF	UBUS	7.6630e-003	0.01
tblVehicleEF	UBUS	0.56	0.01
tblVehicleTrips	ST_TR	1.32	1.45
tblVehicleTrips	ST_TR	2.46	2.72
tblVehicleTrips	ST_TR	2.49	2.80
tblVehicleTrips	ST_TR	10.37	11.71
tblVehicleTrips	ST_TR	1.90	2.11
tblVehicleTrips	SU_TR	0.68	0.74

tblVehicleTrips	SU_TR	1.05	1.16
tblVehicleTrips	SU_TR	0.73	0.82
tblVehicleTrips	SU_TR	36.63	41.35
tblVehicleTrips	SU_TR	1.11	1.23
tblVehicleTrips	WD_TR	6.97	0.62
tblVehicleTrips	WD_TR	11.03	8.25
tblVehicleTrips	WD_TR	6.83	4.95
tblVehicleTrips	WD_TR	9.11	6.94
tblVehicleTrips	WD_TR	8.11	8.25
tblWater	IndoorWaterUseRate	49,607,750.00	25,926,060.00
tblWater	IndoorWaterUseRate	88,955,740.87	0.00
tblWater	IndoorWaterUseRate	27,958,125.00	0.00
tblWater	IndoorWaterUseRate	919,893.91	0.00
tblWater	IndoorWaterUseRate	102,110,082.02	0.00
tblWater	OutdoorWaterUseRate	54,521,260.53	0.00
tblWater	OutdoorWaterUseRate	1,438,808.42	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9570	2.7000e-004	0.0296	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0608
Energy	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	3,604.1626	3,604.1626	0.2329	0.0472	3,624.0442
Mobile	2.8406	5.1451	22.5776	0.0546	4.9979	0.0842	5.0821	1.3359	0.0796	1.4154	0.0000	5,064.2121	5,064.2121	0.2858	0.0000	5,071.3560
Waste						0.0000	0.0000		0.0000	0.0000	216.1346	0.0000	216.1346	12.7732	0.0000	535.4644
Water						0.0000	0.0000		0.0000	0.0000	8.2251	24.1804	32.4055	0.8469	0.0202	59.5983
Total	**7.9172**	**6.2327**	**23.5205**	**0.0611**	**4.9979**	**0.1670**	**5.1649**	**1.3359**	**0.1623**	**1.4982**	**224.3598**	**8,692.6121**	**8,916.9718**	**14.1389**	**0.0674**	**9,290.5238**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9570	2.7000e-004	0.0296	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0608
Energy	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	3,604.1626	3,604.1626	0.2329	0.0472	3,624.0442
Mobile	2.8406	5.1451	22.5776	0.0546	4.9979	0.0842	5.0821	1.3359	0.0796	1.4154	0.0000	5,064.2121	5,064.2121	0.2858	0.0000	5,071.3560
Waste						0.0000	0.0000		0.0000	0.0000	216.1346	0.0000	216.1346	12.7732	0.0000	535.4644
Water						0.0000	0.0000		0.0000	0.0000	8.2251	24.1804	32.4055	0.8469	0.0202	59.5983
Total	**7.9172**	**6.2327**	**23.5205**	**0.0611**	**4.9979**	**0.1670**	**5.1649**	**1.3359**	**0.1623**	**1.4982**	**224.3598**	**8,692.6121**	**8,916.9718**	**14.1389**	**0.0674**	**9,290.5238**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	12/31/2017	5	0	
2	Paving	Paving	2/22/2018	2/21/2018	5	0	
3	Building Construction	Building Construction	3/16/2018	3/15/2018	5	0	
4	Site Preparation	Site Preparation	5/19/2018	5/18/2018	5	0	
5	Architectural Coating	Architectural Coating	7/26/2018	7/25/2018	5	0	
6	Grading	Grading	8/11/2018	8/10/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 54.81

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,609,482; Non-Residential Outdoor: 536,494; Striped Parking Area: 143,252 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,383.00	567.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	277.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Grading - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Grading - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.8406	5.1451	22.5776	0.0546	4.9979	0.0842	5.0821	1.3359	0.0796	1.4154	0.0000	5,064.2121	5,064.2121	0.2858	0.0000	5,071.3560
Unmitigated	2.8406	5.1451	22.5776	0.0546	4.9979	0.0842	5.0821	1.3359	0.0796	1.4154	0.0000	5,064.2121	5,064.2121	0.2858	0.0000	5,071.3560

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	133.00	311.05	158.74	473,299	473,299
General Office Building	4,129.13	1,361.36	580.58	7,711,242	7,711,242
Industrial Park	598.46	338.52	99.14	1,284,671	1,284,671
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	204.04	344.27	1215.69	689,520	689,520
Research & Development	1,713.28	438.18	255.43	3,315,409	3,315,409
Total	6,777.90	2,793.39	2,309.59	13,474,142	13,474,142

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
General Office Building	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Industrial Park	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Other Asphalt Surfaces	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Parking Lot	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Place of Worship	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Research & Development	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Patrick Henry Drive Specific Plan (Existing Conditions; 2019) - Santa Clara County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,420.5485	2,420.5485	0.2102	0.0255	2,433.3965
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,420.5485	2,420.5485	0.2102	0.0255	2,433.3965
NaturalGas Mitigated	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	1,183.6141	1,183.6141	0.0227	0.0217	1,190.6477
NaturalGas Unmitigated	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	1,183.6141	1,183.6141	0.0227	0.0217	1,190.6477

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	5.68054e+006	0.0306	0.2785	0.2339	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	303.1354	303.1354	5.8100e-003	5.5600e-003	304.9368
General Office Building	8.23321e+006	0.0444	0.4036	0.3390	2.4200e-003		0.0307	0.0307		0.0307	0.0307	0.0000	439.3554	439.3554	8.4200e-003	8.0500e-003	441.9662
Industrial Park	1.98881e+006	0.0107	0.0975	0.0819	5.8000e-004		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	106.1302	106.1302	2.0300e-003	1.9500e-003	106.7609
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	778512	4.2000e-003	0.0382	0.0321	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.5444	41.5444	8.0000e-004	7.6000e-004	41.7912
Research & Development	5.49902e+006	0.0297	0.2696	0.2264	1.6200e-003		0.0205	0.0205		0.0205	0.0205	0.0000	293.4488	293.4488	5.6200e-003	5.3800e-003	295.1926
Total		**0.1196**	**1.0873**	**0.9133**	**6.5200e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**	**0.0000**	**1,183.6141**	**1,183.6141**	**0.0227**	**0.0217**	**1,190.6477**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	5.68054e+006	0.0306	0.2785	0.2339	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	303.1354	303.1354	5.8100e-003	5.5600e-003	304.9368
General Office Building	8.23321e+006	0.0444	0.4036	0.3390	2.4200e-003		0.0307	0.0307		0.0307	0.0307	0.0000	439.3554	439.3554	8.4200e-003	8.0500e-003	441.9662
Industrial Park	1.98881e+006	0.0107	0.0975	0.0819	5.8000e-004		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	106.1302	106.1302	2.0300e-003	1.9500e-003	106.7609
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	778512	4.2000e-003	0.0382	0.0321	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.5444	41.5444	8.0000e-004	7.6000e-004	41.7912
Research & Development	5.49902e+006	0.0297	0.2696	0.2264	1.6200e-003		0.0205	0.0205		0.0205	0.0205	0.0000	293.4488	293.4488	5.6200e-003	5.3800e-003	295.1926
Total		**0.1196**	**1.0873**	**0.9133**	**6.5200e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**	**0.0000**	**1,183.6141**	**1,183.6141**	**0.0227**	**0.0217**	**1,190.6477**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	9.09907e+006	1,568.3624	0.1362	0.0165	1,576.6871
Industrial Park	2.19796e+006	378.8519	0.0329	3.9900e-003	380.8629
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	759492	130.9099	0.0114	1.3800e-003	131.6048
Place of Worship	246372	42.4659	3.6900e-003	4.5000e-004	42.6913
Research & Development	1.74025e+006	299.9583	0.0261	3.1600e-003	301.5504
Total		**2,420.5485**	**0.2102**	**0.0255**	**2,433.3965**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	9.09907e+006	1,568.3624	0.1362	0.0165	1,576.6871
Industrial Park	2.19796e+006	378.8519	0.0329	3.9900e-003	380.8629
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	759492	130.9099	0.0114	1.3800e-003	131.6048
Place of Worship	246372	42.4659	3.6900e-003	4.5000e-004	42.6913
Research & Development	1.74025e+006	299.9583	0.0261	3.1600e-003	301.5504
Total		**2,420.5485**	**0.2102**	**0.0255**	**2,433.3965**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.9570	2.7000e-004	0.0296	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0608
Unmitigated	4.9570	2.7000e-004	0.0296	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0608

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6093					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3449					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-003	2.7000e-004	0.0296	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0608
Total	**4.9570**	**2.7000e-004**	**0.0296**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0570**	**0.0570**	**1.5000e-004**	**0.0000**	**0.0608**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6093					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3449					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-003	2.7000e-004	0.0296	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0608
Total	**4.9570**	**2.7000e-004**	**0.0296**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.0570**	**0.0570**	**1.5000e-004**	**0.0000**	**0.0608**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	32.4055	0.8469	0.0202	59.5983
Unmitigated	32.4055	0.8469	0.0202	59.5983

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	25.9261 / 0	32.4055	0.8469	0.0202	59.5983
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**32.4055**	**0.8469**	**0.0202**	**59.5983**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	25.9261 / 0	32.4055	0.8469	0.0202	59.5983
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**32.4055**	**0.8469**	**0.0202**	**59.5983**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	216.1346	12.7732	0.0000	535.4644
Unmitigated	216.1346	12.7732	0.0000	535.4644

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	266	53.9956	3.1911	0.0000	133.7718
General Office Building	465.47	94.4862	5.5840	0.0000	234.0856
Industrial Park	149.92	30.4324	1.7985	0.0000	75.3950
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	167.58	34.0172	2.0104	0.0000	84.2762
Research & Development	15.78	3.2032	0.1893	0.0000	7.9358
Total		**216.1346**	**12.7732**	**0.0000**	**535.4644**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	266	53.9956	3.1911	0.0000	133.7718
General Office Building	465.47	94.4862	5.5840	0.0000	234.0856
Industrial Park	149.92	30.4324	1.7985	0.0000	75.3950
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	167.58	34.0172	2.0104	0.0000	84.2762
Research & Development	15.78	3.2032	0.1893	0.0000	7.9358
Total		**216.1346**	**12.7732**	**0.0000**	**535.4644**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Patrick Henry Drive Specific Plan (Existing Conditions; 2040)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	500.50	1000sqft	8.47	500,499.00	0
Research & Development	207.67	1000sqft	4.34	207,667.00	0
Place of Worship	29.40	1000sqft	0.67	29,400.00	0
General Light Industry	214.52	1000sqft	4.92	214,522.00	0
Industrial Park	120.90	1000sqft	2.78	120,900.00	0
Other Asphalt Surfaces	6.38	Acre	6.38	227,826.00	0
Parking Lot	2,109.70	1000sqft	48.43	2,109,700.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	131.45	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Patrick Henry Drive Specific Plan (Existing Conditions; 2040) - Santa Clara County, Annual

Project Characteristics - MIG Modeler: Phil Gleason. GHG intensity factors adjusted to reflect estimated Silicon Valley Power 2030 RPS energy mix.

Land Use - 214,522 square feet of light industrial land use represents data center; land use values different than TIA to account for non-occupied building space in Planning Area.

Construction Phase - Existing Condition model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates based on Hexagon trip gen assumptions; specific rates adjusted since greater building space acounted for in existing run (vacant building space). Weekend rates adjusted also per Hex wkdy reduction.

Energy Use - T24 standards adjusted upward to reflect decreased efficinecy between 2013/2016 standards. See CalEEMod Appendix E5, Tables 1, 3, and 4; Electricity Emissions for Data Center calculated in separate sheet.

Water And Wastewater - Updated per WSA prepared for the project; see WSA Table 7.

Vehicle Emission Factors - Annual vehicle emission factors updated per EMFAC2017 for Santa Clara County; adjustments made to Light Duty Vehicles consistent with CARB guidance for addressing US EPA SAFE Rule Part One and Final Rule.

Vehicle Emission Factors -

Vehicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	60.00	0.00
tblConstructionPhase	NumDays	155.00	0.00
tblConstructionPhase	NumDays	1,550.00	0.00
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	NumDays	110.00	0.00
tblEnergyUse	LightingElect	3.08	0.00
tblEnergyUse	LightingElect	3.88	3.94
tblEnergyUse	LightingElect	3.88	3.94
tblEnergyUse	LightingElect	0.35	0.36
tblEnergyUse	LightingElect	3.08	3.13
tblEnergyUse	LightingElect	3.08	3.13
tblEnergyUse	NT24E	3.70	0.00
tblEnergyUse	T24E	1.48	0.00
tblEnergyUse	T24E	6.11	6.40

tblEnergyUse	T24E	6.11	6.40
tblEnergyUse	T24E	1.48	1.55
tblEnergyUse	T24E	1.48	1.55
tblEnergyUse	T24NG	19.71	19.81
tblEnergyUse	T24NG	16.31	16.39
tblEnergyUse	T24NG	16.31	16.39
tblEnergyUse	T24NG	19.71	19.81
tblEnergyUse	T24NG	19.71	19.81
tblGrading	AcresOfGrading	0.00	387.50
tblLandUse	LandUseSquareFeet	500,500.00	500,499.00
tblLandUse	LandUseSquareFeet	207,670.00	207,667.00
tblLandUse	LandUseSquareFeet	214,520.00	214,522.00
tblLandUse	LandUseSquareFeet	277,912.80	227,826.00
tblLandUse	LotAcreage	11.49	8.47
tblLandUse	LotAcreage	4.77	4.34
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	641.35	131.45
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleEF	HHD	0.24	0.02
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	1.39	6.54
tblVehicleEF	HHD	0.94	0.40
tblVehicleEF	HHD	4.45	8.5380e-003
tblVehicleEF	HHD	4,055.87	851.66
tblVehicleEF	HHD	1,476.74	1,063.61
tblVehicleEF	HHD	13.13	0.06

tblVehicleEF	HHD	11.61	5.29
tblVehicleEF	HHD	1.40	2.44
tblVehicleEF	HHD	19.05	2.29
tblVehicleEF	HHD	1.6880e-003	1.9740e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.3590e-003	0.02
tblVehicleEF	HHD	1.6200e-004	1.0000e-006
tblVehicleEF	HHD	1.6150e-003	1.8880e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8700e-003	8.9240e-003
tblVehicleEF	HHD	5.1270e-003	0.02
tblVehicleEF	HHD	1.4900e-004	1.0000e-006
tblVehicleEF	HHD	1.1900e-004	2.0000e-006
tblVehicleEF	HHD	5.2120e-003	8.2000e-005
tblVehicleEF	HHD	0.36	0.44
tblVehicleEF	HHD	7.7000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.8400e-004	4.1500e-004
tblVehicleEF	HHD	0.08	2.0000e-006
tblVehicleEF	HHD	0.04	7.9330e-003
tblVehicleEF	HHD	0.01	9.7550e-003
tblVehicleEF	HHD	2.0300e-004	1.0000e-006
tblVehicleEF	HHD	1.1900e-004	2.0000e-006
tblVehicleEF	HHD	5.2120e-003	8.2000e-005
tblVehicleEF	HHD	0.42	0.50
tblVehicleEF	HHD	7.7000e-005	1.0000e-006

tblVehicleEF	HHD	0.15	0.06
tblVehicleEF	HHD	4.8400e-004	4.1500e-004
tblVehicleEF	HHD	0.08	3.0000e-006
tblVehicleEF	LDA	1.1910e-003	5.8600e-004
tblVehicleEF	LDA	7.0000e-004	0.02
tblVehicleEF	LDA	0.24	0.36
tblVehicleEF	LDA	0.36	1.44
tblVehicleEF	LDA	158.69	199.68
tblVehicleEF	LDA	35.57	41.13
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.01	0.11
tblVehicleEF	LDA	6.3000e-004	5.4000e-004
tblVehicleEF	LDA	1.0050e-003	7.5900e-004
tblVehicleEF	LDA	5.8000e-004	4.9700e-004
tblVehicleEF	LDA	9.2400e-004	6.9800e-004
tblVehicleEF	LDA	9.0280e-003	0.01
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	8.5250e-003	0.01
tblVehicleEF	LDA	2.9880e-003	1.7150e-003
tblVehicleEF	LDA	0.03	0.15
tblVehicleEF	LDA	9.4370e-003	0.07
tblVehicleEF	LDA	1.5870e-003	1.7700e-003
tblVehicleEF	LDA	3.6100e-004	3.6400e-004
tblVehicleEF	LDA	9.0280e-003	0.01
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	8.5250e-003	0.01
tblVehicleEF	LDA	4.3460e-003	2.5100e-003

tblVehicleEF	LDA	0.03	0.15
tblVehicleEF	LDA	0.01	0.08
tblVehicleEF	LDT1	1.6740e-003	6.9500e-004
tblVehicleEF	LDT1	1.1120e-003	0.02
tblVehicleEF	LDT1	0.31	0.38
tblVehicleEF	LDT1	0.48	1.54
tblVehicleEF	LDT1	201.86	239.07
tblVehicleEF	LDT1	45.83	49.94
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT1	7.8800e-004	6.0500e-004
tblVehicleEF	LDT1	1.2490e-003	8.6500e-004
tblVehicleEF	LDT1	7.2400e-004	5.5600e-004
tblVehicleEF	LDT1	1.1490e-003	7.9500e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	4.1500e-003	2.1050e-003
tblVehicleEF	LDT1	0.04	0.21
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	2.0200e-003	2.1180e-003
tblVehicleEF	LDT1	4.6600e-004	4.4200e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	6.0530e-003	3.0990e-003
tblVehicleEF	LDT1	0.04	0.21

tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT2	1.8650e-003	9.2200e-004
tblVehicleEF	LDT2	1.3110e-003	0.03
tblVehicleEF	LDT2	0.37	0.45
tblVehicleEF	LDT2	0.54	1.96
tblVehicleEF	LDT2	232.94	239.93
tblVehicleEF	LDT2	52.57	50.31
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.02	0.13
tblVehicleEF	LDT2	7.5600e-004	6.1900e-004
tblVehicleEF	LDT2	1.1740e-003	8.1000e-004
tblVehicleEF	LDT2	6.9600e-004	5.7100e-004
tblVehicleEF	LDT2	1.0790e-003	7.4400e-004
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.04	0.05
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	4.6400e-003	3.0390e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.10
tblVehicleEF	LDT2	2.3310e-003	2.1270e-003
tblVehicleEF	LDT2	5.3400e-004	4.4600e-004
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.04	0.05
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	6.7620e-003	4.4320e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.12

tblVehicleEF	LHD1	2.9240e-003	3.4210e-003
tblVehicleEF	LHD1	4.9730e-003	3.9080e-003
tblVehicleEF	LHD1	4.9640e-003	5.9710e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.45	0.36
tblVehicleEF	LHD1	1.04	0.77
tblVehicleEF	LHD1	8.82	7.58
tblVehicleEF	LHD1	612.09	637.02
tblVehicleEF	LHD1	22.60	8.76
tblVehicleEF	LHD1	0.05	0.03
tblVehicleEF	LHD1	0.18	0.09
tblVehicleEF	LHD1	0.37	0.17
tblVehicleEF	LHD1	6.5200e-004	9.8200e-004
tblVehicleEF	LHD1	0.01	9.9810e-003
tblVehicleEF	LHD1	6.6710e-003	5.1070e-003
tblVehicleEF	LHD1	4.7600e-004	1.8200e-004
tblVehicleEF	LHD1	6.2400e-004	9.4000e-004
tblVehicleEF	LHD1	2.6490e-003	2.4950e-003
tblVehicleEF	LHD1	6.3540e-003	4.8440e-003
tblVehicleEF	LHD1	4.3700e-004	1.6700e-004
tblVehicleEF	LHD1	0.04	0.03
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	6.1900e-004	6.1300e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.17
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.7000e-005	7.3000e-005

tblVehicleEF	LHD1	5.9650e-003	6.2070e-003
tblVehicleEF	LHD1	2.4400e-004	8.7000e-005
tblVehicleEF	LHD1	0.04	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.1900e-004	6.1300e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.17
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD2	2.1510e-003	2.0850e-003
tblVehicleEF	LHD2	4.7820e-003	4.8230e-003
tblVehicleEF	LHD2	2.0180e-003	3.0030e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.44	0.47
tblVehicleEF	LHD2	0.82	0.43
tblVehicleEF	LHD2	13.32	12.02
tblVehicleEF	LHD2	662.85	624.36
tblVehicleEF	LHD2	20.99	5.60
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.16
tblVehicleEF	LHD2	0.18	0.09
tblVehicleEF	LHD2	8.6800e-004	1.5090e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2620e-003	0.01
tblVehicleEF	LHD2	3.8300e-004	1.0000e-004
tblVehicleEF	LHD2	8.3000e-004	1.4430e-003
tblVehicleEF	LHD2	2.7110e-003	2.7210e-003
tblVehicleEF	LHD2	6.9240e-003	0.01

tblVehicleEF	LHD2	3.5200e-004	9.2000e-005
tblVehicleEF	LHD2	4.4200e-004	4.8400e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	2.8000e-004	3.1000e-004
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1500e-004
tblVehicleEF	LHD2	6.4390e-003	6.0190e-003
tblVehicleEF	LHD2	2.2300e-004	5.5000e-005
tblVehicleEF	LHD2	4.4200e-004	4.8400e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	2.8000e-004	3.1000e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	17.05	17.07
tblVehicleEF	MCY	10.45	9.32
tblVehicleEF	MCY	172.03	209.59
tblVehicleEF	MCY	41.48	58.06
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.2420e-003	2.2350e-003

tblVehicleEF	MCY	3.3930e-003	2.9700e-003
tblVehicleEF	MCY	2.0900e-003	2.0830e-003
tblVehicleEF	MCY	3.1660e-003	2.7710e-003
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	0.59	0.63
tblVehicleEF	MCY	0.46	0.96
tblVehicleEF	MCY	2.10	2.10
tblVehicleEF	MCY	0.40	1.25
tblVehicleEF	MCY	2.07	1.84
tblVehicleEF	MCY	2.0620e-003	2.0740e-003
tblVehicleEF	MCY	6.4600e-004	5.7500e-004
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	0.59	0.63
tblVehicleEF	MCY	0.46	0.96
tblVehicleEF	MCY	2.64	2.64
tblVehicleEF	MCY	0.40	1.25
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MDV	2.8050e-003	9.3100e-004
tblVehicleEF	MDV	3.1350e-003	0.03
tblVehicleEF	MDV	0.47	0.44
tblVehicleEF	MDV	0.84	1.96
tblVehicleEF	MDV	311.48	289.06
tblVehicleEF	MDV	69.40	59.43
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	8.4400e-004	6.1400e-004
tblVehicleEF	MDV	1.3060e-003	8.2100e-004

tblVehicleEF	MDV	7.7700e-004	5.6600e-004
tblVehicleEF	MDV	1.2010e-003	7.5500e-004
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.09	0.07
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	7.0530e-003	3.1220e-003
tblVehicleEF	MDV	0.06	0.21
tblVehicleEF	MDV	0.04	0.11
tblVehicleEF	MDV	3.1130e-003	2.5670e-003
tblVehicleEF	MDV	7.0700e-004	5.2700e-004
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.09	0.07
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.01	4.5440e-003
tblVehicleEF	MDV	0.06	0.22
tblVehicleEF	MDV	0.05	0.12
tblVehicleEF	MH	4.4300e-003	3.8070e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.20	0.19
tblVehicleEF	MH	3.12	1.47
tblVehicleEF	MH	1,168.01	1,245.00
tblVehicleEF	MH	55.70	13.78
tblVehicleEF	MH	0.65	0.87
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.0330e-003	9.1090e-003
tblVehicleEF	MH	8.8400e-004	2.1200e-004

tblVehicleEF	MH	3.2200e-003	3.3040e-003
tblVehicleEF	MH	5.7310e-003	8.6790e-003
tblVehicleEF	MH	8.1300e-004	1.9500e-004
tblVehicleEF	MH	0.28	0.22
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	0.13	0.10
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.8740e-003	0.17
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1100e-004	1.3600e-004
tblVehicleEF	MH	0.28	0.22
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	0.13	0.10
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	2.8740e-003	0.17
tblVehicleEF	MH	0.21	0.07
tblVehicleEF	MHD	0.02	4.2930e-003
tblVehicleEF	MHD	2.3220e-003	8.5200e-004
tblVehicleEF	MHD	0.03	9.1640e-003
tblVehicleEF	MHD	0.39	0.43
tblVehicleEF	MHD	0.22	0.13
tblVehicleEF	MHD	3.10	0.86
tblVehicleEF	MHD	123.89	57.14
tblVehicleEF	MHD	1,155.14	910.34
tblVehicleEF	MHD	61.47	8.81
tblVehicleEF	MHD	0.31	0.29

tblVehicleEF	MHD	0.94	1.37
tblVehicleEF	MHD	9.35	1.64
tblVehicleEF	MHD	2.7000e-005	8.3000e-005
tblVehicleEF	MHD	2.8210e-003	6.6880e-003
tblVehicleEF	MHD	8.8400e-004	1.2700e-004
tblVehicleEF	MHD	2.6000e-005	7.9000e-005
tblVehicleEF	MHD	2.6920e-003	6.3910e-003
tblVehicleEF	MHD	8.1300e-004	1.1700e-004
tblVehicleEF	MHD	6.2900e-004	3.0500e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.0300e-004	1.9400e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.07
tblVehicleEF	MHD	0.21	0.04
tblVehicleEF	MHD	1.1950e-003	5.4300e-004
tblVehicleEF	MHD	0.01	8.6920e-003
tblVehicleEF	MHD	6.6900e-004	8.7000e-005
tblVehicleEF	MHD	6.2900e-004	3.0500e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	4.0300e-004	1.9400e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.07
tblVehicleEF	MHD	0.23	0.05
tblVehicleEF	OBUS	0.01	7.2220e-003
tblVehicleEF	OBUS	3.5120e-003	1.6630e-003

tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.24	0.63
tblVehicleEF	OBUS	0.26	0.20
tblVehicleEF	OBUS	3.77	1.48
tblVehicleEF	OBUS	96.99	86.02
tblVehicleEF	OBUS	1,257.82	1,120.11
tblVehicleEF	OBUS	64.57	12.75
tblVehicleEF	OBUS	0.21	0.42
tblVehicleEF	OBUS	0.77	1.41
tblVehicleEF	OBUS	2.59	1.09
tblVehicleEF	OBUS	1.9000e-005	1.3700e-004
tblVehicleEF	OBUS	2.7190e-003	7.7800e-003
tblVehicleEF	OBUS	1.0200e-003	1.7400e-004
tblVehicleEF	OBUS	1.9000e-005	1.3200e-004
tblVehicleEF	OBUS	2.5780e-003	7.4270e-003
tblVehicleEF	OBUS	9.3800e-004	1.6000e-004
tblVehicleEF	OBUS	1.2260e-003	1.1050e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.7500e-004	5.2800e-004
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	0.04	0.18
tblVehicleEF	OBUS	0.25	0.07
tblVehicleEF	OBUS	9.3700e-004	8.1700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.1200e-004	1.2600e-004
tblVehicleEF	OBUS	1.2260e-003	1.1050e-003

tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.7500e-004	5.2800e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.18
tblVehicleEF	OBUS	0.27	0.08
tblVehicleEF	SBUS	0.84	0.10
tblVehicleEF	SBUS	3.6500e-003	1.6600e-003
tblVehicleEF	SBUS	0.05	8.7250e-003
tblVehicleEF	SBUS	9.39	4.08
tblVehicleEF	SBUS	0.26	0.16
tblVehicleEF	SBUS	7.00	1.12
tblVehicleEF	SBUS	954.95	307.32
tblVehicleEF	SBUS	967.85	834.52
tblVehicleEF	SBUS	64.75	6.63
tblVehicleEF	SBUS	1.88	1.30
tblVehicleEF	SBUS	0.80	1.09
tblVehicleEF	SBUS	9.99	1.78
tblVehicleEF	SBUS	1.4100e-004	3.6400e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.5290e-003	6.8240e-003
tblVehicleEF	SBUS	1.3950e-003	1.0700e-004
tblVehicleEF	SBUS	1.3500e-004	3.4800e-004
tblVehicleEF	SBUS	2.5530e-003	2.5930e-003
tblVehicleEF	SBUS	2.3940e-003	6.5060e-003
tblVehicleEF	SBUS	1.2830e-003	9.8000e-005
tblVehicleEF	SBUS	4.4100e-003	1.5920e-003

tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.14	0.45
tblVehicleEF	SBUS	2.1060e-003	7.7100e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.02	0.10
tblVehicleEF	SBUS	0.39	0.05
tblVehicleEF	SBUS	9.4450e-003	2.9440e-003
tblVehicleEF	SBUS	9.3600e-003	8.0200e-003
tblVehicleEF	SBUS	7.6900e-004	6.6000e-005
tblVehicleEF	SBUS	4.4100e-003	1.5920e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.66	0.64
tblVehicleEF	SBUS	2.1060e-003	7.7100e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.02	0.10
tblVehicleEF	SBUS	0.42	0.05
tblVehicleEF	UBUS	0.24	1.86
tblVehicleEF	UBUS	0.06	1.6730e-003
tblVehicleEF	UBUS	2.18	14.11
tblVehicleEF	UBUS	8.20	0.14
tblVehicleEF	UBUS	1,839.71	1,664.74
tblVehicleEF	UBUS	143.02	1.26
tblVehicleEF	UBUS	1.57	0.70
tblVehicleEF	UBUS	11.95	0.01
tblVehicleEF	UBUS	0.49	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.02	5.1160e-003

tblVehicleEF	UBUS	1.6760e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.02	4.8930e-003
tblVehicleEF	UBUS	1.5410e-003	1.4000e-005
tblVehicleEF	UBUS	3.4210e-003	2.4000e-005
tblVehicleEF	UBUS	0.05	2.0700e-004
tblVehicleEF	UBUS	2.0600e-003	1.1000e-005
tblVehicleEF	UBUS	0.06	0.03
tblVehicleEF	UBUS	0.01	1.1550e-003
tblVehicleEF	UBUS	0.75	6.9960e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.5810e-003	1.3000e-005
tblVehicleEF	UBUS	3.4210e-003	2.4000e-005
tblVehicleEF	UBUS	0.05	2.0700e-004
tblVehicleEF	UBUS	2.0600e-003	1.1000e-005
tblVehicleEF	UBUS	0.30	1.90
tblVehicleEF	UBUS	0.01	1.1550e-003
tblVehicleEF	UBUS	0.82	7.6590e-003
tblVehicleTrips	ST_TR	2.46	2.41
tblVehicleTrips	ST_TR	2.49	2.48
tblVehicleTrips	ST_TR	1.90	1.87
tblVehicleTrips	SU_TR	1.05	1.03
tblVehicleTrips	SU_TR	1.11	1.09
tblVehicleTrips	WD_TR	6.97	0.62
tblVehicleTrips	WD_TR	11.03	8.25
tblVehicleTrips	WD_TR	6.83	4.95

tblVehicleTrips	WD_TR	9.11	6.94
tblVehicleTrips	WD_TR	8.11	8.25
tblWater	IndoorWaterUseRate	49,607,750.00	25,926,060.00
tblWater	IndoorWaterUseRate	88,955,740.87	0.00
tblWater	IndoorWaterUseRate	27,958,125.00	0.00
tblWater	IndoorWaterUseRate	919,893.91	0.00
tblWater	IndoorWaterUseRate	102,110,082.02	0.00
tblWater	OutdoorWaterUseRate	54,521,260.53	0.00
tblWater	OutdoorWaterUseRate	1,438,808.42	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2028	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9526	2.6000e-004	0.0291	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0607
Energy	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	2,020.9328	2,020.9328	0.2329	0.0472	2,040.8144
Mobile	1.0161	2.3240	10.9408	0.0355	4.9323	0.0217	4.9540	1.3186	0.0204	1.3389	0.0000	3,589.9755	3,589.9755	0.1233	0.0000	3,593.0576
Waste						0.0000	0.0000		0.0000	0.0000	216.1346	0.0000	216.1346	12.7732	0.0000	535.4644
Water						0.0000	0.0000		0.0000	0.0000	8.2251	8.3645	16.5897	0.8469	0.0202	43.7824
Total	**6.0882**	**3.4115**	**11.8833**	**0.0420**	**4.9323**	**0.1044**	**5.0367**	**1.3186**	**0.1031**	**1.4216**	**224.3598**	**5,619.3298**	**5,843.6896**	**13.9764**	**0.0674**	**6,213.1794**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.9526	2.6000e-004	0.0291	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0607
Energy	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	2,020.9328	2,020.9328	0.2329	0.0472	2,040.8144
Mobile	1.0161	2.3240	10.9408	0.0355	4.9323	0.0217	4.9540	1.3186	0.0204	1.3389	0.0000	3,589.9755	3,589.9755	0.1233	0.0000	3,593.0576
Waste						0.0000	0.0000		0.0000	0.0000	216.1346	0.0000	216.1346	12.7732	0.0000	535.4644
Water						0.0000	0.0000		0.0000	0.0000	8.2251	8.3645	16.5897	0.8469	0.0202	43.7824
Total	**6.0882**	**3.4115**	**11.8833**	**0.0420**	**4.9323**	**0.1044**	**5.0367**	**1.3186**	**0.1031**	**1.4216**	**224.3598**	**5,619.3298**	**5,843.6896**	**13.9764**	**0.0674**	**6,213.1794**

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

3.0 Construction Detail

Construction Phase

Patrick Henry Drive Specific Plan (Existing Conditions; 2040) - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/12/2020	10/11/2020	5	0	
2	Site Preparation	Site Preparation	2/27/2021	2/26/2021	5	0	
3	Grading	Grading	5/22/2021	5/21/2021	5	0	
4	Building Construction	Building Construction	12/25/2021	12/24/2021	5	0	
5	Paving	Paving	12/4/2027	12/3/2027	5	0	
6	Architectural Coating	Architectural Coating	5/6/2028	5/5/2028	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 54.81

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,609,482; Non-Residential Outdoor: 536,494; Striped Parking Area: 140,252 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,362.00	559.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	272.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0161	2.3240	10.9408	0.0355	4.9323	0.0217	4.9540	1.3186	0.0204	1.3389	0.0000	3,589.9755	3,589.9755	0.1233	0.0000	3,593.0576
Unmitigated	1.0161	2.3240	10.9408	0.0355	4.9323	0.0217	4.9540	1.3186	0.0204	1.3389	0.0000	3,589.9755	3,589.9755	0.1233	0.0000	3,593.0576

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	133.00	283.17	145.87	456,300	456,300
General Office Building	4,129.13	1,206.21	515.52	7,636,061	7,636,061
Industrial Park	598.46	299.83	88.26	1,266,105	1,266,105
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	204.04	304.88	1076.92	641,908	641,908
Research & Development	1,713.28	388.34	226.36	3,287,155	3,287,155
Total	6,777.90	2,482.42	2,052.93	13,287,528	13,287,528

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
General Office Building	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Industrial Park	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Other Asphalt Surfaces	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Parking Lot	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Place of Worship	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Research & Development	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Patrick Henry Drive Specific Plan (Existing Conditions; 2040) - Santa Clara County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	837.3187	837.3187	0.2102	0.0255	850.1667
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	837.3187	837.3187	0.2102	0.0255	850.1667
NaturalGas Mitigated	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	1,183.6141	1,183.6141	0.0227	0.0217	1,190.6477
NaturalGas Unmitigated	0.1196	1.0873	0.9133	6.5200e-003		0.0826	0.0826		0.0826	0.0826	0.0000	1,183.6141	1,183.6141	0.0227	0.0217	1,190.6477

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	5.68054e+006	0.0306	0.2785	0.2339	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	303.1354	303.1354	5.8100e-003	5.5600e-003	304.9368
General Office Building	8.23321e+006	0.0444	0.4036	0.3390	2.4200e-003		0.0307	0.0307		0.0307	0.0307	0.0000	439.3554	439.3554	8.4200e-003	8.0500e-003	441.9662
Industrial Park	1.98881e+006	0.0107	0.0975	0.0819	5.8000e-004		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	106.1302	106.1302	2.0300e-003	1.9500e-003	106.7609
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	778512	4.2000e-003	0.0382	0.0321	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.5444	41.5444	8.0000e-004	7.6000e-004	41.7912
Research & Development	5.49902e+006	0.0297	0.2696	0.2264	1.6200e-003		0.0205	0.0205		0.0205	0.0205	0.0000	293.4488	293.4488	5.6200e-003	5.3800e-003	295.1926
Total		**0.1196**	**1.0873**	**0.9133**	**6.5200e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**	**0.0000**	**1,183.6141**	**1,183.6141**	**0.0227**	**0.0217**	**1,190.6477**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	5.68054e+006	0.0306	0.2785	0.2339	1.6700e-003		0.0212	0.0212		0.0212	0.0212	0.0000	303.1354	303.1354	5.8100e-003	5.5600e-003	304.9368
General Office Building	8.23321e+006	0.0444	0.4036	0.3390	2.4200e-003		0.0307	0.0307		0.0307	0.0307	0.0000	439.3554	439.3554	8.4200e-003	8.0500e-003	441.9662
Industrial Park	1.98881e+006	0.0107	0.0975	0.0819	5.8000e-004		7.4100e-003	7.4100e-003		7.4100e-003	7.4100e-003	0.0000	106.1302	106.1302	2.0300e-003	1.9500e-003	106.7609
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	778512	4.2000e-003	0.0382	0.0321	2.3000e-004		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	41.5444	41.5444	8.0000e-004	7.6000e-004	41.7912
Research & Development	5.49902e+006	0.0297	0.2696	0.2264	1.6200e-003		0.0205	0.0205		0.0205	0.0205	0.0000	293.4488	293.4488	5.6200e-003	5.3800e-003	295.1926
Total		**0.1196**	**1.0873**	**0.9133**	**6.5200e-003**		**0.0826**	**0.0826**		**0.0826**	**0.0826**	**0.0000**	**1,183.6141**	**1,183.6141**	**0.0227**	**0.0217**	**1,190.6477**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	9.09907e+006	542.5296	0.1362	0.0165	550.8543
Industrial Park	2.19796e+006	131.0529	0.0329	3.9900e-003	133.0638
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	759492	45.2845	0.0114	1.3800e-003	45.9794
Place of Worship	246372	14.6899	3.6900e-003	4.5000e-004	14.9153
Research & Development	1.74025e+006	103.7619	0.0261	3.1600e-003	105.3540
Total		**837.3187**	**0.2102**	**0.0255**	**850.1667**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
General Office Building	9.09907e+006	542.5296	0.1362	0.0165	550.8543
Industrial Park	2.19796e+006	131.0529	0.0329	3.9900e-003	133.0638
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	759492	45.2845	0.0114	1.3800e-003	45.9794
Place of Worship	246372	14.6899	3.6900e-003	4.5000e-004	14.9153
Research & Development	1.74025e+006	103.7619	0.0261	3.1600e-003	105.3540
Total		**837.3187**	**0.2102**	**0.0255**	**850.1667**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.9526	2.6000e-004	0.0291	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0607
Unmitigated	4.9526	2.6000e-004	0.0291	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0607

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6600e-003	2.6000e-004	0.0291	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0607
Total	**4.9526**	**2.6000e-004**	**0.0291**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0570**	**0.0570**	**1.5000e-004**	**0.0000**	**0.0607**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6083					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.6600e-003	2.6000e-004	0.0291	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.0570	0.0570	1.5000e-004	0.0000	0.0607
Total	**4.9526**	**2.6000e-004**	**0.0291**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0570**	**0.0570**	**1.5000e-004**	**0.0000**	**0.0607**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.5897	0.8469	0.0202	43.7824
Unmitigated	16.5897	0.8469	0.0202	43.7824

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	25.9261 / 0	16.5897	0.8469	0.0202	43.7824
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.5897**	**0.8469**	**0.0202**	**43.7824**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	25.9261 / 0	16.5897	0.8469	0.0202	43.7824
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.5897**	**0.8469**	**0.0202**	**43.7824**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	216.1346	12.7732	0.0000	535.4644
Unmitigated	216.1346	12.7732	0.0000	535.4644

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	266	53.9956	3.1911	0.0000	133.7718
General Office Building	465.47	94.4862	5.5840	0.0000	234.0856
Industrial Park	149.92	30.4324	1.7985	0.0000	75.3950
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	167.58	34.0172	2.0104	0.0000	84.2762
Research & Development	15.78	3.2032	0.1893	0.0000	7.9358
Total		**216.1346**	**12.7732**	**0.0000**	**535.4644**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	266	53.9956	3.1911	0.0000	133.7718
General Office Building	465.47	94.4862	5.5840	0.0000	234.0856
Industrial Park	149.92	30.4324	1.7985	0.0000	75.3950
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	167.58	34.0172	2.0104	0.0000	84.2762
Research & Development	15.78	3.2032	0.1893	0.0000	7.9358
Total		**216.1346**	**12.7732**	**0.0000**	**535.4644**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Patrick Henry Drive Specific Plan (Scenario 1; 2040)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	30.00	1000sqft	0.72	30,000.00	0
Day-Care Center	25.00	1000sqft	0.60	25,000.00	0
Library	45.00	1000sqft	1.08	45,000.00	0
Other Asphalt Surfaces	8.76	Acre	8.76	381,585.60	0
Other Non-Asphalt Surfaces	8.10	Acre	8.10	352,836.00	0
City Park	8.09	Acre	8.09	352,400.40	0
Health Club	30.00	1000sqft	0.00	30,000.00	0
Apartments High Rise	5,083.00	Dwelling Unit	17.90	5,083,000.00	14537
Apartments Mid Rise	6,918.00	Dwelling Unit	26.40	6,918,000.00	19785
Strip Mall	180.00	1000sqft	4.34	180,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	131.45	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Patrick Henry Drive Specific Plan (Scenario 1; 2040) - Santa Clara County, Annual

Project Characteristics - MIG Modeler: Phil Gleason. GHG intensity factors adjusted to reflect estimated Silicon Valley Power 2030 RPS energy mix.

Land Use - Acreage updated to reflect total Planning Area (~76 Acres); daycare center reflects community center; health club included as res dev; non-asphalt for public/private open space.

Construction Phase - Future Operational model run - no construction emissions modeled.

Vehicle Trips - Weekday rate provided by TIA prepared Hexagon (2020). Weekend rates for all land uses relfect values scaled down for proximity to transit and internal capture (TIA assumptions); DCC increased to reflect weekend events (same as lib).

Woodstoves - Wood burning devices excluded from new development pursuant to BAAQMD Regulation 6-3-306. Modeling assumes new fireplaces would be gas powered.

Energy Use - T24 standards adjusted downward to reflect increased efficiency between 2016/2019 standards (CEC, 2017).

Water And Wastewater - WSA estimates for scenario 1; see Table 7 of WSA.

Vehicle Emission Factors - Annual vehicle emission factors updated per EMFAC2017 for Santa Clara County; adjustments made to Light Duty Vehicles consistent with CARB guidance for addressing US EPA SAFE Rule Part One and Final Rule.

Vehicle Emission Factors -

Vehicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	60.00	0.00
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	NumDays	155.00	0.00
tblConstructionPhase	NumDays	100.00	0.00
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	NumDays	1,550.00	0.00
tblEnergyUse	LightingElect	2.55	1.79
tblEnergyUse	LightingElect	3.88	2.72
tblEnergyUse	LightingElect	3.08	2.16
tblEnergyUse	LightingElect	3.08	2.16
tblEnergyUse	LightingElect	5.25	3.68
tblEnergyUse	T24E	332.81	166.41
tblEnergyUse	T24E	332.81	116.41
tblFireplaces	FireplaceWoodMass	228.80	0.00

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	762.45	1,829.88
tblFireplaces	NumberGas	1,037.70	2,490.48
tblFireplaces	NumberNoFireplace	203.32	0.00
tblFireplaces	NumberNoFireplace	276.72	0.00
tblFireplaces	NumberWood	864.11	0.00
tblFireplaces	NumberWood	1,176.06	0.00
tblGrading	AcresOfGrading	0.00	387.50
tblLandUse	LotAcreage	0.69	0.72
tblLandUse	LotAcreage	0.57	0.60
tblLandUse	LotAcreage	1.03	1.08
tblLandUse	LotAcreage	0.69	0.00
tblLandUse	LotAcreage	81.98	17.90
tblLandUse	LotAcreage	182.05	26.40
tblLandUse	LotAcreage	4.13	4.34
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	641.35	131.45
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleEF	HHD	0.24	0.02
tblVehicleEF	HHD	0.06	0.04
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	1.39	6.54
tblVehicleEF	HHD	0.94	0.40
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tblVehicleEF	HHD	4,055.87	851.66
tblVehicleEF	HHD	1,476.74	1,063.61
tblVehicleEF	HHD	13.13	0.06

tblVehicleEF	HHD	11.61	5.29
tblVehicleEF	HHD	1.40	2.44
tblVehicleEF	HHD	19.05	2.29
tblVehicleEF	HHD	1.6880e-003	1.9740e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.3590e-003	0.02
tblVehicleEF	HHD	1.6200e-004	1.0000e-006
tblVehicleEF	HHD	1.6150e-003	1.8880e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8700e-003	8.9240e-003
tblVehicleEF	HHD	5.1270e-003	0.02
tblVehicleEF	HHD	1.4900e-004	1.0000e-006
tblVehicleEF	HHD	1.1900e-004	2.0000e-006
tblVehicleEF	HHD	5.2120e-003	8.2000e-005
tblVehicleEF	HHD	0.36	0.44
tblVehicleEF	HHD	7.7000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.8400e-004	4.1500e-004
tblVehicleEF	HHD	0.08	2.0000e-006
tblVehicleEF	HHD	0.04	7.9330e-003
tblVehicleEF	HHD	0.01	9.7550e-003
tblVehicleEF	HHD	2.0300e-004	1.0000e-006
tblVehicleEF	HHD	1.1900e-004	2.0000e-006
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tblVehicleEF	HHD	7.7000e-005	1.0000e-006

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tblVehicleEF	LDA	0.01	0.11
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tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	8.5250e-003	0.01
tblVehicleEF	LDA	4.3460e-003	2.5100e-003

tblVehicleEF	LDA	0.03	0.15
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tblVehicleEF	LDT1	0.31	0.38
tblVehicleEF	LDT1	0.48	1.54
tblVehicleEF	LDT1	201.86	239.07
tblVehicleEF	LDT1	45.83	49.94
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.02	0.13
tblVehicleEF	LDT1	7.8800e-004	6.0500e-004
tblVehicleEF	LDT1	1.2490e-003	8.6500e-004
tblVehicleEF	LDT1	7.2400e-004	5.5600e-004
tblVehicleEF	LDT1	1.1490e-003	7.9500e-004
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	4.1500e-003	2.1050e-003
tblVehicleEF	LDT1	0.04	0.21
tblVehicleEF	LDT1	0.01	0.08
tblVehicleEF	LDT1	2.0200e-003	2.1180e-003
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tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	6.0530e-003	3.0990e-003
tblVehicleEF	LDT1	0.04	0.21

tblVehicleEF	LDT1	0.02	0.09
tblVehicleEF	LDT2	1.8650e-003	9.2200e-004
tblVehicleEF	LDT2	1.3110e-003	0.03
tblVehicleEF	LDT2	0.37	0.45
tblVehicleEF	LDT2	0.54	1.96
tblVehicleEF	LDT2	232.94	239.93
tblVehicleEF	LDT2	52.57	50.31
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.02	0.13
tblVehicleEF	LDT2	7.5600e-004	6.1900e-004
tblVehicleEF	LDT2	1.1740e-003	8.1000e-004
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tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.04	0.05
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	4.6400e-003	3.0390e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.10
tblVehicleEF	LDT2	2.3310e-003	2.1270e-003
tblVehicleEF	LDT2	5.3400e-004	4.4600e-004
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.04	0.05
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	6.7620e-003	4.4320e-003
tblVehicleEF	LDT2	0.04	0.21
tblVehicleEF	LDT2	0.02	0.12

tblVehicleEF	LHD1	2.9240e-003	3.4210e-003
tblVehicleEF	LHD1	4.9730e-003	3.9080e-003
tblVehicleEF	LHD1	4.9640e-003	5.9710e-003
tblVehicleEF	LHD1	0.13	0.17
tblVehicleEF	LHD1	0.45	0.36
tblVehicleEF	LHD1	1.04	0.77
tblVehicleEF	LHD1	8.82	7.58
tblVehicleEF	LHD1	612.09	637.02
tblVehicleEF	LHD1	22.60	8.76
tblVehicleEF	LHD1	0.05	0.03
tblVehicleEF	LHD1	0.18	0.09
tblVehicleEF	LHD1	0.37	0.17
tblVehicleEF	LHD1	6.5200e-004	9.8200e-004
tblVehicleEF	LHD1	0.01	9.9810e-003
tblVehicleEF	LHD1	6.6710e-003	5.1070e-003
tblVehicleEF	LHD1	4.7600e-004	1.8200e-004
tblVehicleEF	LHD1	6.2400e-004	9.4000e-004
tblVehicleEF	LHD1	2.6490e-003	2.4950e-003
tblVehicleEF	LHD1	6.3540e-003	4.8440e-003
tblVehicleEF	LHD1	4.3700e-004	1.6700e-004
tblVehicleEF	LHD1	0.04	0.03
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	6.1900e-004	6.1300e-004
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.09	0.17
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	8.7000e-005	7.3000e-005

tblVehicleEF	LHD1	5.9650e-003	6.2070e-003
tblVehicleEF	LHD1	2.4400e-004	8.7000e-005
tblVehicleEF	LHD1	0.04	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.1900e-004	6.1300e-004
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.09	0.17
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD2	2.1510e-003	2.0850e-003
tblVehicleEF	LHD2	4.7820e-003	4.8230e-003
tblVehicleEF	LHD2	2.0180e-003	3.0030e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.44	0.47
tblVehicleEF	LHD2	0.82	0.43
tblVehicleEF	LHD2	13.32	12.02
tblVehicleEF	LHD2	662.85	624.36
tblVehicleEF	LHD2	20.99	5.60
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.08	0.16
tblVehicleEF	LHD2	0.18	0.09
tblVehicleEF	LHD2	8.6800e-004	1.5090e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	7.2620e-003	0.01
tblVehicleEF	LHD2	3.8300e-004	1.0000e-004
tblVehicleEF	LHD2	8.3000e-004	1.4430e-003
tblVehicleEF	LHD2	2.7110e-003	2.7210e-003
tblVehicleEF	LHD2	6.9240e-003	0.01

tblVehicleEF	LHD2	3.5200e-004	9.2000e-005
tblVehicleEF	LHD2	4.4200e-004	4.8400e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	2.8000e-004	3.1000e-004
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	1.3000e-004	1.1500e-004
tblVehicleEF	LHD2	6.4390e-003	6.0190e-003
tblVehicleEF	LHD2	2.2300e-004	5.5000e-005
tblVehicleEF	LHD2	4.4200e-004	4.8400e-004
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	2.8000e-004	3.1000e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.03	0.08
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.15	0.24
tblVehicleEF	MCY	17.05	17.07
tblVehicleEF	MCY	10.45	9.32
tblVehicleEF	MCY	172.03	209.59
tblVehicleEF	MCY	41.48	58.06
tblVehicleEF	MCY	1.13	1.13
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.2420e-003	2.2350e-003

tblVehicleEF	MCY	3.3930e-003	2.9700e-003
tblVehicleEF	MCY	2.0900e-003	2.0830e-003
tblVehicleEF	MCY	3.1660e-003	2.7710e-003
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	0.59	0.63
tblVehicleEF	MCY	0.46	0.96
tblVehicleEF	MCY	2.10	2.10
tblVehicleEF	MCY	0.40	1.25
tblVehicleEF	MCY	2.07	1.84
tblVehicleEF	MCY	2.0620e-003	2.0740e-003
tblVehicleEF	MCY	6.4600e-004	5.7500e-004
tblVehicleEF	MCY	0.88	1.82
tblVehicleEF	MCY	0.59	0.63
tblVehicleEF	MCY	0.46	0.96
tblVehicleEF	MCY	2.64	2.64
tblVehicleEF	MCY	0.40	1.25
tblVehicleEF	MCY	2.26	2.01
tblVehicleEF	MDV	2.8050e-003	9.3100e-004
tblVehicleEF	MDV	3.1350e-003	0.03
tblVehicleEF	MDV	0.47	0.44
tblVehicleEF	MDV	0.84	1.96
tblVehicleEF	MDV	311.48	289.06
tblVehicleEF	MDV	69.40	59.43
tblVehicleEF	MDV	0.04	0.02
tblVehicleEF	MDV	0.05	0.13
tblVehicleEF	MDV	8.4400e-004	6.1400e-004
tblVehicleEF	MDV	1.3060e-003	8.2100e-004

tblVehicleEF	MDV	7.7700e-004	5.6600e-004
tblVehicleEF	MDV	1.2010e-003	7.5500e-004
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.09	0.07
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	7.0530e-003	3.1220e-003
tblVehicleEF	MDV	0.06	0.21
tblVehicleEF	MDV	0.04	0.11
tblVehicleEF	MDV	3.1130e-003	2.5670e-003
tblVehicleEF	MDV	7.0700e-004	5.2700e-004
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.09	0.07
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.01	4.5440e-003
tblVehicleEF	MDV	0.06	0.22
tblVehicleEF	MDV	0.05	0.12
tblVehicleEF	MH	4.4300e-003	3.8070e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	0.20	0.19
tblVehicleEF	MH	3.12	1.47
tblVehicleEF	MH	1,168.01	1,245.00
tblVehicleEF	MH	55.70	13.78
tblVehicleEF	MH	0.65	0.87
tblVehicleEF	MH	0.53	0.22
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.0330e-003	9.1090e-003
tblVehicleEF	MH	8.8400e-004	2.1200e-004

tblVehicleEF	MH	3.2200e-003	3.3040e-003
tblVehicleEF	MH	5.7310e-003	8.6790e-003
tblVehicleEF	MH	8.1300e-004	1.9500e-004
tblVehicleEF	MH	0.28	0.22
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	0.13	0.10
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.8740e-003	0.17
tblVehicleEF	MH	0.19	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.1100e-004	1.3600e-004
tblVehicleEF	MH	0.28	0.22
tblVehicleEF	MH	0.02	0.01
tblVehicleEF	MH	0.13	0.10
tblVehicleEF	MH	0.03	0.04
tblVehicleEF	MH	2.8740e-003	0.17
tblVehicleEF	MH	0.21	0.07
tblVehicleEF	MHD	0.02	4.2930e-003
tblVehicleEF	MHD	2.3220e-003	8.5200e-004
tblVehicleEF	MHD	0.03	9.1640e-003
tblVehicleEF	MHD	0.39	0.43
tblVehicleEF	MHD	0.22	0.13
tblVehicleEF	MHD	3.10	0.86
tblVehicleEF	MHD	123.89	57.14
tblVehicleEF	MHD	1,155.14	910.34
tblVehicleEF	MHD	61.47	8.81
tblVehicleEF	MHD	0.31	0.29

tblVehicleEF	MHD	0.94	1.37
tblVehicleEF	MHD	9.35	1.64
tblVehicleEF	MHD	2.7000e-005	8.3000e-005
tblVehicleEF	MHD	2.8210e-003	6.6880e-003
tblVehicleEF	MHD	8.8400e-004	1.2700e-004
tblVehicleEF	MHD	2.6000e-005	7.9000e-005
tblVehicleEF	MHD	2.6920e-003	6.3910e-003
tblVehicleEF	MHD	8.1300e-004	1.1700e-004
tblVehicleEF	MHD	6.2900e-004	3.0500e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.0300e-004	1.9400e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.07
tblVehicleEF	MHD	0.21	0.04
tblVehicleEF	MHD	1.1950e-003	5.4300e-004
tblVehicleEF	MHD	0.01	8.6920e-003
tblVehicleEF	MHD	6.6900e-004	8.7000e-005
tblVehicleEF	MHD	6.2900e-004	3.0500e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	4.0300e-004	1.9400e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.01	0.07
tblVehicleEF	MHD	0.23	0.05
tblVehicleEF	OBUS	0.01	7.2220e-003
tblVehicleEF	OBUS	3.5120e-003	1.6630e-003

tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.24	0.63
tblVehicleEF	OBUS	0.26	0.20
tblVehicleEF	OBUS	3.77	1.48
tblVehicleEF	OBUS	96.99	86.02
tblVehicleEF	OBUS	1,257.82	1,120.11
tblVehicleEF	OBUS	64.57	12.75
tblVehicleEF	OBUS	0.21	0.42
tblVehicleEF	OBUS	0.77	1.41
tblVehicleEF	OBUS	2.59	1.09
tblVehicleEF	OBUS	1.9000e-005	1.3700e-004
tblVehicleEF	OBUS	2.7190e-003	7.7800e-003
tblVehicleEF	OBUS	1.0200e-003	1.7400e-004
tblVehicleEF	OBUS	1.9000e-005	1.3200e-004
tblVehicleEF	OBUS	2.5780e-003	7.4270e-003
tblVehicleEF	OBUS	9.3800e-004	1.6000e-004
tblVehicleEF	OBUS	1.2260e-003	1.1050e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.7500e-004	5.2800e-004
tblVehicleEF	OBUS	0.04	0.01
tblVehicleEF	OBUS	0.04	0.18
tblVehicleEF	OBUS	0.25	0.07
tblVehicleEF	OBUS	9.3700e-004	8.1700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.1200e-004	1.2600e-004
tblVehicleEF	OBUS	1.2260e-003	1.1050e-003

tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.7500e-004	5.2800e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.04	0.18
tblVehicleEF	OBUS	0.27	0.08
tblVehicleEF	SBUS	0.84	0.10
tblVehicleEF	SBUS	3.6500e-003	1.6600e-003
tblVehicleEF	SBUS	0.05	8.7250e-003
tblVehicleEF	SBUS	9.39	4.08
tblVehicleEF	SBUS	0.26	0.16
tblVehicleEF	SBUS	7.00	1.12
tblVehicleEF	SBUS	954.95	307.32
tblVehicleEF	SBUS	967.85	834.52
tblVehicleEF	SBUS	64.75	6.63
tblVehicleEF	SBUS	1.88	1.30
tblVehicleEF	SBUS	0.80	1.09
tblVehicleEF	SBUS	9.99	1.78
tblVehicleEF	SBUS	1.4100e-004	3.6400e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.5290e-003	6.8240e-003
tblVehicleEF	SBUS	1.3950e-003	1.0700e-004
tblVehicleEF	SBUS	1.3500e-004	3.4800e-004
tblVehicleEF	SBUS	2.5530e-003	2.5930e-003
tblVehicleEF	SBUS	2.3940e-003	6.5060e-003
tblVehicleEF	SBUS	1.2830e-003	9.8000e-005
tblVehicleEF	SBUS	4.4100e-003	1.5920e-003

tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.14	0.45
tblVehicleEF	SBUS	2.1060e-003	7.7100e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.02	0.10
tblVehicleEF	SBUS	0.39	0.05
tblVehicleEF	SBUS	9.4450e-003	2.9440e-003
tblVehicleEF	SBUS	9.3600e-003	8.0200e-003
tblVehicleEF	SBUS	7.6900e-004	6.6000e-005
tblVehicleEF	SBUS	4.4100e-003	1.5920e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.66	0.64
tblVehicleEF	SBUS	2.1060e-003	7.7100e-004
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.02	0.10
tblVehicleEF	SBUS	0.42	0.05
tblVehicleEF	UBUS	0.24	1.86
tblVehicleEF	UBUS	0.06	1.6730e-003
tblVehicleEF	UBUS	2.18	14.11
tblVehicleEF	UBUS	8.20	0.14
tblVehicleEF	UBUS	1,839.71	1,664.74
tblVehicleEF	UBUS	143.02	1.26
tblVehicleEF	UBUS	1.57	0.70
tblVehicleEF	UBUS	11.95	0.01
tblVehicleEF	UBUS	0.49	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.02	5.1160e-003

tblVehicleEF	UBUS	1.6760e-003	1.5000e-005
tblVehicleEF	UBUS	0.21	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.02	4.8930e-003
tblVehicleEF	UBUS	1.5410e-003	1.4000e-005
tblVehicleEF	UBUS	3.4210e-003	2.4000e-005
tblVehicleEF	UBUS	0.05	2.0700e-004
tblVehicleEF	UBUS	2.0600e-003	1.1000e-005
tblVehicleEF	UBUS	0.06	0.03
tblVehicleEF	UBUS	0.01	1.1550e-003
tblVehicleEF	UBUS	0.75	6.9960e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.5810e-003	1.3000e-005
tblVehicleEF	UBUS	3.4210e-003	2.4000e-005
tblVehicleEF	UBUS	0.05	2.0700e-004
tblVehicleEF	UBUS	2.0600e-003	1.1000e-005
tblVehicleEF	UBUS	0.30	1.90
tblVehicleEF	UBUS	0.01	1.1550e-003
tblVehicleEF	UBUS	0.82	7.6590e-003
tblVehicleTrips	ST_TR	4.98	5.11
tblVehicleTrips	ST_TR	6.39	3.98
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	6.21	22.23
tblVehicleTrips	ST_TR	2.46	1.17
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	46.55	22.23
tblVehicleTrips	ST_TR	42.04	20.08

tblVehicleTrips	SU_TR	3.65	4.69
tblVehicleTrips	SU_TR	5.86	2.92
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.83	12.17
tblVehicleTrips	SU_TR	1.05	0.50
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	25.49	12.17
tblVehicleTrips	SU_TR	20.43	9.76
tblVehicleTrips	WD_TR	4.20	3.56
tblVehicleTrips	WD_TR	6.65	4.35
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	74.06	13.76
tblVehicleTrips	WD_TR	11.03	4.65
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	56.24	34.41
tblVehicleTrips	WD_TR	44.32	18.03
tblWater	IndoorWaterUseRate	331,177,912.23	540,017,500.00
tblWater	IndoorWaterUseRate	450,735,549.25	0.00
tblWater	IndoorWaterUseRate	1,072,239.19	0.00
tblWater	IndoorWaterUseRate	5,332,012.44	0.00
tblWater	IndoorWaterUseRate	1,774,294.32	0.00
tblWater	IndoorWaterUseRate	1,408,000.88	0.00
tblWater	IndoorWaterUseRate	13,333,053.87	0.00
tblWater	OutdoorWaterUseRate	208,786,075.10	235,831,696.00
tblWater	OutdoorWaterUseRate	284,159,368.00	0.00
tblWater	OutdoorWaterUseRate	9,639,084.12	0.00
tblWater	OutdoorWaterUseRate	2,757,186.48	0.00

tblWater	OutdoorWaterUseRate	3,268,007.62	0.00
tblWater	OutdoorWaterUseRate	1,087,470.71	0.00
tblWater	OutdoorWaterUseRate	2,202,257.78	0.00
tblWater	OutdoorWaterUseRate	8,171,871.73	0.00
tblWoodstoves	NumberCatalytic	101.66	0.00
tblWoodstoves	NumberCatalytic	138.36	0.00
tblWoodstoves	NumberNoncatalytic	101.66	0.00
tblWoodstoves	NumberNoncatalytic	138.36	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	59.4646	1.4898	88.9186	7.6800e-003		0.5318	0.5318		0.5318	0.5318	0.0000	684.9143	684.9143	0.1489	9.8900e-003	691.5835
Energy	0.5772	4.9421	2.1712	0.0315		0.3988	0.3988		0.3988	0.3988	0.0000	8,693.8185	8,693.8185	0.8581	0.1955	8,773.5156
Mobile	9.7016	21.4028	101.0355	0.3194	44.3115	0.1958	44.5074	11.8457	0.1842	12.0298	0.0000	32,345.0689	32,345.0689	1.1393	0.0000	32,373.5515
Waste						0.0000	0.0000		0.0000	0.0000	1,214.4949	0.0000	1,214.4949	71.7746	0.0000	3,008.8598
Water						0.0000	0.0000		0.0000	0.0000	171.3226	223.4404	394.7630	17.6526	0.4223	961.9198
Total	**69.7434**	**27.8346**	**192.1253**	**0.3586**	**44.3115**	**1.1264**	**45.4380**	**11.8457**	**1.1147**	**12.9604**	**1,385.8176**	**41,947.2421**	**43,333.0596**	**91.5734**	**0.6276**	**45,809.4302**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	59.4646	1.4898	88.9186	7.6800e-003		0.5318	0.5318		0.5318	0.5318	0.0000	684.9143	684.9143	0.1489	9.8900e-003	691.5835
Energy	0.5772	4.9421	2.1712	0.0315		0.3988	0.3988		0.3988	0.3988	0.0000	8,693.8185	8,693.8185	0.8581	0.1955	8,773.5156
Mobile	9.7016	21.4028	101.0355	0.3194	44.3115	0.1958	44.5074	11.8457	0.1842	12.0298	0.0000	32,345.0689	32,345.0689	1.1393	0.0000	32,373.5515
Waste						0.0000	0.0000		0.0000	0.0000	1,214.4949	0.0000	1,214.4949	71.7746	0.0000	3,008.8598
Water						0.0000	0.0000		0.0000	0.0000	171.3226	223.4404	394.7630	17.6526	0.4223	961.9198
Total	**69.7434**	**27.8346**	**192.1253**	**0.3586**	**44.3115**	**1.1264**	**45.4380**	**11.8457**	**1.1147**	**12.9604**	**1,385.8176**	**41,947.2421**	**43,333.0596**	**91.5734**	**0.6276**	**45,809.4302**

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

3.0 Construction Detail

Construction Phase

Patrick Henry Drive Specific Plan (Scenario 1; 2040) - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/27/2020	2/26/2020	5	0	
2	Architectural Coating	Architectural Coating	5/6/2020	5/5/2020	5	0	
3	Grading	Grading	5/22/2020	5/21/2020	5	0	
4	Demolition	Demolition	10/12/2020	10/11/2020	5	0	
5	Paving	Paving	12/4/2020	12/3/2020	5	0	
6	Building Construction	Building Construction	12/25/2020	12/24/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 16.86

Residential Indoor: 24,302,025; Residential Outdoor: 8,100,675; Non-Residential Indoor: 465,000; Non-Residential Outdoor: 155,000; Striped Parking Area: 44,065 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	9,206.00	1,512.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1,841.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.7016	21.4028	101.0355	0.3194	44.3115	0.1958	44.5074	11.8457	0.1842	12.0298	0.0000	32,345.0689	32,345.0689	1.1393	0.0000	32,373.5515
Unmitigated	9.7016	21.4028	101.0355	0.3194	44.3115	0.1958	44.5074	11.8457	0.1842	12.0298	0.0000	32,345.0689	32,345.0689	1.1393	0.0000	32,373.5515

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	18,095.48	25,974.13	23839.27	46,288,094	46,288,094
Apartments Mid Rise	30,093.30	27,533.64	20200.56	65,395,112	65,395,112
City Park	0.00	0.00	0.00		
Day-Care Center	344.00	555.75	304.25	434,040	434,040
General Office Building	139.50	35.10	15.00	255,226	255,226
Health Club	0.00	0.00	0.00		
Library	1,548.45	1,000.35	547.65	2,249,378	2,249,378
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Strip Mall	3,245.40	3,614.40	1756.80	4,751,706	4,751,706
Total	53,466.13	58,713.37	46,663.53	119,373,555	119,373,555

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Apartments Mid Rise	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
City Park	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Day-Care Center	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
General Office Building	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Health Club	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Library	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Other Asphalt Surfaces	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Other Non-Asphalt Surfaces	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642
Strip Mall	0.621663	0.033362	0.179130	0.101130	0.011078	0.005126	0.013709	0.024709	0.002299	0.001422	0.005077	0.000653	0.000642

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,981.7970	2,981.7970	0.7486	0.0907	3,027.5504
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,981.7970	2,981.7970	0.7486	0.0907	3,027.5504
NaturalGas Mitigated	0.5772	4.9421	2.1712	0.0315		0.3988	0.3988		0.3988	0.3988	0.0000	5,712.0215	5,712.0215	0.1095	0.1047	5,745.9651
NaturalGas Unmitigated	0.5772	4.9421	2.1712	0.0315		0.3988	0.3988		0.3988	0.3988	0.0000	5,712.0215	5,712.0215	0.1095	0.1047	5,745.9651

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	4.39143e+007	0.2368	2.0235	0.8611	0.0129		0.1636	0.1636		0.1636	0.1636	0.0000	2,343.4356	2,343.4356	0.0449	0.0430	2,357.3615
Apartments Mid Rise	5.97677e+007	0.3223	2.7540	1.1719	0.0176		0.2227	0.2227		0.2227	0.2227	0.0000	3,189.4329	3,189.4329	0.0611	0.0585	3,208.3861
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	461000	2.4900e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.6007	24.6007	4.7000e-004	4.5000e-004	24.7469
General Office Building	491100	2.6500e-003	0.0241	0.0202	1.4000e-004		1.8300e-003	1.8300e-003		1.8300e-003	1.8300e-003	0.0000	26.2070	26.2070	5.0000e-004	4.8000e-004	26.3627
Health Club	791400	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2321	42.2321	8.1000e-004	7.7000e-004	42.4831
Library	1.1871e+006	6.4000e-003	0.0582	0.0489	3.5000e-004		4.4200e-003	4.4200e-003		4.4200e-003	4.4200e-003	0.0000	63.3482	63.3482	1.2100e-003	1.1600e-003	63.7246
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	426600	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7650	22.7650	4.4000e-004	4.2000e-004	22.9003
Total		**0.5772**	**4.9421**	**2.1712**	**0.0315**		**0.3988**	**0.3988**		**0.3988**	**0.3988**	**0.0000**	**5,712.0215**	**5,712.0215**	**0.1095**	**0.1047**	**5,745.9651**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	4.39143e+007	0.2368	2.0235	0.8611	0.0129		0.1636	0.1636		0.1636	0.1636	0.0000	2,343.4356	2,343.4356	0.0449	0.0430	2,357.3615
Apartments Mid Rise	5.97677e+007	0.3223	2.7540	1.1719	0.0176		0.2227	0.2227		0.2227	0.2227	0.0000	3,189.4329	3,189.4329	0.0611	0.0585	3,208.3861
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	461000	2.4900e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.6007	24.6007	4.7000e-004	4.5000e-004	24.7469
General Office Building	491100	2.6500e-003	0.0241	0.0202	1.4000e-004		1.8300e-003	1.8300e-003		1.8300e-003	1.8300e-003	0.0000	26.2070	26.2070	5.0000e-004	4.8000e-004	26.3627
Health Club	791400	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2321	42.2321	8.1000e-004	7.7000e-004	42.4831
Library	1.1871e+006	6.4000e-003	0.0582	0.0489	3.5000e-004		4.4200e-003	4.4200e-003		4.4200e-003	4.4200e-003	0.0000	63.3482	63.3482	1.2100e-003	1.1600e-003	63.7246
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	426600	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7650	22.7650	4.4000e-004	4.2000e-004	22.9003
Total		**0.5772**	**4.9421**	**2.1712**	**0.0315**		**0.3988**	**0.3988**		**0.3988**	**0.3988**	**0.0000**	**5,712.0215**	**5,712.0215**	**0.1095**	**0.1047**	**5,745.9651**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.01386e+007	1,200.7578	0.3015	0.0365	1,219.1826
Apartments Mid Rise	2.70629e+007	1,613.6160	0.4051	0.0491	1,638.3757
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	115750	6.9016	1.7300e-003	2.1000e-004	7.0075
General Office Building	500100	29.8183	7.4900e-003	9.1000e-004	30.2759
Health Club	220200	13.1294	3.3000e-003	4.0000e-004	13.3308
Library	330300	19.6940	4.9400e-003	6.0000e-004	19.9962
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.6416e+006	97.8799	0.0246	2.9800e-003	99.3818
Total		**2,981.7970**	**0.7486**	**0.0907**	**3,027.5504**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.01386e+007	1,200.7578	0.3015	0.0365	1,219.1826
Apartments Mid Rise	2.70629e+007	1,613.6160	0.4051	0.0491	1,638.3757
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	115750	6.9016	1.7300e-003	2.1000e-004	7.0075
General Office Building	500100	29.8183	7.4900e-003	9.1000e-004	30.2759
Health Club	220200	13.1294	3.3000e-003	4.0000e-004	13.3308
Library	330300	19.6940	4.9400e-003	6.0000e-004	19.9962
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.6416e+006	97.8799	0.0246	2.9800e-003	99.3818
Total		**2,981.7970**	**0.7486**	**0.0907**	**3,027.5504**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	59.4646	1.4898	88.9186	7.6800e-003		0.5318	0.5318		0.5318	0.5318	0.0000	684.9143	684.9143	0.1489	9.8900e-003	691.5835
Unmitigated	59.4646	1.4898	88.9186	7.6800e-003		0.5318	0.5318		0.5318	0.5318	0.0000	684.9143	684.9143	0.1489	9.8900e-003	691.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6250					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	48.1314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0545	0.4657	0.1982	2.9700e-003		0.0377	0.0377		0.0377	0.0377	0.0000	539.3507	539.3507	0.0103	9.8900e-003	542.5558
Landscaping	2.6537	1.0241	88.7204	4.7100e-003		0.4942	0.4942		0.4942	0.4942	0.0000	145.5636	145.5636	0.1386	0.0000	149.0277
Total	**59.4646**	**1.4898**	**88.9186**	**7.6800e-003**		**0.5318**	**0.5318**		**0.5318**	**0.5318**	**0.0000**	**684.9143**	**684.9143**	**0.1489**	**9.8900e-003**	**691.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.6250					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	48.1314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0545	0.4657	0.1982	2.9700e-003		0.0377	0.0377		0.0377	0.0377	0.0000	539.3507	539.3507	0.0103	9.8900e-003	542.5558
Landscaping	2.6537	1.0241	88.7204	4.7100e-003		0.4942	0.4942		0.4942	0.4942	0.0000	145.5636	145.5636	0.1386	0.0000	149.0277
Total	**59.4646**	**1.4898**	**88.9186**	**7.6800e-003**		**0.5318**	**0.5318**		**0.5318**	**0.5318**	**0.0000**	**684.9143**	**684.9143**	**0.1489**	**9.8900e-003**	**691.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	394.7630	17.6526	0.4223	961.9198
Unmitigated	394.7630	17.6526	0.4223	961.9198

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	540.018 / 235.832	394.7630	17.6526	0.4223	961.9198
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Library	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**394.7630**	**17.6526**	**0.4223**	**961.9198**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	540.018 / 235.832	394.7630	17.6526	0.4223	961.9198
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Library	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**394.7630**	**17.6526**	**0.4223**	**961.9198**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,214.4949	71.7746	0.0000	3,008.8598
Unmitigated	1,214.4949	71.7746	0.0000	3,008.8598

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	2338.18	474.6294	28.0498	0.0000	1,175.8743
Apartments Mid Rise	3182.28	645.9741	38.1760	0.0000	1,600.3734
City Park	0.7	0.1421	8.4000e-003	0.0000	0.3520
Day-Care Center	32.5	6.5972	0.3899	0.0000	16.3443
General Office Building	27.9	5.6635	0.3347	0.0000	14.0310
Health Club	171	34.7115	2.0514	0.0000	85.9962
Library	41.44	8.4120	0.4971	0.0000	20.8402
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	189	38.3653	2.2673	0.0000	95.0484
Total		**1,214.4949**	**71.7746**	**0.0000**	**3,008.8598**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	2338.18	474.6294	28.0498	0.0000	1,175.8743
Apartments Mid Rise	3182.28	645.9741	38.1760	0.0000	1,600.3734
City Park	0.7	0.1421	8.4000e-003	0.0000	0.3520
Day-Care Center	32.5	6.5972	0.3899	0.0000	16.3443
General Office Building	27.9	5.6635	0.3347	0.0000	14.0310
Health Club	171	34.7115	2.0514	0.0000	85.9962
Library	41.44	8.4120	0.4971	0.0000	20.8402
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	189	38.3653	2.2673	0.0000	95.0484
Total		**1,214.4949**	**71.7746**	**0.0000**	**3,008.8598**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Patrick Henry Drive Specific Plan (Scenario 2; 2040)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	815.00	1000sqft	9.10	815,000.00	0
Day-Care Center	25.00	1000sqft	0.61	25,000.00	0
Library	45.00	1000sqft	1.10	45,000.00	0
Other Asphalt Surfaces	8.76	Acre	8.76	381,585.60	0
Other Non-Asphalt Surfaces	7.01	Acre	7.01	305,355.60	0
City Park	7.01	Acre	7.01	305,355.60	0
Health Club	30.00	1000sqft	0.00	30,000.00	0
Apartments High Rise	5,083.00	Dwelling Unit	18.32	5,083,000.00	14537
Apartments Mid Rise	5,218.00	Dwelling Unit	19.67	5,218,000.00	14923
Strip Mall	180.00	1000sqft	4.42	180,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	131.45	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Patrick Henry Drive Specific Plan (Scenario 2; 2040) - Santa Clara County, Annual

Project Characteristics - MIG Modeler Phil Gleason. GHG intensity factors adjusted to reflect estimated Silicon Valley Power 2030 RPS energy mix.

Land Use - Acreage updated to reflect total Planning Area (~76 acres); daycare center reflects the community center; health club included as res dev; non-asphalt for public/private open space.

Construction Phase - Future Operational model run - no construction emissions modeled.

Vehicle Trips - Weekday trip rates provided by TIA preparer Hexagon (2020). Weekend rates for all land uses reflect default values scaled down for proximty to transit and internal capture, consistent with TIA assumptions.

Vehicle Emission Factors - Annual vehicle emission factors updated per EMFAC2017 for Santa Clara County; adjustments made to Light Duty Vehicles consistent with CARB guidance for addressing US EPA SAFE Rule Part One and Final Rule.

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves - Wood burning devices excluded from new development pursuant to BAAQMD Regulation 6-3-306. Modeling assumes new fireplaces would be gas powered.

Energy Use - T24 standards adjusted downwards to reflect increased efficiency between 2016-2019 standards (CEC, 2017).

Water And Wastewater - WSA estiamtes for Scenario 2; see Table 7 of WSA.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	NumDays	1,550.00	0.00
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tblConstructionPhase	NumDays	155.00	0.00
tblConstructionPhase	NumDays	110.00	0.00
tblConstructionPhase	NumDays	60.00	0.00
tblEnergyUse	LightingElect	2.55	1.79
tblEnergyUse	LightingElect	3.88	2.72
tblEnergyUse	LightingElect	3.08	2.16
tblEnergyUse	LightingElect	3.08	2.16
tblEnergyUse	LightingElect	5.25	3.68
tblEnergyUse	T24E	332.81	166.41
tblEnergyUse	T24E	332.81	166.41
tblFireplaces	FireplaceWoodMass	228.80	0.00

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	762.45	1,829.88
tblFireplaces	NumberGas	782.70	1,829.88
tblFireplaces	NumberNoFireplace	203.32	0.00
tblFireplaces	NumberNoFireplace	208.72	0.00
tblFireplaces	NumberWood	864.11	0.00
tblFireplaces	NumberWood	887.06	0.00
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tblLandUse	LotAcreage	18.71	9.10
tblLandUse	LotAcreage	0.57	0.61
tblLandUse	LotAcreage	1.03	1.10
tblLandUse	LotAcreage	0.69	0.00
tblLandUse	LotAcreage	81.98	18.32
tblLandUse	LotAcreage	137.32	19.67
tblLandUse	LotAcreage	4.13	4.42
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.033
tblProjectCharacteristics	CO2IntensityFactor	641.35	131.45
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
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tblVehicleEF	LHD1	0.02	0.02
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tblVehicleEF	LHD1	0.33	0.17
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tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.4000e-004	1.0000e-004
tblVehicleEF	LHD2	1.2160e-003	1.4430e-003

tblVehicleEF	LHD2	2.6860e-003	2.7210e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.0400e-004	9.2000e-005
tblVehicleEF	LHD2	8.9800e-004	4.8400e-004
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.7100e-004	3.1000e-004
tblVehicleEF	LHD2	0.11	0.09
tblVehicleEF	LHD2	0.08	0.08
tblVehicleEF	LHD2	0.10	0.01
tblVehicleEF	LHD2	1.3700e-004	1.1500e-004
tblVehicleEF	LHD2	6.9320e-003	6.0190e-003
tblVehicleEF	LHD2	2.6800e-004	5.5000e-005
tblVehicleEF	LHD2	8.9800e-004	4.8400e-004
tblVehicleEF	LHD2	0.03	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.7100e-004	3.1000e-004
tblVehicleEF	LHD2	0.13	0.11
tblVehicleEF	LHD2	0.08	0.08
tblVehicleEF	LHD2	0.11	0.01
tblVehicleEF	MCY	0.44	0.32
tblVehicleEF	MCY	0.16	0.24
tblVehicleEF	MCY	19.05	17.07
tblVehicleEF	MCY	10.16	9.32
tblVehicleEF	MCY	169.25	209.59
tblVehicleEF	MCY	45.57	58.06
tblVehicleEF	MCY	1.15	1.13

tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	1.9790e-003	2.2350e-003
tblVehicleEF	MCY	3.9070e-003	2.9700e-003
tblVehicleEF	MCY	1.8510e-003	2.0830e-003
tblVehicleEF	MCY	3.6840e-003	2.7710e-003
tblVehicleEF	MCY	0.91	1.82
tblVehicleEF	MCY	0.71	0.63
tblVehicleEF	MCY	0.50	0.96
tblVehicleEF	MCY	2.22	2.10
tblVehicleEF	MCY	0.62	1.25
tblVehicleEF	MCY	2.21	1.84
tblVehicleEF	MCY	2.0690e-003	2.0740e-003
tblVehicleEF	MCY	6.8700e-004	5.7500e-004
tblVehicleEF	MCY	0.91	1.82
tblVehicleEF	MCY	0.71	0.63
tblVehicleEF	MCY	0.50	0.96
tblVehicleEF	MCY	2.75	2.64
tblVehicleEF	MCY	0.62	1.25
tblVehicleEF	MCY	2.41	2.01
tblVehicleEF	MDV	0.01	9.3100e-004
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	1.16	0.44
tblVehicleEF	MDV	2.96	1.96
tblVehicleEF	MDV	459.29	289.06
tblVehicleEF	MDV	104.69	59.43
tblVehicleEF	MDV	0.15	0.02
tblVehicleEF	MDV	0.26	0.13

tblVehicleEF	MDV	1.8300e-003	6.1400e-004
tblVehicleEF	MDV	2.5220e-003	8.2100e-004
tblVehicleEF	MDV	1.6870e-003	5.6600e-004
tblVehicleEF	MDV	2.3200e-003	7.5500e-004
tblVehicleEF	MDV	0.06	0.04
tblVehicleEF	MDV	0.17	0.07
tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.03	3.1220e-003
tblVehicleEF	MDV	0.11	0.21
tblVehicleEF	MDV	0.23	0.11
tblVehicleEF	MDV	4.6000e-003	2.5670e-003
tblVehicleEF	MDV	1.0990e-003	5.2700e-004
tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.17	0.07
tblVehicleEF	MDV	0.06	0.05
tblVehicleEF	MDV	0.04	4.5440e-003
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MDV	0.25	0.12
tblVehicleEF	MH	0.03	3.8070e-003
tblVehicleEF	MH	0.03	0.02
tblVehicleEF	MH	2.40	0.19
tblVehicleEF	MH	6.10	1.47
tblVehicleEF	MH	1,217.52	1,245.00
tblVehicleEF	MH	59.35	13.78
tblVehicleEF	MH	1.39	0.87
tblVehicleEF	MH	0.86	0.22
tblVehicleEF	MH	0.01	0.01

tblVehicleEF	MH	0.02	9.1090e-003
tblVehicleEF	MH	1.2090e-003	2.1200e-004
tblVehicleEF	MH	3.2170e-003	3.3040e-003
tblVehicleEF	MH	0.02	8.6790e-003
tblVehicleEF	MH	1.1120e-003	1.9500e-004
tblVehicleEF	MH	0.89	0.22
tblVehicleEF	MH	0.08	0.01
tblVehicleEF	MH	0.31	0.10
tblVehicleEF	MH	0.11	0.03
tblVehicleEF	MH	0.02	0.17
tblVehicleEF	MH	0.35	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	7.0000e-004	1.3600e-004
tblVehicleEF	MH	0.89	0.22
tblVehicleEF	MH	0.08	0.01
tblVehicleEF	MH	0.31	0.10
tblVehicleEF	MH	0.15	0.04
tblVehicleEF	MH	0.02	0.17
tblVehicleEF	MH	0.38	0.07
tblVehicleEF	MHD	0.02	4.2930e-003
tblVehicleEF	MHD	5.7650e-003	8.5200e-004
tblVehicleEF	MHD	0.05	9.1640e-003
tblVehicleEF	MHD	0.40	0.43
tblVehicleEF	MHD	0.42	0.13
tblVehicleEF	MHD	6.48	0.86
tblVehicleEF	MHD	137.16	57.14
tblVehicleEF	MHD	1,201.31	910.34

tblVehicleEF	MHD	61.41	8.81
tblVehicleEF	MHD	0.54	0.29
tblVehicleEF	MHD	1.54	1.37
tblVehicleEF	MHD	10.30	1.64
tblVehicleEF	MHD	7.6500e-004	8.3000e-005
tblVehicleEF	MHD	6.5420e-003	6.6880e-003
tblVehicleEF	MHD	9.3800e-004	1.2700e-004
tblVehicleEF	MHD	7.3200e-004	7.9000e-005
tblVehicleEF	MHD	6.2530e-003	6.3910e-003
tblVehicleEF	MHD	8.6200e-004	1.1700e-004
tblVehicleEF	MHD	9.7300e-004	3.0500e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.9200e-004	1.9400e-004
tblVehicleEF	MHD	0.06	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.38	0.04
tblVehicleEF	MHD	1.3210e-003	5.4300e-004
tblVehicleEF	MHD	0.01	8.6920e-003
tblVehicleEF	MHD	7.2700e-004	8.7000e-005
tblVehicleEF	MHD	9.7300e-004	3.0500e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	4.9200e-004	1.9400e-004
tblVehicleEF	MHD	0.07	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.42	0.05

tblVehicleEF	OBUS	0.01	7.2220e-003
tblVehicleEF	OBUS	8.1680e-003	1.6630e-003
tblVehicleEF	OBUS	0.03	0.01
tblVehicleEF	OBUS	0.28	0.63
tblVehicleEF	OBUS	0.52	0.20
tblVehicleEF	OBUS	5.20	1.48
tblVehicleEF	OBUS	110.09	86.02
tblVehicleEF	OBUS	1,307.90	1,120.11
tblVehicleEF	OBUS	66.90	12.75
tblVehicleEF	OBUS	0.51	0.42
tblVehicleEF	OBUS	1.73	1.41
tblVehicleEF	OBUS	2.82	1.09
tblVehicleEF	OBUS	1.1200e-004	1.3700e-004
tblVehicleEF	OBUS	7.6290e-003	7.7800e-003
tblVehicleEF	OBUS	7.7800e-004	1.7400e-004
tblVehicleEF	OBUS	1.0700e-004	1.3200e-004
tblVehicleEF	OBUS	7.2800e-003	7.4270e-003
tblVehicleEF	OBUS	7.1600e-004	1.6000e-004
tblVehicleEF	OBUS	1.1690e-003	1.1050e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	5.1000e-004	5.2800e-004
tblVehicleEF	OBUS	0.07	0.01
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.32	0.07
tblVehicleEF	OBUS	1.0620e-003	8.1700e-004
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	7.6000e-004	1.2600e-004
tblVehicleEF	OBUS	1.1690e-003	1.1050e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.1000e-004	5.2800e-004
tblVehicleEF	OBUS	0.08	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.36	0.08
tblVehicleEF	SBUS	0.84	0.10
tblVehicleEF	SBUS	0.02	1.6600e-003
tblVehicleEF	SBUS	0.08	8.7250e-003
tblVehicleEF	SBUS	8.09	4.08
tblVehicleEF	SBUS	1.13	0.16
tblVehicleEF	SBUS	10.09	1.12
tblVehicleEF	SBUS	1,121.96	307.32
tblVehicleEF	SBUS	1,059.05	834.52
tblVehicleEF	SBUS	55.12	6.63
tblVehicleEF	SBUS	9.12	1.30
tblVehicleEF	SBUS	4.06	1.09
tblVehicleEF	SBUS	12.31	1.78
tblVehicleEF	SBUS	9.2300e-003	3.6400e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	6.8240e-003
tblVehicleEF	SBUS	8.8200e-004	1.0700e-004
tblVehicleEF	SBUS	8.8300e-003	3.4800e-004
tblVehicleEF	SBUS	2.6340e-003	2.5930e-003
tblVehicleEF	SBUS	0.02	6.5060e-003

tblVehicleEF	SBUS	8.1100e-004	9.8000e-005
tblVehicleEF	SBUS	3.5670e-003	1.5920e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	0.96	0.45
tblVehicleEF	SBUS	1.4850e-003	7.7100e-004
tblVehicleEF	SBUS	0.12	0.02
tblVehicleEF	SBUS	0.02	0.10
tblVehicleEF	SBUS	0.50	0.05
tblVehicleEF	SBUS	0.01	2.9440e-003
tblVehicleEF	SBUS	0.01	8.0200e-003
tblVehicleEF	SBUS	7.2500e-004	6.6000e-005
tblVehicleEF	SBUS	3.5670e-003	1.5920e-003
tblVehicleEF	SBUS	0.04	0.01
tblVehicleEF	SBUS	1.39	0.64
tblVehicleEF	SBUS	1.4850e-003	7.7100e-004
tblVehicleEF	SBUS	0.15	0.02
tblVehicleEF	SBUS	0.02	0.10
tblVehicleEF	SBUS	0.55	0.05
tblVehicleEF	UBUS	0.27	1.86
tblVehicleEF	UBUS	0.04	1.6730e-003
tblVehicleEF	UBUS	5.18	14.11
tblVehicleEF	UBUS	8.16	0.14
tblVehicleEF	UBUS	2,092.55	1,664.74
tblVehicleEF	UBUS	99.16	1.26
tblVehicleEF	UBUS	10.44	0.70
tblVehicleEF	UBUS	14.91	0.01
tblVehicleEF	UBUS	0.61	0.07

tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.23	5.1160e-003
tblVehicleEF	UBUS	1.1060e-003	1.5000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.22	4.8930e-003
tblVehicleEF	UBUS	1.0170e-003	1.4000e-005
tblVehicleEF	UBUS	2.3350e-003	2.4000e-005
tblVehicleEF	UBUS	0.04	2.0700e-004
tblVehicleEF	UBUS	1.1130e-003	1.1000e-005
tblVehicleEF	UBUS	0.66	0.03
tblVehicleEF	UBUS	8.3620e-003	1.1550e-003
tblVehicleEF	UBUS	0.57	6.9960e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.1370e-003	1.3000e-005
tblVehicleEF	UBUS	2.3350e-003	2.4000e-005
tblVehicleEF	UBUS	0.04	2.0700e-004
tblVehicleEF	UBUS	1.1130e-003	1.1000e-005
tblVehicleEF	UBUS	0.99	1.90
tblVehicleEF	UBUS	8.3620e-003	1.1550e-003
tblVehicleEF	UBUS	0.63	7.6590e-003
tblVehicleTrips	ST_TR	4.98	4.02
tblVehicleTrips	ST_TR	6.39	5.16
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	6.21	27.83
tblVehicleTrips	ST_TR	2.46	1.47
tblVehicleTrips	ST_TR	20.87	0.00

tblVehicleTrips	ST_TR	46.55	27.83
tblVehicleTrips	ST_TR	42.04	25.13
tblVehicleTrips	SU_TR	3.65	2.95
tblVehicleTrips	SU_TR	5.86	4.73
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.83	15.24
tblVehicleTrips	SU_TR	1.05	0.63
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	25.49	15.24
tblVehicleTrips	SU_TR	20.43	12.21
tblVehicleTrips	WD_TR	4.20	3.59
tblVehicleTrips	WD_TR	6.65	4.39
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	74.06	17.23
tblVehicleTrips	WD_TR	11.03	5.82
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	56.24	43.08
tblVehicleTrips	WD_TR	44.32	22.57
tblWater	IndoorWaterUseRate	331,177,912.23	490,724,250.00
tblWater	IndoorWaterUseRate	339,973,705.69	0.00
tblWater	IndoorWaterUseRate	1,072,239.19	0.00
tblWater	IndoorWaterUseRate	144,853,004.61	0.00
tblWater	IndoorWaterUseRate	1,774,294.32	0.00
tblWater	IndoorWaterUseRate	1,408,000.88	0.00
tblWater	IndoorWaterUseRate	13,333,053.87	0.00
tblWater	OutdoorWaterUseRate	208,786,075.10	23,531,696.00
tblWater	OutdoorWaterUseRate	214,331,249.24	0.00

tblWater	OutdoorWaterUseRate	8,352,284.26	0.00
tblWater	OutdoorWaterUseRate	2,757,186.48	0.00
tblWater	OutdoorWaterUseRate	88,780,873.80	0.00
tblWater	OutdoorWaterUseRate	1,087,470.71	0.00
tblWater	OutdoorWaterUseRate	2,202,257.78	0.00
tblWater	OutdoorWaterUseRate	8,171,871.73	0.00
tblWoodstoves	NumberCatalytic	101.66	0.00
tblWoodstoves	NumberCatalytic	104.36	0.00
tblWoodstoves	NumberNoncatalytic	101.66	0.00
tblWoodstoves	NumberNoncatalytic	104.36	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	54.7156	1.2736	76.3282	6.5600e-003		0.4561	0.4561		0.4561	0.4561	0.0000	581.8405	581.8405	0.1277	8.3800e-003	587.5299
Energy	0.5673	4.8952	2.4124	0.0309		0.3919	0.3919		0.3919	0.3919	0.0000	8,995.0887	8,995.0887	0.9564	0.2058	9,080.3300
Mobile	9.5008	18.7749	97.7886	0.3043	42.5157	0.1790	42.6947	11.3640	0.1681	11.5321	0.0000	30,821.6089	30,821.6089	1.1190	0.0000	30,849.5833
Waste						0.0000	0.0000		0.0000	0.0000	1,203.9293	0.0000	1,203.9293	71.1502	0.0000	2,982.6838
Water						0.0000	0.0000		0.0000	0.0000	155.6842	163.2328	318.9170	16.0312	0.3825	833.6923
Total	**64.7837**	**24.9437**	**176.5292**	**0.3418**	**42.5157**	**1.0270**	**43.5427**	**11.3640**	**1.0162**	**12.3801**	**1,359.6134**	**40,561.7709**	**41,921.3843**	**89.3845**	**0.5967**	**44,333.8193**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	54.7156	1.2736	76.3282	6.5600e-003		0.4561	0.4561		0.4561	0.4561	0.0000	581.8405	581.8405	0.1277	8.3800e-003	587.5299
Energy	0.5673	4.8952	2.4124	0.0309		0.3919	0.3919		0.3919	0.3919	0.0000	8,995.0887	8,995.0887	0.9564	0.2058	9,080.3300
Mobile	9.5008	18.7749	97.7886	0.3043	42.5157	0.1790	42.6947	11.3640	0.1681	11.5321	0.0000	30,821.6089	30,821.6089	1.1190	0.0000	30,849.5833
Waste						0.0000	0.0000		0.0000	0.0000	1,203.9293	0.0000	1,203.9293	71.1502	0.0000	2,982.6838
Water						0.0000	0.0000		0.0000	0.0000	155.6842	163.2328	318.9170	16.0312	0.3825	833.6923
Total	**64.7837**	**24.9437**	**176.5292**	**0.3418**	**42.5157**	**1.0270**	**43.5427**	**11.3640**	**1.0162**	**12.3801**	**1,359.6134**	**40,561.7709**	**41,921.3843**	**89.3845**	**0.5967**	**44,333.8193**

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

3.0 Construction Detail

Construction Phase

Patrick Henry Drive Specific Plan (Scenario 2; 2040) - Santa Clara County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/27/2020	2/26/2020	5	0	
2	Architectural Coating	Architectural Coating	5/6/2020	5/5/2020	5	0	
3	Grading	Grading	5/22/2020	5/21/2020	5	0	
4	Demolition	Demolition	10/12/2020	10/11/2020	5	0	
5	Paving	Paving	12/4/2020	12/3/2020	5	0	
6	Building Construction	Building Construction	12/25/2020	12/24/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 15.77

Residential Indoor: 20,859,525; Residential Outdoor: 6,953,175; Non-Residential Indoor: 1,642,500; Non-Residential Outdoor: 547,500; Striped Parking Area: 41,216 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1,639.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	8,194.00	1,443.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	9.5008	18.7749	97.7886	0.3043	42.5157	0.1790	42.6947	11.3640	0.1681	11.5321	0.0000	30,821.6089	30,821.6089	1.1190	0.0000	30,849.5833
Unmitigated	9.5008	18.7749	97.7886	0.3043	42.5157	0.1790	42.6947	11.3640	0.1681	11.5321	0.0000	30,821.6089	30,821.6089	1.1190	0.0000	30,849.5833

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	18,247.97	20,433.66	14994.85	41,793,453	41,793,453
Apartments Mid Rise	22,907.02	26,924.88	24681.14	54,817,249	54,817,249
City Park	0.00	0.00	0.00		
Day-Care Center	430.75	695.75	381.00	543,476	543,476
General Office Building	4,743.30	1,198.05	513.45	8,680,948	8,680,948
Health Club	0.00	0.00	0.00		
Library	1,938.60	1,252.35	685.80	2,816,162	2,816,162
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Strip Mall	4,062.60	4,523.40	2197.80	5,947,652	5,947,652
Total	52,330.24	55,028.09	43,454.04	114,598,939	114,598,939

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Library	9.50	7.30	7.30	52.00	43.00	5.00	44	44	12
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Apartments Mid Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
City Park	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Day-Care Center	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
General Office Building	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Health Club	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Library	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Other Non-Asphalt Surfaces	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Strip Mall	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,381.0760	3,381.0760	0.8488	0.1029	3,432.9561
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,381.0760	3,381.0760	0.8488	0.1029	3,432.9561
NaturalGas Mitigated	0.5673	4.8952	2.4124	0.0309		0.3919	0.3919		0.3919	0.3919	0.0000	5,614.0127	5,614.0127	0.1076	0.1029	5,647.3740
NaturalGas Unmitigated	0.5673	4.8952	2.4124	0.0309		0.3919	0.3919		0.3919	0.3919	0.0000	5,614.0127	5,614.0127	0.1076	0.1029	5,647.3740

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	4.39143e+007	0.2368	2.0235	0.8611	0.0129		0.1636	0.1636		0.1636	0.1636	0.0000	2,343.4356	2,343.4356	0.0449	0.0430	2,357.3615
Apartments Mid Rise	4.50807e+007	0.2431	2.0773	0.8839	0.0133		0.1680	0.1680		0.1680	0.1680	0.0000	2,405.6752	2,405.6752	0.0461	0.0441	2,419.9709
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	461000	2.4900e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.6007	24.6007	4.7000e-004	4.5000e-004	24.7469
General Office Building	1.33415e+007	0.0719	0.6540	0.5494	3.9200e-003		0.0497	0.0497		0.0497	0.0497	0.0000	711.9559	711.9559	0.0137	0.0131	716.1867
Health Club	791400	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2321	42.2321	8.1000e-004	7.7000e-004	42.4831
Library	1.1871e+006	6.4000e-003	0.0582	0.0489	3.5000e-004		4.4200e-003	4.4200e-003		4.4200e-003	4.4200e-003	0.0000	63.3482	63.3482	1.2100e-003	1.1600e-003	63.7246
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	426600	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7650	22.7650	4.4000e-004	4.2000e-004	22.9003
Total		**0.5673**	**4.8952**	**2.4124**	**0.0310**		**0.3919**	**0.3919**		**0.3919**	**0.3919**	**0.0000**	**5,614.0127**	**5,614.0127**	**0.1076**	**0.1029**	**5,647.3739**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	4.39143e+007	0.2368	2.0235	0.8611	0.0129		0.1636	0.1636		0.1636	0.1636	0.0000	2,343.4356	2,343.4356	0.0449	0.0430	2,357.3615
Apartments Mid Rise	4.50807e+007	0.2431	2.0773	0.8839	0.0133		0.1680	0.1680		0.1680	0.1680	0.0000	2,405.6752	2,405.6752	0.0461	0.0441	2,419.9709
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	461000	2.4900e-003	0.0226	0.0190	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.6007	24.6007	4.7000e-004	4.5000e-004	24.7469
General Office Building	1.33415e+007	0.0719	0.6540	0.5494	3.9200e-003		0.0497	0.0497		0.0497	0.0497	0.0000	711.9559	711.9559	0.0137	0.0131	716.1867
Health Club	791400	4.2700e-003	0.0388	0.0326	2.3000e-004		2.9500e-003	2.9500e-003		2.9500e-003	2.9500e-003	0.0000	42.2321	42.2321	8.1000e-004	7.7000e-004	42.4831
Library	1.1871e+006	6.4000e-003	0.0582	0.0489	3.5000e-004		4.4200e-003	4.4200e-003		4.4200e-003	4.4200e-003	0.0000	63.3482	63.3482	1.2100e-003	1.1600e-003	63.7246
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	426600	2.3000e-003	0.0209	0.0176	1.3000e-004		1.5900e-003	1.5900e-003		1.5900e-003	1.5900e-003	0.0000	22.7650	22.7650	4.4000e-004	4.2000e-004	22.9003
Total		**0.5673**	**4.8952**	**2.4124**	**0.0310**		**0.3919**	**0.3919**		**0.3919**	**0.3919**	**0.0000**	**5,614.0127**	**5,614.0127**	**0.1076**	**0.1029**	**5,647.3739**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.01386e+007	1,200.7578	0.3015	0.0365	1,219.1826
Apartments Mid Rise	2.06735e+007	1,232.6489	0.3095	0.0375	1,251.5630
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	115750	6.9016	1.7300e-003	2.1000e-004	7.0075
General Office Building	1.3586e+007	810.0644	0.2034	0.0247	822.4942
Health Club	220200	13.1294	3.3000e-003	4.0000e-004	13.3308
Library	330300	19.6940	4.9400e-003	6.0000e-004	19.9962
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.6416e+006	97.8799	0.0246	2.9800e-003	99.3818
Total		**3,381.0760**	**0.8488**	**0.1029**	**3,432.9561**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.01386e+007	1,200.7578	0.3015	0.0365	1,219.1826
Apartments Mid Rise	2.06735e+007	1,232.6489	0.3095	0.0375	1,251.5630
City Park	0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	115750	6.9016	1.7300e-003	2.1000e-004	7.0075
General Office Building	1.3586e+007	810.0644	0.2034	0.0247	822.4942
Health Club	220200	13.1294	3.3000e-003	4.0000e-004	13.3308
Library	330300	19.6940	4.9400e-003	6.0000e-004	19.9962
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.6416e+006	97.8799	0.0246	2.9800e-003	99.3818
Total		**3,381.0760**	**0.8488**	**0.1029**	**3,432.9561**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	54.7156	1.2736	76.3282	6.5600e-003		0.4561	0.4561		0.4561	0.4561	0.0000	581.8405	581.8405	0.1277	8.3800e-003	587.5299
Unmitigated	54.7156	1.2736	76.3282	6.5600e-003		0.4561	0.4561		0.4561	0.4561	0.0000	581.8405	581.8405	0.1277	8.3800e-003	587.5299

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.8366					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	44.5544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0462	0.3945	0.1679	2.5200e-003		0.0319	0.0319		0.0319	0.0319	0.0000	456.8819	456.8819	8.7600e-003	8.3800e-003	459.5969
Landscaping	2.2785	0.8791	76.1603	4.0400e-003		0.4242	0.4242		0.4242	0.4242	0.0000	124.9587	124.9587	0.1190	0.0000	127.9330
Total	**54.7156**	**1.2736**	**76.3282**	**6.5600e-003**		**0.4561**	**0.4561**		**0.4561**	**0.4561**	**0.0000**	**581.8405**	**581.8405**	**0.1277**	**8.3800e-003**	**587.5299**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.8366					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	44.5544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0462	0.3945	0.1679	2.5200e-003		0.0319	0.0319		0.0319	0.0319	0.0000	456.8819	456.8819	8.7600e-003	8.3800e-003	459.5969
Landscaping	2.2785	0.8791	76.1603	4.0400e-003		0.4242	0.4242		0.4242	0.4242	0.0000	124.9587	124.9587	0.1190	0.0000	127.9330
Total	**54.7156**	**1.2736**	**76.3282**	**6.5600e-003**		**0.4561**	**0.4561**		**0.4561**	**0.4561**	**0.0000**	**581.8405**	**581.8405**	**0.1277**	**8.3800e-003**	**587.5299**

7.0 Water Detail

7.1 Mitigation Measures Water

Patrick Henry Drive Specific Plan (Scenario 2; 2040) - Santa Clara County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	318.9170	16.0312	0.3825	833.6923
Unmitigated	318.9170	16.0312	0.3825	833.6923

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	490.724 / 23.5317	318.9170	16.0312	0.3825	833.6923
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Library	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**318.9170**	**16.0312**	**0.3825**	**833.6923**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	490.724 / 23.5317	318.9170	16.0312	0.3825	833.6923
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Day-Care Center	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	0 / 0	0.0000	0.0000	0.0000	0.0000
Health Club	0 / 0	0.0000	0.0000	0.0000	0.0000
Library	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**318.9170**	**16.0312**	**0.3825**	**833.6923**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,203.9293	71.1502	0.0000	2,982.6838
Unmitigated	1,203.9293	71.1502	0.0000	2,982.6838

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	2338.18	474.6294	28.0498	0.0000	1,175.8743
Apartments Mid Rise	2400.28	487.2352	28.7948	0.0000	1,207.1045
City Park	0.6	0.1218	7.2000e-003	0.0000	0.3017
Day-Care Center	32.5	6.5972	0.3899	0.0000	16.3443
General Office Building	757.95	153.8570	9.0927	0.0000	381.1742
Health Club	171	34.7115	2.0514	0.0000	85.9962
Library	41.44	8.4120	0.4971	0.0000	20.8402
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	189	38.3653	2.2673	0.0000	95.0484
Total		**1,203.9293**	**71.1502**	**0.0000**	**2,982.6838**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	2338.18	474.6294	28.0498	0.0000	1,175.8743
Apartments Mid Rise	2400.28	487.2352	28.7948	0.0000	1,207.1045
City Park	0.6	0.1218	7.2000e-003	0.0000	0.3017
Day-Care Center	32.5	6.5972	0.3899	0.0000	16.3443
General Office Building	757.95	153.8570	9.0927	0.0000	381.1742
Health Club	171	34.7115	2.0514	0.0000	85.9962
Library	41.44	8.4120	0.4971	0.0000	20.8402
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	189	38.3653	2.2673	0.0000	95.0484
Total		**1,203.9293**	**71.1502**	**0.0000**	**2,982.6838**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX 25.3

WATER SUPPLY ASSESSMENT

Patrick Henry Drive Specific Plan
Water Supply Assessment

for Compliance with California Water Code Section 10910

Approved by City Council

Resolution #TBD

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Introduction

Senate Bill 610 (2001) codified at Water Code Section 10910 et seq, requires detailed information on water supply availability for certain projects that meet or exceed the following criteria:

- A residential development of more than 500 dwelling units
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in this subdivision.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

Patrick Henry Drive Specific Plan ("Specific Plan"), a plan area located in the City of Santa Clara ("City") is subject to a Water Supply Assessment ("WSA" or Assessment") in accordance with the California Water Code and the California Environmental Quality Act. The Specific Plan area is bounded by Great America Parkway to the east, Mission College Boulevard to the south, Calabazas Creek to the west, and City & County of San Francisco property to the north.

The City of Santa Clara's City Council approved and adopted an Urban Water Management Plan in 2016 ("UWMP" or "2015 UWMP"). The 2015 UWMP did not specifically include or address this Specific Plan since it was proposed and evaluated after the adoption of the UWMP. However, the UWMP included projected increases in water demand due to densification and intensification of both residential and non-residential land uses. Projected uses within the proposed development are described in further detail in the Projected Water Demand for the Proposed Specific Plan section.

This Assessment relies on the data contained in and used to develop the 2015 UWMP to analyze the availability of the City's water supply to serve the Specific Plan along with existing and planned future uses. Unless noted, all figures in this Assessment are in acre-feet (AF) and are for total water demand or supply, i.e. both potable and recycled water.

The findings of this Assessment will be submitted to the City Council for approval and included in the environmental review process. The City's approval, denial, conditional approval or any act on this Assessment does not guarantee that the Specific Plan will be approved and does not obligate the City to approve, deny, conditionally approve, take any action, or make any decision on the Specific Plan application.

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Water Supply

The City of Santa Clara has four sources of water. These sources include two treated water sources from the Santa Clara Valley Water District ("SCVWD" or "Valley Water") and the San Francisco Public Utilities Commission ("SFPUC"), groundwater pumped from the Santa Clara sub-basin through the City's owned and operated groundwater wells, and recycled water purchased from South Bay Water Recycling ("SBWR").

Recycled water use within the City is limited by the availability of acceptable uses and proximity to the recycled water distribution system. The use of treated surface water from SCVWD and SFPUC is limited by their respective executed contracts.

Potable Water Supply

The Santa Clara potable water system is separated into four interconnected zones in order to provide optimum pressures throughout the City. The four pressure zones and the location of the Project are shown in Figure 1.

Figure 2 shows the water source by area. Treated water purchased from SFPUC is used to supply water north of Highway 101. Treated water purchased from the SCVWD is used in conjunction with groundwater to supply water to the southern portion of the City.

Table 1 below summarizes the amount of water pumped by the City's groundwater wells from 2011-2020. Table 1A summarizes purchased volumes from the City's two wholesalers.

Table 1: Historical Volume of Groundwater Pumped (AF)

Source	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wells	13,930	14,958	14,194	14,096	11,450	10,108	12,200	10,671	9,790	10,835

Table 1A: Historical Treated Water Purchases (AF)

Source	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SCVWD	4,527	3,971	4,949	3,634	3,701	4,683	4,123	4,752	4,452	3,982
SFPUC	2,225	2,264	2,457	2,069	2,470	2,371	2,317	3,059	3,548	3,485

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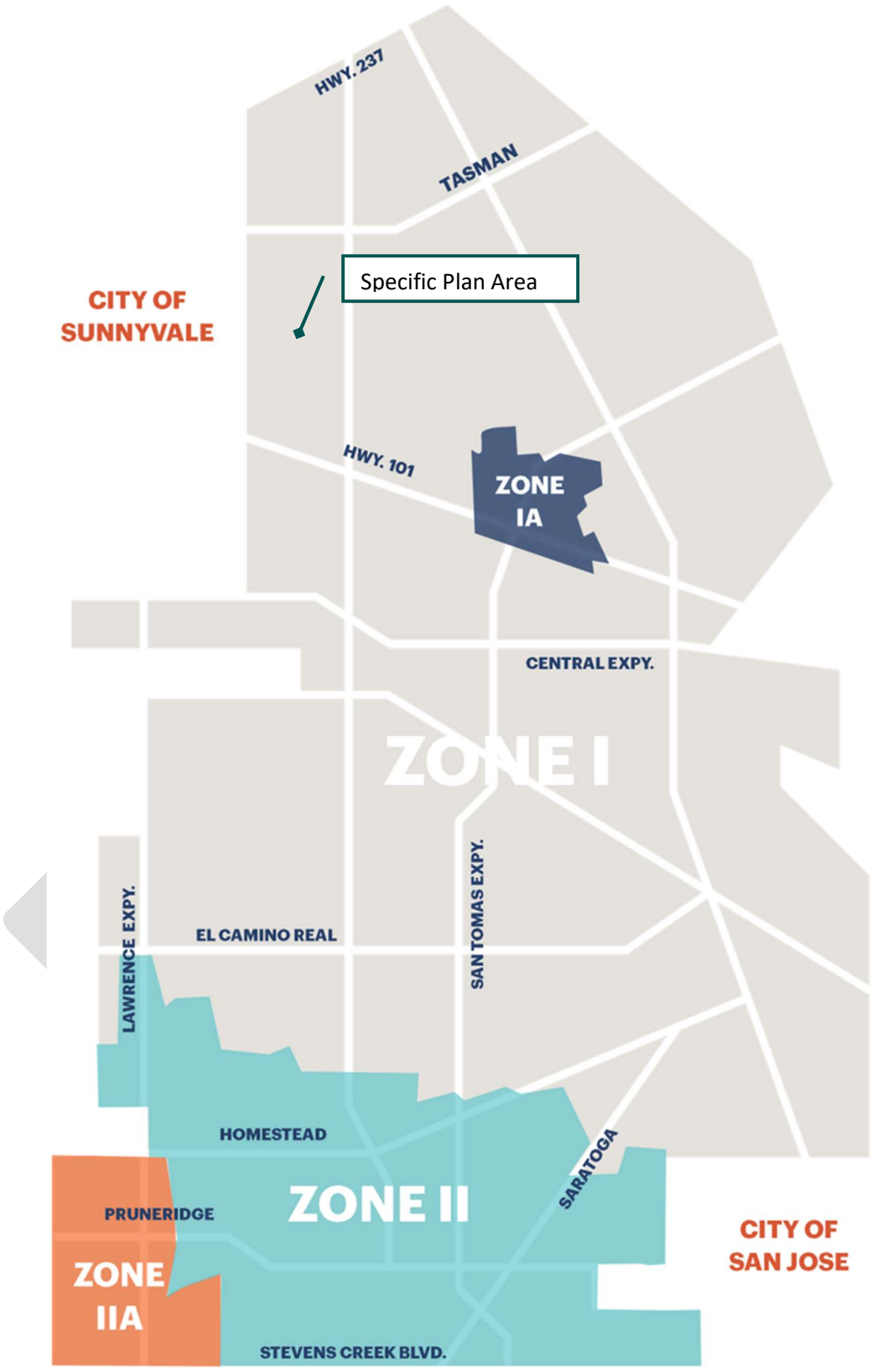

Figure 1: Pressure Zones

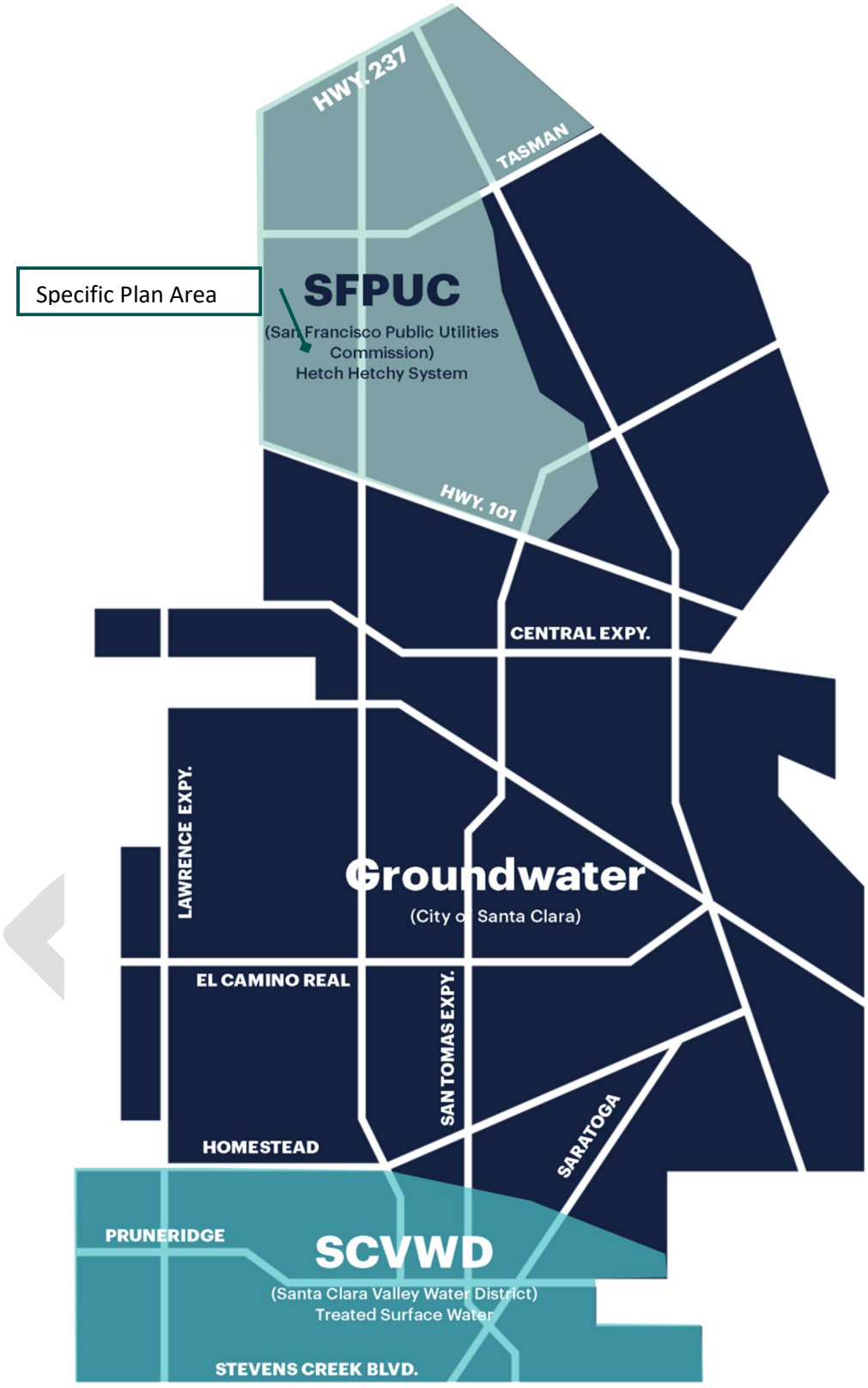

Figure 2: Sources of Water by Area

Groundwater Supply

The local groundwater basin currently provides about two thirds of the City's potable water supply. It is the primary source of water for domestic, industrial, and agricultural use in the City since the area was first settled. This aquifer acts as a large underground reservoir that the City's 26 wells use as a water source.

The Santa Clara Valley groundwater basin extends from the Coyote Narrows at Metcalf Road in San Jose to Santa Clara County's northern boundary. It is bounded on the west by the Santa Cruz Mountains and on the east by the Diablo Range: these two mountain ranges converge at the Coyote Narrows to form the southern limit of the sub-basin. The sub-basin is 22 miles long and 15 miles wide at its widest point, with a surface area of 225 square miles. The southern area is an unconfined zone, or "forebay", where confining clay layers do not extend. SCVWD staff estimates the operational storage capacity of the sub-basin to be 350,000 AF. The Santa Clara Valley groundwater basin is shown in Figure 3 (225 square miles, 144,000 acres) and is the largest of three interconnected groundwater basins occupying a total of 240,000 acres of the 849,000 acres in Santa Clara County. Under the Sustainable Groundwater Management Act (SGMA), the Santa Clara Valley Water District is designated as the local Groundwater Sustainability Agency (GSA) to develop and implement Groundwater Sustainability Plans for the Santa Clara Subbasin[12].

The Santa Clara Valley groundwater basin is not adjudicated. The most recent information from DWR indicates that the Santa Clara Sub-basin is a medium-priority sub-basin based on criteria that include overlying population, projected growth, number of wells, irrigation acreage, groundwater reliance, and groundwater impacts[3]. The sub-basin is not currently listed as overdrafted[4]. Even when the City was at the historic peak for groundwater production FY1986/87 (23,048 AF), the basin was not approaching overdraft. Though the Santa Clara Valley groundwater basin is not considered overdrafted by the Department of Water Resources and is not adjudicated, the District monitors the basin for local subsidence and works with various water retailers in the area to prevent subsidence and overdraft of the basin.

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[1] Santa Clara Valley Water District Sustainable Groundwater Management – January 2021 https://www.valleywater.org/your-water/where-your-water-comes-from/groundwater/sustainable-groundwater-management

[2] Santa Clara Valley Water District 2016 Groundwater Management Plan – February 2021 https://s3.us-west-2.amazonaws.com/assets.valleywater.org/2016%20Groundwater%20Management%20Plan.pdf

[3] Department of Water Resources, Basin Prioritization Dashboard – December 2019 https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization

[4] Department of Water Resources, California's Groundwater Interim Update 2016, DWR Bulletin 118 (California Department of Water Resources, 2016)

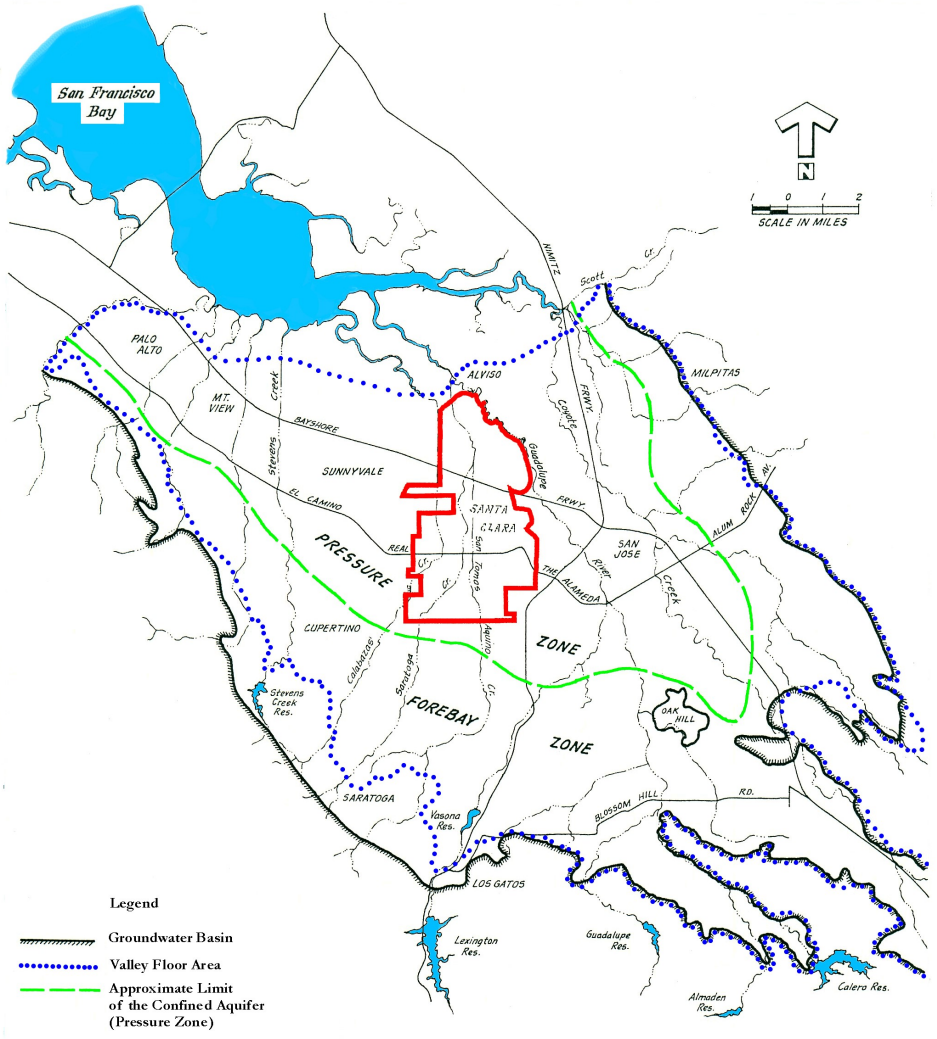

Figure 3: Map of Groundwater Basin

The allowable withdrawal or safe yield of groundwater by the City of Santa Clara is dependent upon a number of factors including: withdrawals by other water agencies, quantity of water recharged and the carry over storage from the previous year. Development and agricultural needs in the 1920s increased the demand on the water systems within the Santa Clara Valley. This increased extraction of groundwater led to subsidence in several of the aquifers. The Santa Clara Valley Water Conservation District (currently Santa Clara Valley Water District) was originally formed in 1929 to alleviate land surface subsidence in and around San Jose through artificial recharge of the groundwater. The rapid development of Santa Clara County occurred again in the 1960s and the corresponding increased demand on the existing water supply again resulted in the over-drafting of the groundwater basin. The continued over-drafting of the basin resulted in a significant lowering of the groundwater table, significant subsidence of the land in the northern portion of the valley and compaction of several

aquifers. When an aquifer is compacted the storage capacity of the aquifer can be substantially reduced. Once lost, storage capacity cannot be regained.

In order to avoid any further subsidence and loss of aquifer capacity the District has attempted to operate the basin to maintain or increase groundwater storage through managed recharge with local supplies augmented with imported raw water. In the late 1960s/ early 1970s the District's conjunctive management of surface water and groundwater effectively halted the over-drafting and resulting subsidence. The District is currently using projected supply, carryover capacity and anticipated demand to predict potential water shortages. Santa Clara Valley Water District Groundwater Management Plans describe the groundwater recharge program in detail.

The City's wells are strategically distributed around the City. The exact location of the wells is not included in this Assessment for security reasons. This distribution of wells adds to the reliability of the water system and minimizes the possibility of localized subsidence due to localized over-drafting. To eliminate the possibility of long-term overdraft conditions, at all of the City's 26 production wells, the City monitors groundwater levels and meters the groundwater pumping. To further ensure that no over-drafting is occurring the City operates a recycled water system and requires new development along the recycled water distribution system to use recycled water for approved irrigation and industrial uses. Additionally, as an effort to minimize the amount of groundwater used, the City encourages and promotes water conservation. The SCVWD recharges the groundwater basins to bank water locally and protect against drought or emergency outages. This strategy allows the District to store surplus water in the groundwater basins and enables part of the county's supply to be carried over from wet years to dry years. The District operates and maintains major recharge systems, which consist of both in-stream and off-stream facilities. Most of the local supply is recharged into the groundwater basin, either through natural stream channels, through canals, or through in-stream and off-stream ponds. In addition, imported water is delivered by the raw water conveyance system to streams and ponds for the District managed groundwater recharge program.

Recycled Water Supply

The recycled water available in the City is provided by South Bay Water Recycling (SBWR) and meets current regulations of the California State Water Resources Control Board, Division of Drinking Water (DDW) for unrestricted use. This designation allows for the use of recycled water for irrigation and industrial use within specific guidelines. The recycled water distribution system is shown in Figure 4 below.

The recycled water system has operated since 1989 with minimal interruptions in service. SBWR strives to reduce the number of instances, duration, and magnitude of any service interruptions. The use of recycled water at any site is contingent upon the completion of the necessary arrangements in accordance with SBWR, City of Santa Clara and DDW rules and regulations regarding the use of recycled water. In addition, payment must be made of applicable fees, rates and charges. These fees/rates and charges may include but are not limited to charges for major facilities described above and delivery charges for the recycled water used.

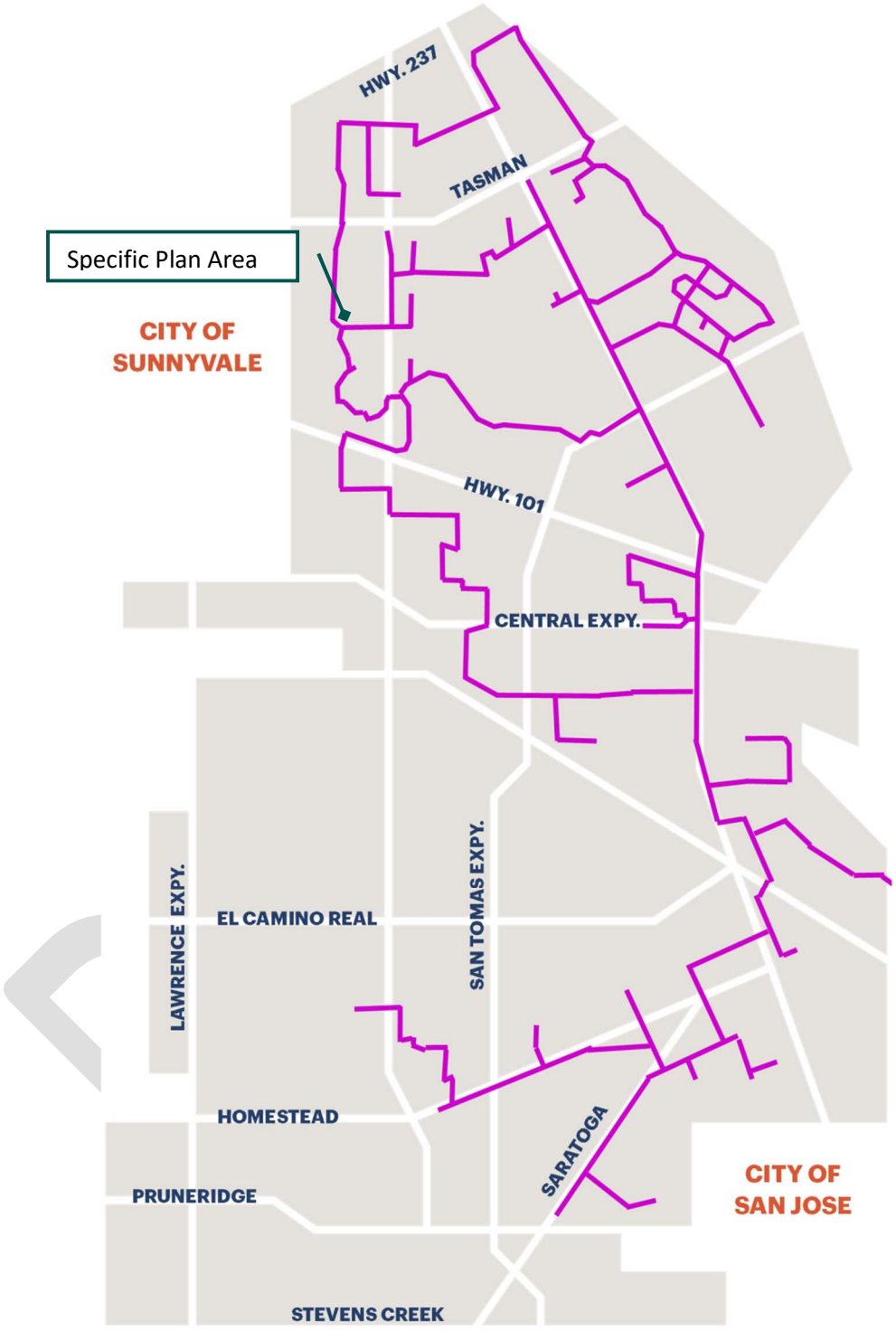

Figure 4: Recycled Water Distribution System

Water Supply Projections

The tables below show the City's projected water supplies in acre-feet for 2020-2040. Table 2A accounts for the possibility of the City's SFPUC water supply being interrupted after 2018, which is discussed later in the section titled, Water Supply and Demand Comparisons (Single, Dry, Multiple Dry Year Scenarios). Since adoption of the 2015 UWMP, SFPUC with Santa Clara and other water retail agencies executed a 2019 Amended and Restated Water Supply Agreement, which assumes no water supply reduction or interruptions for the City of Santa Clara through 2028.

Table 2A: Projected Water Supplies (AF) (2015 UWMP)

Water Supply	Projected Water Supply				
	2020	2025	2030	2035	2040
SCVWD	5,236	5,236	5,236	5,236	5,236
SFPUC	0	0	0	0	0
Wells	23,048	23,048	23,048	23,048	23,048
Recycled Water	5,200	5,700	6,100	6,500	6,900
Total	33,484	33,984	34,384	34,784	35,184
NOTES: Assumes interruption of SFPUC water supply after 2018.					

Table 2B: Projected Water Supplies (AF) (2015 UWMP)

Water Supply	Projected Water Supply				
	2020	2025	2030	2035	2040
SCVWD	5,236	5,236	5,236	5,236	5,236
SFPUC	5,040	5,040	5,040	5,040	5,040
Wells	23,048	23,048	23,048	23,048	23,048
Recycled Water	5,200	5,700	6,100	6,500	6,900
Total	38,524	39,024	39,424	39,824	40,224
NOTES: Assumes no interruption of SFPUC water supply after 2018.					

Water Demands

The water demand projections were developed using an "End Use" model. Two main steps are involved in developing an End Use model: 1) Establishing base year water demand at the end-use level (such as toilets, showers) and calibrating the model to initial conditions; and, 2) Forecasting future water demand based on future demands of existing water service accounts and future growth in the number of water service accounts.

Establishing the base-year water demand at the end-use level is accomplished by breaking down total historical water use for each type of water service account (single family, multifamily, commercial, irrigation, etc.) to specific end uses (such as toilets, faucets, showers, and irrigation).

Forecasting future water demand is accomplished by determining the growth in the number of water service accounts. Once these rates of change were determined, they were input into the model and

applied to those accounts and their end water uses. The end use model also incorporates the effects of the plumbing (California Plumbing Code 401.3) and appliance codes on fixtures and appliances including toilets (1.6 gal/flush), showerheads (2.5 gal/minute), and washing machines (lower water use) on existing and future accounts.

The basic methodology of the model is to break down water usage into an average consumption per account type. Projections are made regarding potential reductions in average consumption based on water conservation programs, and natural replacement of less water efficient processes with more efficient processes. These projections are used to adjust the future average consumption per account figures. Projections of the future number of accounts for each user type of the future number of accounts are also calculated, typically based on other technical studies such as Association of Bay Area Governments (ABAG) projections or census data. The projected number of accounts is based on the projected number of housing units for residential or the projected number of jobs in the case of the industrial and commercial categories. Once the number of accounts and the average consumption per account are calculated, the number of accounts for each future year is multiplied by the average consumption per account for that year to arrive at a total water demand for each user type. The 2015 UWMP Demand Projections by Category are listed below in Table 3. Projected increases in demands for each use category are found in Table 3A.

Table 3: 2015 Demand and 2020-2040 Demand Projections by Category (AF)

Use Type	2015	2020	2025	2030	2035	2040
Single Family	4,153.0	5,926.6	6,320.5	6,405.2	6,467.3	6,492.7
Multi-Family	4,075.0	5,633.8	6,128.3	6,340.5	6,544.8	6,719.8
Commercial	5,240.0	7,101.4	7,640.0	7,819.2	8,043.0	8,217.3
Industrial	1,903.0	2,282.1	2,430.6	2,459.9	2,487.5	2,500.8
Institutional	577.0	827.0	910.1	951.8	991.8	1,027.6
Municipal	405.0	593.9	653.6	683.5	712.2	737.8
Recycled Water	3,529.0	4,700.0	5,700.0	6,100.0	6,500.0	6,900.0
Losses	1,267.0	1,167.2	1,256.9	1,287.0	1,317.6	1,341.0
TOTAL	21,149.0	28,232.0	31,040.0	32,047.1	33,064.2	33,937.0

Table 3A: Projected Changes in Water Demands (AF) (2015 UWMP)

Use Type	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
Single Family	1,773.6	393.9	84.7	62.1	25.4
Multi-Family	1,558.8	494.5	212.2	204.3	175.0
Commercial	1,861.4	538.6	179.2	223.8	174.3
Industrial	379.1	148.5	29.3	27.6	13.3
Institutional	250.0	83.1	41.7	40.0	35.8
Municipal	188.9	59.7	29.9	28.7	25.6
Recycled Water	1,717.0	1,000.0	400.0	400.0	400.0
Losses	-99.8[a]	89.7	30.1	30.6	23.4
TOTAL	7,083.0	2,808.0	1,007.1	1,017.1	872.8

[a] negative losses for 2015-2019 are due to anticipated reductions in water loss due to system improvements and increased water loss monitoring

Water Supply and Demand Comparisons (Normal, Single, Dry, Multiple Dry Year Scenarios)[5]

Average, single, and multiple dry years based on historic hydrologic and water supply conditions were identified by the SCVWD. During normal water years, water supplies should be adequate to meet projected demands through 2040.

Table 4A: Normal Year Supply and Demand Comparison (AF)					
	2020	2025	2030	2035	2040
Supply	33,484	33,984	34,384	34,784	35,184
Demand	28,232	31,040	32,047	33,064	33,937
Difference	5,252	2,944	2,337	1,720	1,247
NOTES: Assumes SFPUC supply does *not* exist beyond 2018					

Table 4B: Normal Year Supply and Demand Comparison (AF)					
	2020	2025	2030	2035	2040
Supply	38,524	39,024	39,424	39,824	40,224
Demand	28,232	31,040	32,047	33,064	33,937
Difference	10,292	7,984	7,377	6,760	6,287
NOTES: Assumes SFPUC supply exists beyond 2018					

During a single dry year, the 2015 UWMP projects no reduction in supplies from groundwater. Per the SCVWD handout dated May 18, 2016[6], treated surface water is not expected to be reduced in a single dry year event until 2040, when it could be reduced anywhere from 5-10%. For planning purposes, the 10% worst case scenario will be used in all single dry year projections. SFPUC has indicated that during a single critical dry year it will follow the Tier 2 reduction plan described in the 2015 UWMP. SFPUC will reduce their total water supply by 10% from 184 mgd to 152.6 mgd in a single dry year as shown in Table 1 of the letter from the SFPUC[7]. City of Santa Clara will receive 1.17% of the 152.6 mgd as shown in Table 3 of the letter from the SFPUC. Recycled water use and water conservation are projected to remain unchanged or potentially increase due to public awareness, during a critical dry year. The resulting analysis of available supplies is shown in Table 5A and Table 5B below. During a single critical dry year, there are no projected shortfalls in total available water supplies independent of whether the City receives or does not receive SFPUC water supply. Since the adoption of the 2015 UWMP, SFPUC

[5] City of Santa Clara 2015 Urban Water Management Plan
[6] City of Santa Clara 2015 Urban Water Management Plan, Appendix H
[7] City of Santa Clara 2015 Urban Water Management Plan, Appendix I

issued a Restated Water Supply Agreement in 2019 indicating that a reduction or interruption to the City's SFPUC water supply would not occur prior to 2028.

Table 5A: Single Dry Year Supply and Demand Comparison (AF)					
	2020	2025	2030	2035	2040
Supply	33,484	33,984	34,384	34,784	34,660
Demand	28,232	31,040	32,047	33,064	33,937
Difference	5,252	2,944	2,337	1,720	723
NOTES: Assumes SFPUC supply does *not* exist beyond 2018					

Table 5B: Single Dry Year Supply and Demand Comparison (AF)					
	2020	2025	2030	2035	2040
Supply	35,485	35,985	36,385	36,785	36,661
Demand	28,232	31,040	32,047	33,064	33,937
Difference	7,253	4,945	4,338	3,721	2,724
NOTES: Assumes SFPUC supply exists beyond 2018					

During a multiple dry year event, the 2015 UWMP projects no reduction in supplies from groundwater. Per a SCVWD handout dated May 18, 2016[8], treated surface water is expected to be reduced in a multiple dry year event beginning in 2020, when it could be reduced anywhere from 0-40%. For planning purposes, a 30% worst case scenario will be used in 2020 projections, 15% in 2025 projections, 25% in 2030 projections, 35% in 2035 projections, and 40% in 2040 projections based on SCVWD demand reductions. SFPUC has indicated that during multiple critical dry years the City can expect a maximum reduction of SFPUC water supplies of 33% of normal. SFPUC has indicated that in the second and third year of a drought, they will reduce their water supply from 184 mgd to 129.2 mgd. For SFPUC supplies, Table 6B assumes a worst-case scenario based on a replication of the 1987-1992 multiple dry year event. The City of Santa Clara will still receive 1.17% of the 129.2 mgd amount as shown in Table 3 of SFPUC's Tier 2 plan in the 2015 UWMP[9]. As noted in the 2015 UWMP, Table 6A assumed the worst-case scenario that SFPUC water would be unavailable after 2018. Recycled water use and water conservation are projected to remain unchanged during a multiple dry year event. The resulting analysis of all available supplies is shown in Table 6A and 6B below. During a multiple critical dry year event, there is a projected shortfall in available water supplies after 2035 if the City does not receive SFPUC water supply after 2018. As part of the 2015 UWMP the City must provide the worst-case scenario related to not receiving water from SFPUC after 2018. As noted above, the Restated Water Supply Agreement in 2019 indicates no reduction or interruption to the City's SFPUC water supply prior to 2028. In order to make Santa Clara a permanent customer, SFPUC must develop new water supplies and SFPUC has made a commitment to actively pursue and develop an Alternative Water Supply Planning Program. The City is in regular talks with the SFPUC and Bay Area Water Supply and Conservation Agency (BAWSCA)

[8] City of Santa Clara 2015 Urban Water Management Plan, Appendix H
[9] City of Santa Clara 2015 Urban Water Management Plan, Appendix L

representatives regarding the Alternative Water Supply Planning Program and related projects. As a long-term customer Santa Clara does expect and makes the assumption utilizing Table 6B that San Francisco will continue to provide current contractual supplies after 2028. Any difference in supply can be made-up through water provided by projected future water supply projects discussed in the 2015 UWMP and other projects the City continues to explore with SFPUC and Valley Water such as indirect and direct potable reuse. These assumptions also yield a conservative estimate since during a critical multiple dry year event, mandatory conservation measures and increased recycled water usage would be expected to reduce potable water demand. In 2020, the City achieved a 15.3% reduction in water use compared to water use prior to the most recent drought (2013). This reduction equates to 3,298 AF of water conserved in the absence of additional water conservation measures.

Table 6A: Multiple Dry Years Supply and Demand Comparison (AF)

		2020	2025	2030	2035	2040
First year	Supply	31,913	33,199	33,075	32,951	33,090
	Demand	28,232	31,040	32,047	33,064	33,937
	Difference	3,681	2,159	1,028	-113	-847
Second year	Supply	31,913	33,199	33,075	32,951	33,090
	Demand	28,232	31,040	32,047	33,064	33,937
	Difference	3,681	2,159	1,028	-113	-847
Third year	Supply	31,913	33,199	33,075	32,951	33,090
	Demand	28,232	31,040	32,047	33,064	33,937
	Difference	3,681	2,159	1,028	-113	-847
NOTES: Assumes SFPUC supply does *not* exist beyond 2018						

Table 6B: Multiple Dry Years Supply and Demand Comparison (AF)

		2020	2025	2030	2035	2040
First year	Supply	33,914	35,200	35,076	34,952	35,091
	Demand	28,232	31,040	32,047	33,064	33,937
	Difference	5,682	4,160	3,029	1,888	1,154
Second year	Supply	33,607	34,892	34,768	34,645	34,783
	Demand	28,232	31,040	32,047	33,064	33,937
	Difference	5,375	3,852	2,721	1,581	846
Third year	Supply	33,607	34,892	34,768	34,645	34,783
	Demand	28,232	31,040	32,047	33,064	33,937
	Difference	5,375	3,852	2,721	1,581	846
NOTES: Assumes SFPUC supply exists beyond 2018						

In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-

Delta Plan Amendment requires the release of 30-50% of the "unimpaired flow"[10] on the three tributaries from February through June in every year type. In SFPUC modeling of the new flow standard, it is assumed that the required release is 40% of unimpaired flow.

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this UWMP in normal years but would experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry years and multiple dry years. The SFPUC has initiated an Alternative Water Supply Planning Program to ensure that San Francisco can meet its Retail and Wholesale Customer water needs, address projected dry years shortages, and limit rationing to a maximum 20 percent system-wide in accordance with adopted SFPUC policies. This program is in early planning stages and is intended to meet future water supply challenges and vulnerabilities such as environmental flow needs and other regulatory changes; earthquakes, disasters, and emergencies; increases in population and employment; and climate change. As the region faces future challenges – both known and unknown – the SFPUC is considering this suite of diverse non-traditional supplies and leveraging regional partnerships to meet Retail and Wholesale Customer needs through 2045. On March 26, 2019, the SFPUC adopted Resolution No. 19-0057 to support the SFPUC's participation in the Voluntary Agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency and includes SFPUC and other stakeholders.

With the uncertainties inherent in future imported water supplies, the City plans to meet future demand growth by pumping additional groundwater, relying on more recycled water, and increased conservation. Given the potential for decreased SFPUC imported surface deliveries, CEQA requires disclosure of the environmental impacts, if any, of meeting future demand growth with increased supplies coming from pumping more groundwater. As mentioned in the Groundwater Supply section, even when the City was at the historic peak for groundwater production in FY1986/87 (23,048 AF), the basin was not approaching overdraft. There are not anticipated to be any reasonably foreseeable impacts associated with increased use of recycled water and conservation, which is anticipated to occur through replacement of more water-efficient appliances, i.e. clothes washers, dishwashers, toilets, etc., and programs to encourage drought-tolerant landscaping on private property and on City properties. Mandatory conservation during a multiple year drought may also require prohibitions on outdoor use (irrigation, car washing, washing down pavement, etc.) and water rationing. As noted above, numerous conservative assumptions were made regarding both water supply and demand. Therefore, it is the conclusion of the Water Utility that adequate water supplies are available to meet the water demands projected until 2040.

Projected Water Demand for the Proposed Specific Plan

There are two development scenarios for Patrick Henry Drive Specific Plan as noted below:
Scenario A: 1,1,649.9 AF/yr

[10] "Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds." (Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

Scenario B: 1,491.2 AF/yr

Patrick Henry Drive Specific Plan represents an increase in water demand of 1,649.9 AF/yr for Scenario A and 1,491.2 for Scenario B over the historic water demand across the Specific Plan area. Historic water usage at the original Specific Plan area were taken into account in the 2015 UWMP, therefore this Assessment will only address the City's ability to meet the increased water demand. Average historical usage was calculated using the Specific Plan's existing water demand from 2011-2015, excluding the period from August 2014 through 2015 when the City implemented its Water Shortage Contingency Plan in an effort to meet potable water demand reduction targets in response to the Governor's Emergency Drought Regulations. The proposed increase, tabulated in Table 9 of this section, is not within the modeled 2015 UWMP growth projections for 2030-2040 (Table 3A of this Assessment).

Water Demand to Be Met by Recycled Water

It is the purpose and intent of the City Council to require the use of recycled water for all non-potable uses where recycled water is made available per Santa Clara City code Article IV, Regulation of Recycled Water Service and Use, Section 13.15.160. Recycled Water should be utilized for this project to the maximum extent possible to supplant the use of potable water. Utilization of recycled water for approved uses is addressed during the development application process in order to promote sustainability and conservation of the City's potable water supply. Expansion of the existing recycled water system may be required to serve future uses as deemed necessary.

Recycled water is currently available throughout the Specific Plan area . All recycled water line extensions for on-site use and demand to the Specific Plan area would require City, South Bay Water Recycling, and State Water Resources Control Board - Division of Drinking Water approval. Although recycled water service is available to serve some uses within the Specific Plan and would result in significant potable water savings, all water demands will be calculated as potable water demand for this assessment.

Summary of Existing and Estimated Water Demands

A summary of the existing and estimated water demands for the Project are found in Table 7. The existing and estimated water demands are further broken down in Table 7A into projected annual demand increases based on construction timelines submitted by the Applicant.

Table 7: Existing and Estimated Water Demand per Year for Specific Plan

	Status	Development	Units	Gal/Day	Acre-Ft/Yr
Residential	Proposed	12,000	Units	1,452,000	1,626.4
Retail	Proposed	110,000	sq. ft	5,500	6.2
Flex/Community/School	Proposed	200,000	sq. ft	22,000	24.7
Irrigation	Proposed	837,278	sq. ft	64,470.4	72.2

Historic Usage	Existing	Commercial		(71,030.3)	(79.6)
TOTAL DEMAND (increase per year)	**SCENARIO A**			1,472,940.1	1,649.9
Residential	Proposed	10,300	Units	1,246,300	1,396.1
Retail	Proposed	110,000	sq. ft	5,500	6.2
Office	Proposed	785,000	sq. ft	70,650.0	79.1
Flex/Community/School	Proposed	200,000	sq. ft	22,000	24.7
Irrigation	Proposed	750,158	sq. ft	57,762.1	64.7
Historic Usage	Existing	Commercial		(71,030.3)	(79.6)
TOTAL DEMAND (increase per year)	**SCENARIO B**			1,331,181.8	1,491.2

Table 7A: Specific Plan Water Demand Increase (Acre-Ft/Yr)					
	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
SCENARIO A					
Residential	0.0	596.3	0.0	664.1	366.0
Retail	0.0	4.7	0.0	1.5	0.0
Flex/Community/School	0.0	7.6	0.0	3.5	13.6
Irrigation	0.0	24.3	0.0	30.8	17.1
Historic Usage	0.0	(42.8)	0.0	(33.0)	(3.8)
TOTAL	0.0	590.1	0.0	666.9	392.9
SCENARIO B					
Residential	0.0	366.0	0.0	664.1	366.0
Retail	0.0	4.7	0.0	1.5	0.0
Office	0.0	79.1	0.0	0.0	0.0
Flex/Community/School	0.0	7.6	0.0	3.5	13.6
Irrigation	0.0	16.8	0.0	30.8	17.1
Historic Usage	0.0	(42.8)	0.0	(33.0)	(3.8)
TOTAL	0.0	431.4	0.0	666.9	392.9

Projected Water Demand for Other Proposed Projects

Tables 8 and 9 show a summary of the projected water demand changes by user category. If the timeframe for a project to be built spans several years, the earliest possible date was used to calculate the changes in Table 9. The use categories of Single Family, Multi-Family, Commercial, Industrial, Institutional, and Municipal match the use categories used in the development of the 2015 UWMP. The values in Tables 8 and 9 below summarize the projected changes in water demand for each user category and the planning period in which the change is expected to occur. If a proposed project resulted in a change of use, such as a commercial building being converted to single-family residential housing, the existing water demand was subtracted from the corresponding category and the new water demand was added to the category for the new use. Table 8 summarizes proposed water demands for Projects assessed since the adoption of the 2015 UWMP as well as previous WSAs for projects that were incorporated into the 2015 UWMP that have not yet been completed. A complete listing of these projects and their associated water demands are contained in Appendix A.

Table 8: Changes in Water Demand (excluding Patrick Henry Drive Specific Plan)					
	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
Single Family	0.0	0.0	0.0	0.0	0.0
Multi-Family	644.6	580.6	524.0	384.4	805.6
Commercial	1,050.6	496.6	676.4	103.7	(11.3)
Industrial	0.0	(35.7)	0.0	0.0	0.0
Institutional	39.9	0.0	0.0	0.0	10.1
Municipal	(311.3)	0.0	0.0	0.0	0.0
TOTAL	1,423.8	1,041.5	1,200.4	488.1	804.4

Table 9: Changes in Water Demand (including Patrick Henry Drive Specific Plan – Scenario A)					
Use Type	2015-2019	2020-2024	2025-2029	2030-2034	2035-2040
Single Family	0	0	0	0	0
Multi-Family	644.6	1176.9	524.0	1048.5	1171.6
Commercial	1,050.60	478.6	676.4	95.2	-8.9
Industrial	0	-35.7	0	0	0
Institutional	39.9	0	0	0	23.7
Municipal	-311.3	11.8	0	11.4	10.8
TOTAL	1,423.8	1,631.6	1,200.4	1,155.1	1,197.2

Conclusion

This Assessment analyzed the impacts of changes in contractual limitations on water supply, proposed development projects, and other additional factors that have occurred since the original 2015 UWMP was developed and adopted. Based on Scenario A (Table 7A), the more conservative of the two development scenarios contained in the Patrick Henry Drive Specific Plan, exceeds the 2015 UWMP total projected demand changes in Table 3A by 138 AF/yr during the 2030-2034 planning horizon and 324.4 AF/yr during the 2035-2040 planning horizon. However, based on analysis of Normal, Single, Dry, Multiple Dry Year Scenarios contained in this Assessment, the City of Santa Clara Water Utility has determined that there are sufficient water supplies to provide service for the Specific Plan.

Table 10: Patrick Henry Drive Scenario A Water Demand Impact Summary (Acre-Ft)				
Use Type	2020-2024	2025-2029	2030-2034	2035-2040
Table 7A Specific Plan Water Demand Increase	**590.1**	0.0	**666.9**	**392.9**
Table 9 Changes in Water Demand	**1,631.6**	1,200.4	**1,155.1**	**1,197.2**

(including Patrick Henry Specific Plan)				
Table 3A Projected Changes in Water Demand – 2015 UWMP	2,808.0	1,007.1	1,017.1	872.8
Table 9 minus Table 3A resulting in cumulative demand changes below() or above 2015 UWMP projections	**(1,176.4)**	193.3	**138.0**	**324.4**
Table 6B Excess Supply Available – 2nd Multiple Dry Year (worst-case scenario)	5,375	3,852	2,721	1,581
Table 9 Changes in Demand minus Table 6B Excess Supply in Multiple Dry Years resulting in surplus or deficit()	**3,743.4**	2,651.6	**1,565.9**	**383.8**

Patrick Henry Specific Plan Impacts are **bolded** and underlined in Table 10

This Specific Plan adds significant projected water demand when combined with the City's 2015 UWMP projected growth water demands. Therefore, projects within this Specific Plan area may be subject to water supply or capacity fees, additional water efficiency standards, establishment of annual water budgets. Additionally, use of alternative water supplies must be utilized to the maximum extent possible. Supplies such as recycled water (see Water Demand to be Met by Recycled Water section, page 17), rainwater/stormwater capture and reuse, greywater reuse, reclaiming wastewater onsite or other water supplies (potable and/or non-potable) will need to be developed to mitigate the excess 138AF/yr (during 2030-2034) and 324.4 AF/yr (2035-2040).

References

California Department of Water Resources. (2016). *California's Groundwater: Bulletin 118*. Retrieved 2020, from http://www.water.ca.gov/groundwater/bulletin118/index.cfm/

California Department of Water Resources. (2019, December). *Basin Prioritization*. Retrieved 2020, from https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization

City of Santa Clara. (2016). *City of Santa Clara 2015 Urban Water Management Plan.* Retrieved from www.santaclaraca.gov/uwmp

Appendix A

Project	Address	Number	Units	Use	Water Demand (AF)	Existing Demand (AF)	Demand Delta (AF)	Recycled Water Available?	Buildout Completion Date
Patrick Henry Drive Specific Plan - Scenario A	Various	4,400	Dwelling Units	Residential	596.3	79.6	1,649.9	No	2020-2025
		83,500	Sq. ft	Retail	4.7			No	2020-2025
		61,500	Sq. ft	Flex/Community /Library	7.6			No	2020-2025
		281,398	Sq. ft	Irrigation	24.3			Yes	2020-2025
		4,900	Dwelling Units	Residential	664.1			No	2030-2035
		26,500	Sq. ft	Retail	1.5			No	2030-2035
		28,500	Sq. ft	Flex/Community	3.5			No	2030-2035
		357,628	Sq. ft	Irrigation	30.8			Yes	2030-2035
		2,700	Dwelling Units	Residential	366.0			No	2035-2040
		110,000	Sq. ft	Flex/Community /School	13.6			No	2035-2040
		198,252	Sq. ft	Irrigation	17.1			Yes	2035-2040
Patrick Henry Drive Specific Plan - Scenario B	Various	2,700	Dwelling Units	Residential	366.0		1,491.1	No	2020-2025
		83,500	Sq. ft	Retail	4.7			No	2020-2025
		785,000	Sq. ft	Office	79.1			Yes	2020-2025
		61,500	Sq. ft	Flex/Community /Library	7.6			No	2020-2025
		194,278	Sq. ft	Irrigation	16.8			Yes	2020-2025
		4,900	Dwelling Units	Residential	664.1			No	2030-2035
		26,500	Sq. ft	Retail	1.5			No	2030-2035

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		28,500	Sq. ft	Flex/Community	3.5			No	2030-2035
		357,628	Sq. ft	Irrigation	30.8			Yes	2030-2035
		2,700	Dwelling Units	Residential	366.0			No	2035-2040
		110,000	Sq. ft	Flex/Community /School	13.6			No	2035-2040
		198,252	Sq. ft	Irrigation	17.1			Yes	2035-2040
El Camino Real Specific Plan	Various	3,646	Dwelling Units	Residential	494.2	224.1	662.0	No	2025-2030
		317,609	Sq. ft	Retail	17.8			No	2025-2030
		79,402	Sq. ft	Irrigation	6.8			Yes**	2025-2030
		1,716	Dwelling Units	Residential	232.6			No	2030-2035
		164,857	Sq. ft	Retail	9.2			No	2030-2035
		58,635	Sq. ft	Irrigation	5.1			Yes**	2030-2035
		849	Dwelling Units	Residential	115.1			No	2035-2040
		42,002	Sq. ft	Retail	2.4			No	2035-2040
		34,854	Sq. ft	Irrigation	3.0			Yes**	2035-2040
2825 Lafayette Street	2825 Lafayette Street	504,715	Sq. ft	Data Center	65.1	62.0	28.1	Yes	2027
		71,405	Sq. ft	Office	7.2			Yes	2027
		206,450	Sq. ft	Irrigation	17.8			Yes	2027
Tasman East Specific Plan	TBD	4,500	Dwelling Units	Residential	609.9	35.7	627.3	No	2035
		106,000	Sq. ft	Retail	5.9			No	2035
		600	Students	School	10.1			No	2035
		430,000	Sq. ft	Irrigation	37.1			Yes	2035
3625 Peterson Way	3625 Peterson Way	672,000	Sq. ft	Office	67.7	26.4	54.1	Yes	2020
		148, 100	Sq. ft	Irrigation	12.8			Yes	2020
2305 Mission College Boulevard	2305 Mission	25,000	Sq. ft	Office	2.5	12.0	216.4	Yes	2018

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	College Boulevard	470,600	Sq. ft	Data Center	225.8			Yes	2018
Gateway Crossings	1205 Coleman Avenue	33,000	Sq. ft	Retail	1.8	14.7	320.3	No	2019-2025
		182,000	Sq. ft	Hotel	97.9			No	2025
		1,600	Dwelling Units	Residential	216.9			No	2019-2022
		213,800	Sq. ft	Irrigation	18.4			Yes	2019-2025
BART Santa Clara Station and Joint Development WSA	335 Brokaw Road	30,000	Sq. ft	Retail	1.7	6.7	80.6	No	2025
		500,000	Sq. ft	Office	50.4				
		9,000	Sq. ft	BART Station/Maintenance Yard	5.4				
		220	Dwelling Units	Residential	29.8				
Santa Clara University Development Plan	500 El Camino Real	528,900	Sq. ft	Institutional	82.9	43.0	60.4	No	2016-2019
		151	Dwelling Units	Residential	20.5				
Lawrence Station Area Plan (Phase I)	TBD	53,040	Sq. ft	Retail	3.0	45.4	232.7	No	2020
		12,904	Sq. ft	Amenity	1.6				
		366,351	Sq. ft	Irrigation	31.6				
		1,785	Dwelling Units	Residential	241.9				
Lawrence Station Area Plan (Phase II)	TBD	33,280	Sq. ft	Retail	1.9	28.5	146.0	No	2030
		8,097	Sq. ft	Amenity	1.0				
		229,867	Sq. ft	Irrigation	19.8				
		1,120	Dwelling Units	Residential	151.8				
Lawrence Station Area Plan (Phase III)	TBD	17,680	Sq. ft	Retail	1.0	15.1	77.5	No	2035
		4,301	Sq. ft	Amenity	0.5				
		122,117	Sq. ft	Irrigation	10.5				
		595	Dwelling Units	Residential	80.6				
	TBD	4,500	Sq. ft	Office	0.5	119.5	168.3	Yes	2018

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Santa Clara Square Apartments		40,000	Sq. ft	Retail	2.2				
		38,000	Sq. ft	Amenity	4.7				
		422,000	Sq. ft	Irrigation	36.4				
		1,800	Dwelling Units	Residential	244.0				
City Place Parcel 5 (Phase 1)	TBD	258,000	Sq. ft	Office	26.0	311.3	(95.3)	Yes	2019
		87,000	Sq. ft	Retail	4.9				
		280,000	Sq. ft	Hotel	150.5				
		87,100	Sq. ft	Irrigation	7.5				
		200	Dwelling Units	Residential	27.1				
City Place Parcel 4 (Phases 2-4)	TBD	1,386,400	Sq. ft	Office	139.8	0*	656.6	Yes	2020-2023
		1,415,000	Sq. ft	Retail	79.2				
		298,000	Sq. ft	Hotel	160.2				
		1,393,900	Sq. ft	Irrigation	120.2				
		1,160	Dwelling Units	Residential	157.2				
City Place Parcel 3 (Phase 5)	TBD	720,000	Sq. ft	Office	72.6	0*	152.6	Yes	2025
		927,800	Sq. ft	Irrigation	80.0				
City Place Parcel 1 (Phase 6)	TBD	1,200,000	Sq. ft	Office	121.0	0*	192.8	Yes	2027
		832,000	Sq. ft	Irrigation	71.8				
City Place Parcel 2 (Phase 7)	TBD	1,080,000	Sq. ft	Office	108.9	0*	164.1	Yes	2029
		640,350	Sq. ft	Irrigation	55.2				
City Place Parcel 2 (Phase 8)	TBD	1,080,000	Sq. ft	Office	108.9	0*	164.1	Yes	2031
		640,350	Sq. ft	Irrigation	55.2				
Santa Clara Square	2465-2727 Augustine 3333 Bowers	138,000	Sq. ft	Retail	7.7	46.8	207.7	Yes	2014-2015
		1,862,100	Sq. ft	Office	189.7				
		661,900	Sq. ft	Irrigation	57.1				
3515 Monroe St.	3515 Monroe St.	825	Dwelling Units	Residential	158.0	6.1	179.2	No	2015-2017
		14,929	Sq. ft	Amenity	1.3				
		15,200	Sq. ft	Retail	0.9				

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		20,000	Sq. ft	Market	5.4				
		5,000	Sq. ft	Restaurant	5.8				
		161,483	Sq. ft	Irrigation	13.9				
3333 Scott Blvd.	3333 Scott Blvd.	1,358,647	Sq. ft	Office	137.0	9.5	154.5	Yes	2015-2017
		284,000	Sq. ft	Irrigation	27.0				
3700 El Camino Real	3700 El Camino Real	475	Dwelling Units	Residential	159.6	1.2	283.7	No	2016-2019
		86,388	Sq. ft	Retail	4.8				
		133,000	Sq. ft	Irrigation	120.5				
2200 Lawson Lane	2200 Lawson Lane	300,000	Sq. ft	Office	30.2	5.8	110.8	No	2014-2016
		95,300	Sq. ft	Irrigation	86.4				
3000 Bowers Avenue	3000 Bowers Avenue	300,000	Sq. ft	Office	30.2	0.7	113.7	No	2013-2015
		92,925	Sq. ft	Irrigation	84.2				

*Existing demand accounted for in Phase 1 of City Place Project

**Recycled water use is only available at specific locations throughout the Specific Plan/Project

Water demands were recalculated using the updated water use factors in the 2015 UWMP: Office (0.09 gpd/sf); Retail (0.05 gpd/sf)

gpd = gallons per day

sf = square feet

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APPENDIX 25.4

SANITARY SEWER TECHNICAL MEMORANDA
(WOODARD & CURRAN, 5-7-20; SCHAAF & WHEELER, 3-16-21)

Technical Memorandum

Subject:	**Sanitary Sewer Capacity Evaluation for Proposed Patrick Henry Drive Specific Plan (APN 104-04-076, 077, 078, 089, 093, 094, 095, 122, 123, 124, 128, 131, 136, 138, 139, 140, 141; APN 104-53-001 through 026)**
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Reference:	Project 0011096, Task 2.15
Date:	May 7, 2020

At the request of the City of Santa Clara (City), Woodard & Curran evaluated potential sanitary sewer capacity impacts of the proposed Specific Plan development at Patrick Henry Drive using the City's sanitary sewer hydraulic model. This technical memorandum (TM) summarizes the approach, model input, and results of the analysis. The proposed development redevelops the parcel with assessor's parcel numbers (APN) 104-04-076, 077, 078, 089, 093, 094, 095, 122, 123, 124, 128, 131, 136, 138, 139, 140, 141; and APN 104-53-001 through 026.

Flow from the development would enter the City's sanitary sewer system at manhole S83-2 and S93-54 into an existing 12-inch on Old Ironsides Drive and manhole S83-3 into an existing 12-inch along Patrick Henry Drive. The Patrick Henry Drive 12-inch eventually discharges into the existing 33-inch West trunk on Great America Parkway (at manhole S83-5). The flow in the Old Ironsides Drive trunk continues north and then east along Tasman Drive into the Tasman Lift Station wet well. From there, it is pumped by the Tasman Lift Station into the 33-inch West Great America Parkway trunk at the intersection with Tasman Drive. It should be noted that flow from the Old Ironsides Drive trunk discharges into the City's 2016 Master Plan proposed capacity improvement project P4 (Tasman Drive Sewer Improvement). This project proposed to upsize 600 feet of 12-inch line in Tasman Drive between Old Ironsides Drive and Great America Parkway to a 15-inch line. The Tasman Lift Station also had a proposed capacity improvement project (P2 Tasman Lift Station Set Point Adjustment). This project proposed to modify the wet well-set point to a lower elevation to eliminate unnecessary backups in the influent line.

The flow in the West Great America Parkway continues north, past Tasman Drive and turns northeast along the Santa Clara Golf and Tennis Club. It then discharges into two parallel 42-inch trunks that run northwest along Lafayette Street to the Rabello and Northside pump stations where it is pumped to the San Jose/Santa Clara Regional Wastewater Facility for treatment. It is important to note that several connecting sewers exist between the parallel trunks along Great America Parkway including between manholes S93-53 (West trunk) and S93-52 (East trunk); and S103-22 (West trunk) and S103-23 (East trunk). **Figure 1** shows the site and surrounding modeled sewers. **Figure 2** shows the sewer lines that are affected by the flow from this development (affected lines in red). The interconnections between the two Great America Parkway trunks are also shown.

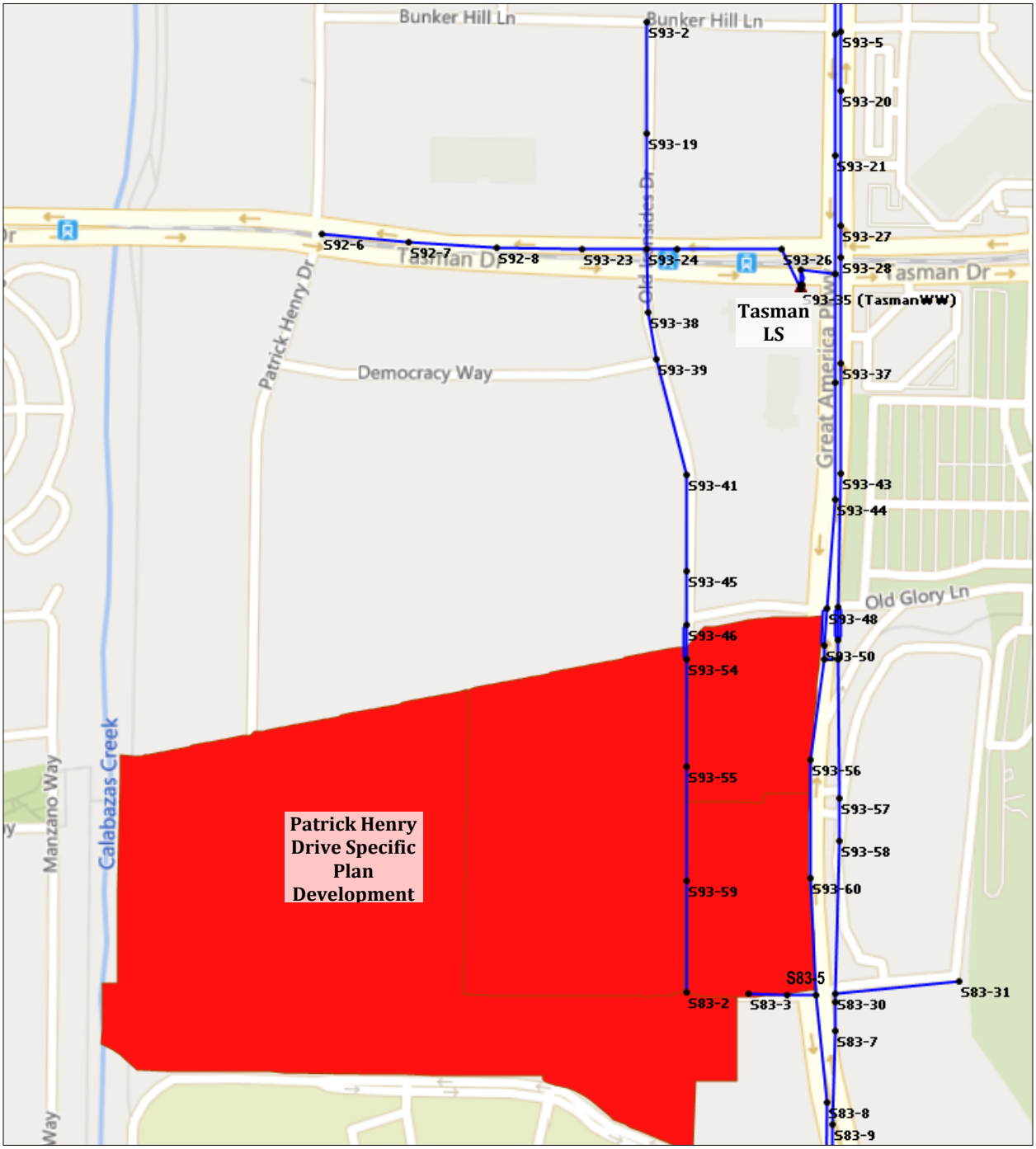


Figure 1: Modeled Sewers around Proposed Project Site



Figure 2: Trunk Sewers Downstream of the Proposed Project Site

1 Approach

To evaluate the potential sewer capacity impact of the proposed development, the following model configurations were used:

- *Sewer network*: The City's current solution network was used. The network consists of the City's expanded trunk sewer system that was developed as part of the Sanitary Sewer Master Plan Update (2016 Master Plan). The network includes the improvements recommended by the 2016 Master Plan (P1, P2, P3, P4, P5, and E1 Modified) as well as the recent construction of project P6 alternative (per the conformed drawings dated September 2019 with City of Santa Clara tracking number 12,175-D) and the NVIDIA improvements (per the conformed drawings dated December 2014 with CSC tracking number 11,988-D). Projects P2 (Tasman Lift Station Set Point Adjustment) and P4 (Tasman Drive Sewer Improvement) are downstream of this development.
- *Sanitary sewer load*: The Updated General Plan Phase 3 Loads (aka 2035 Loads) were used for this analysis. The 2035 loads were recently updated for the 2016 Master Plan, which includes updated base loads, updated development assumptions consistent with the City's 2035 General Plan, and projected loads for additional developments that were approved between 2009 (after the completion of the original 2035 Loads) and the completion of the 2016 Master Plan. The model also includes other developments that have been evaluated since completion of the 2016 Master Plan. In addition to the wastewater flows generated within the City's service area, the City also receives flow from the Cupertino Sanitary District (CuSD). For planning purposes, the model capped the peak wet weather flow (PWWF) discharge from CuSD at 13.8 mgd, which is the contractual maximum flow rate that CuSD is allowed to discharge into the Santa Clara system.
- *Flow Scenario*: System capacity was evaluated based on the ability of the sanitary sewer system to convey future PDWF and PWWF under design storm conditions. This analysis used the same 10-year design storm that was used for the 2016 Master Plan.

2 Model Input

The development was added to the relevant model subcatchments (IDs 746, 751, 806, and 807), based on the sewer model run request received March 18, 2020 and updated on April 23, 2020:

- *Sanitary Sewer Loads:* The City is proposing a Specific Plan to guide future development within the Plan area. The Specific Plan assumes buildout of one of two scenarios. **Table 1** provides a detailed summary of the square footage or number of units for each scenario, their corresponding unit flow factor, and the estimated sewer flow. Scenarios A and B are estimated to discharge a total average flow of 2.15 and 1.97 million gallons per day (mgd), respectively.

  The educational facilities designated in the Specific Plan were assumed to represent a school or schools. For the purpose of this capacity analysis, the square footage provided was converted to number of students based on the minimum recommendation of 59 square feet per student (for elementary schools) by the California Department of Education (https://www.cde.ca.gov/ls/fa/sf/documents/schoolsiteanalysis2000.pdf). Using this conversion, the proposed 110,000 SF area results in approximately 1,864 students. The 15 gpd per student unit flow factor is consistent with that used for the Tasman East Specific Plan review.

  The development is proposed to discharge to the 12-inch sewer along Old Ironsides Drive and the 12-inch trunk along Patrick Henry Drive (eventually discharging into the 33-inch west trunk along Great America Parkway) as shown previously on Figure 1. **Figure 3** shows the locations of proposed land uses as provided by the City, with the subcatchment boundaries added. **Table 2** and **Table 3** summarize the resulting average wastewater flows by subcatchment for Scenarios A and B, respectively. This flow will replace the General Plan 2035 flow of 0.12 mgd estimated for these subcatchments.

Table 1: Sewer Load Estimates by Specific Plan Scenario

Scenario	Land Use[1]	Residential Units (DUs)	Non-Residential Area (SF)	Students[2]	UFF[3]	UFF Units	Residential Flow (MGD)	Non-Residential Flow (MGD)	Total Flow (MGD)
A	Residential (condos)	12,000			175	gpd/DU	2.1	--	2.15
	Commercial (retail)		200,000		0.1	gpd/SF	--	0.020	
	Public (educational facilities)		110,000	1,864	15	gpd/student	--	0.028	
B	Residential (condos)	10,300			175	gpd/DU	1.8025	--	1.97
	Office (R&D)		785,000		0.15	gpd/SF	--	0.118	
	Commercial (retail)		200,000		0.1	gpd/SF	--	0.020	
	Public (educational facilities)		110,000	1,864	15	gpd/student	--	0.028	

Notes:

1. Land use and values were obtained from the sewer model run request received March 18, 2020.
2. Number of students based on the California Department of Education recommendation on minimum square footage per student (59 SF per student).
3. Unit flow factors per the City's 2016 Sanitary Sewer Master Plan Update.

Table 2: Sewer Load Estimates by Subcatchment for Specific Plan Scenario A

				Scenario A		
Sub ID	Node ID	Total area (acre)	Contributing Area (acres)	Residential Flow (MGD)	Non-Residential Flow (MGD)	Notes
746	S83-2	45.6	41.1	1.22	0.03	Subcatchments 746 and 806 will include 10,300 high-density condos and all of the specific plan's non-residential development. The resulting average flows per subcatchment were calculated using an area ratio.
751	S93-54 S83-3	7.5	7.5	0.16	0.00	Subcatchment includes APNs 104-04-140 and 104-04-141 (High Density Flex). This subcatchment along with subcatchment 807 will include 1,200 high-density condos. The number of condos (891) and resulting residential average flows were calculated using an area ratio. One quarter (1/4) of the total flow will discharge to manhole S83-3 while the remaining will discharge to manhole S93-54.
806	S83-2	22.0	16.1	0.59	0.02	Subcatchments 746 and 806 will include 10,300 high-density condos and all of the specific plan's non-residential development. The resulting average flows were calculated using an area ratio.
807	S93-54 S83-3	6.8	5.1	0.14	0.00	Subcatchment includes APNs 104-04-140 and 104-04-141 (High Density Flex). This subcatchment along with subcatchment 751 will include 1,200 high-density condos. The number of condos (809) and resulting residential average flows were calculated using an area ratio. One quarter (1/4) of the total flow will discharge to manhole S83-3 while the remaining will discharge to manhole S93-54.
	TOTAL:	**81.9**	**69.7**	**2.10**	**0.05**	

Table 3: Sewer Load Estimates by Subcatchment for Specific Plan Scenario B

				Scenario B		
Subcatchment ID	Node ID	Total area (acre)	Contributing Area (acres)	Residential Flow (MGD)	Non-Residential Flow (MGD)	Notes
746	S83-2	45.6	41.1	1.22	0.03	Subcatchments 746 and 806 will include 10,300 high-density condos, commercial (retail) space, and educational facilities. The resulting average flows per subcatchment were calculated using an area ratio.
751	S93-54 S83-3	7.5	7.5	0.00	0.06	Subcatchment includes APNs 104-04-140 and 104-04-141 (High Density Flex). This subcatchment along with subcatchment 807 will include 785,000 SF of Research & Development (R&D) office space. The resulting non-residential average flow per subcatchment was calculated using an area ratio. One quarter (1/4) of the total flow will discharge to manhole S83-3 while the remaining will discharge to manhole S93-54.
806	S83-2	22.0	16.1	0.59	0.02	Subcatchments 746 and 806 will include 10,300 high-density condos, commercial (retail) space, and educational facilities. The resulting average flows per subcatchment were calculated using an area ratio.
807	S93-54 S83-3	6.8	5.1	0.00	0.06	Subcatchment includes APNs 104-04-140 and 104-04-141 (High Density Flex). This subcatchment along with subcatchment 751 will include 785,000 SF of Research & Development (R&D) office space. The resulting non-residential average flow per subcatchment was calculated using an area ratio. One quarter (1/4) of the total flow will discharge to manhole S83-3 while the remaining will discharge to manhole S93-54.
	TOTAL:	**81.9**	**69.7**	**1.80**	**0.17**	

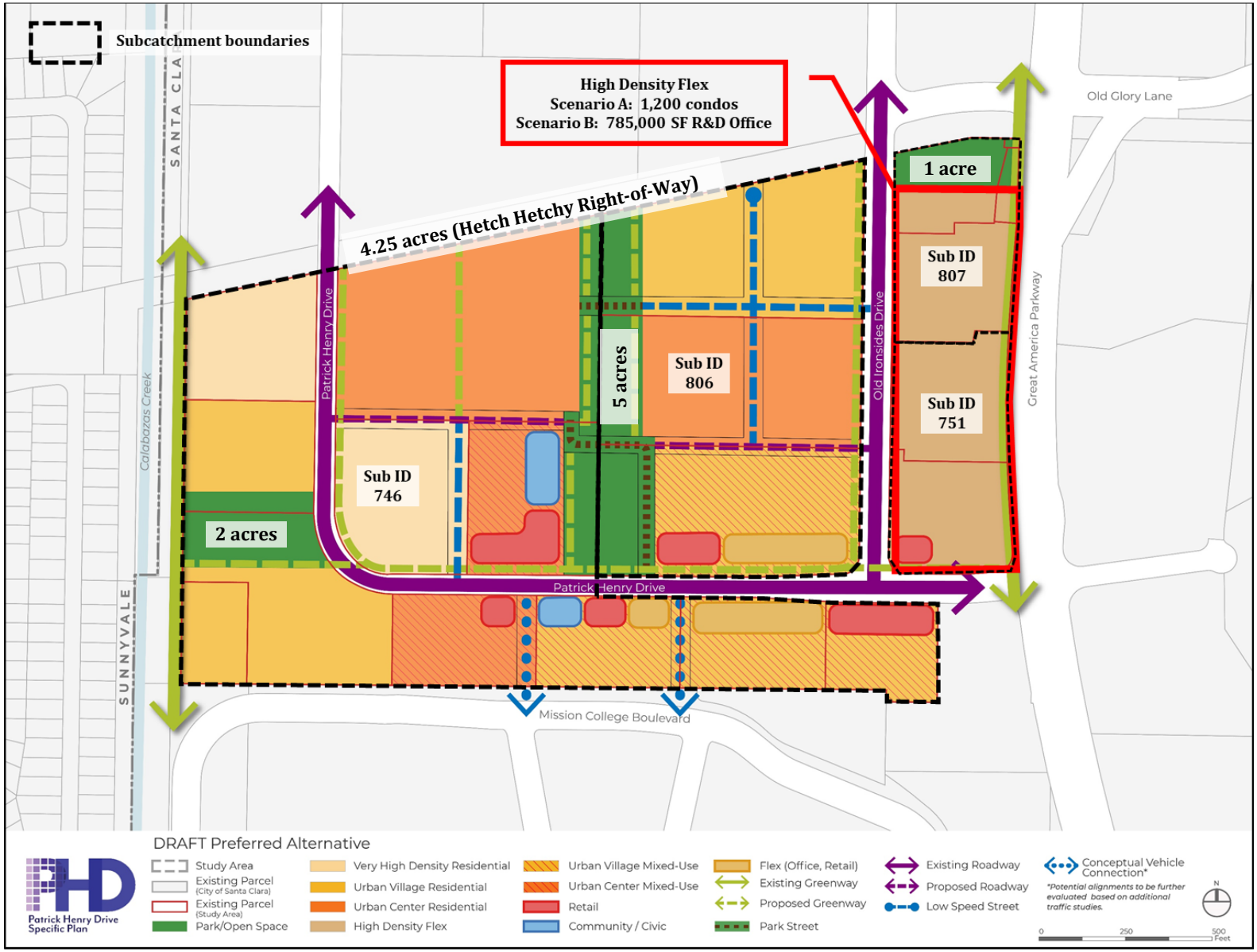


Figure 3: Patrick Henry Drive Specific Plan Land Uses and Hydraulic Model Subcatchment Boundaries

- *Diurnal Profile:* A residential diurnal curve was applied to the residential flows, and a commercial diurnal curve was applied to retail, office, and educational flows.
- *Rainfall Event:* The rainfall event used was the same 10-year design event used for the City's 2016 Sanitary Sewer Master Plan Update.
- *Contributing Area and RDI/I Parameters:* The RDI/I parameters used were the calibrated parameters from the City's 2016 Sanitary Sewer Master Plan Update. However, the contributing area was based on the open space information provided by the City. As shown on Figure 3, the development is proposing 8 acres of open space. The resulting contributing area by subcatchment is shown on Table 2 and Table 3. The contributing area excludes the open space and the Hetch-Hetchy Right-of-Way (4.25 acres). The total contributing area (69.7 acres) increased slightly when compared to the contributing area before the development (54.9 acres). The updated contributing area therefore went from sixty-seven (67) percent of the total area to eighty-five (85) percent of the total area.

3 Model Results

Hydraulic profiles and predicted PWWF under future (2035) conditions in the sewers downstream of the loading manholes S83-2, S83-5, and S93-56 of the development were reviewed. In order to determine if capacity deficiencies were caused by the RDI/I response, hydraulic profiles were also reviewed for predicted PDWFs under future (2035) conditions.

Without the development: The model predicts the 12-inch pipe along Old Ironsides Drive from manhole S83-2 to S93-24 to be about 31% full to surcharged due to throttle conditions (in terms of the flow depth to pipe diameter ratio, or d/D). The last two segments of the 12-inch from manhole S93-39 to S93-24 are throttled but the surcharge does not exceed the City's deficiency criteria (surcharge greater than 1 foot over crown under PWWFs, for pipes deeper than 6 feet). The planned 15-inch along Tasman Drive (as proposed by project P4) from manhole S93-24 to S93-35 (Tasman Lift Station wet well) is 65% to 72% full.

The model predicts the 33-inch Great America Parkway West trunk from manhole S83-17 to S93-36 to be about 66% full to surcharged due to throttle conditions. The segment immediately upstream of manhole S93-36 is throttled but the surcharge does not exceed the City's deficiency criteria. It should be noted that the Tasman Lift Station flow enters the 33-inch Great America Parkway West trunk at manhole S93-36. The downstream segments of the 33-inch West trunk from manhole S93-36 to S103-22 continue to be surcharged due to throttle but again, the surcharge does not exceed the City's deficiency criteria. The remaining downstream segments of the 33-inch trunk from manhole S103-16 to S104-19 are about 76% to 97% full. The 42-inch Lafayette Street West trunk from manhole S104-19 to S114-19 is about 58% to 68% full.

The model predicts the 39-inch Great America Parkway East trunk from manhole S93-37 to S103-20 to be about 66% to 78% full. The downstream 42-inch trunk from manhole S103-18 to S104-21 is 70% to 89% full. The 42-inch Lafayette Street East trunk from manhole S104-21 to S114-19 is about 63% to 72% full.

With the development (Scenario A)*:* A plan and profile view of model results under future (2035) PWWFs including the proposed Specific Plan development flows is included in the attached profiles. Sewers shown in red indicate surcharge conditions exceed the City's deficiency criteria. Manholes shown with red concentric circles indicate sanitary sewer overflows (SSOs) occur. As shown on the plan and profile view, the additional PWWFs from the development cause extensive surcharging along the 12-inch Old Ironsides Drive sewer (from manhole S83-2 to S93-24) with surcharge levels ranging from 2.4- to 10.7-feet above pipe crown and an SSO occurring at the upstream manhole S83-2. The additional flow reaching the 15-inch Tasman Drive sewer also causes backwater surcharge in the upstream segments of Tasman Drive and Old Ironsides Drive (to Bunker Hill Lane). As shown on the profile, the proposed 15-inch along Tasman Drive is also surcharged due to throttle conditions.

The model predicts the 12-inch along Patrick Henry Drive from manhole S83-3 to S83-5 to be about 21 to 32% full. Once it enters the 33-inch Great America Parkway West trunk from manhole S83-5 to S93-36 to

be about 66% full to surcharged due to backwater conditions. The segment immediately upstream of manhole S93-36 is surcharged due to backwater conditions but the surcharge does not exceed the City's deficiency criteria. The downstream segments of the 33-inch West trunk from manhole S93-36 to S103-19 continue to be surcharged due to throttle but again, the surcharge does not exceed the City's deficiency criteria. The remaining downstream segments of the 33-inch trunk from manhole S103-16 to S104-19 are about 78% to 96% full. The 42-inch Lafayette Street West trunk from manhole S104-19 to S114-19 is about 59% to 70% full.

The model predicts the 39-inch Great America Parkway East trunk from manhole S93-37 to S103-20 to be about 75% to 83% full. The downstream 42-inch trunk from manhole S103-18 to S104-21 is 73% to 95% full. The 42-inch Lafayette Street East trunk from manhole S104-21 to S114-19 is about 64% to 73% full.

In order to determine if capacity deficiencies were caused by the RDI/I response, hydraulic profiles were also reviewed for predicted PDWFs under future (2035) conditions. A plan and profile view under future (2035) PDWF conditions including the proposed Specific Plan development flows is shown in the attached profiles. As shown, the additional PDWFs from the development continue to cause extensive surcharging along the 12-inch Old Ironsides Drive sewer (from manhole S83-2 to S93-24). The model also predicts an SSO occurring at the upstream manhole S83-2. The additional flow reaching the 15-inch Tasman Drive sewer also causes backwater surcharge in the upstream segments of Tasman Drive and Old Ironsides Drive (to Bunker Hill Lane). As shown on the profile, the proposed 15-inch along Tasman Drive is also surcharged due to throttle conditions.

Additional profiles under PDWF conditions are also included in the attached profile figures.

With the development (Scenario B)*:* Overall, Scenario B showed similar results as Scenario A. A plan and profile view of model results under future (2035) PWWFs including the proposed Specific Plan development flows is included in the attached profiles. Sewers shown in red indicate surcharge conditions exceed the City's deficiency criteria. Manholes shown with red concentric circles indicate sanitary sewer overflows (SSOs) occur. As shown on the plan and profile view, the additional PWWFs from the development also cause extensive surcharging along the 12-inch Old Ironsides Drive sewer (from manhole S83-2 to S93-24) with surcharge levels ranging from 2.3- to 10.4-feet above pipe crown and an SSO occurring at the upstream manhole S83-2. The additional flow reaching the 15-inch Tasman Drive sewer also causes backwater surcharge in the upstream segments of Tasman Drive and Old Ironsides Drive (to Bunker Hill Lane). As shown on the profile, the proposed 15-inch along Tasman Drive is also surcharged due to throttle conditions.

The model predicts the 12-inch along Patrick Henry Drive from manhole S83-3 to S83-5 to be about 14 to 32% full. Once it enters the 33-inch Great America Parkway West trunk from manhole S83-5 to S93-36 to be about 66% to surcharged due to backwater conditions. The segment immediately upstream of manhole S93-36 is surcharged due to backwater conditions but the surcharge does not exceed the City's deficiency criteria. The downstream segments of the 33-inch West trunk from manhole S93-36 to S103-19 continue to be surcharged due to throttle but again, the surcharge does not exceed the City's deficiency criteria. The remaining downstream segments of the 33-inch trunk from manhole S103-16 to S104-19 are about 78% to 96% full. The 42-inch Lafayette Street West trunk from manhole S104-19 to S114-19 is about 59% to 70% full.

The model predicts the 39-inch Great America Parkway East trunk from manhole S93-37 to S103-20 to be about 75% to 83% full. The downstream 42-inch trunk from manhole S103-18 to S104-21 is 73% to 94% full. The 42-inch Lafayette Street East trunk from manhole S104-21 to S114-19 is about 64% to 73% full.

In order to determine if capacity deficiencies were caused by the RDI/I response, hydraulic profiles were also reviewed for predicted PDWFs under future (2035) conditions. A plan and profile view under future (2035) PDWF conditions including the proposed Specific Plan development flows is shown in the attached profiles. As shown, the additional PDWFs from the development continue to cause extensive surcharging along the 12-inch Old Ironsides Drive sewer (from manhole S83-2 to S93-24). The model also predicts an

SSO occurring at the upstream manhole S83-2. The additional flow reaching the 15-inch Tasman Drive sewer also causes backwater surcharge in the upstream segments of Tasman Drive and Old Ironsides Drive (to Bunker Hill Lane). As shown on the profile, the proposed 15-inch along Tasman Drive is also surcharged due to throttle conditions.

Additional profiles under PDWF conditions are also included in the attached profile figures.

4 Deficiencies and Solutions

As presented in Section 3, both development scenarios result in capacity deficiencies along the 12-inch Old Ironside Drive and 15-inch Tasman Drive sewer (as proposed by CIP P4, Tasman Drive Sewer Improvement). In addition, the Tasman Drive Lift Station will have to be upsized to increase its capacity. A list of the deficiencies and proposed capacity improvement projects follows. The upsized pipes were based on the future (2035) PWWFs and assumed the slope of the existing sewers is maintained. The analysis did not include flow re-routing alternatives.

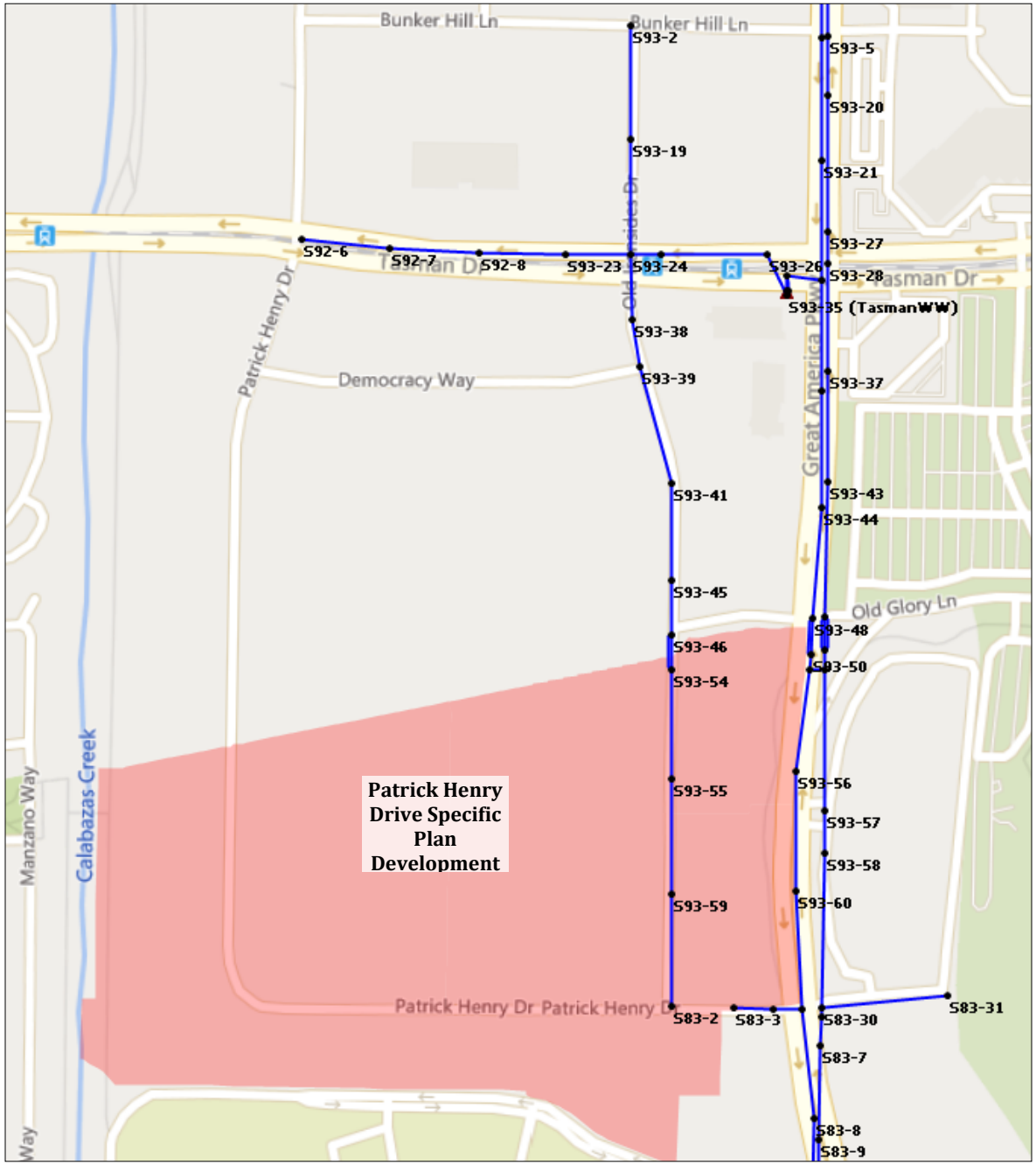
- **12-inch Old Ironside Drive** – this sewer will have to be upsized to a 21 and 24-inch per the City's sizing criteria for new sewer facilities (i.e. maximum allowable d/D of 0.75). A profile of the upsized sewer under future (2035) PWWF conditions is included in the attached profiles.
- **15-inch Tasman Drive (CIP P4)** – This sewer will also have to be upsized to a 24-inch.
- **Tasman Drive Lift Station (CIP P2)** – As presented in the City's 2016 Master Plan (refer to Table 4-3), the current rated capacity of this pump station is 1.5 mgd. With the upstream upsized sewers, the PWWF reaching the Tasman Lift Station is 4.23 mgd or more than twice the current rated capacity. The Tasman Lift Station will therefore have to be upsized to accommodate the additional flow.

The additional flow pumped into the Great America west trunk at the intersection with Tasman Drive will create more surcharge conditions immediately downstream and upstream of the discharge manhole (S93-36) as shown on the profile view. However, the surcharge does not exceed the City's deficiency criteria (i.e. one-foot above pipe crown) and the minimum freeboard is still 6.5 feet at manhole S93-21.

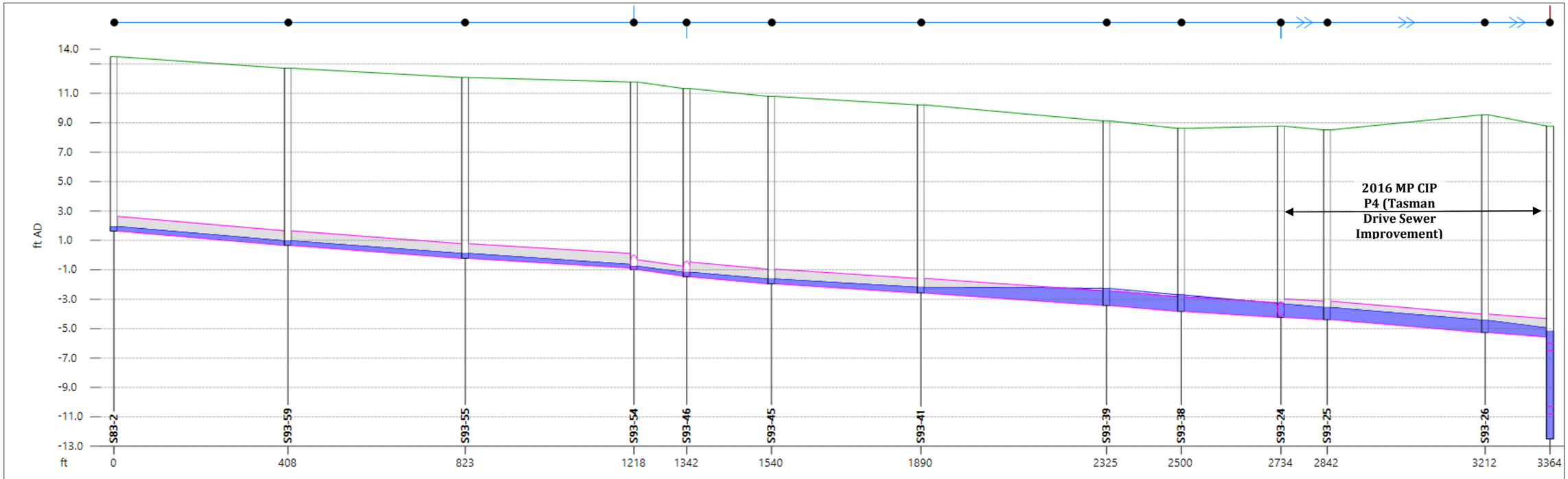
The PWWF reaching the Rabello and Northside pump stations will be 45.3 mgd or 2 mgd more than the PWWF without the development (43.3 mgd). According to the City's Master Plan, the rated firm capacity of the Rabello and Northside pump stations is 20 mgd and 21 mgd, respectively. The updated total flow to the pump stations (45.3 mgd) will therefore exceed the current combined rated firm capacities (41 mgd). The City may therefore wish to consider planning for future pump station capacity improvements.

Profiles – Patrick Henry Drive Specific Plan

Location Map



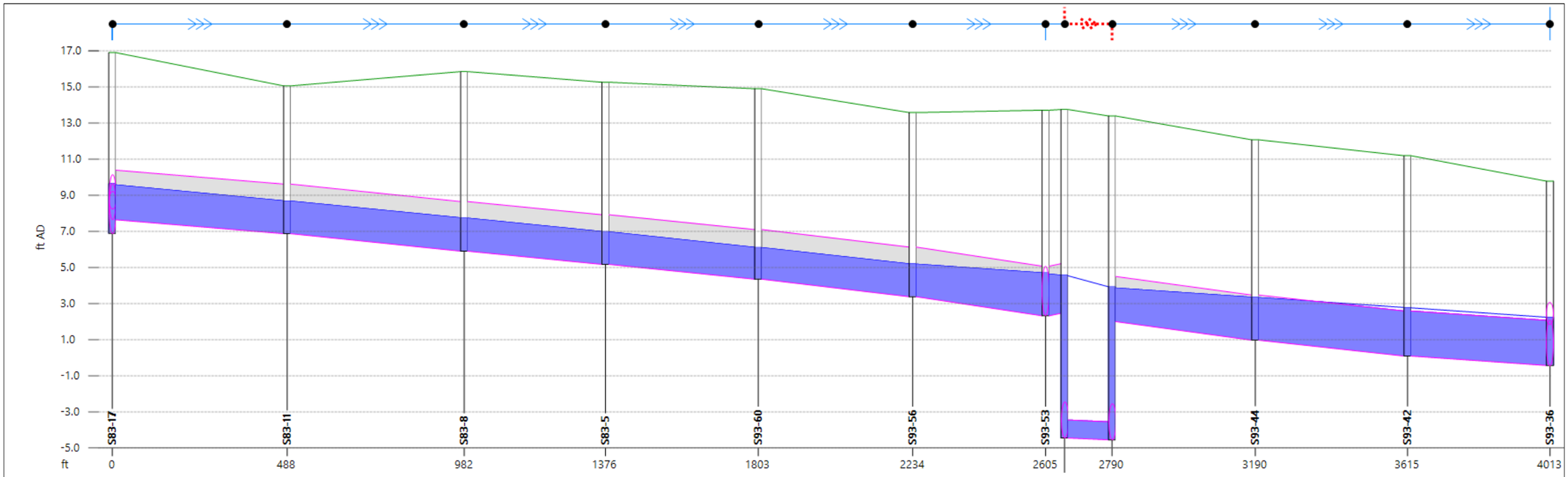
PWWF Before Development – Old Ironsides Drive and Tasman Drive to Tasman Lift Station Wet Well (From Manhole S83-2 to S93-35)



Link	S83-2.1	S93-59.1	S93-55.1	S93-54.1	S93-46.1	S93-45.1	S93-41.1	S93-39.1	S93-38.1	-	S93-25.1	S93-26.1
US node ID	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26
ds node	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
width (in)	12.0	12.0	12.0	8.0	12.0	12.0	12.0	12.0	12.0	15.0	15.0	15.0
us inv (ft AD)	1.640	0.660	-0.220	-0.980	-1.470	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260
ds inv (ft AD)	0.660	-0.220	-0.880	-1.420	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260	-5.570
pfc (MGD)	1.13	1.06	0.94	0.47	1.13	0.98	1.01	1.11	0.95	1.56	2.04	1.89
surc	0.31	0.33	0.33	0.37	0.32	0.39	1.00	2.00	2.00	0.72	0.67	0.65
US depth (ft)	0.298	0.308	0.330	0.211	0.297	0.323	0.390	1.148	1.115	0.898	0.812	0.808
US flow (MGD)	0.2110	0.2110	0.2109	0.0921	0.2109	0.2109	0.2109	1.1222	1.1222	1.5405	1.5405	1.5405

Node	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
ground (ft AD)	13.490	12.710	12.080	11.770	11.330	10.800	10.220	9.130	8.620	8.770	8.520	9.540	-
level (ft AD)	1.938	0.968	0.110	-0.768	-1.173	-1.627	-2.190	-2.256	-2.696	-3.292	-3.564	-4.426	-
flood dep (ft)	-11.552	-11.742	-11.970	-12.538	-12.503	-12.427	-12.410	-11.386	-11.316	-12.062	-12.084	-13.966	-

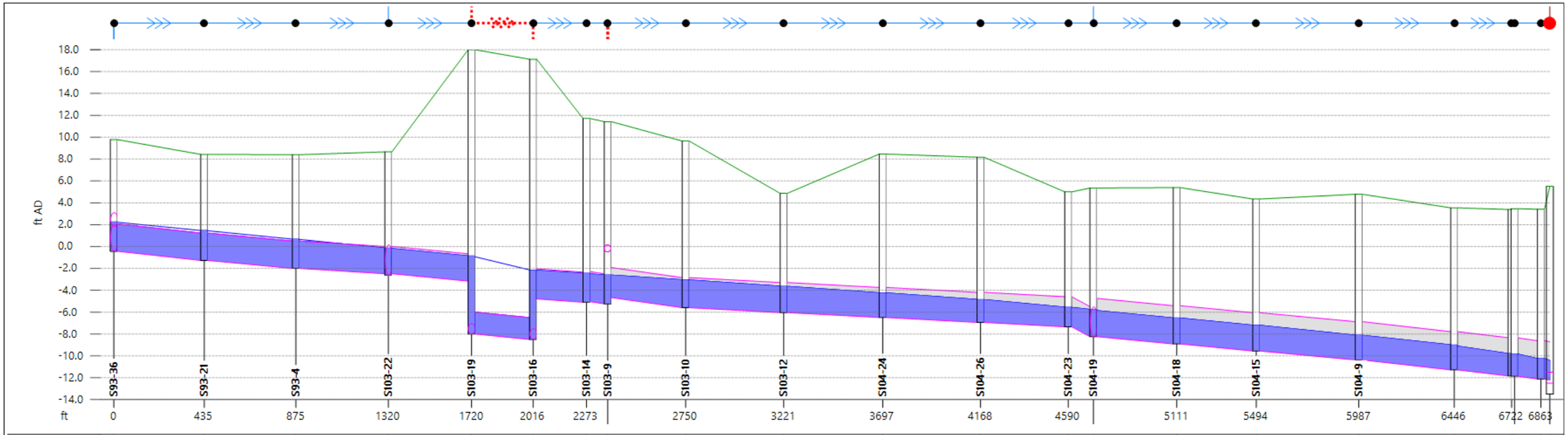
PWWF Before Development – Great America Parkway West Trunk to Tasman Drive (From Manhole S83-17 to S93-36)



Link	S83-17.1	S83-11.1	S83-8.1	S83-5.1	S93-60.1	S93-56.1	-	-	S93-48.1	S93-44.1	S93-42.1	
US node ID	S83-17	S83-11	S83-8	S83-5	S93-60	S93-56	-	S93-50	S93-48	S93-44	S93-42	
ds node	S83-11	S83-8	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36	
width (in)	33.0	33.0	33.0	33.0	33.0	33.0	-	12.0	30.0	30.0	30.0	
us inv (ft AD)	7.640	6.870	5.900	5.170	4.350	3.380	-	-4.450	2.000	0.970	0.090	
ds inv (ft AD)	6.870	5.900	5.170	4.350	3.380	2.320	-	-4.550	0.970	0.090	-0.430	
pfc (MGD)	13.58	15.14	14.71	14.99	16.22	18.27	-	0.63	13.46	12.06	9.59	
surc	0.70	0.67	0.67	0.66	0.66	0.87	-	2.00	0.95	1.00	2.00	
US depth (ft)	1.933	1.807	1.832	1.802	1.749	1.804	-	8.989	1.861	2.360	2.674	
US flow (MGD)	11.5766	11.6108	11.6103	11.6234	11.6233	11.6342	-	1.5913	9.7548	9.7088	9.6830	

Node	S83-17	S83-11	S83-8	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
ground (ft AD)	16.900	15.060	15.850	15.260	14.900	13.580	13.710	-	13.390	12.070	11.190	9.780
level (ft AD)	9.644	8.687	7.747	6.985	6.110	5.199	4.701	-	3.927	3.348	2.781	2.241
flood dep (ft)	-7.256	-6.373	-8.103	-8.275	-8.790	-8.381	-9.009	-	-9.463	-8.722	-8.409	-7.539

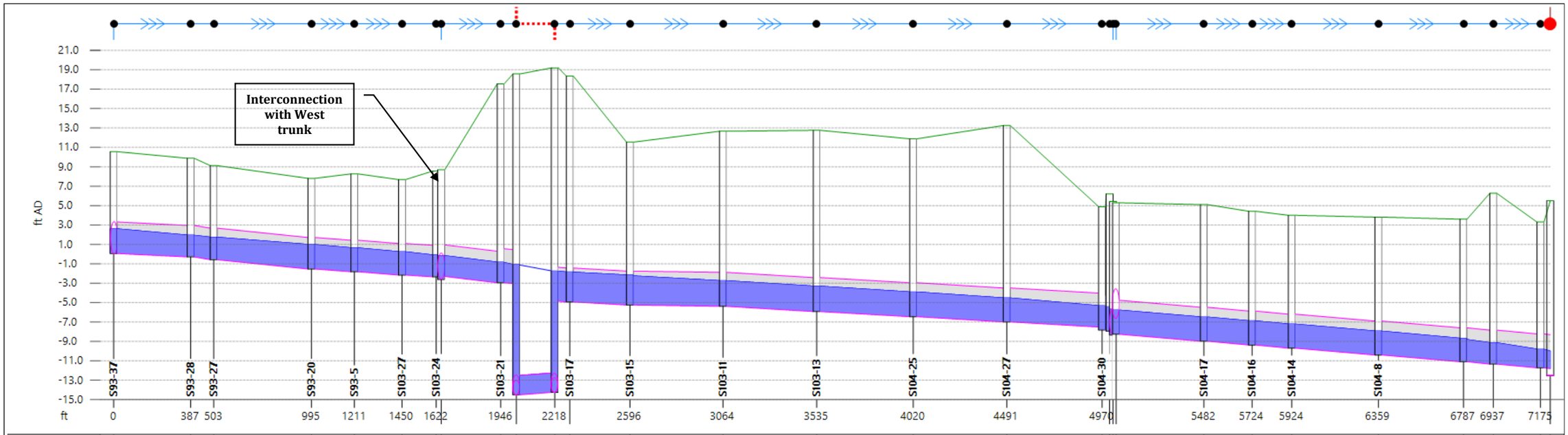
PWWF Before Development – Great America Parkway West Trunk to Lafayette Street West Trunk to Rabello Pump Station (From Manhole S93-36 to S114-19)



Link	S93-36.1	S93-21.1	S93-4.1	S103-22.1	S103-19.1	-	-	S103-9.1	S103-10.1	S103-12.1	S104-24.1	S104-26.1	-	S104-19.1	S104-18.1	S104-15.1	S104-9.1	S114-14.1	-
US node ID	S93-36	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	-	S104-19	S104-18	S104-15	S104-9	S114-14	-
ds node	S93-21	S93-4	S103-22	S103-19	S103-16	S103-14	-	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	S114-23	-
width (in)	30.0	30.0	30.0	30.0	24.0	33.0	-	33.0	33.0	33.0	33.0	33.0	33.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	-0.430	-1.270	-2.000	-2.490	-8.000	-4.790	-	-4.670	-5.590	-6.040	-6.490	-6.940	-	-8.240	-8.910	-9.550	-10.370	-11.284	-
ds inv (ft AD)	-1.270	-2.000	-2.490	-3.160	-8.500	-5.090	-	-5.590	-6.040	-6.490	-6.940	-7.340	-	-8.910	-9.550	-10.370	-11.284	-11.834	-
pfc (MGD)	11.66	10.79	8.80	10.85	6.01	11.70	-	16.94	10.56	10.51	10.57	10.53	-	26.59	26.60	26.52	29.03	29.03	-
surc	1.00	2.00	2.00	0.93	2.00	0.97	-	0.93	0.92	0.87	0.82	0.76	0.90	0.68	0.68	0.67	0.66	0.62	0.58
US depth (ft)	2.653	2.714	2.653	2.314	7.064	2.615	-	2.061	2.539	2.402	2.250	2.087	-	2.385	2.369	2.345	2.253	2.178	-
US flow (MGD)	11.0486	11.0553	11.0626	10.8900	9.4622	10.8975	-	13.5895	11.8911	11.6382	11.5140	11.4504	-	21.2591	21.2492	21.4264	21.4232	21.4209	-

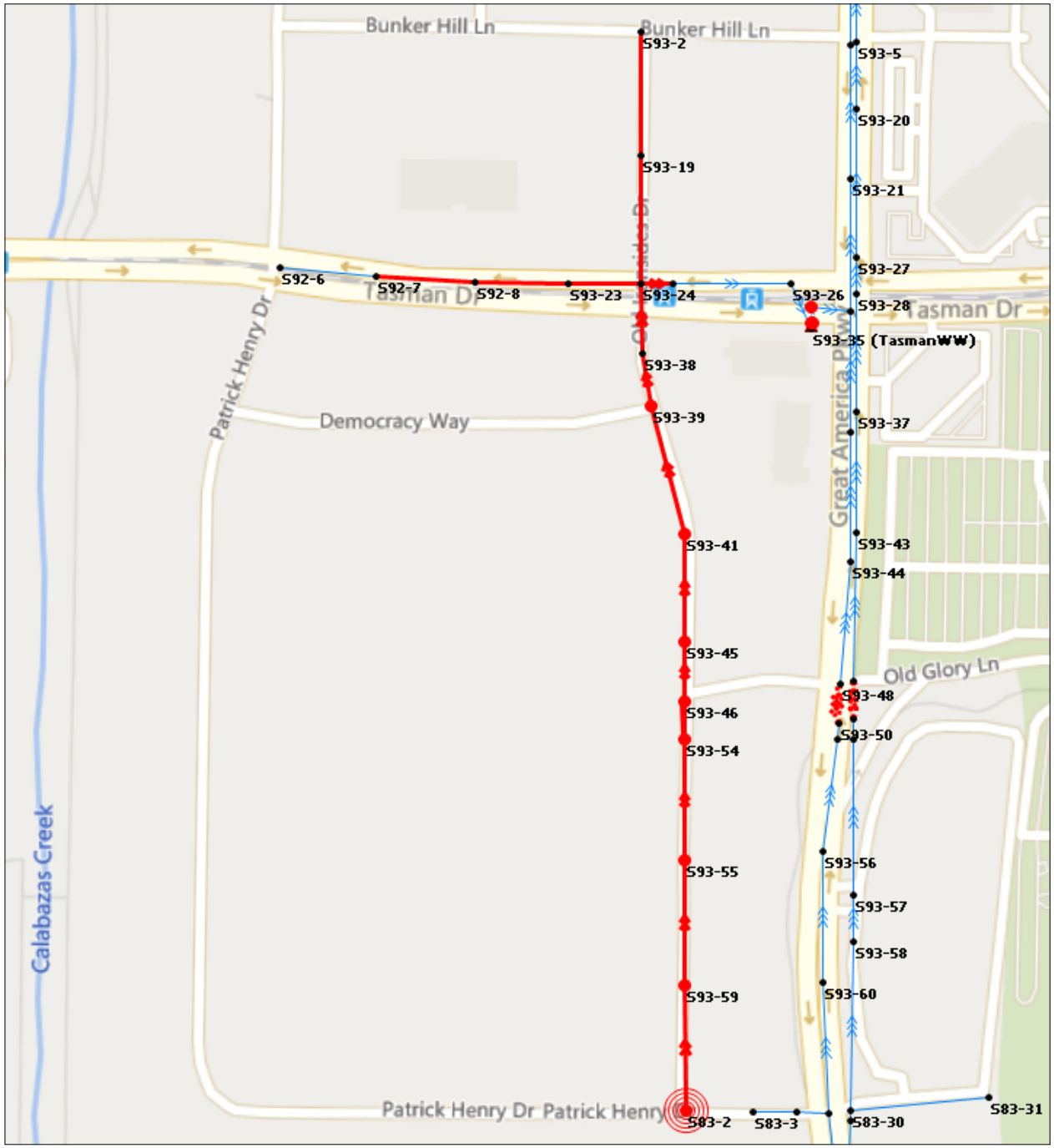
Node	-	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	S104-23	S104-19	S104-18	S104-15	S104-9	S114-14	-
ground (ft AD)	9.780	8.430	8.400	8.660	18.000	17.130	-	11.420	9.650	4.860	8.460	8.170	5.000	5.350	5.390	4.350	4.780	3.540	-
level (ft AD)	2.245	1.468	0.676	-0.150	-0.857	-2.148	-	-2.597	-3.037	-3.626	-4.228	-4.841	-5.549	-5.760	-6.528	-7.192	-8.105	-9.000	-
flood dep (ft)	-7.535	-6.962	-7.724	-8.810	-18.857	-19.278	-	-	-12.687	-8.486	-12.688	-13.011	-10.549	-11.110	-11.918	-11.542	-12.885	-12.540	-

PWWF Before Development – Great America Parkway East Trunk to Lafayette Street East Trunk to Rabello Pump Station (From Manhole S93-37 to S114-19)

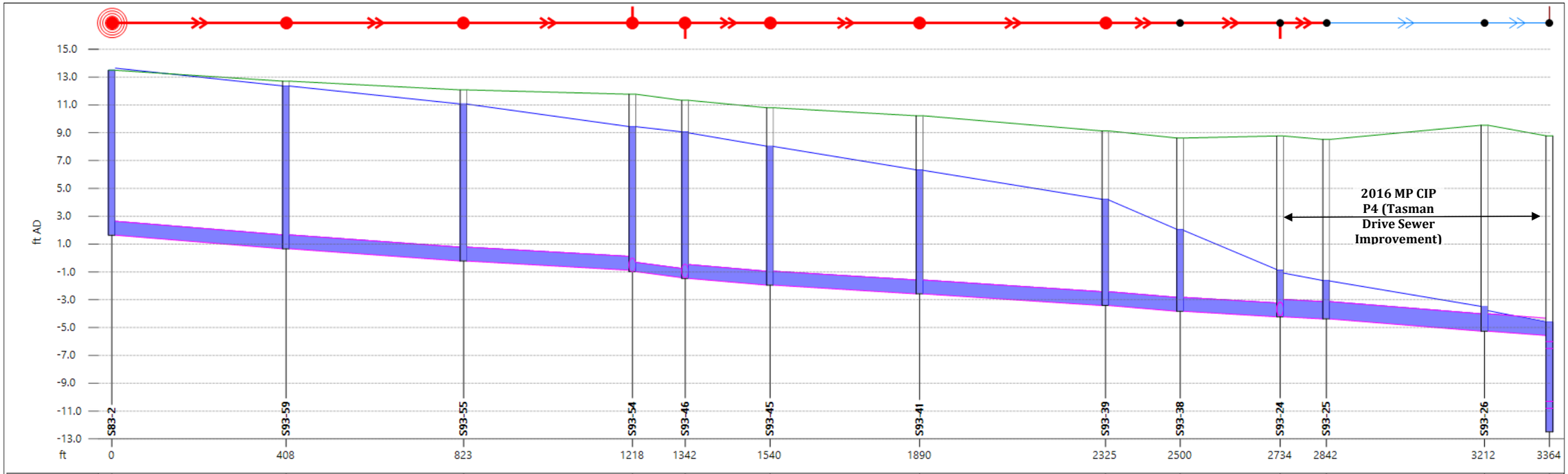


Link	S93-37.1	-	S93-27.1	-	S93-5.1	-	S103-23.1	-	-	-	S103-17.1	S103-15.1	S103-11.1	S103-13.1	S104-25.1	S104-27.1	S104-22.1	-	-	S104-14.1	S104-8.1	-	-
US node ID	S93-37	-	S93-27	S93-20	S93-5	-	S103-23	-	-	-	S103-17	S103-15	S103-11	S103-13	S104-25	S104-27	S104-22	S104-17	-	S104-14	S104-8	-	S114-12
ds node	S93-28	-	S93-20	S93-5	S103-27	-	S103-21	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	S104-30	S104-17	S104-16	-	S104-8	S114-13	-	S114-11
width (in)	39.0	-	39.0	39.0	39.0	39.0	39.0	-	24.0	-	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	0.060	-	-0.580	-1.540	-1.820	-	-2.300	-	-	-	-4.930	-5.250	-5.380	-5.920	-6.450	-6.990	-8.260	-8.976	-9.368	-9.693	-10.398	-	-11.336
ds inv (ft AD)	-0.290	-	-1.540	-1.820	-2.160	-	-2.950	-	-	-	-5.250	-5.380	-5.920	-6.450	-6.990	-7.520	-8.976	-9.368	-9.693	-10.398	-11.092	-	-11.720
pfc (MGD)	16.05	-	23.59	19.21	20.12	17.27	24.88	-	-5.26	-	21.15	10.84	22.01	21.49	22.04	21.62	26.19	26.19	26.19	26.19	26.19	-	26.19
surc	0.78	-	0.78	0.78	0.76	0.74	0.66	-	1.00	-	0.89	0.86	0.75	0.75	0.73	0.70	0.72	0.71	0.71	0.71	0.70	0.65	0.63
US depth (ft)	2.543	-	2.312	2.520	2.458	2.397	2.137	-	13.376	-	3.059	3.007	2.635	2.610	2.543	2.464	2.483	2.487	2.484	2.476	2.458	-	2.196
US flow (MGD)	18.7449	-	18.8490	-	19.1529	-	19.3619	-	8.1265	-	19.3294	19.3222	20.1073	20.1017	20.1017	20.2067	21.9099	21.9050	-	21.9003	21.8939	-	21.8856
Node	-	S93-28	S93-27	S93-20	S93-5	-	-	-	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	-	-	S104-17	-	S104-14	S104-8	S114-13	-	-
ground (ft AD)	-	9.880	9.120	7.810	8.270	7.680	-	-	-	-	-	11.540	12.660	12.760	11.880	13.250	4.890	5.290	5.100	4.420	4.000	3.810	3.600	-	-
level (ft AD)	-	1.958	1.747	0.995	0.653	0.253	-	-	-	-	-	-2.157	-2.732	-3.297	-3.894	-4.513	-5.322	-5.762	-6.474	-6.870	-7.203	-7.926	-8.683	-	-
flood dep (ft)	-	-7.922	-7.373	-6.815	-7.617	-	-	-	-	-	-	-13.697	-15.392	-16.057	-15.774	-17.763	-10.212	-	-11.574	-	-11.203	-11.736	-12.283	-	-

PWWF After Development (Scenario A) – Plan View



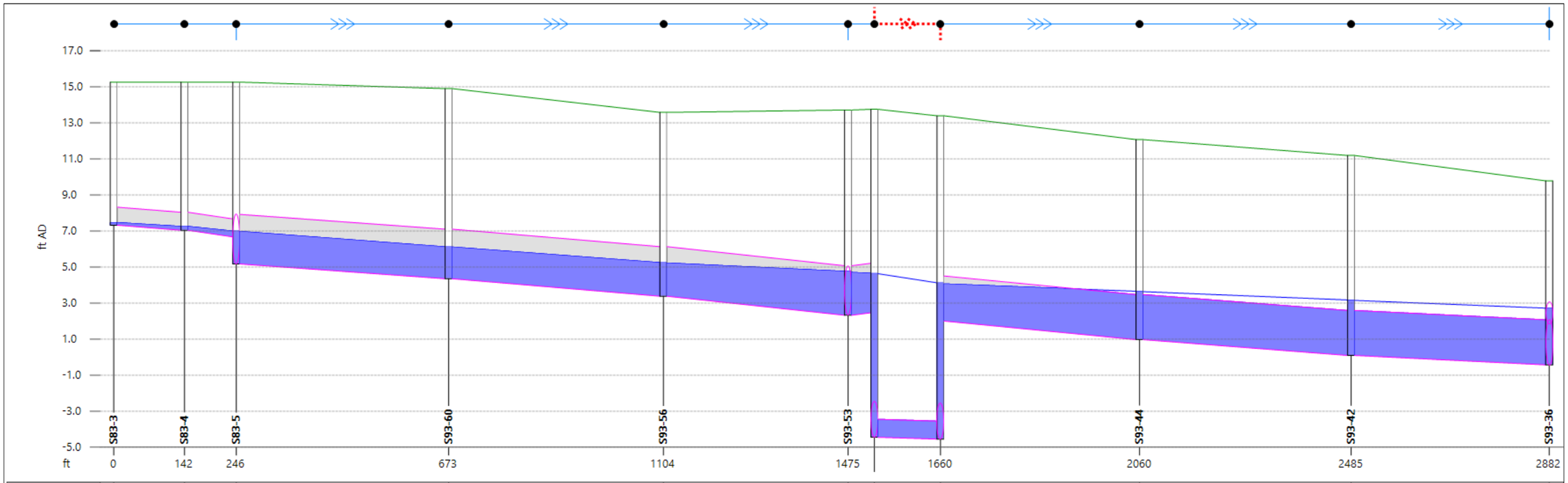
PWWF After Development (Scenario A) – Old Ironsides Drive and Tasman Drive to Tasman Lift Station Wet Well (From Manhole S83-2 to S93-35)



Link	S83-2.1	S93-59.1	S93-55.1	S93-54.1	S93-46.1	S93-45.1	S93-41.1	S93-39.1	S93-38.1	-	S93-25.1	S93-26.1
US node ID	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26
ds node	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
width (in)	12.0	12.0	12.0	8.0	12.0	12.0	12.0	12.0	12.0	15.0	15.0	15.0
us inv (ft AD)	1.640	0.660	-0.220	-0.980	-1.470	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260
ds inv (ft AD)	0.660	-0.220	-0.880	-1.420	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260	-5.570
pfc (MGD)	1.13	1.06	0.94	0.47	1.13	0.98	1.01	1.11	0.95	1.56	2.04	1.89
surc	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
US depth (ft)	12.002	11.697	11.279	10.416	10.458	9.968	8.880	7.583	5.811	3.144	2.729	1.475
US flow (MGD)	1.6920	1.6507	1.6168	0.4803	1.8117	1.8105	1.8090	2.5047	2.5048	2.9176	2.9176	2.9176

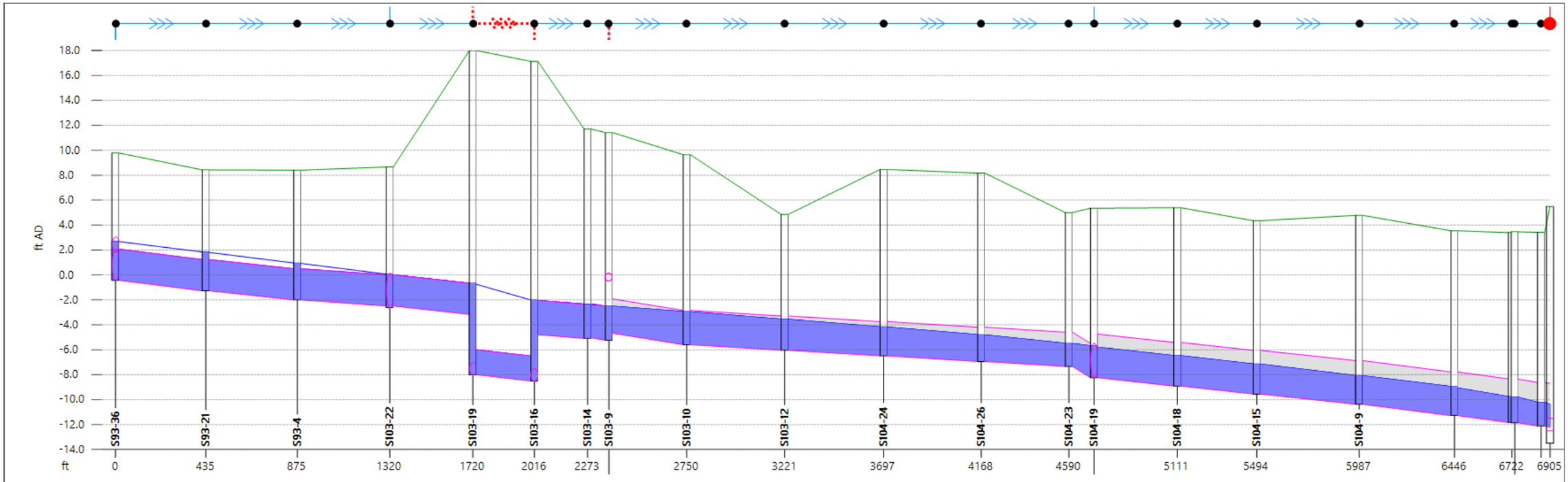
Node	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
ground (ft AD)	13.490	12.710	12.080	11.770	11.330	10.800	10.220	9.130	8.620	8.770	8.520	9.540	-
level (ft AD)	13.490	12.365	11.068	9.440	9.064	8.032	6.332	4.216	2.053	-0.867	-1.621	-3.504	-
flood dep (ft)	0.000	-0.345	-1.012	-2.330	-2.266	-2.768	-3.888	-4.914	-6.567	-9.637	-10.141	-13.044	-

PWWF After Development (Scenario A) – Great America Parkway West Trunk to Tasman Drive (From Manhole S83-17 to S93-36)



Link		S83-3.1	S83-4.1	S83-5.1	S93-60.1	S93-56.1	-	S93-50.1	S93-48.1	S93-44.1	S93-42.1	
US node ID		S83-3	S83-4	S83-5	S93-60	S93-56	-	S93-50	S93-48	S93-44	S93-42	
ds node		S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36	
width (in)		12.0	12.0	33.0	33.0	33.0	33.0	12.0	30.0	30.0	30.0	
us inv (ft AD)		7.320	7.040	5.170	4.350	3.380	-	-4.450	2.000	0.970	0.090	
ds inv (ft AD)		7.040	6.670	4.350	3.380	2.320	-	-4.550	0.970	0.090	-0.430	
pfc (MGD)		1.02	1.37	14.99	16.22	18.27	-	0.63	13.46	12.06	9.59	
surc		0.21	0.32	0.66	0.68	0.89	0.87	2.00	1.00	1.00	1.00	
US depth (ft)		0.145	0.211	1.809	1.757	1.844	-	9.078	2.064	2.662	3.058	
US flow (MGD)		-0.0001	0.1212	11.6882	11.6880	11.6875	-	1.4988	9.1864	9.1016	9.0522	
Node	-		S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
ground (ft AD)	-		15.260	15.260	14.900	13.580	13.710	13.750	13.390	12.070	11.190	9.780
level (ft AD)	-		7.251	6.991	6.118	5.239	4.760	4.649	4.122	3.651	3.169	2.714
flood dep (ft)	-		-8.009	-8.269	-8.782	-8.341	-8.950	-9.101	-9.268	-8.419	-8.021	-7.066

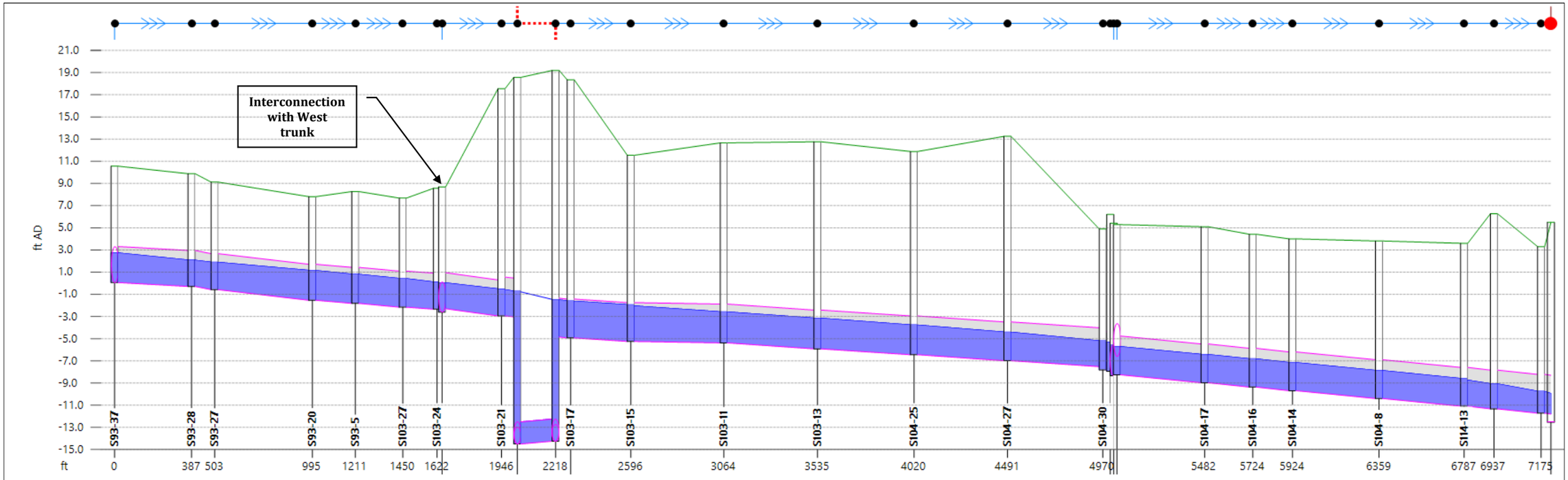
PWWF After Development (Scenario A) – Great America Parkway West Trunk to Lafayette Street West Trunk to Rabello Pump Station (From Manhole S93-36 to S114-19)



Link	S93-36.1	S93-21.1	S93-4.1	S103-22.1	S103-19.1	-	-	S103-9.1	S103-10.1	S103-12.1	S104-24.1	S104-26.1	-	S104-19.1	S104-18.1	S104-15.1	S104-9.1	S114-14.1	-
US node ID	S93-36	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	-	S104-19	S104-18	S104-15	S104-9	S114-14	-
ds node	S93-21	S93-4	S103-22	S103-19	S103-16	S103-14	-	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	S114-23	-
width (in)	30.0	30.0	30.0	30.0	24.0	33.0	-	33.0	33.0	33.0	33.0	33.0	33.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	-0.430	-1.270	-2.000	-2.490	-8.000	-4.790	-	-4.670	-5.590	-6.040	-6.490	-6.940	-	-8.240	-8.910	-9.550	-10.370	-11.284	-
ds inv (ft AD)	-1.270	-2.000	-2.490	-3.160	-8.500	-5.090	-	-5.590	-6.040	-6.490	-6.940	-7.340	-	-8.910	-9.550	-10.370	-11.284	-11.834	-
pfc (MGD)	11.66	10.79	8.80	10.85	6.01	11.70	-	16.94	10.56	10.51	10.57	10.53	-	26.59	26.60	26.52	29.03	29.03	-
surc	2.00	2.00	2.00	2.00	2.00	1.00	-	0.96	0.96	0.90	0.84	0.78	0.93	0.70	0.69	0.68	0.67	0.63	0.59
US depth (ft)	3.105	3.074	2.924	2.510	7.247	2.739	-	2.167	2.637	2.479	2.310	2.135	-	2.446	2.430	2.397	2.286	2.214	-
US flow (MGD)	11.7509	11.7508	11.7517	11.1299	9.6693	11.1379	-	13.2163	12.3362	11.8884	11.7454	11.6874	-	21.7816	21.7757	21.9541	21.9507	21.9488	-

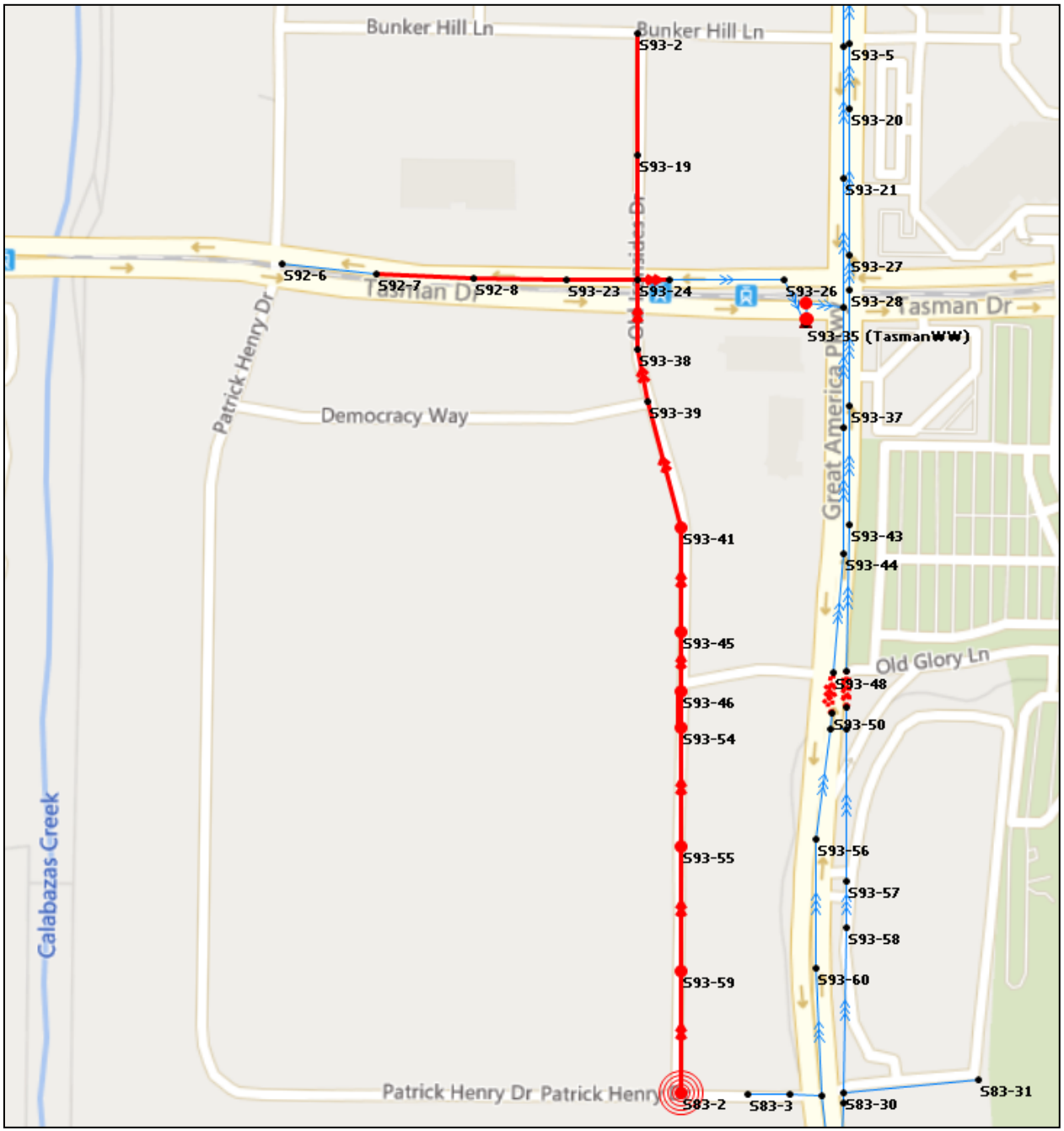
Node	-	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	-
ground (ft AD)	9.780	8.430	8.400	8.660	18.000	17.130	-	11.420	9.650	4.860	8.460	8.170	5.000	5.350	5.390	4.350	4.780	3.540	-
level (ft AD)	2.714	1.841	0.958	0.051	-0.671	-2.021	-	-2.489	-2.939	-3.547	-4.167	-4.792	-5.485	-5.691	-6.467	-7.140	-8.071	-8.953	-
flood dep (ft)	-7.066	-6.589	-7.442	-8.609	-18.671	-19.151	-	-	-12.589	-8.407	-12.627	-12.962	-10.485	-11.041	-11.857	-11.490	-12.851	-12.493	-

PWWF After Development (Scenario A) – Great America Parkway East Trunk to Lafayette Street East Trunk to Rabello Pump Station (From Manhole S93-37 to S114-19)

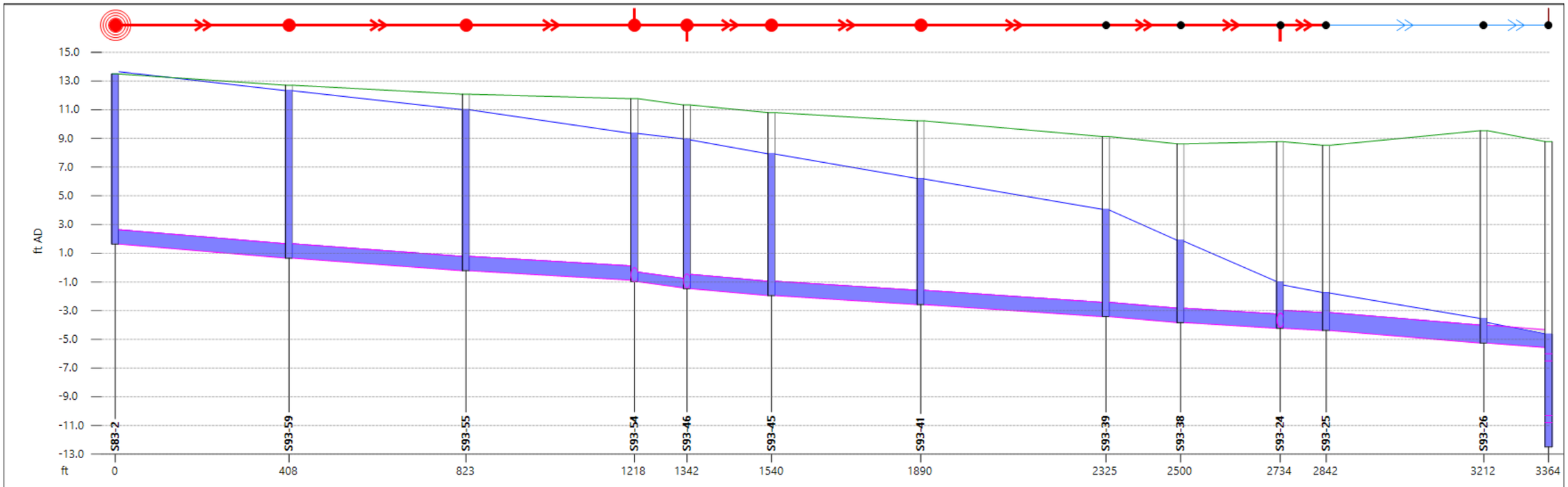


Link	S93-37.1	-	S93-27.1	-	S93-5.1	-	S103-23.1	-	-	-	S103-17.1	S103-15.1	S103-11.1	S103-13.1	S104-25.1	S104-27.1	S104-22.1	-	-	S104-14.1	S104-8.1	-	-
US node ID	S93-37	-	S93-27	S93-20	S93-5	-	S103-23	-	-	-	S103-17	S103-15	S103-11	S103-13	S104-25	S104-27	S104-22	S104-17	-	S104-14	S104-8	-	S114-12
ds node	S93-28	-	S93-20	S93-5	S103-27	-	S103-21	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	S104-30	S104-17	S104-16	-	S104-8	S114-13	-	S114-11
width (in)	39.0	-	39.0	39.0	39.0	39.0	39.0	-	24.0	-	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	0.060	-	-0.580	-1.540	-1.820	-	-2.300	-	-	-	-4.930	-5.250	-5.380	-5.920	-6.450	-6.990	-8.260	-8.976	-9.368	-9.693	-10.398	-	-11.336
ds inv (ft AD)	-0.290	-	-1.540	-1.820	-2.160	-	-2.950	-	-	-	-5.250	-5.380	-5.920	-6.450	-6.990	-7.520	-8.976	-9.368	-9.693	-10.398	-11.092	-	-11.720
pfc (MGD)	16.05	-	23.59	19.21	20.12	17.27	24.88	-	-5.26	-	21.15	10.84	22.01	21.49	22.04	21.62	26.19	26.19	26.19	26.19	26.19	-	26.19
surc	0.82	-	0.83	0.83	0.81	0.79	0.75	-	1.00	-	0.95	0.92	0.80	0.79	0.76	0.73	0.73	0.73	0.73	0.72	0.72	0.67	0.64
US depth (ft)	2.673	-	2.463	2.683	2.620	2.572	2.333	-	13.721	-	3.306	3.204	2.786	2.759	2.677	2.571	2.538	2.542	2.538	2.528	2.518	-	2.254
US flow (MGD)	19.6437	-	19.7456	-	20.0472	-	20.5905	-	8.6352	-	20.5400	20.5349	21.3254	21.3203	21.3173	21.4183	22.8928	22.8900	-	22.8873	22.8856	-	22.8843
Node	-	S93-28	S93-27	S93-20	S93-5	-	-	-	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	-	-	S104-17	-	S104-14	S104-8	S114-13	-	-
ground (ft AD)	-	9.880	9.120	7.810	8.270	7.680	-	-	-	-	-	11.540	12.660	12.760	11.880	13.250	4.890	5.290	5.100	4.420	4.000	3.810	3.600	-	-
level (ft AD)	-	2.091	1.899	1.161	0.818	0.430	-	-	-	-	-	-1.944	-2.578	-3.146	-3.759	-4.403	-5.196	-5.706	-6.417	-	-7.148	-7.863	-8.602	-	-
flood dep (ft)	-	-7.789	-7.221	-6.649	-7.452	-	-	-	-	-	-	-13.484	-15.238	-15.906	-15.639	-17.653	-10.086	-	-11.517	-	-11.148	-11.673	-12.202	-	-

PDWF After Development (Scenario A) – Plan View



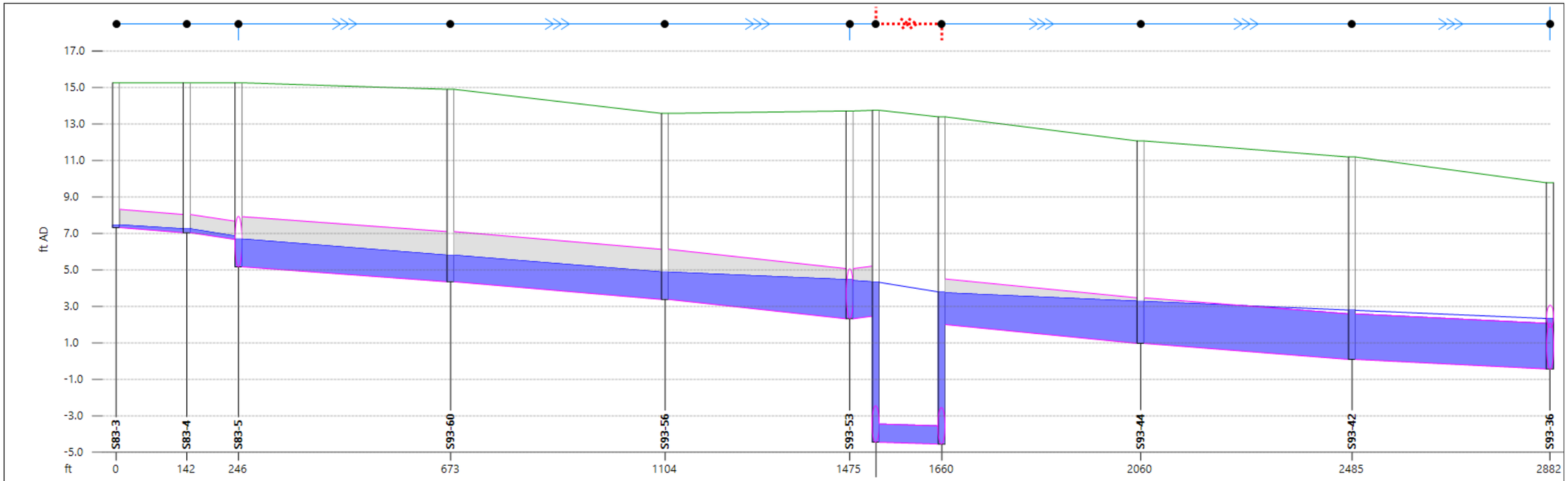
PDWF After Development (Scenario A) – Old Ironsides Drive and Tasman Drive to Tasman Lift Station Wet Well (From Manhole S83-2 to S93-35)



Link	S83-2.1	S93-59.1	S93-55.1	S93-54.1	S93-46.1	S93-45.1	S93-41.1	S93-39.1	S93-38.1	-	S93-25.1	S93-26.1
US node ID	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26
ds node	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
width (in)	12.0	12.0	12.0	8.0	12.0	12.0	12.0	12.0	12.0	15.0	15.0	15.0
us inv (ft AD)	1.640	0.660	-0.220	-0.980	-1.470	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260
ds inv (ft AD)	0.660	-0.220	-0.880	-1.420	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260	-5.570
pfc (MGD)	1.13	1.06	0.94	0.47	1.13	0.98	1.01	1.11	0.95	1.56	2.04	1.89
surc	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
US depth (ft)	12.009	11.662	11.214	10.325	10.362	9.861	8.753	7.423	5.659	3.009	2.607	1.431
US flow (MGD)	1.6920	1.6482	1.6175	0.4803	1.8118	1.8105	1.8090	2.4992	2.4992	2.8746	2.8746	2.8746

Node	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
ground (ft AD)	13.490	12.710	12.080	11.770	11.330	10.800	10.220	9.130	8.620	8.770	8.520	9.540	-
level (ft AD)	13.490	12.331	11.003	9.349	8.969	7.925	6.206	4.057	1.901	-1.007	-1.741	-3.570	-
flood dep (ft)	0.000	-0.379	-1.077	-2.421	-2.361	-2.875	-4.014	-5.073	-6.719	-9.777	-10.261	-13.110	-

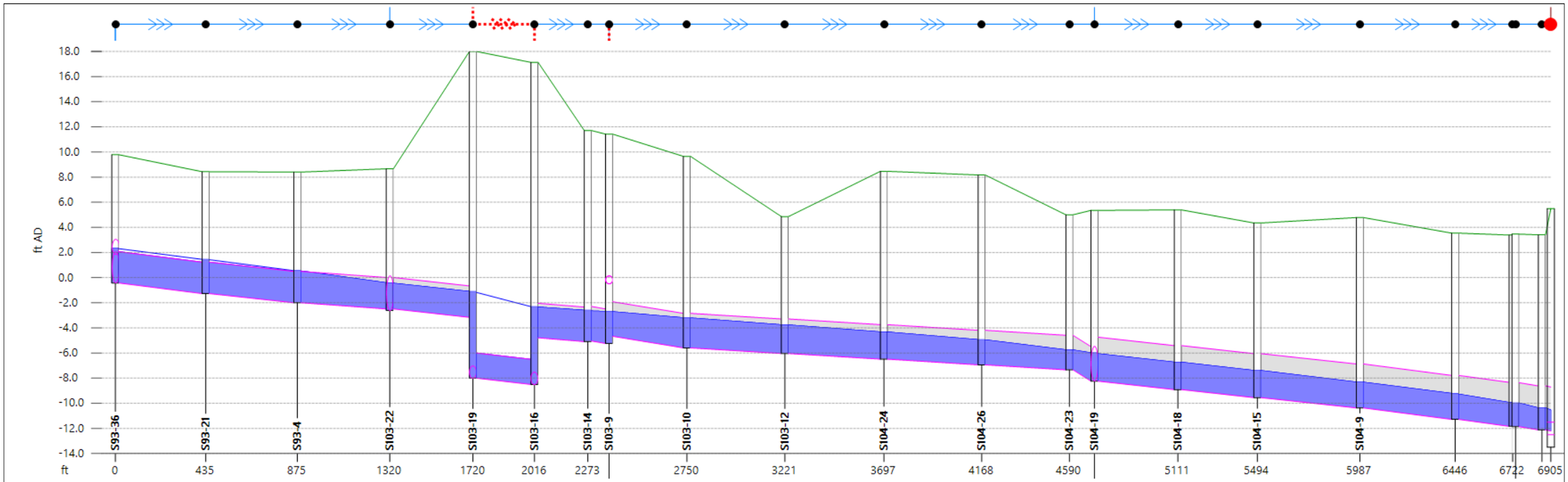
PDWF After Development (Scenario A) – Great America Parkway West Trunk to Tasman Drive (From Manhole S83-17 to S93-36)



Link	S83-3.1	S83-4.1	S83-5.1	S93-60.1	S93-56.1	-	S93-50.1	S93-48.1	S93-44.1	S93-42.1
US node ID	S83-3	S83-4	S83-5	S93-60	S93-56	-	S93-50	S93-48	S93-44	S93-42
ds node	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
width (in)	12.0	12.0	33.0	33.0	33.0	33.0	12.0	30.0	30.0	30.0
us inv (ft AD)	7.320	7.040	5.170	4.350	3.380	-	-4.450	2.000	0.970	0.090
ds inv (ft AD)	7.040	6.670	4.350	3.380	2.320	-	-4.550	0.970	0.090	-0.430
pfc (MGD)	1.02	1.37	14.99	16.22	18.27	-	0.63	13.46	12.06	9.59
surc	0.21	0.21	0.55	0.55	0.78	0.76	2.00	0.92	1.00	1.00
US depth (ft)	0.144	0.210	1.520	1.451	1.497	-	8.766	1.740	2.295	2.691
US flow (MGD)	-0.0001	0.1204	8.7625	8.7622	8.7618	-	1.4774	9.0502	8.9893	8.9426

Node	-	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
ground (ft AD)	-	15.260	15.260	14.900	13.580	13.710	-	13.390	12.070	11.190	9.780
level (ft AD)	-	7.250	6.694	5.803	4.882	4.467	4.338	3.792	3.280	2.797	2.334
flood dep (ft)	-	-8.010	-8.566	-9.097	-8.698	-9.243	-9.412	-9.598	-8.790	-8.393	-7.446

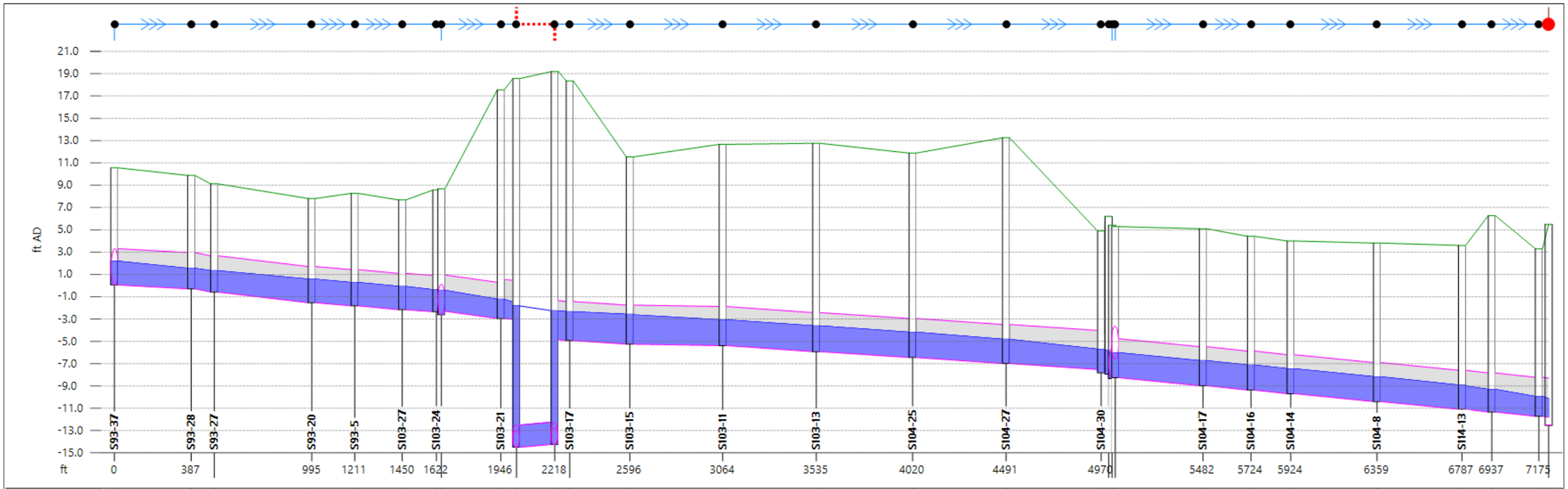
PDWF After Development (Scenario A) – Great America Parkway West Trunk to Lafayette Street West Trunk to Rabello Pump Station (From Manhole S93-36 to S114-19)



Link	S93-36.1	S93-21.1	S93-4.1	S103-22.1	S103-19.1	-	-	S103-9.1	S103-10.1	S103-12.1	S104-24.1	S104-26.1	-	S104-19.1	S104-18.1	S104-15.1	S104-9.1	S114-14.1	-
US node ID	S93-36	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	-	S104-19	S104-18	S104-15	S104-9	S114-14	-
ds node	S93-21	S93-4	S103-22	S103-19	S103-16	S103-14	-	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	S114-23	-
width (in)	30.0	30.0	30.0	30.0	24.0	33.0	-	33.0	33.0	33.0	33.0	33.0	33.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	-0.430	-1.270	-2.000	-2.490	-8.000	-4.790	-	-4.670	-5.590	-6.040	-6.490	-6.940	-	-8.240	-8.910	-9.550	-10.370	-11.284	-
ds inv (ft AD)	-1.270	-2.000	-2.490	-3.160	-8.500	-5.090	-	-5.590	-6.040	-6.490	-6.940	-7.340	-	-8.910	-9.550	-10.370	-11.284	-11.834	-
pfc (MGD)	11.66	10.79	8.80	10.85	6.01	11.70	-	16.94	10.56	10.51	10.57	10.53	-	26.59	26.60	26.52	29.03	29.03	-
surc	2.00	2.00	2.00	0.82	2.00	0.91	-	0.87	0.87	0.83	0.78	0.72	0.82	0.62	0.62	0.62	0.59	0.57	0.54
US depth (ft)	2.736	2.695	2.532	2.044	6.820	2.445	-	1.958	2.379	2.272	2.157	1.989	-	2.184	2.175	2.154	2.046	2.005	-
US flow (MGD)	11.6866	11.6870	11.6885	10.5822	9.1890	10.5828	-	13.3600	11.7200	11.2526	11.1290	11.0535	-	18.5750	18.5675	18.7393	18.7354	18.7332	-

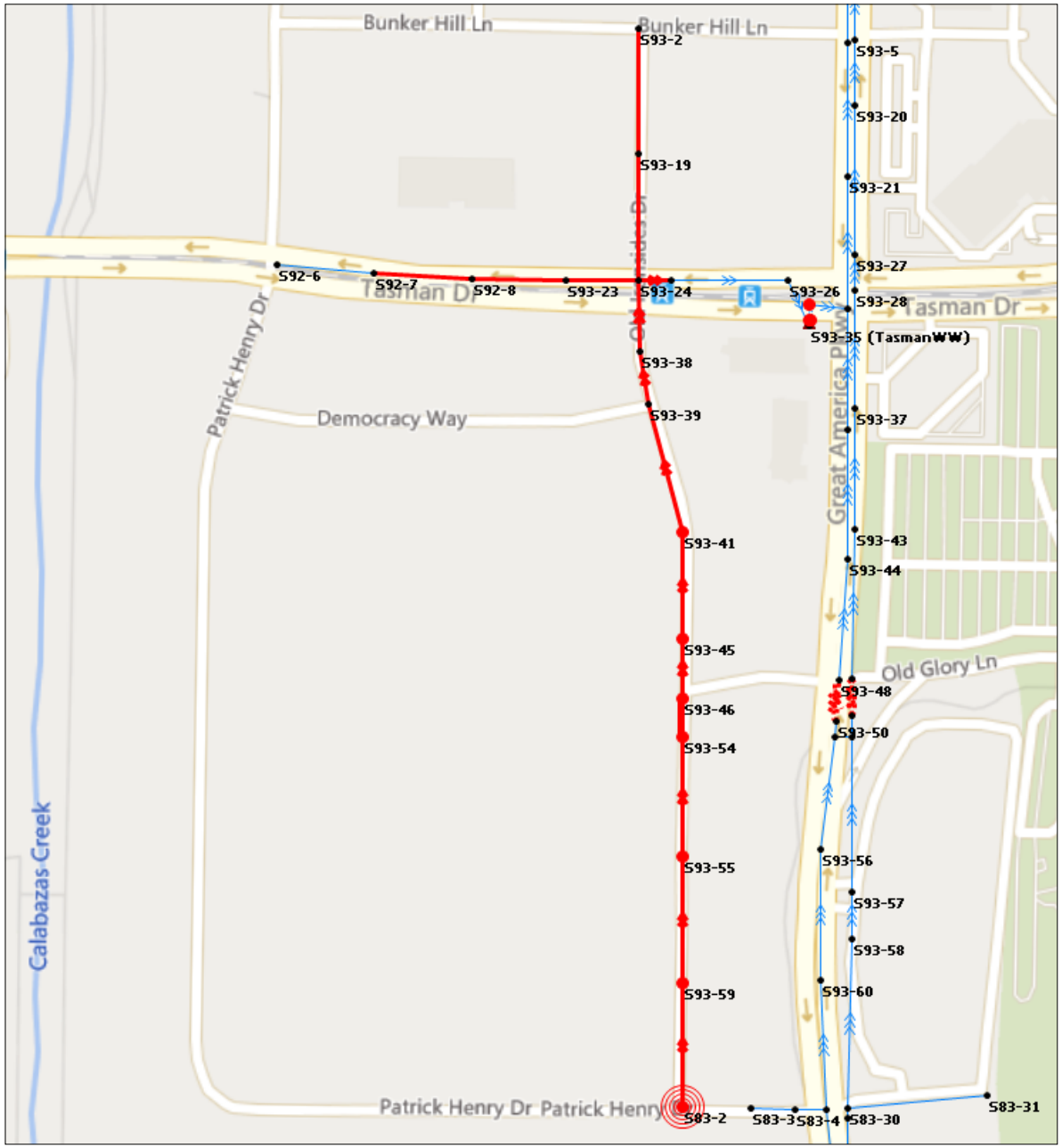
Node	-	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	-
ground (ft AD)	9.780	8.430	8.400	8.660	18.000	17.130	-	11.420	9.650	4.860	8.460	8.170	5.000	5.350	5.390	4.350	4.780	3.540	-
level (ft AD)	2.334	1.452	0.554	-0.423	-1.106	-2.321	-	-2.698	-3.199	-3.757	-4.322	-4.940	-5.746	-5.995	-6.727	-7.388	-8.317	-9.219	-
flood dep (ft)	-7.446	-6.978	-7.846	-9.083	-19.106	-19.451	-	-	-12.849	-8.617	-12.782	-13.110	-10.746	-11.345	-12.117	-11.738	-13.097	-12.759	-

PDWF After Development (Scenario A) – Great America Parkway East Trunk to Lafayette Street East Trunk to Rabello Pump Station (From Manhole S93-37 to S114-19)

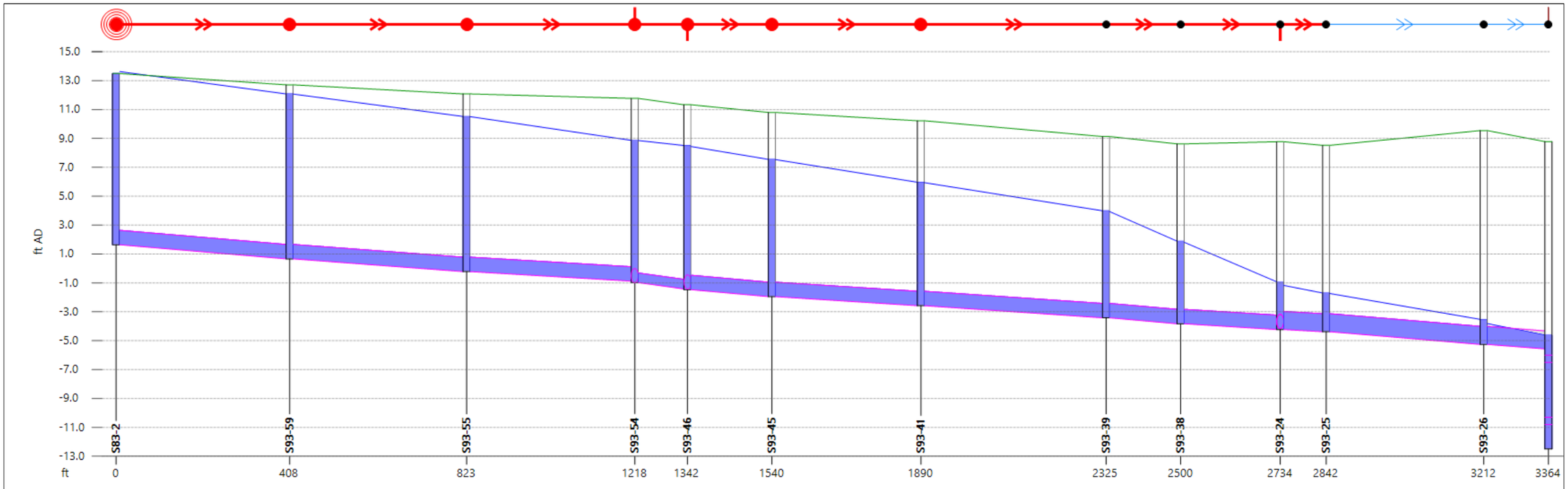


Link	S93-37.1	-	S93-27.1	-	S93-5.1	-	S103-23.1	-	-	-	S103-17.1	S103-15.1	S103-11.1	S103-13.1	S104-25.1	S104-27.1	S104-22.1	-	-	S104-14.1	S104-8.1	-	-
US node ID	S93-37	-	S93-27	S93-20	S93-5	-	S103-23	-	-	-	S103-17	S103-15	S103-11	S103-13	S104-25	S104-27	S104-22	S104-17	-	S104-14	S104-8	-	S114-12
ds node	S93-28	-	S93-20	S93-5	S103-27	-	S103-21	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	S104-30	S104-17	S104-16	-	S104-8	S114-13	-	S114-11
width (in)	39.0	-	39.0	39.0	39.0	39.0	39.0	-	24.0	-	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	0.060	-	-0.580	-1.540	-1.820	-	-2.300	-	-	-	-4.930	-5.250	-5.380	-5.920	-6.450	-6.990	-8.260	-8.976	-9.368	-9.693	-10.398	-	-11.336
ds inv (ft AD)	-0.290	-	-1.540	-1.820	-2.160	-	-2.950	-	-	-	-5.250	-5.380	-5.920	-6.450	-6.990	-7.520	-8.976	-9.368	-9.693	-10.398	-11.092	-	-11.720
pfc (MGD)	16.05	-	23.59	19.21	20.12	17.27	24.88	-	-5.26	-	21.15	10.84	22.01	21.49	22.04	21.62	26.19	26.19	26.19	26.19	26.19	-	26.19
surc	0.65	-	0.65	0.65	0.64	0.64	0.58	-	1.00	-	0.77	0.75	0.66	0.66	0.65	0.62	0.64	0.64	0.64	0.64	0.63	0.60	0.58
US depth (ft)	2.124	-	1.908	2.107	2.092	2.081	1.870	-	12.669	-	2.577	2.620	2.305	2.305	2.259	2.170	2.233	2.235	2.234	2.229	2.215	-	2.022
US flow (MGD)	14.5276	-	14.6232	-	14.9767	-	16.1990	-	6.8006	-	16.1701	16.1530	16.9888	16.9838	16.9816	17.0825	18.9662	18.9618	-	18.9600	18.9580	-	18.9547
Node	-	S93-28	S93-27	S93-20	S93-5	-	-	-	-	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	-	-	S104-17	-	S104-14	S104-8	S114-13	-	-
ground (ft AD)	-	9.880	9.120	7.810	8.270	7.680	-	-	-	-	-	-	11.540	12.660	12.760	11.880	13.250	4.890	5.290	5.100	4.420	4.000	3.810	3.600	-	-
level (ft AD)	-	1.547	1.333	0.575	0.280	-	-	-	-	-	-	-	-2.576	-3.067	-3.608	-4.183	-4.813	-5.706	-6.018	-6.731	-	-7.455	-8.173	-8.925	-	-
flood dep (ft)	-	-8.333	-7.787	-7.235	-7.990	-	-	-	-	-	-	-	-14.116	-15.727	-16.368	-16.063	-18.063	-10.596	-	-11.831	-	-11.455	-11.983	-12.525	-	-

PWWF After Development (Scenario B) – Plan View



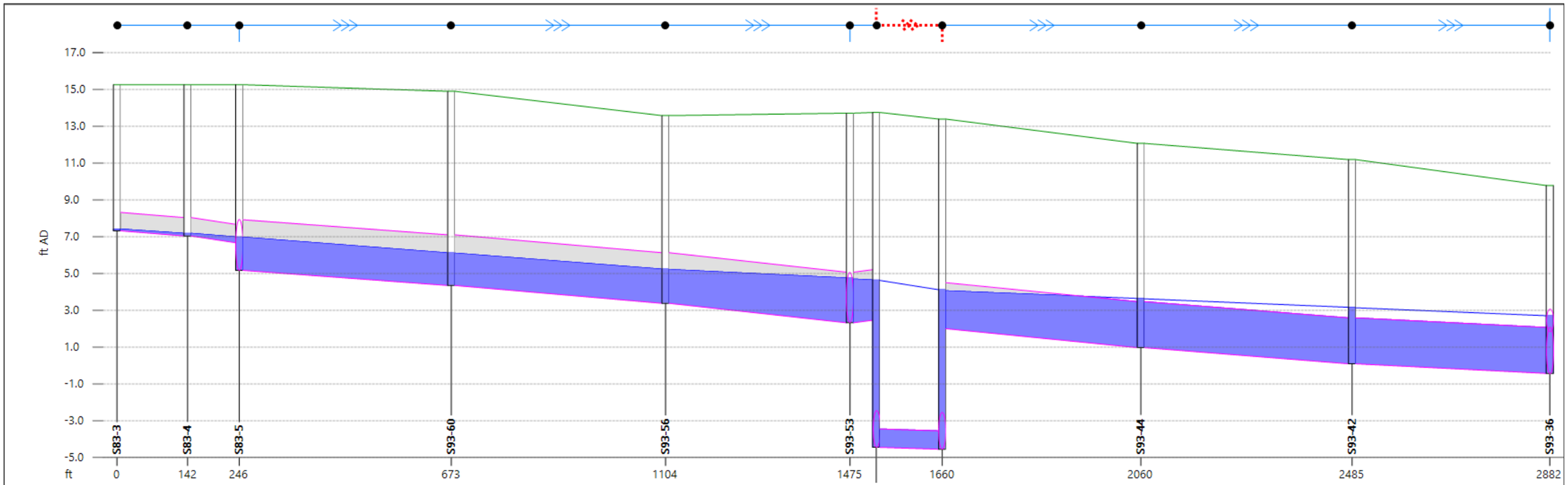
PWWF After Development (Scenario B) – Old Ironsides Drive and Tasman Drive to Tasman Lift Station Wet Well (From Manhole S83-2 to S93-35)



Link	S83-2.1	S93-59.1	S93-55.1	S93-54.1	S93-46.1	S93-45.1	S93-41.1	S93-39.1	S93-38.1	-	S93-25.1	S93-26.1
US node ID	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26
ds node	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
width (in)	12.0	12.0	12.0	8.0	12.0	12.0	12.0	12.0	12.0	15.0	15.0	15.0
us inv (ft AD)	1.640	0.660	-0.220	-0.980	-1.470	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260
ds inv (ft AD)	0.660	-0.220	-0.880	-1.420	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260	-5.570
pfc (MGD)	1.13	1.06	0.94	0.47	1.13	0.98	1.01	1.11	0.95	1.56	2.04	1.89
surc	2.00	2.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
US depth (ft)	11.984	11.409	10.728	9.836	9.908	9.484	8.515	7.354	5.641	3.054	2.647	1.445
US flow (MGD)	1.7947	1.7542	1.7240	0.4638	1.7334	1.7289	1.7258	2.4696	2.4695	2.8888	2.8888	2.8888

Node	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
ground (ft AD)	13.490	12.710	12.080	11.770	11.330	10.800	10.220	9.130	8.620	8.770	8.520	9.540	-
level (ft AD)	13.490	12.080	10.519	8.860	8.509	7.547	5.965	3.987	1.881	-0.961	-1.702	-3.548	-
flood dep (ft)	0.000	-0.630	-1.561	-2.910	-2.821	-3.253	-4.255	-5.143	-6.739	-9.731	-10.222	-13.088	-

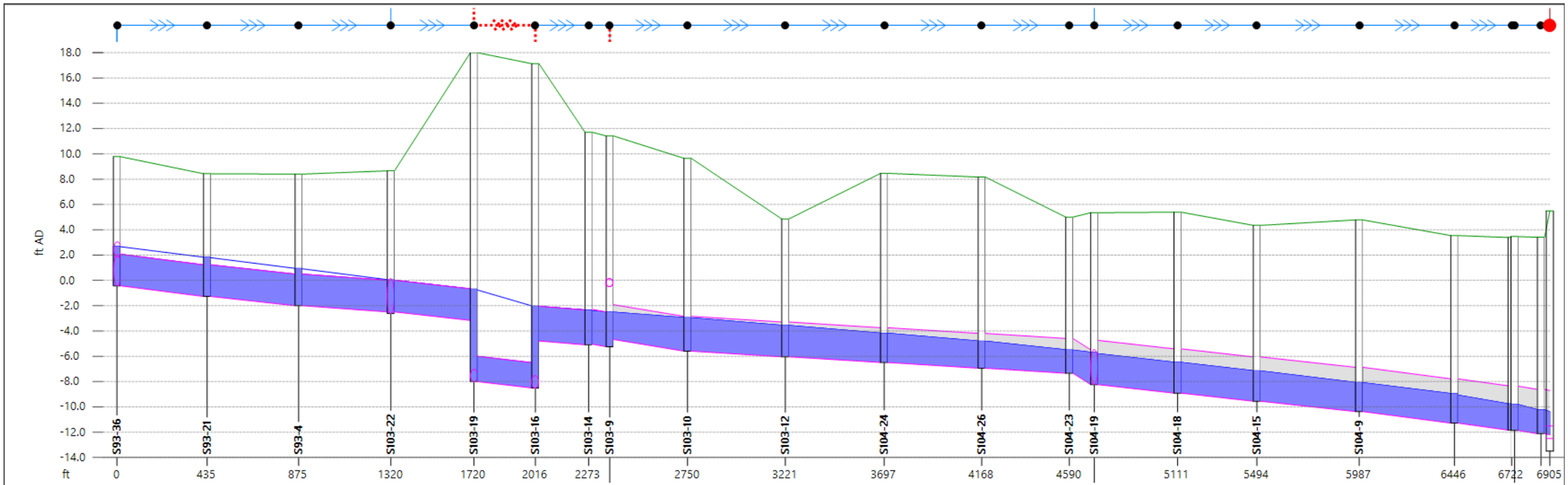
PWWF After Development (Scenario B) – Great America Parkway West Trunk to Tasman Drive (From Manhole S83-17 to S93-36)



Link	S83-3.1	S83-4.1	S83-5.1	S93-60.1	S93-56.1	-	S93-50.1	S93-48.1	S93-44.1	S93-42.1
US node ID	S83-3	S83-4	S83-5	S93-60	S93-56	-	S93-50	S93-48	S93-44	S93-42
ds node	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
width (in)	12.0	12.0	33.0	33.0	33.0	33.0	12.0	30.0	30.0	30.0
us inv (ft AD)	7.320	7.040	5.170	4.350	3.380	-	-4.450	2.000	0.970	0.090
ds inv (ft AD)	7.040	6.670	4.350	3.380	2.320	-	-4.550	0.970	0.090	-0.430
pfc (MGD)	1.02	1.37	14.99	16.22	18.27	-	0.63	13.46	12.06	9.59
surc	0.14	0.32	0.66	0.68	0.89	0.86	2.00	1.00	1.00	1.00
US depth (ft)	0.093	0.141	1.806	1.754	1.839	-	9.074	2.058	2.654	3.048
US flow (MGD)	-0.0000	0.0467	11.6553	11.6552	11.6547	-	1.5053	9.2262	9.1399	9.0882

Node	-	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
ground (ft AD)	-	15.260	15.260	14.900	13.580	13.710	-	13.390	12.070	11.190	9.780
level (ft AD)	-	7.181	6.988	6.115	5.235	4.757	4.645	4.116	3.643	3.159	2.702
flood dep (ft)	-	-8.079	-8.272	-8.785	-8.345	-8.953	-9.105	-9.274	-8.427	-8.031	-7.078

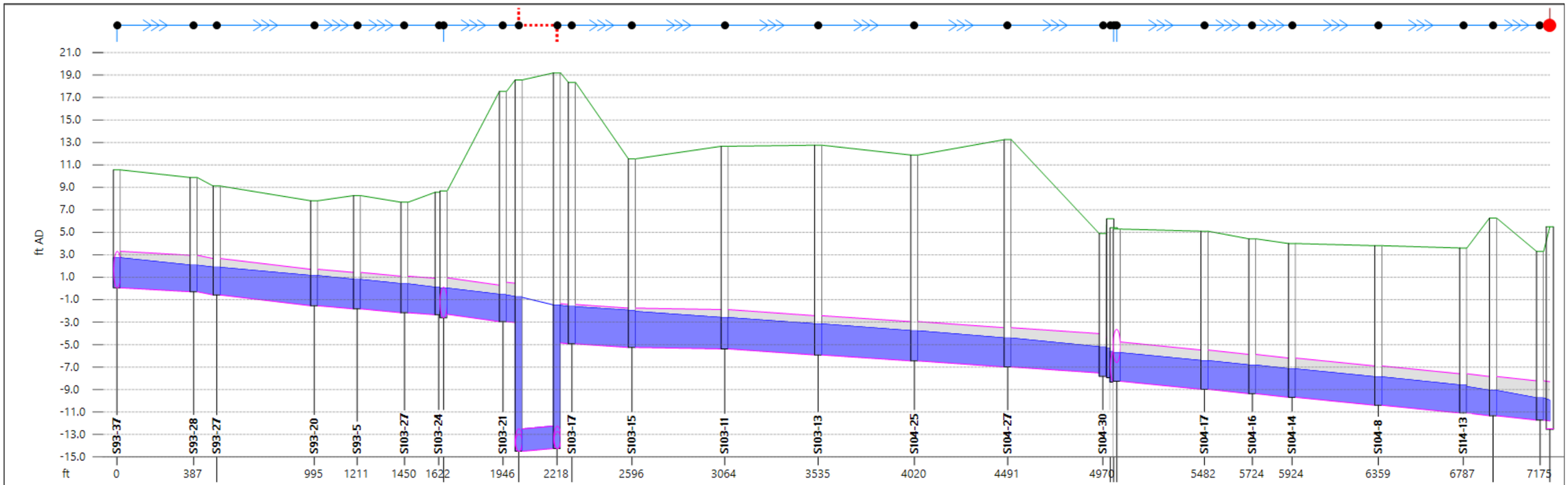
PWWF After Development (Scenario B) – Great America Parkway West Trunk to Lafayette Street West Trunk to Rabello Pump Station (From Manhole S93-36 to S114-19)



Link	S93-36.1	S93-21.1	S93-4.1	S103-22.1	S103-19.1	-	-	S103-9.1	S103-10.1	S103-12.1	S104-24.1	S104-26.1	-	S104-19.1	S104-18.1	S104-15.1	S104-9.1	S114-14.1	-
US node ID	S93-36	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	-	S104-19	S104-18	S104-15	S104-9	S114-14	-
ds node	S93-21	S93-4	S103-22	S103-19	S103-16	S103-14	-	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	S114-23	-
width (in)	30.0	30.0	30.0	30.0	24.0	33.0	-	33.0	33.0	33.0	33.0	33.0	33.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	-0.430	-1.270	-2.000	-2.490	-8.000	-4.790	-	-4.670	-5.590	-6.040	-6.490	-6.940	-	-8.240	-8.910	-9.550	-10.370	-11.284	-
ds inv (ft AD)	-1.270	-2.000	-2.490	-3.160	-8.500	-5.090	-	-5.590	-6.040	-6.490	-6.940	-7.340	-	-8.910	-9.550	-10.370	-11.284	-11.834	-
pfc (MGD)	11.66	10.79	8.80	10.85	6.01	11.70	-	16.94	10.56	10.51	10.57	10.53	-	26.59	26.60	26.52	29.03	29.03	-
surc	2.00	2.00	2.00	2.00	2.00	1.00	-	0.96	0.96	0.90	0.84	0.78	0.93	0.70	0.69	0.68	0.67	0.63	0.59
US depth (ft)	3.094	3.063	2.915	2.500	7.241	2.734	-	2.162	2.631	2.475	2.307	2.133	-	2.443	2.426	2.394	2.284	2.212	-
US flow (MGD)	11.7372	11.7372	11.7377	11.1324	9.6692	11.1377	-	13.1860	12.1201	11.8464	11.7213	11.6699	-	21.7492	21.7440	21.9251	21.9223	21.9209	-

Node	-	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	-
ground (ft AD)	9.780	8.430	8.400	8.660	18.000	17.130	-	11.420	9.650	4.860	8.460	8.170	5.000	5.350	5.390	4.350	4.780	3.540	-
level (ft AD)	2.702	1.830	0.947	0.041	-0.677	-2.026	-	-2.494	-2.944	-3.552	-4.171	-4.794	-5.489	-5.694	-6.470	-7.143	-8.073	-8.956	-
flood dep (ft)	-7.078	-6.600	-7.453	-8.619	-18.677	-19.156	-	-	-12.594	-8.412	-12.631	-12.964	-10.489	-11.044	-11.860	-11.493	-12.853	-12.496	-

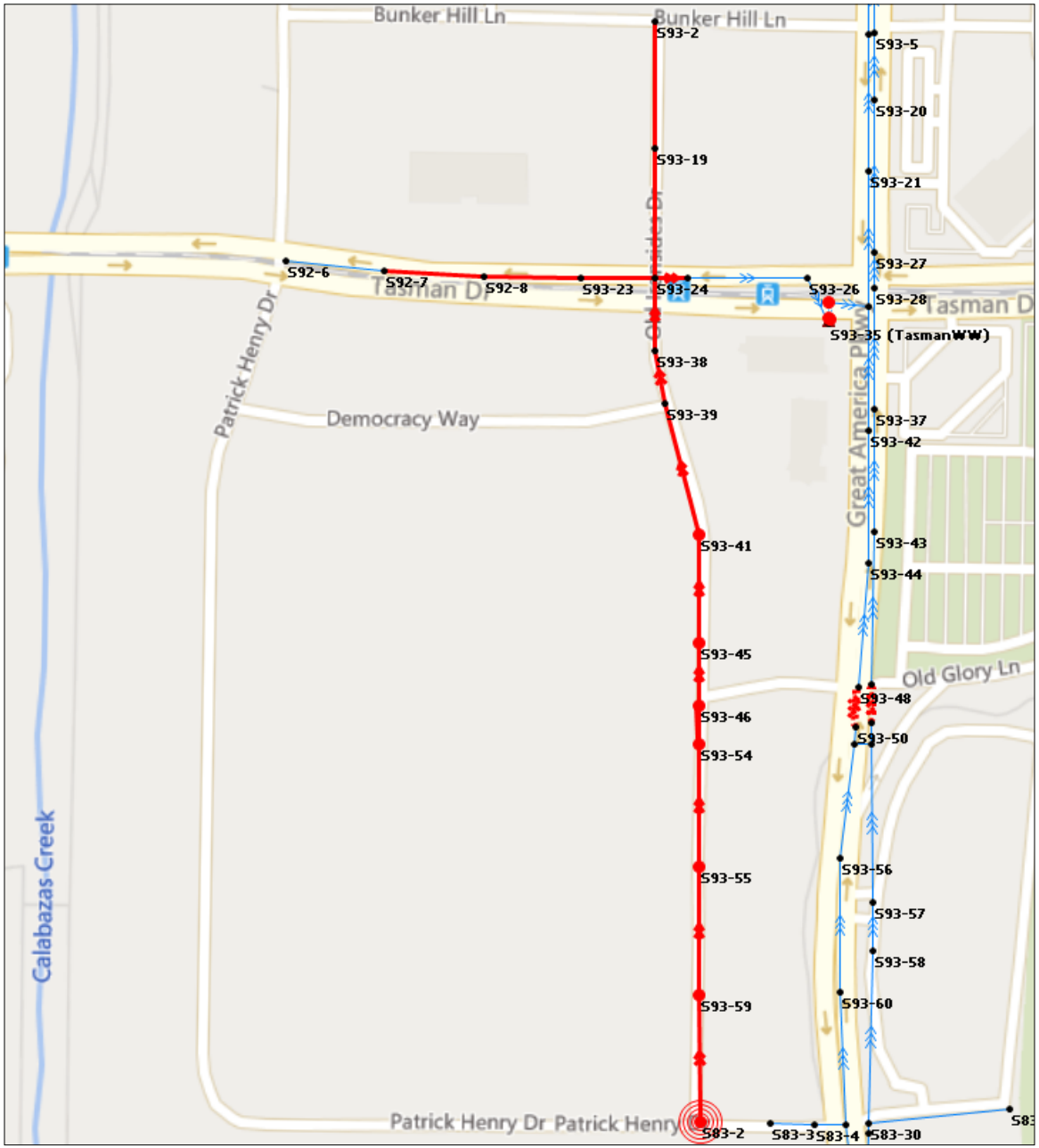
PWWF After Development (Scenario B) – Great America Parkway East Trunk to Lafayette Street East Trunk to Rabello Pump Station (From Manhole S93-37 to S114-19)



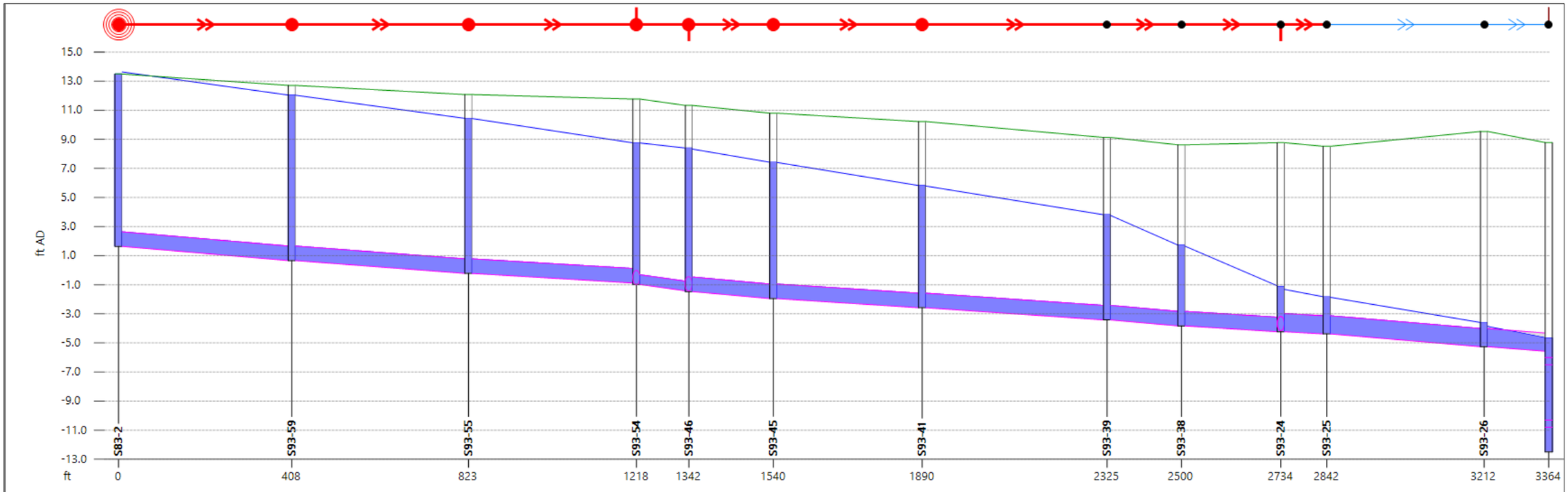
Link	S93-37.1	-	S93-27.1	-	S93-5.1	-	S103-23.1	-	-	-	S103-17.1	S103-15.1	S103-11.1	S103-13.1	S104-25.1	S104-27.1	S104-22.1	-	-	S104-14.1	S104-8.1	-	-
US node ID	S93-37	-	S93-27	S93-20	S93-5	-	S103-23	-	-	-	S103-17	S103-15	S103-11	S103-13	S104-25	S104-27	S104-22	S104-17	-	S104-14	S104-8	-	S114-12
ds node	S93-28	-	S93-20	S93-5	S103-27	-	S103-21	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	S104-30	S104-17	S104-16	-	S104-8	S114-13	-	S114-11
width (in)	39.0	-	39.0	39.0	39.0	39.0	39.0	-	24.0	-	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	0.060	-	-0.580	-1.540	-1.820	-	-2.300	-	-	-	-4.930	-5.250	-5.380	-5.920	-6.450	-6.990	-8.260	-8.976	-9.368	-9.693	-10.398	-	-11.336
ds inv (ft AD)	-0.290	-	-1.540	-1.820	-2.160	-	-2.950	-	-	-	-5.250	-5.380	-5.920	-6.450	-6.990	-7.520	-8.976	-9.368	-9.693	-10.398	-11.092	-	-11.720
pfc (MGD)	16.05	-	23.59	19.21	20.12	17.27	24.88	-	-5.26	-	21.15	10.84	22.01	21.49	22.04	21.62	26.19	26.19	26.19	26.19	26.19	-	26.19
surc	0.82	-	0.83	0.82	0.80	0.79	0.75	-	1.00	-	0.94	0.91	0.79	0.79	0.76	0.73	0.73	0.73	0.73	0.72	0.72	0.67	0.64
US depth (ft)	2.663	-	2.452	2.672	2.610	2.563	2.324	-	13.705	-	3.294	3.194	2.779	2.753	2.670	2.566	2.534	2.539	2.535	2.526	2.516	-	2.252
US flow (MGD)	19.5918	-	19.6946	-	19.9997	-	20.5286	-	8.6142	-	20.4890	20.4821	21.2718	21.2673	21.2638	21.3644	22.8538	22.8501	-	22.8478	22.8467	-	22.8459

Node	-	S93-28	S93-27	S93-20	S93-5	-	-	-	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	-	-	S104-17	-	S104-14	S104-8	S114-13	-	-
ground (ft AD)	-	9.880	9.120	7.810	8.270	7.680	-	-	-	-	-	11.540	12.660	12.760	11.880	13.250	4.890	5.290	5.100	4.420	4.000	3.810	3.600	-	-
level (ft AD)	-	2.080	1.888	1.149	0.808	0.421	-	-	-	-	-	-1.954	-2.586	-3.152	-3.766	-4.409	-5.202	-5.710	-6.420	-	-7.151	-7.866	-8.605	-	-
flood dep (ft)	-	-7.800	-7.232	-6.661	-7.462	-	-	-	-	-	-	-13.494	-15.246	-15.912	-15.646	-17.659	-	-	-11.520	-	-11.151	-11.676	-12.205	-	-

PDWF After Development (Scenario B) – Plan View



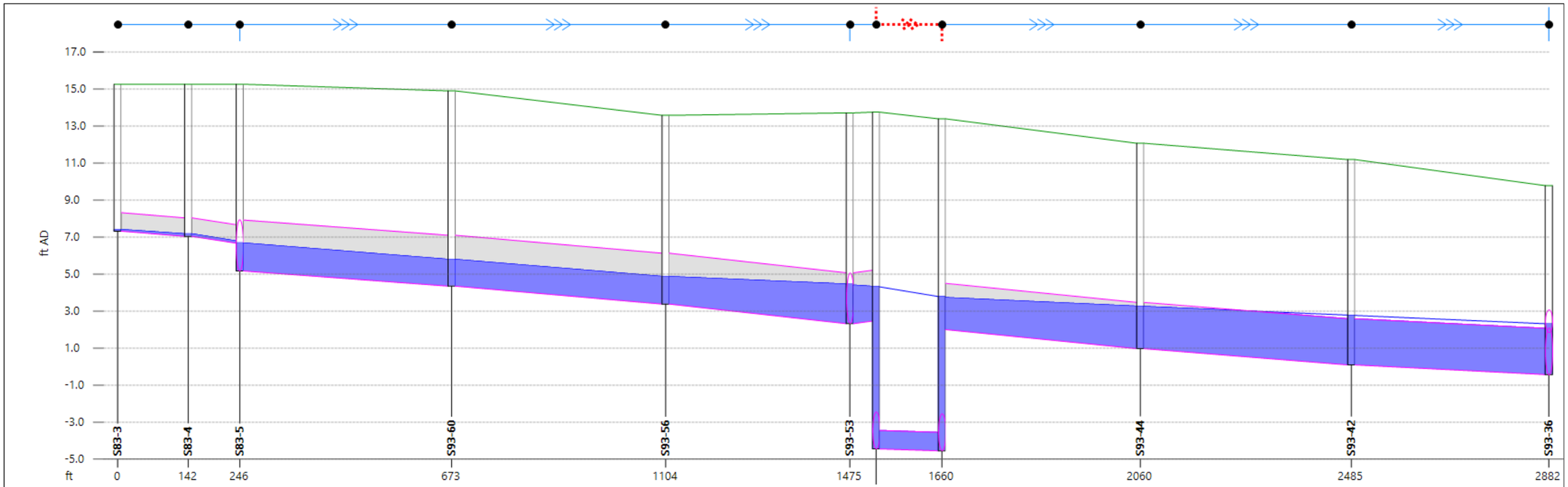
PDWF After Development (Scenario B) – Old Ironsides Drive and Tasman Drive to Tasman Lift Station Wet Well (From Manhole S83-2 to S93-35)



Link	S83-2.1	S93-59.1	S93-55.1	S93-54.1	S93-46.1	S93-45.1	S93-41.1	S93-39.1	S93-38.1	-	S93-25.1	S93-26.1
US node ID	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26
ds node	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
width (in)	12.0	12.0	12.0	8.0	12.0	12.0	12.0	12.0	12.0	15.0	15.0	15.0
us inv (ft AD)	1.640	0.660	-0.220	-0.980	-1.470	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260
ds inv (ft AD)	0.660	-0.220	-0.880	-1.420	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260	-5.570
pfc (MGD)	1.13	1.06	0.94	0.47	1.13	0.98	1.01	1.11	0.95	1.56	2.04	1.89
surc	2.00	2.00	2.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
US depth (ft)	11.993	11.372	10.651	9.730	9.795	9.360	8.369	7.182	5.479	2.911	2.518	1.399
US flow (MGD)	1.7948	1.7561	1.7254	0.4639	1.7336	1.7289	1.7259	2.4632	2.4632	2.8427	2.8427	2.8427

Node	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
ground (ft AD)	13.490	12.710	12.080	11.770	11.330	10.800	10.220	9.130	8.620	8.770	8.520	9.540	-
level (ft AD)	13.490	12.043	10.442	8.754	8.398	7.424	5.820	3.815	1.720	-1.109	-1.828	-3.618	-
flood dep (ft)	0.000	-0.667	-1.638	-3.016	-2.932	-3.376	-4.400	-5.315	-6.900	-9.879	-10.348	-13.158	-

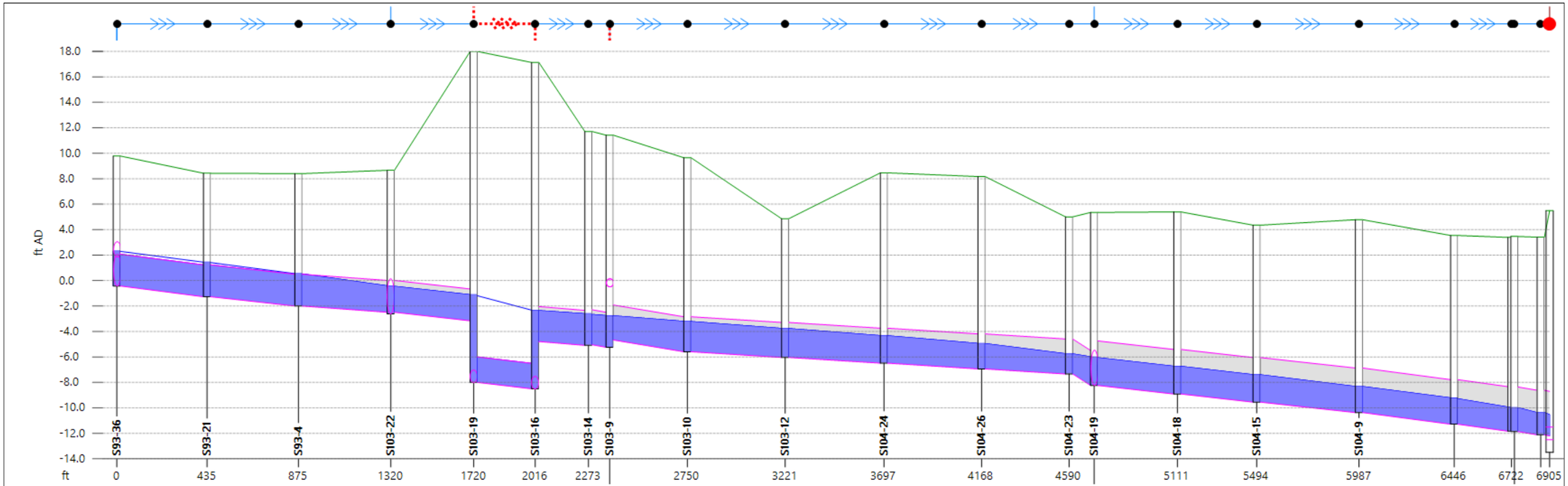
PDWF After Development (Scenario B) – Great America Parkway West Trunk to Tasman Drive (From Manhole S83-17 to S93-36)



Link	S83-3.1	S83-4.1	S83-5.1	S93-60.1	S93-56.1	-	S93-50.1	S93-48.1	S93-44.1	S93-42.1
US node ID	S83-3	S83-4	S83-5	S93-60	S93-56	-	S93-50	S93-48	S93-44	S93-42
ds node	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
width (in)	12.0	12.0	33.0	33.0	33.0	33.0	12.0	30.0	30.0	30.0
us inv (ft AD)	7.320	7.040	5.170	4.350	3.380	-	-4.450	2.000	0.970	0.090
ds inv (ft AD)	7.040	6.670	4.350	3.380	2.320	-	-4.550	0.970	0.090	-0.430
pfc (MGD)	1.02	1.37	14.99	16.22	18.27	-	0.63	13.46	12.06	9.59
surc	0.14	0.14	0.55	0.54	0.78	0.76	2.00	0.92	1.00	1.00
US depth (ft)	0.091	0.138	1.513	1.444	1.492	-	8.760	1.732	2.281	2.677
US flow (MGD)	-0.0000	0.0442	8.7090	8.7087	8.7083	-	1.4811	9.0729	9.0131	8.9668

Node	-	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
ground (ft AD)	-	15.260	15.260	14.900	13.580	13.710	-	13.390	12.070	11.190	9.780
level (ft AD)	-	7.178	6.687	5.796	4.875	4.463	4.332	3.784	3.266	2.781	2.317
flood dep (ft)	-	-8.082	-8.573	-9.104	-8.705	-9.247	-9.418	-9.606	-8.804	-8.409	-7.463

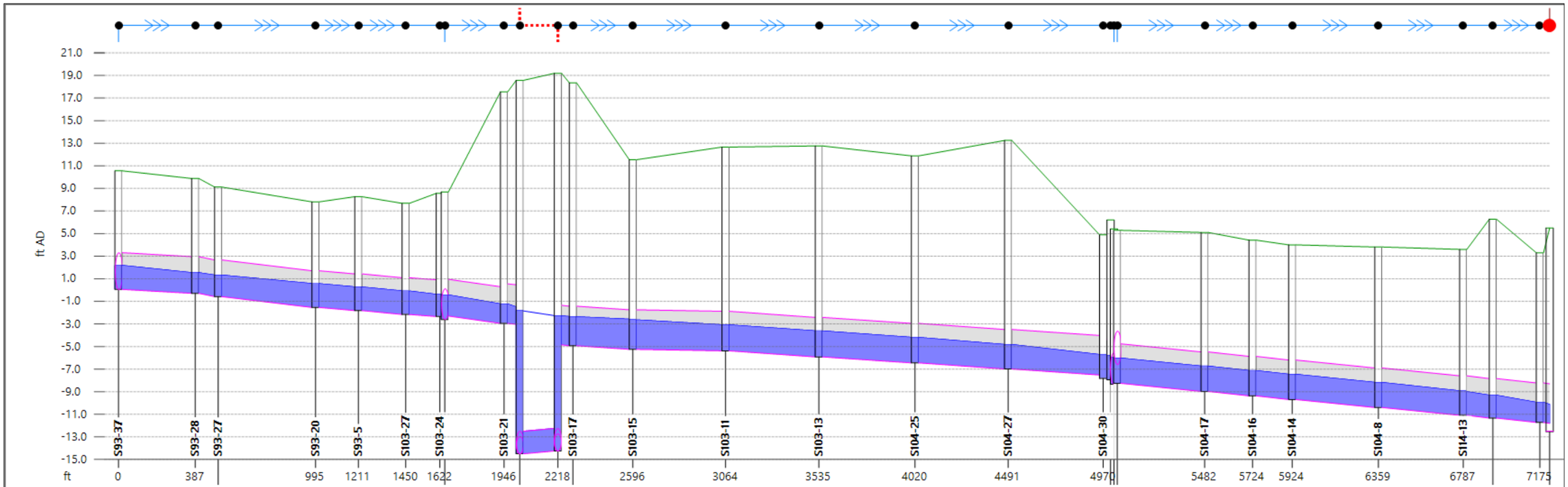
PDWF After Development (Scenario B) – Great America Parkway West Trunk to Lafayette Street West Trunk to Rabello Pump Station (From Manhole S93-36 to S114-19)



Link	S93-36.1	S93-21.1	S93-4.1	S103-22.1	S103-19.1	-	-	S103-9.1	S103-10.1	S103-12.1	S104-24.1	S104-26.1	-	S104-19.1	S104-18.1	S104-15.1	S104-9.1	S114-14.1	-
US node ID	S93-36	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	-	S104-19	S104-18	S104-15	S104-9	S114-14	-
ds node	S93-21	S93-4	S103-22	S103-19	S103-16	S103-14	-	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	S114-23	-
width (in)	30.0	30.0	30.0	30.0	24.0	33.0	-	33.0	33.0	33.0	33.0	33.0	-	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	-0.430	-1.270	-2.000	-2.490	-8.000	-4.790	-	-4.670	-5.590	-6.040	-6.490	-6.940	-	-8.240	-8.910	-9.550	-10.370	-11.284	-
ds inv (ft AD)	-1.270	-2.000	-2.490	-3.160	-8.500	-5.090	-	-5.590	-6.040	-6.490	-6.940	-7.340	-	-8.910	-9.550	-10.370	-11.284	-11.834	-
pfc (MGD)	11.66	10.79	8.80	10.85	6.01	11.70	-	16.94	10.56	10.51	10.57	10.53	-	26.59	26.60	26.52	29.03	29.03	-
surc	2.00	2.00	2.00	0.82	2.00	0.90	-	0.87	0.86	0.82	0.78	0.72	-	0.62	0.62	0.61	0.59	0.57	0.54
US depth (ft)	2.720	2.683	2.524	2.038	6.810	2.433	-	1.905	2.372	2.267	2.154	1.986	-	2.181	2.171	2.150	2.044	2.003	-
US flow (MGD)	11.6628	11.6632	11.6650	10.5762	9.1845	10.5776	-	12.8077	11.5261	11.2105	11.0955	11.0354	-	18.5378	18.5289	18.7006	18.6967	18.6956	-

Node	-	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	-
ground (ft AD)	9.780	8.430	8.400	8.660	18.000	17.130	-	11.420	9.650	4.860	8.460	8.170	5.000	5.350	5.390	4.350	4.780	3.540	-
level (ft AD)	2.317	1.440	0.546	-0.429	-1.115	-2.334	-	-2.754	-3.206	-3.762	-4.325	-4.943	-5.749	-5.999	-6.731	-7.391	-8.319	-9.222	-
flood dep (ft)	-	-6.990	-7.854	-9.089	-19.115	-19.464	-	-	-12.856	-8.622	-12.785	-13.113	-10.749	-11.349	-12.121	-11.741	-13.099	-12.762	-

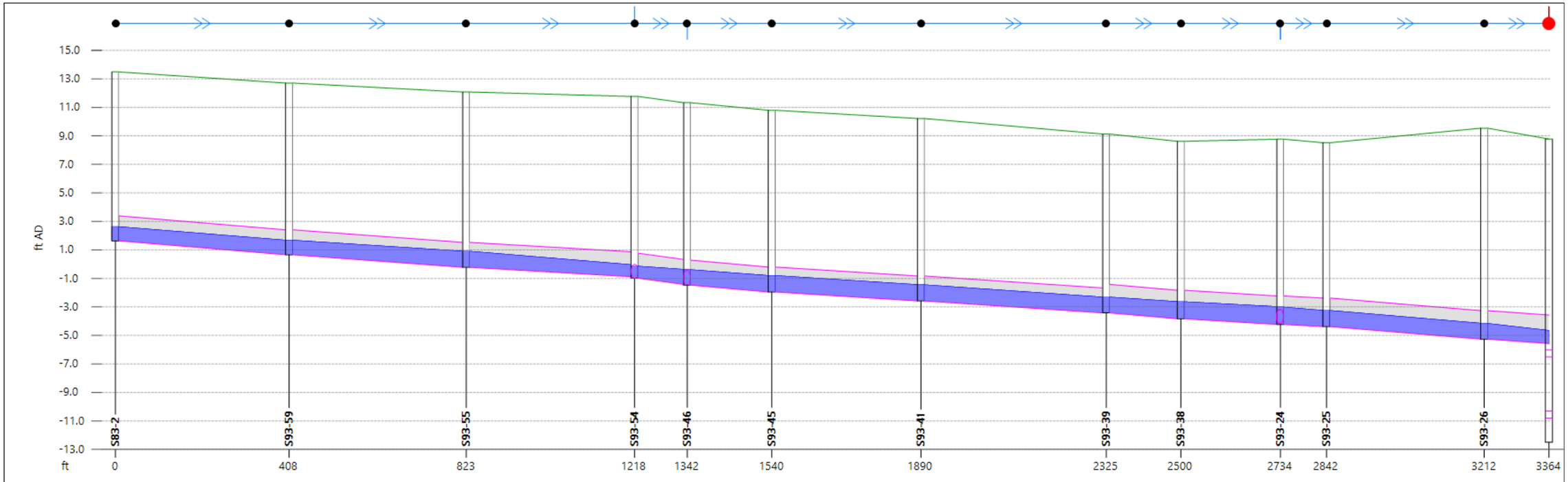
PDWF After Development (Scenario B) – Great America Parkway East Trunk to Lafayette Street East Trunk to Rabello Pump Station (From Manhole S93-37 to S114-19)



Link	S93-37.1	-	S93-27.1	-	S93-5.1	-	S103-23.1	-	-	-	S103-17.1	S103-15.1	S103-11.1	S103-13.1	S104-25.1	S104-27.1	S104-22.1	-	-	S104-14.1	S104-8.1	-	-
US node ID	S93-37	-	S93-27	S93-20	S93-5	-	S103-23	-	-	-	S103-17	S103-15	S103-11	S103-13	S104-25	S104-27	S104-22	S104-17	-	S104-14	S104-8	-	S114-12
ds node	S93-28	-	S93-20	S93-5	S103-27	-	S103-21	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	S104-30	S104-17	S104-16	-	S104-8	S114-13	-	S114-11
width (in)	39.0	-	39.0	39.0	39.0	39.0	39.0	-	24.0	-	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	0.060	-	-0.580	-1.540	-1.820	-	-2.300	-	-	-	-4.930	-5.250	-5.380	-5.920	-6.450	-6.990	-8.260	-8.976	-9.368	-9.693	-10.398	-	-11.336
ds inv (ft AD)	-0.290	-	-1.540	-1.820	-2.160	-	-2.950	-	-	-	-5.250	-5.380	-5.920	-6.450	-6.990	-7.520	-8.976	-9.368	-9.693	-10.398	-11.092	-	-11.720
pfc (MGD)	16.05	-	23.59	19.21	20.12	17.27	24.88	-	-5.26	-	21.15	10.84	22.01	21.49	22.04	21.62	26.19	26.19	26.19	26.19	26.19	-	26.19
surc	0.65	-	0.65	0.65	0.64	0.64	0.57	-	1.00	-	0.76	0.75	0.66	0.66	0.64	0.62	0.64	0.64	0.64	0.64	0.63	0.60	0.58
US depth (ft)	2.118	-	1.901	2.102	2.087	2.075	1.864	-	12.651	-	2.565	2.611	2.297	2.298	2.253	2.162	2.230	2.232	2.231	2.225	2.211	-	2.019
US flow (MGD)	14.4544	-	14.5502	-	14.9038	-	16.0868	-	6.7555	-	16.0663	16.0574	16.8967	16.8925	16.8901	16.9913	18.9116	18.9077	-	18.9041	18.9019	-	18.8984

Node	-	S93-28	S93-27	S93-20	S93-5	-	-	-	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	-	-	S104-17	-	S104-14	S104-8	S114-13	-	-
ground (ft AD)	-	9.880	9.120	7.810	8.270	7.680	-	-	-	-	-	11.540	12.660	12.760	11.880	13.250	4.890	5.290	5.100	4.420	4.000	3.810	3.600	-	-
level (ft AD)	-	1.541	1.326	0.570	0.275	-	-	-	-	-	-	-2.586	-3.076	-3.615	-4.190	-4.821	-5.713	-6.021	-6.734	-	-7.458	-8.178	-8.930	-	-
flood dep (ft)	-	-8.339	-7.794	-7.240	-	-	-	-	-	-	-	-14.126	-15.736	-16.375	-16.070	-18.071	-	-	-11.834	-	-11.458	-11.988	-12.530	-	-

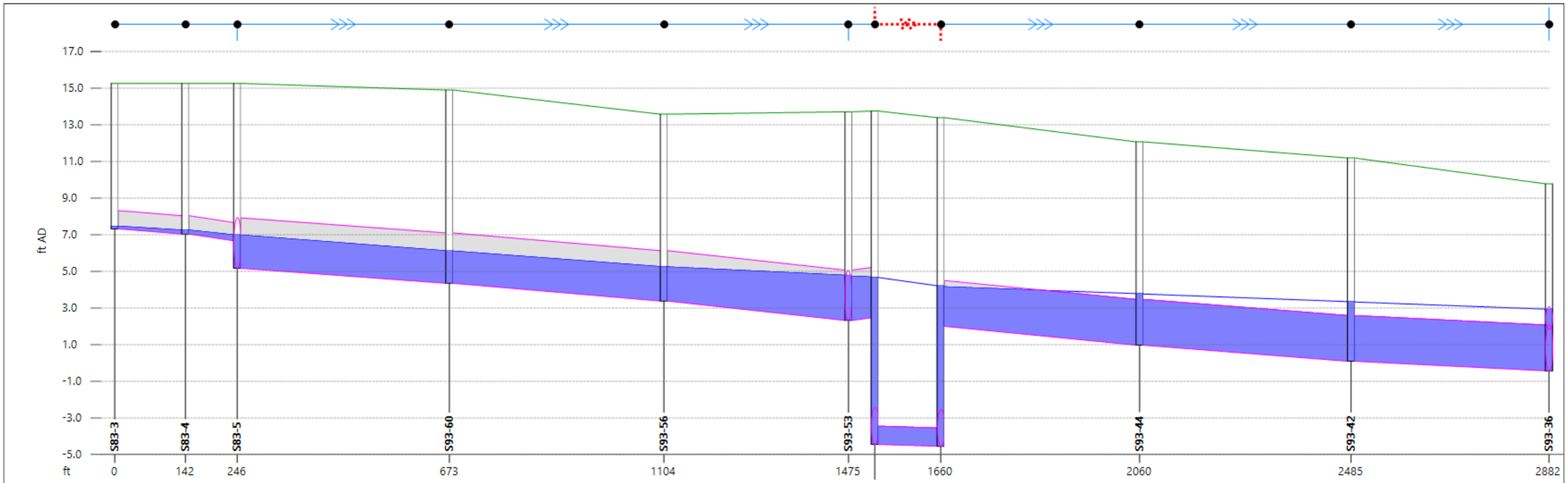
PWWF (Scenario A) Solution – Upsized Old Ironside Drive and Tasman Drive Sewer



Link	S83-2.1	S93-59.1	S93-55.1	S93-54.1	S93-46.1	S93-45.1	S93-41.1	S93-39.1	S93-38.1	-	S93-25.1	S93-26.1
US node ID	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26
ds node	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
width (in)	21.0	21.0	21.0	21.0	21.0	21.0	21.0	24.0	24.0	24.0	24.0	24.0
us inv (ft AD)	1.640	0.660	-0.220	-0.980	-1.470	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260
ds inv (ft AD)	0.660	-0.220	-0.880	-1.420	-1.950	-2.580	-3.420	-3.830	-4.230	-4.380	-5.260	-5.570
pfc (MGD)	5.02	4.71	4.19	6.11	5.04	4.35	4.50	7.08	6.05	5.45	7.13	6.60
surc	0.58	0.64	0.64	0.60	0.65	0.65	0.64	0.60	0.62	0.60	0.56	0.54
US depth (ft)	0.978	1.010	1.117	0.829	1.070	1.140	1.122	1.098	1.185	1.205	1.121	1.088
US flow (MGD)	2.9561	2.9544	2.9534	2.3933	3.3162	3.3161	3.3159	3.8331	3.8331	4.2289	4.2289	4.2289

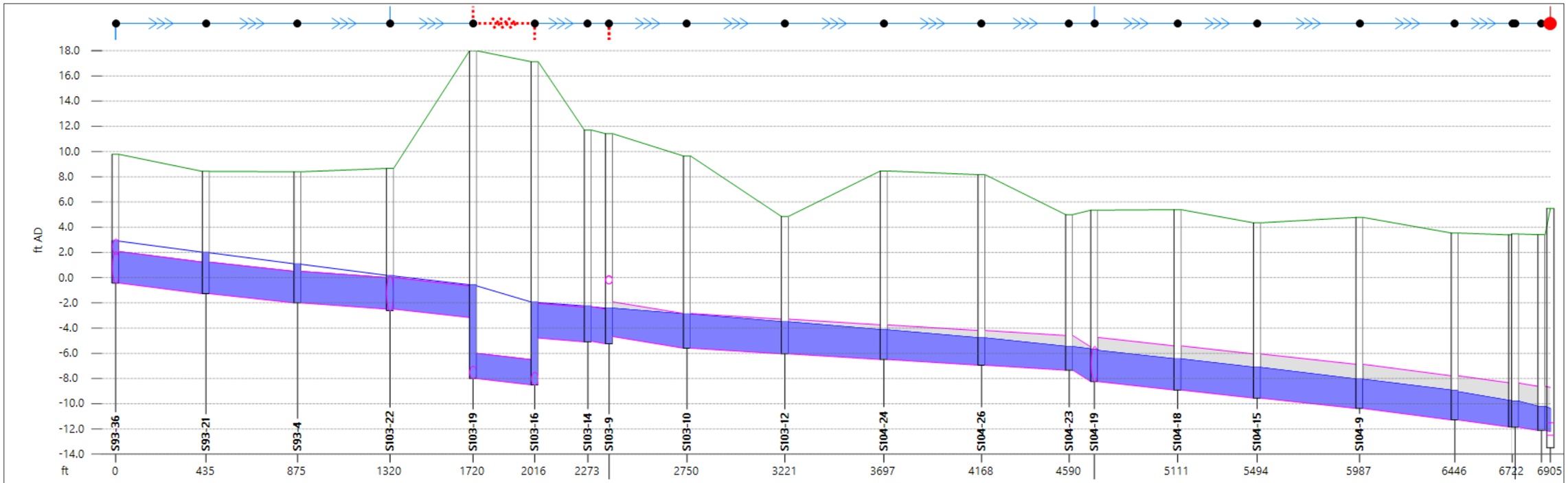
Node	S83-2	S93-59	S93-55	S93-54	S93-46	S93-45	S93-41	S93-39	S93-38	S93-24	S93-25	S93-26	-
ground (ft AD)	13.490	12.710	12.080	11.770	11.330	10.800	10.220	9.130	8.620	8.770	8.520	9.540	-
level (ft AD)	2.621	1.673	0.901	-0.151	-0.376	-0.805	-1.449	-2.319	-2.640	-2.992	-3.256	-4.158	
flood dep (ft)	-10.869	-11.037	-11.179	-11.921	-11.706	-11.605	-11.669	-11.449	-11.260	-11.762	-11.776	-13.698	

PWWF (Scenario A) Solution – Great America Parkway West Trunk to Tasman Drive (From Manhole S83-17 to S93-36)



Link		S83-3.1	S83-4.1	S83-5.1	S93-60.1	S93-56.1	-	S93-50.1	S93-48.1	S93-44.1	S93-42.1
US node ID		S83-3	S83-4	S83-5	S93-60	S93-56	-	S93-50	S93-48	S93-44	S93-42
ds node		S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
width (in)		12.0	12.0	33.0	33.0	33.0	33.0	12.0	30.0	30.0	30.0
us inv (ft AD)		7.320	7.040	5.170	4.350	3.380	-	-4.450	2.000	0.970	0.090
ds inv (ft AD)		7.040	6.670	4.350	3.380	2.320	-	-4.550	0.970	0.090	-0.430
pfc (MGD)		1.02	1.37	14.99	16.22	18.27	-	0.63	13.46	12.06	9.59
surc		0.21	0.32	0.66	0.68	0.90	0.88	2.00	1.00	1.00	1.00
US depth (ft)		0.145	0.211	1.809	1.759	1.862	-	9.117	2.158	2.794	3.237
US flow (MGD)		-0.0001	0.1212	11.6903	11.6902	11.6903	-	1.4551	8.9142	8.9600	9.0009
Node	-	S83-4	S83-5	S93-60	S93-56	S93-53	-	S93-48	S93-44	S93-42	S93-36
ground (ft AD)	-	15.260	15.260	14.900	13.580	13.710	-	13.390	12.070	11.190	9.780
level (ft AD)	-	7.251	6.992	6.120	5.257	4.785	4.686	4.211	3.783	3.347	2.938
flood dep (ft)	-	-8.009	-8.268	-8.780	-8.323	-8.925	-9.064	-9.179	-8.287	-7.843	-6.842

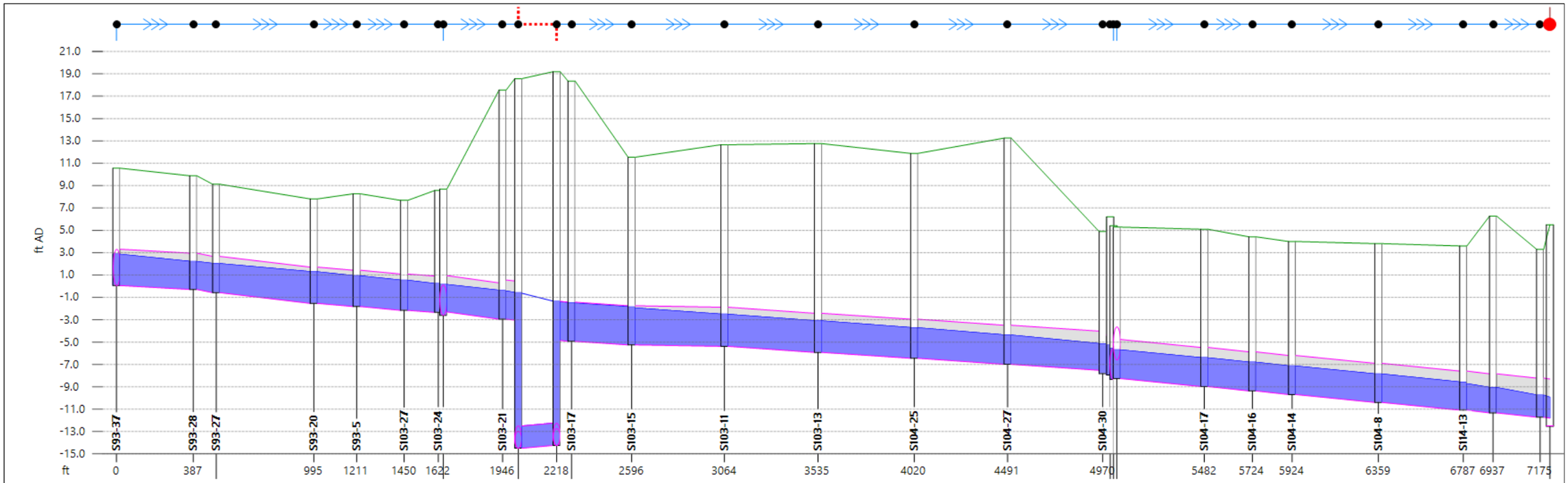
PWWF (Scenario A) Solution – Great America Parkway West Trunk to Lafayette Street West Trunk to Rabello Pump Station (From Manhole S93-36 to S114-19)



Link	S93-36.1	S93-21.1	S93-4.1	S103-22.1	S103-19.1	-	-	S103-9.1	S103-10.1	S103-12.1	S104-24.1	S104-26.1	-	S104-19.1	S104-18.1	S104-15.1	S104-9.1	S114-14.1	-
US node ID	S93-36	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	-	S104-19	S104-18	S104-15	S104-9	S114-14	-
ds node	S93-21	S93-4	S103-22	S103-19	S103-16	S103-14	-	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	S114-23	-
width (in)	30.0	30.0	30.0	30.0	24.0	33.0	-	33.0	33.0	33.0	33.0	33.0	33.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	-0.430	-1.270	-2.000	-2.490	-8.000	-4.790	-	-4.670	-5.590	-6.040	-6.490	-6.940	-	-8.240	-8.910	-9.550	-10.370	-11.284	-
ds inv (ft AD)	-1.270	-2.000	-2.490	-3.160	-8.500	-5.090	-	-5.590	-6.040	-6.490	-6.940	-7.340	-	-8.910	-9.550	-10.370	-11.284	-11.834	-
pfc (MGD)	11.66	10.79	8.80	10.85	6.01	11.70	-	16.94	10.56	10.51	10.57	10.53	-	26.59	26.60	26.52	29.03	29.03	-
surc	2.00	2.00	2.00	2.00	2.00	1.00	-	0.98	0.98	0.92	0.85	0.78	0.94	0.71	0.70	0.69	0.67	0.64	0.59
US depth (ft)	3.323	3.245	3.061	2.623	7.351	2.819	-	2.240	2.691	2.528	2.346	2.156	-	2.468	2.456	2.425	2.308	2.230	-
US flow (MGD)	12.3134	12.3114	12.3079	11.2592	9.7802	11.2660	-	13.9808	12.3129	12.0209	11.8919	11.8161	-	22.0585	22.0498	22.2245	22.2141	22.2099	-

Node	-	S93-21	S93-4	S103-22	S103-19	S103-16	-	S103-9	S103-10	S103-12	S104-24	S104-26	S104-23	-	S104-18	S104-15	S104-9	S114-14	-
ground (ft AD)	9.780	8.430	8.400	8.660	18.000	17.130	-	11.420	9.650	4.860	8.460	8.170	5.000	5.350	5.390	4.350	4.780	3.540	-
level (ft AD)	2.938	2.018	1.099	0.169	-0.566	-1.938	-	-2.416	-2.883	-3.498	-4.131	-4.771	-5.457	-5.665	-6.440	-7.110	-8.048	-8.933	-
flood dep (ft)	-6.842	-6.412	-7.301	-8.491	-18.566	-19.068	-	-	-12.533	-8.358	-12.591	-12.941	-10.457	-11.015	-11.830	-11.460	-12.828	-12.473	-

PWWF (Scenario A) Solution – Great America Parkway East Trunk to Lafayette Street East Trunk to Rabello Pump Station (From Manhole S93-37 to S114-19)



Link	S93-37.1	-	S93-27.1	-	S93-5.1	-	S103-23.1	-	-	-	S103-17.1	S103-15.1	S103-11.1	S103-13.1	S104-25.1	S104-27.1	S104-22.1	-	-	S104-14.1	S104-8.1	-	-
US node ID	S93-37	-	S93-27	S93-20	S93-5	-	S103-23	-	-	-	S103-17	S103-15	S103-11	S103-13	S104-25	S104-27	S104-22	S104-17	-	S104-14	S104-8	-	S114-12
ds node	S93-28	-	S93-20	S93-5	S103-27	-	S103-21	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	S104-30	S104-17	S104-16	-	S104-8	S114-13	-	S114-11
width (in)	39.0	-	39.0	39.0	39.0	39.0	39.0	-	24.0	-	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
us inv (ft AD)	0.060	-	-0.580	-1.540	-1.820	-	-2.300	-	-	-	-4.930	-5.250	-5.380	-5.920	-6.450	-6.990	-8.260	-8.976	-9.368	-9.693	-10.398	-	-11.336
ds inv (ft AD)	-0.290	-	-1.540	-1.820	-2.160	-	-2.950	-	-	-	-5.250	-5.380	-5.920	-6.450	-6.990	-7.520	-8.976	-9.368	-9.693	-10.398	-11.092	-	-11.720
pfc (MGD)	16.05	-	23.59	19.21	20.12	17.27	24.88	-	-5.26	-	21.15	10.84	22.01	21.49	22.04	21.62	26.19	26.19	26.19	26.19	26.19	-	26.19
surc	0.86	-	0.87	0.87	0.84	0.83	0.79	-	1.00	-	0.98	0.94	0.82	0.80	0.78	0.75	0.74	0.74	0.73	0.73	0.72	0.68	0.65
US depth (ft)	2.791	-	2.596	2.820	2.744	2.682	2.450	-	13.868	-	3.413	3.295	2.860	2.812	2.727	2.614	2.562	2.565	2.558	2.546	2.535	-	2.267
US flow (MGD)	20.0545	-	20.1558	-	20.4626	-	21.0397	-	8.8241	-	20.9878	20.9803	21.7606	21.7554	21.7540	21.8547	23.1657	23.1497	-	23.1387	23.1323	-	23.1283

Node	-	S93-28	S93-27	S93-20	S93-5	-	-	-	-	-	-	S103-15	S103-11	S103-13	S104-25	S104-27	-	-	S104-17	-	S104-14	S104-8	S114-13	-	-
ground (ft AD)	-	9.880	9.120	7.810	8.270	7.680	-	-	-	-	-	11.540	12.660	12.760	11.880	13.250	4.890	5.290	5.100	4.420	4.000	3.810	3.600	-	-
level (ft AD)	-	2.219	2.034	1.299	0.944	0.541	-	-	-	-	-	-1.846	-2.504	-3.092	-3.708	-4.360	-5.145	-5.681	-6.395	-	-7.130	-7.846	-8.581	-	-
flood dep (ft)	-	-7.661	-7.086	-6.511	-7.326	-	-	-	-	-	-	-13.386	-15.164	-15.852	-15.588	-17.610	-10.035	-	-11.495	-	-11.130	-11.656	-12.181	-	-

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MEMORANDUM

TO:	Evelyn Liang, PE, City of Santa Clara	DATE:	March 16, 2021
FROM:	Logan Fox, PE, Glen Anderson, PE	JOB#:	CSCL.33.19
SUBJECT:	Northside and Rabello Pump Station Firm Capacity Evaluation		

Background

The City of Santa Clara's Northside and Rabello sewer pump stations firm capacities were evaluated in 2015 as part of the City's sanitary sewer master plan update. This evaluation indicated the pump station firm capacities were near the City's projected sewer flow for the City's General Plan 2035 buildout condition.

The firm capacities were evaluated again in 2019 after new flow meters were installed at these two sewer pump stations. The firm capacity of the Northside Pump Station estimated in the 2019 evaluation was 19.8 MGD. This capacity is 2.0 MGD under the 2035 General Plan peak wet weather flow (2035 PWWF) of 21.8 MGD estimated in 2019.

The firm capacity of the Rabello Pump Station estimated from the 2019 evaluation was 20.1 MGD. This capacity is 1.3 MGD under the 2035 PWWF of 21.4 MGD estimated in 2019. The Rabello test data indicated that the pump performance was significantly lower than expected based on the pump manufacturer's published performance data. The 2019 evaluations assumed the recently installed flow meters had been properly calibrated and pointed to possible causes of the apparent performance reduction. However; after the evaluation was complete, the City determined that the new flow meters installed at the Northside Pump Station and Rabello Pump Station were incorrectly calibrated.

The City has retained Schaaf & Wheeler to perform retesting to determine the firm flow capacities of the Northside and Rabello sanitary sewer pump stations using the properly calibrated flow meters. The new firm capacity values will assist the City in planning future sewer pump station capacity improvements.

The firm capacity of a pump station is considered the capacity with all pumps running except for the highest flow pump. One pump is omitted since a redundant pump is included in standard pump station design in the case one pump is out of service.

Flow Tests

The flow tests were conducted on the morning of Thursday July 1, 2020. The tests at both stations utilized an electro-magnetic flow meter, pressure gauge, wet well level transducer, and discharge box level measurements. Each of the two pump stations are equipped with flow meters which transmit the flow value to a local display panel. A pressure gauge was located on each station force main just downstream of where the pump discharge pipes combine. The level in each wet well is measured by a transducer that transmits the level value to a local display panel. The Northside and Rabello pump stations pump to a discharge box located at the San José-Santa Clara Regional Wastewater Facility. A

Schaaf & Wheeler staff member was at the discharge box during the pump test to measure and record the level.

Northside Pump Station

The Northside Station is equipped with four, 70 horsepower Flygt NP 3356 MT pumps with model 870 (430 millimeter) impellers. Two of the pumps (Pump 1 and Pump 4) were installed in early 2019 and are assumed to have a capacity greater than or equal to the two older pumps (Pump 2 and Pump 3). Therefore, two of the older pumps and one of the newer pumps (Pump 1, Pump 2 and Pump 3) were used in the firm capacity test. During the flow test, combinations of pumps were run, and the wet well level, flow rate, force main pressure gauge, and discharge box level were recorded. The results of the Northside Pump Station flow test are presented in Table 1 below. The pressure gauge readings are unrealistically low and are not included in the table. (The pressure gauge readings recorded in 2019 evaluation ranged between 5 and 12 psi with one to three pumps running.) The million gallons per day (MGD) flow rate values shown in the table are converted from the gallon per minute (gpm) values recorded in the field.

Table 1: Northside Pump Test Results

No. of Pumps	Flow Rate (MGD)	Wet Well Level (ft)	Discharge Box Depth From Top (ft)
1	9.65	3.9	10.00
2	15.12	4.2	8.58
3	19.15	4.9	10.08

Rabello Pump Station

The Rabello Pump Station is equipped with eight, 60 horsepower Flygt NP 3202 LT pumps with model 614 (356 millimeter) impellers. The eight pumps were purchased from 2010 to 2012, and there is no known performance difference between the pumps when properly running. During the flow test, combinations of pumps were run, and the flow rate, force main pressure, wet well level, and discharge box levels were recorded. The recorded values of the Rabello Pump Station flow test are presented in Table 2 below. The pressure gauge readings are unrealistically low and are not included in the table. (The pressure gauge readings recorded in 2019 evaluation ranged between 7 and 18 psi with two to seven pumps running.) The million gallons per day (MGD) flow rate values shown in the table are converted from the gallon per minute (gpm) values recorded in the field.

Table 2: Rabello Pump Test Results

No. of Pumps	Flow Rate (MGD)	Wet Well Level (ft)	Discharge Box Depth From Top (ft)
1	6.91	3.8	7.58
2	13.68	3.9	9.75
3	18.72	4.3	9.17
5	23.33	4.9	8.58
7	25.92	5.4	6.50

Results

The recorded flow rates are plotted along with derated pump curves for the number of pumps that were running as shown in Figure 1 and Figure 2. These derated pump curves were generated by subtracting calculated pressure losses through the individual pump discharge piping from the manufacturer's rated pump performance curve. The flow rate lines are depicted in the figures as terminating at the pump curves. The total dynamic head (TDH) at these termination points represents the TDH required to pump through the force main at the test flow rates.

A theoretical force main system curve, modeling the TDH required to pump through the force main at various flow rates, was generated using the Hazen-Williams friction loss equation and minor loss equation. The pipe lengths and diameters used in the friction loss calculations and fittings and valves used in the minor loss calculations are from City record drawings. Typical Hazen-Williams roughness coefficients for force mains range from 100 to 150, with the higher coefficient representing a smoother pipe. The Hazen-Williams pipe roughness coefficients were adjusted as described later in this memorandum so the theoretical force main system curve matched the test data points. The static head used in generating the theoretical system curve is the difference between the discharge box water surface elevations and the wet well water surface elevations during the firm capacity point tests.

Northside Pump Station

By adjusting the roughness coefficients for the Northside force main to a Hazen-Williams C value of 93, the theoretical force main system curve matches the test flow and pump curve intersection points reasonably well. The low roughness coefficients of the Northside force main piping used to match the test data indicates the force main pipe has more resistance to flow than typical. This resistance can be attributed to the pipe wall roughness being somewhat higher than typical, the pipeline having a minor buildup of solids, or the presence of localized restrictions in the force main.

The Northside pump tests were conducted with the wet well level 2.5 to 3.1 feet lower than the normal, automatic pump starting levels. The force main system curve was adjusted to account for the difference between the wet well level at the three-pump test point (firm capacity test point) of 4.9 feet and the normal, programmed third pump start level of 7.4 feet. This curve, also shown in Figure 1, assumes the discharge box water surface elevation is the same as the firm capacity test level.

The firm capacity of the Northside Pump Station is estimated as 19.7 MGD from the point where the three pumps curve intersects the normal third pump start level system curve. This point, shown in Figure 1, represents the flow expected with three pumps running at the normal wet well start level.

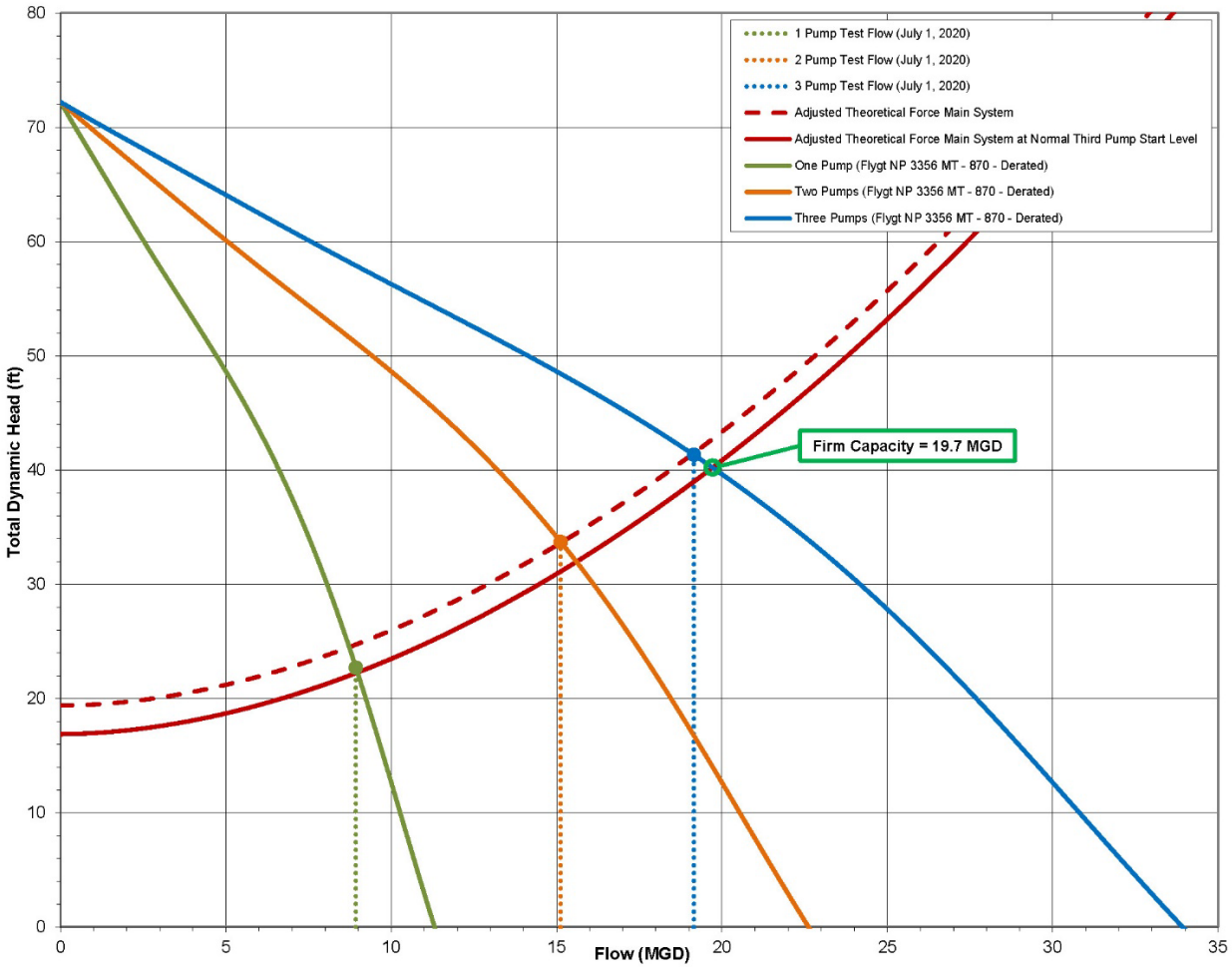


Figure 1: Northside Hydraulic Curves

Rabello Pump Station

By adjusting the roughness coefficients for the Rabello force main to a Hazen-Williams C value of 102, the theoretical force main system curve matches the test flow and pump curve intersection points reasonably well. The relatively low roughness coefficients of the Rabello force main piping used to match the test data indicates the force main pipe has more resistance to flow than typical. This resistance can be attributed to the pipe wall roughness being somewhat higher than typical, the pipeline having a minor buildup of solids, or the presence of localized restrictions, such as an air pocket in a high point, of the force main.

The Rabello pump tests were conducted with the wet well level 2.0 to 2.3 feet lower than the normal, automatic pump start levels. The force main system curve was adjusted to account for the difference between the wet well level at the seven-pump test point (firm capacity test point) of 5.4 feet and the normal programmed seven pump start level of 7.4 feet. This curve, also shown in Figure 2, assumes the discharge box water surface elevation is the same as the firm capacity test level.

The firm capacity of the Rabello Pump Station is estimated as 26.4 MGD from the point where the seven pumps curve intersects the normal seventh pump start level system curve. This point, shown in Figure 2, represents the flow expected with seven pumps running at the normal wet well start level.

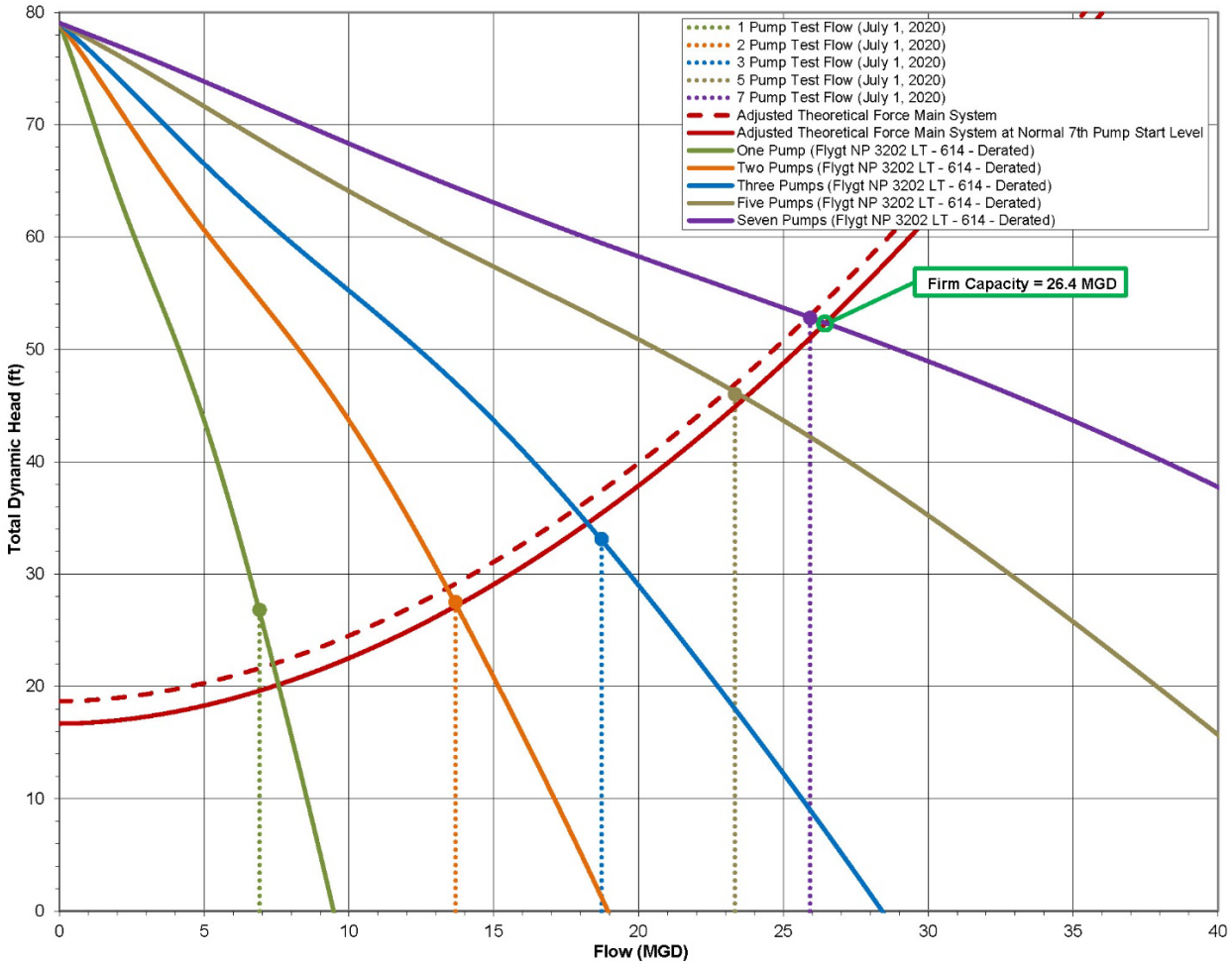


Figure 2: Rabello Hydraulic Curves

Accuracy and Reliability

It is important to note that the tests were performed under dynamic circumstances and are only as accurate as the measurement devices used in the tests under these dynamic conditions.

The critical measurements recorded during the tests were the flow rates at the firm capacity for each station. The flow meters have a published accuracy of ±0.5% within a flow velocity range of 1 to 39 feet per second (fps). (Rosemount Product Data Sheet 00813-0300-4750, Rev CB May 2019, page 27) The flow velocities through both the Northside 24" flow meter and the Rabello 36" flow meter are within the velocity range required for as ±0.5% accurate flow measurement. Therefore, as long as the flow meters are properly calibrated, it is expected that the flow meters provided accurate flow measurements.

The flow meter output is to the nearest 100 gpm. The flow readings increased as the pumps came up to speed and eventually came to fluctuate within approximately a few hundred gpm (less than 0.5 MGD) of the recorded values. This flow fluctuation was likely caused by some surge due to the starting of the pumps as well as the changing of the wet well and discharge box levels. It is expected that the firm capacity test results are within approximately 0.5 MGD of the actual firm capacity.

Conclusions and Recommendations

Northside Pump Station

The firm capacity estimated from this evaluation of the Northside Pump Station is 19.7 MGD as described in this memorandum. This capacity is 3.81 MGD under the currently-estimated 2035 General Plan peak wet weather flow (2035 PWWF) of 23.51 MGD.

The 2019 evaluation estimated a firm capacity of 19.8 MGD, which is very close to the 19.7 MGD estimated in this evaluation. The firm capacity estimated in the 2015 evaluation was 21 MGD. The apparent decrease in the firm capacity test from 21 MGD to 19.7 MGD may be attributable to the previous flow meter being less accurate due to the location near an elbow which creates disturbances to the flow. The low Hazen-Williams coefficient value of 93 used to match the test data indicates the force main pipe has more resistance to flow than typical.

To increase pump station flow, it is recommended that the following be considered.

- Cleaning and inspection of the length of the force main should be included in the City's operations plan moving forward. If the force main were cleaned to have a Hazen-Williams coefficient of 130 and any buildup or restrictions that may be present are eliminated, the capacity would be increased to about 22.5 MGD, still short of the 2035 PWWF. Also, it is uncertain if this can be achieved, and the capacity increase may not be long-lasting as solids can build up over time.

- To meet the 2035 PWWF, the City may consider upsizing the pumps in the future. The existing pumps are equipped with the largest impeller available that would not overload the existing 70 hp (horsepower) motors. Therefore, it is impossible to increase the pumping capacity without replacing the entire drive unit. If the pump capacity is to be increased to the 2035 PWWF, it is anticipated that approximately 90 hp motors would be needed. Using these larger motors may require the upsizing of primary (utility) and standby (generator) power equipment serving the pump station. To limit electrical upsizing, the City may choose to limit the station to running only up to three pumps simultaneously with the fourth pump serving as a dedicated standby pump.

Rabello Pump Station

The firm capacity estimated from this evaluation of the Rabello Pump Station is 26.4 MGD as described in this memorandum. This capacity is 3.57 MGD above the currently-estimated 2035 PWWF of 22.83 MGD.

A pump station firm capacity of 20.1 MGD was estimated in the 2019 evaluation. It is understood that the flow meter was not correctly calibrated during the 2019 evaluation, so the significant difference is not unexpected. The firm capacity estimated in the 2015 evaluation was 20 MGD. The apparent, significant increase in the firm capacity test from 20 MGD to 26.4 MGD may be attributable to the previous flow meter being inaccurate due to the location near the pump discharge piping which creates turbulence. The relatively low Hazen-Williams coefficient value of 102 used to match the test data indicates the force main pipe has more resistance to flow than typical.

To increase pump station flow, it is recommended that the following be considered.

- Cleaning and inspection of the length of the force main should be included in the City's operations plan moving forward.
- The air valves on the force main should be inspected to determine if they are properly releasing air. There are combination air/vacuum valves located in the Rabello dry well structure (per City record drawing 7798-D-24-07) and in a pressure manhole located on the Northside Pump Station site (per City Record Drawing 7798-D-24-03).
- The City may consider reinstating the blow-off valve (per City Record Drawing 7798-D-24-02) to allow solids that may be accumulating at the low point to be flushed out of the force main.

Summary

The flow rates described in this memorandum are summarized in Table 3 below.

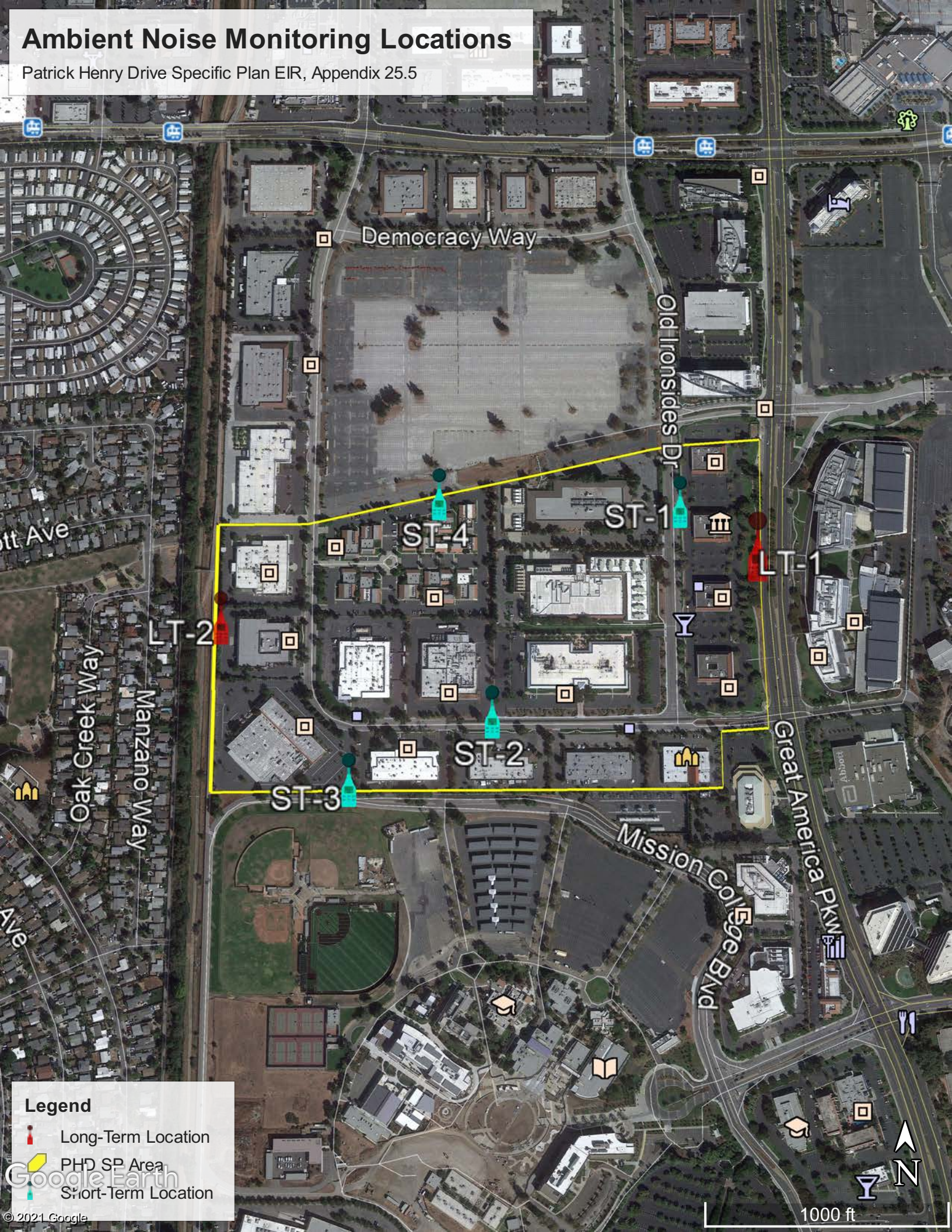
Table 3: Summary of Flows

Pump Station	2015 Evaluation	2019 Evaluation - Flow Meters Incorrectly Calibrated (MGD)	2020 Evaluation (MGD)	2035 PWWF (MGD)
Northside	21	19.8	19.7	23.51
Rabello	20	20.1	26.4	22.83

It is understood that there is a flow diversion structure upstream of both the Northside and Rebello pump stations that can be used to control the flow that is directed to each station. Given the excess capacity of the Rabello Pump Station above the 2035 PWWF, a portion of the flow that was directed to the Northside Pump Station in the 2035 PWWF model scenario could be redirected to the Rabello Pump Station. The impacts of any adjustments to the operations of the flow diversion structure should be analyzed prior to implementation.

APPENDIX 25.5

SUPPLEMENTAL NOISE INFORMATION


Ambient Noise Monitoring Locations
Patrick Henry Drive Specific Plan EIR, Appendix 25.5
Democracy Way
Old Ironsides Dr
Great America Pkwy
Mission College Blvd
Oak Creek Way
Manzano Way
ST-1
ST-2
ST-3
ST-4
LT-1
LT-2
Legend
Long-Term Location
PHD SP Area
Short-Term Location
Google Earth
© 2021 Google
N
1000 ft

Patrick Henry Drive Specific Plan EIR
Santa Clara , CA
Appendix 25.5: Ambient Noise Monitoring Data
Prepared by MIG, September 2020

TABLE 1: SUMMARY OF SITE LT1 NOISE MONITORING DATA												
Date	Time	Duration	Leq	CNEL	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	9:00 AM	1-hour	64.6	64.6	47.6	80.4	72.7	69.3	65.5	60.1	57.3	54.6
9/15/2020	10:00 AM	1-hour	64.5	64.5	47.4	78.3	72.3	69.5	65.5	60.8	58.1	54.7
9/15/2020	11:00 AM	1-hour	64.2	64.2	46.7	77.1	71.7	69.1	65.6	59.8	56.4	52.3
9/15/2020	12:00 PM	1-hour	64.3	64.3	47.0	79.9	72.3	69.3	65.6	59.4	55.8	51.8
9/15/2020	1:00 PM	1-hour	64.0	64.0	48.1	82.3	72.3	68.9	65.2	59.2	56.0	51.6
9/15/2020	2:00 PM	1-hour	65.2	65.2	48.2	87.6	73.7	69.7	66.1	61.2	58.1	54.4
9/15/2020	3:00 PM	1-hour	64.4	64.4	48.6	83.4	72.9	69.2	65.2	59.8	56.3	52.1
9/15/2020	4:00 PM	1-hour	63.8	63.8	48.7	78.5	71.5	68.7	65.0	60.0	56.7	52.8
9/15/2020	5:00 PM	1-hour	64.2	64.2	49.7	80.3	71.9	68.9	65.4	60.5	57.5	53.6
9/15/2020	6:00 PM	1-hour	62.7	62.7	48.9	74.2	70.3	68.0	63.9	58.1	55.2	52.1
9/15/2020	7:00 PM	1-hour	62.9	67.9	48.8	77.6	70.8	67.7	63.9	59.0	55.8	52.4
9/15/2020	8:00 PM	1-hour	60.6	65.6	47.6	74.6	68.8	65.9	61.0	55.7	53.1	50.3
9/15/2020	9:00 PM	1-hour	59.2	64.2	47.4	76.3	68.0	64.5	58.8	53.5	51.5	49.7
9/15/2020	10:00 PM	1-hour	58.3	68.3	45.4	75.5	67.8	64.1	56.7	51.7	49.6	48.0
9/15/2020	11:00 PM	1-hour	58.8	68.8	44.5	78.2	68.2	64.4	57.9	52.0	49.2	47.1
9/16/2020	12:00 AM	1-hour	56.0	66.0	45.0	76.4	66.8	60.8	53.0	48.7	47.5	46.6
9/16/2020	1:00 AM	1-hour	54.8	64.8	45.4	75.4	64.5	60.0	53.2	48.4	47.3	46.7
9/16/2020	2:00 AM	1-hour	53.3	63.3	44.7	75.8	64.0	58.1	49.9	46.7	46.2	45.8
9/16/2020	3:00 AM	1-hour	55.6	65.6	44.3	78.8	66.7	60.4	52.0	47.6	46.5	45.5
9/16/2020	4:00 AM	1-hour	58.2	68.2	44.4	78.0	68.6	63.3	56.5	50.3	47.9	46.4
9/16/2020	5:00 AM	1-hour	63.1	73.1	45.1	83.9	72.9	68.4	62.8	55.7	52.5	48.9
9/16/2020	6:00 AM	1-hour	64.0	74.0	46.0	80.1	72.3	69.1	64.8	58.9	55.7	51.7
9/16/2020	7:00 AM	1-hour	64.8	64.8	45.9	78.9	73.1	69.8	65.6	60.5	56.8	51.3
9/16/2020	8:00 AM	1-hour	65.8	65.8	46.6	82.1	73.7	70.7	66.8	61.7	58.7	54.0
Daytime (7 AM to 7 PM)			*64.4*	--	*45.9*	*87.6*	*72.5*	*69.3*	*65.5*	*60.2*	*57.0*	*53.1*
Evening (7 PM to 10 PM)			*61.1*	--	*47.4*	*77.6*	*69.4*	*66.2*	*61.8*	*56.7*	*53.8*	*51.0*
Nightime (10 PM to 7 AM)			*59.4*	--	*44.3*	*83.9*	*69.0*	*64.7*	*59.0*	*53.0*	*50.4*	*47.8*
	24-hour CNEL		--	*67.2*	-	--	-	-	-	-	-	-

TABLE 2: SUMMARY OF SITE LT1 NOISE MONITORING DATA (10-minute period for comparison to ST sites)											
Date	Time	Duration	Leq	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	9:30 AM	10-minutes	65.8	49.7	78.5	74.2	71.1	66.6	59.5	57.0	54.4
9/15/2020	9:40 AM	10-minutes	63.8	50.3	75.1	71.1	68.6	65.2	60.2	57.2	54.8
9/15/2020	9:50 AM	10-minutes	64.6	50.2	76.3	72.0	69.1	65.8	61.4	57.9	54.7
9/15/2020	10:10 AM	10-minutes	64.6	48.7	77.2	72.7	69.7	65.6	59.6	57.0	54.9
9/15/2020	10:20 AM	10-minutes	64.6	50.4	75.4	71.9	69.5	65.6	61.4	58.7	55.6
9/15/2020	10:30 AM	10-minutes	64.0	47.4	77.5	72.2	69.1	64.9	59.5	56.1	51.5
9/15/2020	10:50 AM	10-minutes	64.5	48.6	78.3	72.2	69.7	65.3	60.6	57.5	53.4
9/15/2020	11:00 AM	10-minutes	64.2	48.1	75.7	71.6	69.1	65.6	60.3	57.9	54.2
9/15/2020	11:10 AM	10-minutes	64.7	48.1	77.1	73.0	69.6	65.8	59.7	56.4	52.0
9/15/2020	11:50 AM	10-minutes	63.8	46.7	76.4	71.5	68.5	65.2	59.8	56.5	53.3
9/15/2020	12:00 PM	10-minutes	64.0	47.5	76.7	71.9	69.2	64.9	58.6	54.5	50.5

TABLE 3: SUMMARY OF SITE LT2 NOISE MONITORING DATA												
Date	Time	Duration	Leq	DNL	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	9:00 AM	1-hour	52.5	52.5	47.5	67.9	55.3	53.8	53.0	52.2	51.8	51.4
9/15/2020	10:00 AM	1-hour	55.3	55.3	48.1	72.6	61.2	58.7	55.9	53.3	52.7	52.2
9/15/2020	11:00 AM	45-minutes	52.7	52.7	44.2	66.6	57.4	55.8	53.2	51.3	50.8	50.4
9/15/2020	12:00 PM	1-hour	49.8	49.8	44.4	67.6	55.8	53.8	50.6	47.4	46.5	45.9
9/15/2020	1:00 PM	1-hour	50.6	50.6	43.8	64.3	56.0	54.6	51.4	48.4	47.5	46.3
9/15/2020	2:00 PM	1-hour	55.8	55.8	44.1	79.3	63.9	60.4	56.5	52.5	49.9	46.3
9/15/2020	3:00 PM	1-hour	50.0	50.0	43.9	66.3	56.0	54.3	50.6	47.6	46.7	45.8
9/15/2020	4:00 PM	1-hour	51.0	51.0	44.5	69.5	57.4	55.4	51.4	48.1	47.6	47.2
9/15/2020	5:00 PM	1-hour	52.2	52.2	46.7	69.5	58.4	56.4	52.2	49.8	49.3	48.9
9/15/2020	6:00 PM	1-hour	51.0	51.0	46.3	66.7	55.8	54.1	51.9	49.5	48.9	48.4
9/15/2020	7:00 PM	1-hour	52.8	57.8	45.7	72.6	59.0	57.3	53.6	49.5	48.9	48.3
9/15/2020	8:00 PM	1-hour	50.7	55.7	45.0	67.2	55.5	54.3	51.5	48.7	48.2	47.7
9/15/2020	9:00 PM	1-hour	48.9	53.9	44.8	66.1	52.6	51.5	49.7	47.9	47.5	47.1
9/15/2020	10:00 PM	1-hour	47.7	57.7	44.2	62.3	49.7	49.0	48.1	47.4	47.2	46.8
9/15/2020	11:00 PM	1-hour	47.3	57.3	44.0	51.0	48.1	47.8	47.5	47.2	47.0	46.8
9/16/2020	12:00 AM	1-hour	46.9	56.9	43.0	48.9	47.8	47.5	47.2	46.9	46.7	46.4
9/16/2020	1:00 AM	1-hour	46.5	56.5	42.9	49.2	47.3	47.1	46.8	46.5	46.3	46.0
9/16/2020	2:00 AM	1-hour	47.1	57.1	43.2	67.8	51.0	48.1	47.1	46.7	46.5	46.1
9/16/2020	3:00 AM	1-hour	46.6	56.6	43.2	49.8	47.4	47.2	46.9	46.6	46.4	46.1
9/16/2020	4:00 AM	1-hour	46.7	56.7	43.3	54.8	47.7	47.3	47.0	46.7	46.5	46.2
9/16/2020	5:00 AM	1-hour	46.4	56.4	43.2	61.7	49.5	48.1	46.5	45.9	45.7	45.5
9/16/2020	6:00 AM	1-hour	49.6	59.6	44.0	65.1	54.1	52.7	51.0	47.9	47.3	47.0
9/16/2020	7:00 AM	1-hour	50.4	50.4	45.0	68.5	56.5	54.3	50.0	48.4	48.1	47.7
9/16/2020	8:00 AM	1-hour	49.5	49.5	43.6	67.6	55.7	53.5	50.1	46.9	46.3	45.9
Daytime (7 AM to 7 PM)			*52.2*	*--*	*43.6*	*79.3*	*58.4*	*56.0*	*52.8*	*50.2*	*49.3*	*48.6*
Evening (7 PM to 10 PM)			*51.1*	*--*	*44.8*	*72.6*	*56.5*	*55.0*	*51.9*	*48.7*	*48.2*	*47.7*
Nightime (10 PM to 7 AM)			*47.3*	*--*	*42.9*	*67.8*	*49.8*	*48.7*	*47.8*	*46.9*	*46.7*	*46.4*
	24-hour CNEL		*--*	*55.3*	*-*	*--*	*-*	*-*	*-*	*-*	*-*	*-*

TABLE 4: SUMMARY OF SITE LT2 NOISE MONITORING DATA (10-minute period for comparison to ST sites)											
Date	Time	Duration	Leq	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	9:30 AM	10-minutes	52.9	47.9	60.3	55.2	54.3	53.3	52.4	52.2	51.9
9/15/2020	9:40 AM	10-minutes	52.1	48.0	56.5	53.7	53.0	52.4	52.0	51.8	51.3
9/15/2020	9:50 AM	10-minutes	52.8	48.4	62.8	55.8	54.6	53.6	52.3	51.7	51.2
9/15/2020	10:10 AM	10-minutes	55.4	48.8	69.9	60.6	58.9	56.4	53.7	52.8	52.3
9/15/2020	10:20 AM	10-minutes	56.9	48.1	69.7	63.6	60.7	58.0	54.4	53.4	52.5
9/15/2020	10:30 AM	10-minutes	56.0	48.2	72.6	63.3	60.2	56.3	52.7	52.1	51.5
9/15/2020	10:50 AM	10-minutes	52.9	48.6	55.0	54.0	53.7	53.2	52.8	52.6	52.2
9/15/2020	11:00 AM	10-minutes	55.0	48.4	65.7	60.2	58.6	55.8	53.3	52.2	51.7
9/15/2020	11:10 AM	10-minutes	54.9	48.8	66.6	60.1	58.4	55.3	53.0	52.7	52.4
9/15/2020	11:50 AM	10-minutes	46.2	44.2	52.8	48.4	47.0	46.4	46.0	45.8	45.6
9/15/2020	12:00 PM	10-minutes	49.7	44.4	65.1	54.9	53.6	50.9	47.4	46.3	45.7

TABLE 5: SUMMARY OF SITE ST1 NOISE MONITORING DATA											
Date	Time	Duration	Leq	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	9:30 AM	10-minutes	55.7	51.8	69.2	63.1	59.1	55.5	53.5	53.1	52.7
9/15/2020	9:40 AM	10-minutes	54.9	51.1	68.8	63.0	57.8	53.5	52.8	52.6	52.3
9/15/2020	9:50 AM	10-minutes	56.8	51.6	69.5	64.3	61.6	55.8	53.8	53.2	52.6

TABLE 6: SUMMARY OF SITE ST2 NOISE MONITORING DATA											
Date	Time	Duration	Leq	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	10:10 AM	10-minutes	62.0	48.3	75.1	71.1	67.2	61.5	56.9	52.7	50.1
9/15/2020	10:20 AM	10-minutes	62.6	49.3	75.3	72.1	67.3	62.1	57.9	55.2	51.7
9/15/2020	10:30 AM	10-minutes	63.4	48.4	78.7	73.6	69.0	61.6	55.0	52.0	50.0

TABLE 7: SUMMARY OF SITE ST3 NOISE MONITORING DATA											
Date	Time	Duration	Leq	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	10:50 AM	10-minutes	50.8	46.2	62.3	58.3	54.6	50.3	48.6	47.8	47.2
9/15/2020	11:00 AM	10-minutes	54.3	45.7	66.5	61.1	58.6	54.9	51.9	50.2	48.0
9/15/2020	11:10 AM	10-minutes	52.9	46.2	66.4	59.9	57.6	53.1	49.7	48.4	47.5

TABLE 8: SUMMARY OF SITE ST4 NOISE MONITORING DATA											
Date	Time	Duration	Leq	Lmin	Lmax	L(1.6)	L(8.3)	L(25)	L(50)	L(66.6)	L(90)
9/15/2020	11:50 AM	10-minutes	45.9	43.5	54.0	48.3	47.7	46.4	45.5	45.0	44.5
9/15/2020	12:00 PM	10-minutes	52.1	43.8	68.4	58.4	56.8	54.3	48.0	46.3	45.2

Summary					
Filename	LxT_Data.039				
Serial Number	5065				
Model	SoundTrack LxT®				
Firmware Version	2.402				
User					
Location					
Job Description					
Note					
Measurement Description	Patrick Henry Drive Specific Plan - SJ2				
Start	2020/09/15 8:50:00				
Stop	2020/09/16 9:00:00				
Duration	1 Day 00:10:00.0				
Run Time	1 Day 00:10:00.0				
Pause	0:00:00.0				
Pre Calibration	2020/09/15 8:48:42				
Post Calibration	2020/09/16 9:05:50				
Calibration Deviation	0.07 dB				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Exponential				
OBA Range	Normal				
OBA Bandwidth	1/1 and 1/3				
OBA Freq. Weighting	A Weighting				
OBA Max Spectrum	At Lmax				
Overload	122.2 dB				
	A		**C**	**Z**	
Under Range Peak	**78.7**		75.7	80.7	dB
Under Range Limit	**25.2**		25.8	31.4	dB
Noise Floor	16.1		16.7	22.3	dB
Results					
LASeq	62.8 dB				
LASE	112.2 dB				
EAS	18.229 mPa²h				
EAS8	6.034 mPa²h				
EAS40	30.172 mPa²h				
LApeak (max)	2020/09/15 9:08:06		112.2 dB		
LASmax	2020/09/15 14:53:34		87.6 dB		
LASmin	2020/09/16 3:42:07		44.3 dB		
SEA	-99.9 dB				

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	66.9	63.9	59.4	67.2	64.4	61.2	59.4

LCSeq	68.3	dB
LASeq	62.8	dB
LCSeq - LASeq	5.6	dB
LAIeq	64.3	dB
LAeq	62.8	dB
LAIeq - LAeq	1.6	dB
# Overloads	0	
Overload Duration	0.0	s
# OBA Overloads	0	
OBA Overload Duration	0.0	s

Statistics

LAS1.66	71.7	dB
LAS8.33	68.1	dB
LAS25.00	62.3	dB
LAS50.00	54.8	dB
LAS66.66	51.2	dB
LAS90.00	46.6	dB

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	2020/01/28 6:05:01	-28.5
PRMLxT1L	2020/09/16 9:05:48	-28.4
PRMLxT1L	2020/09/15 8:48:41	-28.5
PRMLxT1L	2020/09/12 14:03:45	-28.4
PRMLxT1L	2020/09/10 14:19:25	-28.4
PRMLxT1L	2020/08/13 11:55:20	-28.2
PRMLxT1L	2020/08/10 11:16:35	-28.3
PRMLxT1L	2020/07/29 11:31:07	-28.2
PRMLxT1L	2020/07/29 9:14:01	-28.3
PRMLxT1L	2020/07/28 15:01:19	-28.4
PRMLxT1L	2020/07/28 8:20:53	-28.2
PRMLxT1L	2020/07/28 8:14:12	-28.3
Other	2018/11/13 8:29:15	-28.3
Other	2018/11/05 14:21:01	-28.3
Other	2018/06/27 10:46:33	-28.0
Other	2018/06/27 10:46:16	-28.0

Summary					
Filename	LxT_Data.035				
Serial Number	5064				
Model	SoundTrack LxT®				
Firmware Version	2.402				
User					
Location					
Job Description					
Note					
Measurement Description	Patrick Henry Drive Specific Plan - SJ1				
Start	2020/09/15 9:00:00				
Stop	2020/09/16 9:00:00				
Duration	1 Day 00:00:00.0				
Run Time	1 Day 00:00:00.0				
Pause	0:00:00.0				
Pre Calibration	2020/09/15 8:58:42				
Post Calibration	2020/09/16 9:14:39				
Calibration Deviation	-0.03 dB				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Exponential				
OBA Range	Normal				
OBA Bandwidth	1/1 and 1/3				
OBA Freq. Weighting	A Weighting				
OBA Max Spectrum	At Lmax				
Overload	122.5 dB				
		A	**C**	**Z**	
Under Range Peak		**79.1**	76.1	81.1	dB
Under Range Limit		**24.2**	25.3	31.4	dB
Noise Floor		15.1	16.2	22.3	dB
Results					
LASeq	51.0 dB				
LASE	100.4 dB				
EAS	1.214 mPa²h				
EAS8	404.560 µPa²h				
EAS40	2.023 mPa²h				
LApeak (max)	2020/09/15 9:00:38	107.8 dB			
LASmax	2020/09/15 14:09:52	79.3 dB			
LASmin	2020/09/15 11:35:56	40.9 dB			
SEA	-99.9 dB				

Community Noise	Ldn		LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	54.9		52.3	47.3	55.4	52.5	51.1	47.3
LCSeq	65.1	dB						
LASeq	51.0	dB						
LCSeq - LASeq	14.1	dB						
LAIeq	54.6	dB						
LAeq	51.0	dB						
LAIeq - LAeq	3.6	dB						
# Overloads	2							
Overload Duration	4.1	s						
# OBA Overloads	2							
OBA Overload Duration	4.1	s						

Statistics

LAS1.66	59.5	dB
LAS8.33	53.1	dB
LAS25.00	49.0	dB
LAS50.00	47.6	dB
LAS66.66	46.9	dB
LAS90.00	45.2	dB

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	2020/01/28 5:43:54	-28.6
PRMLxT1L	2020/09/16 9:14:38	-28.8
PRMLxT1L	2020/09/15 8:58:37	-28.7
PRMLxT1L	2020/08/13 11:38:31	-28.4
PRMLxT1L	2020/08/10 11:31:11	-28.6
PRMLxT1L	2020/07/30 9:12:21	-28.4
PRMLxT1L	2020/07/29 9:02:27	-28.5
PRMLxT1L	2020/07/28 16:11:28	-28.6
PRMLxT1L	2020/07/26 15:28:11	-28.5
PRMLxT1L	2020/07/26 15:26:11	-28.6
PRMLxT1L	2020/07/25 19:19:15	-28.6
PRMLxT1L	2020/07/24 16:58:48	-28.5

Summary

Filename	LxT_Data.057
Serial Number	3790
Model	SoundExpert™ LxT
Firmware Version	2.402
User	
Location	
Job Description	
Note	
Measurement Description	Patrick Henry Drive Specific Plan - RVS
Start	15/09/2020 09:30:00
Stop	15/09/2020 12:10:03
Duration	2:40:03.9
Run Time	2:40:03.9
Pause	0:00:00.0
Pre Calibration	15/09/2020 09:20:13
Post Calibration	15/09/2020 12:12:01
Calibration Deviation	-0.03 dB

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Exponential
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	A Weighting
OBA Max Spectrum	At Lmax
Overload	122.7 dB

	A	**C**	**Z**	
Under Range Peak	**79.3**	76.3	81.3	dB
Under Range Limit	**24.3**	25.4	31.6	dB
Noise Floor	15.2	16.3	22.4	dB

Results

LASeq	58.9	dB
LASE	98.8	dB
EAS	835.247	µPa²h
LApeak (max)	15/09/2020 11:39:27	108.1 dB
LASmax	15/09/2020 11:39:27	81.7 dB
LASmin	15/09/2020 11:44:58	28.8 dB
SEA	-99.9	dB

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	58.9	58.9	-99.9	58.9	58.9	-99.9	-99.9

LCSeq	78.3	dB
LASeq	58.9	dB
LCSeq - LASeq	19.4	dB
LAIeq	65.0	dB
LAeq	58.9	dB
LAIeq - LAeq	6.1	dB
# Overloads	15	
Overload Duration	31.8	s
# OBA Overloads	15	
OBA Overload Duration	31.8	s

Statistics

LAS1.66	69.6	dB
LAS8.33	62.3	dB
LAS25.00	55.0	dB
LAS50.00	51.9	dB
LAS66.66	48.6	dB
LAS90.00	45.0	dB

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	28/01/2020 6:13:43	-26.4
Direct	27/01/2020 13:00:51	-29.0
PRMLxT1L	15/09/2020 12:12:00	-29.0
PRMLxT1L	15/09/2020 9:19:48	-28.9
PRMLxT1L	10/09/2020 16:42:28	-29.0
PRMLxT1L	10/09/2020 14:27:22	-28.8
PRMLxT1L	10/08/2020 17:47:22	-28.8
PRMLxT1L	10/08/2020 13:10:03	-28.8
PRMLxT1L	10/08/2020 13:00:53	-28.9
PRMLxT1L	10/08/2020 11:53:14	-28.9
PRMLxT1L	28/07/2020 15:09:11	-29.0
PRMLxT1L	28/07/2020 8:35:16	-28.7
PRMLxT1L	27/07/2020 16:20:52	-28.3
Other	01/12/2019 17:09:04	-29.0

TABLE 9: COMPARISON OF EXISTING CONDITIONS AND FUTURE BASELINE TRAFFIC NOISE LEVELS						
ROAD SEGMENT	EXISTING CONDITIONS (2019)		FUTURE BASELINE (2040 NO PROJECT)		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
Lawrence Expressway						
SR 237 to Tasman Drive	36,920	75.1	42,300	75.5	5,380	0.4
Tasman Drive to Sandia Avenue / Lakehaven Road	39,500	75.9	44,935	76.4	5,435	0.5
Sandia Avenue / Lakehaven Road to U.S. 101	43,593	75.6	61,777	77.1	18,183	1.5
U.S. 101 to East Arques Avenue	44,590	76.0	57,340	77.1	12,750	1.0
Patrick Henry Drive						
South of Tasman Drive	5,370	63.9	21,583	69.6	16,213	5.7
Great America Parkway to Old Ironside Drive	4,260	62.0	15,420	67.3	11,160	5.3
West of Old Ironsides Drive	6,550	60.1	7,020	60.4	470	0.4
Old Ironsides Drive						
Tasman Drive to Old Glory Lane	2,080	57.6	18,156	65.9	16,076	8.3
Old Glory Lane to Patrick Henry Drive	1,360	52.5	11,144	59.2	9,784	6.7
Great America Parkway						
SR 237 Eastbound Ramp to Great America Parkway	23,475	70.1	40,125	72.3	16,650	2.2
Great America Parkway to Old Mountain View Alviso Road	21,890	71.7	40,205	74.2	18,315	2.5
Old Mountain View Alviso Road to Bunker Hill Lane	18,050	71.0	44,580	74.7	26,530	3.7
Bunker Hill Lane to Tasman Drive	19,670	70.8	51,442	75.0	31,772	4.2
Tasman Drive to Old Glory Lane	24,690	72.2	44,300	74.7	19,610	2.5
Old Glory Lane to Patrick Henry Drive	26,745	72.7	50,461	75.3	23,716	2.6
Patrick Henry Drive to Mission College Boulevard	35,645	73.8	76,227	77.1	40,582	3.2
Ramp	42,140	74.0	77,220	76.7	35,080	2.6
Bowers Avenue						
U.S. 101 Southbound Ramp to Augustine Drive	34,095	72.0	47,140	73.5	13,045	1.5
Augustine Drive to Scott Boulevard	25,210	71.7	40,580	73.7	15,370	2.0
Scott Boulevard to Central Expressway	20,280	71.4	34,140	73.6	13,860	2.3
Central Expressway to Kifer Boulevard / Walsh Avenue	22,200	71.1	30,130	72.3	7,930	1.2
Mission College Boulevard						
Mission College Boulevard Loop to Great America Parkway	14,025	69.3	21,607	71.2	7,582	1.9
Great America Pkwy to Marriot Driveway	20,090	70.9	37,540	73.5	17,450	2.5
Marriot Driveway to Freedom Circle West	19,185	70.3	37,320	73.3	18,135	2.9
Freedom Circle West to Freedom Circle East	15,335	70.0	27,645	72.5	12,310	2.6
Agnew Rd / Freedom Circle East to Juliet Lane	14,730	69.6	29,074	72.4	14,344	2.9
Juliette Lane to Burton Circle	18,870	70.8	29,100	72.6	10,230	1.8
Burton Circle to Montague Expressway	33,125	73.5	48,212	75.1	15,087	1.6
Mission College Boulevard Loop						
North of Mission College Boulevard	4,930	63.2	4,953	63.2	23	0.0
South of Mission College Boulevard	10,280	66.6	17,531	68.5	7,251	2.0
Agnew Road / Freedom Circle East						
North of Mission College Boulevard	9,865	65.5	18,355	68.2	8,490	2.8
South of Mission College Boulevard	3,970	63.6	22,420	70.8	18,450	7.2
San Tomas Expressway						

TABLE 9: COMPARISON OF EXISTING CONDITIONS AND FUTURE BASELINE TRAFFIC NOISE LEVELS

ROAD SEGMENT	EXISTING CONDITIONS (2019)		FUTURE BASELINE (2040 NO PROJECT)		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
Mission College Boulevard / Thomas Road to Scott Boulevard	71,315	77.6	95,257	78.8	23,942	1.2
Scott Boulevard to Monroe Street	61,010	77.1	75,530	78.0	14,520	0.9
Monroe Street to El Camino Real	52,105	76.3	66,680	77.4	14,575	1.1
Tasman Drive						
Lawrence Expressway to Patrick Henry Drive	18,930	71.2	36,621	74.0	17,691	2.8
Patrick Henry Drive to Old Ironsides Drive	11,490	69.1	17,546	70.8	6,056	1.6
Old Ironsides Drive to Great America Parkway	11,835	68.7	30,519	72.6	18,684	3.8
Great America Parkway to Convention Center	22,515	71.4	32,018	72.7	9,503	1.3
Convention Center to Centennial Boulevard	25,815	72.4	35,145	73.7	9,330	1.3
Centennial Boulevard to Calle Del Sol	22,830	71.9	30,785	73.2	7,955	1.2
Calle Del Sol to Lick Mill Boulevard	19,670	70.8	25,840	72.0	6,170	1.1
Lafayette Street						
North of Calle De Luna	14,740	69.1	27,090	71.7	12,350	2.7
Calle Del Luna to Agnew Road	20,255	70.6	42,065	73.8	21,810	3.2
Agnew Road to Central Expressway	18,880	71.1	32,650	73.5	13,770	2.4
South of Central Expressway	22,400	69.5	27,660	70.4	5,260	0.9
East Arques / Scott Boulevard						
West of Lawrence Expressway	22,130	70.9	33,090	72.6	10,960	1.7
Lawrence Expressway to Bowers Avenue	15,355	70.2	24,300	72.2	8,945	2.0
Bowers Avenue to San Tomas Expressway	18,285	71.0	28,660	72.9	10,375	1.9
San Tomas Expressway to Central Expressway	13,755	69.8	16,180	70.6	2,425	0.8
South of Central Expressway	23,790	71.3	29,320	72.2	5,530	0.9
Central Expressway						
West of Bowers Avenue	44,250	76.2	73,430	78.4	29,180	2.2
Bowers Avenue to Scott Boulevard	41,750	76.3	67,085	78.4	25,335	2.0
Scott Boulevard to Lafayette Street	37,595	75.7	60,415	77.8	22,820	2.1
Lafayette Stree to De La Cruz Boulevard / Trimble Road	37,385	75.4	59,140	77.4	21,755	2.0
Montague Expressway						
U.S. 101 to Mission College Boulevard / Thomas Road	70,940	76.6	100,604	78.7	29,664	2.2
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	65,900	77.3	89,123	78.6	23,223	1.2
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	62,435	77.0	86,120	79.0	23,685	2.0
Lick Mill Boulevard to North 1st Street	64,090	77.1	100,955	79.1	36,865	2.0
North 1st Street to Zanker Rd	53,690	76.2	79,965	77.9	26,275	1.6
Zanker Road to Trimble Road	37,605	75.1	59,105	77.0	21,500	1.9
Trimble Road to McCarthy Boulevard / O'Toole Avenue	55,380	76.5	79,145	78.1	23,765	1.5
North of McCarthy Boulevard / O'Toole Avenue	56,750	76.3	73,500	77.4	16,750	1.1
Trimble Road						
South of Montague Expressway	19,360	71.4	31,210	73.5	11,850	2.1
North of Central Expressway	44,780	74.9	57,530	76.0	12,750	1.1
De La Cruz Boulevard						

TABLE 9: COMPARISON OF EXISTING CONDITIONS AND FUTURE BASELINE TRAFFIC NOISE LEVELS						
ROAD SEGMENT	EXISTING CONDITIONS (2019)		FUTURE BASELINE (2040 NO PROJECT)		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
South of Central Expressway	27,860	73.0	38,760	74.4	10,900	1.5

TABLE 10: COMPARISON OF FUTURE BASELINE AND PHD SP "A" ATRAFFIC NOISE LEVELS						
ROAD SEGMENT	FUTURE BASELINE (2040 NO PROJECT)		FUTURE BASELINE (2040 PROJECT "A")		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
Lawrence Expressway						
SR 237 to Tasman Drive	42,300	75.5	47,900	76.5	5,600	1.0
Tasman Drive to Sandia Avenue / Lakehaven Road	44,935	76.4	51,505	Not Modeled	6,570	See Proj "B"
Sandia Avenue / Lakehaven Road to U.S. 101	61,777	77.1	67,910	Not Modeled	6,133	See Proj "B"
U.S. 101 to East Arques Avenue	57,340	77.1	58,630	77.8	1,290	0.7
Patrick Henry Drive						
South of Tasman Drive	21,583	69.6	29,137	70.5	7,554	0.9
Great America Parkway to Old Ironside Drive	15,420	67.3	23,262	69.0	7,842	1.7
West of Old Ironsides Drive	7,020	60.4	22,620	63.6	15,600	3.2
Old Ironsides Drive						
Tasman Drive to Old Glory Lane	18,156	65.9	28,794	Not Modeled	10,638	See Proj "B"
Old Glory Lane to Patrick Henry Drive	11,144	59.2	17,830	60.7	6,686	1.5
Great America Parkway						
SR 237 Eastbound Ramp to Great America Parkway	40,125	72.3	41,260	73.1	1,135	0.8
Great America Parkway to Old Mountain View Alviso Road	40,205	74.2	41,955	Not Modeled	1,750	See Proj "B"
Old Mountain View Alviso Road to Bunker Hill Lane	44,580	74.7	47,665	75.5	3,085	0.7
Bunker Hill Lane to Tasman Drive	51,442	75.0	54,524	75.7	3,081	0.6
Tasman Drive to Old Glory Lane	44,300	74.7	44,932	75.4	632	0.6
Old Glory Lane to Patrick Henry Drive	50,461	75.3	58,983	76.3	8,522	0.9
Patrick Henry Drive to Mission College Boulevard	76,227	77.1	96,860	78.3	20,633	1.2
Northbound Ramp	77,220	76.7	86,865	77.4	9,645	0.7
Bowers Avenue						
U.S. 101 Southbound Ramp to Augustine Drive	47,140	73.5	49,325	Not Modeled	2,185	See Proj "B"
Augustine Drive to Scott Boulevard	40,580	73.7	42,990	74.4	2,410	0.7
Scott Boulevard to Central Expressway	34,140	73.6	35,760	74.3	1,620	0.6
Central Expressway to Kifer Boulevard / Walsh Avenue	30,130	72.3	30,775	72.9	645	0.5
Mission College Boulevard						
Mission College Boulevard Loop to Great America Parkway	21,607	71.2	25,880	71.7	4,273	0.5
Great America Pkwy to Marriot Driveway	37,540	73.5	42,235	74.4	4,695	0.9
Marriot Driveway to Freedom Circle West	37,320	73.3	39,330	72.8	2,010	-0.5
Freedom Circle West to Freedom Circle East	27,645	72.5	28,525	Not Modeled	880	See Proj "B"
Agnew Rd / Freedom Circle East to Juliet Lane	29,074	72.4	29,855	Not Modeled	781	See Proj "B"
Juliette Lane to Burton Circle	29,100	72.6	28,900	Not Modeled	-200	See Proj "B"
Burton Circle to Montague Expressway	48,212	75.1	49,690	75.5	1,477	0.4
Mission College Boulevard Loop						
North of Mission College Blvd	4,953	63.2	17,949	68.4	12,996	5.3
South of Mission College Blvd	17,531	68.5	14,021	68.9	-3,510	0.3
Agnew Road / Freedom Circle East						
North of Mission College Blvd	18,355	68.2	17,965	Not Modeled	-390	See Proj "B"
South of Mission College Blvd	22,420	70.8	22,160	Not Modeled	-260	See Proj "B"

TABLE 10: COMPARISON OF FUTURE BASELINE AND PHD SP "A" ATRAFFIC NOISE LEVELS						
ROAD SEGMENT	FUTURE BASELINE (2040 NO PROJECT)		FUTURE BASELINE (2040 PROJECT "A")		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
San Tomas Expressway						
Mission College Boulevard / Thomas Road to Scott Boulevard	95,257	78.8	97,360	Not Modeled	2,103	See Proj "B"
Scott Boulevard to Monroe Street	75,530	78.0	75,460	Not Modeled	-70	See Proj "B"
Monroe Street to El Camino Real	66,680	77.4	66,975	Not Modeled	295	See Proj "B"
Tasman Drive						
Lawrence Expressway to Patrick Henry Drive	36,621	74.0	43,065	75.0	6,444	0.9
Patrick Henry Drive to Old Ironsides Drive	17,546	70.8	23,519	72.1	5,973	1.3
Old Ironsides Drive to Great America Parkway	30,519	72.6	36,254	Not Modeled	5,735	See Proj "B"
Great America Parkway to Convention Center	32,018	72.7	34,895	73.5	2,877	0.7
Convention Center to Centennial Boulevard	35,145	73.7	36,910	Not Modeled	1,765	See Proj "B"
Centennial Boulevard to Calle Del Sol	30,785	73.2	32,480	Not Modeled	1,695	See Proj "B"
Calle Del Sol to Lick Mill Boulevard	25,840	72.0	27,865	72.8	2,025	0.8
Lafayette Street						
North of Calle De Luna	27,090	71.7	26,980	Not Modeled	-110	See Proj "B"
Calle Del Luna to Agnew Road	42,065	73.8	41,930	Not Modeled	-135	See Proj "B"
Agnew Road to Central Expressway	32,650	73.5	33,565	74.1	915	0.6
South of Central Expressway	27,660	70.4	28,920	71.2	1,260	0.8
East Arques / Scott Boulevard						
West of Lawrence Expressway	33,090	72.6	33,940	73.0	850	0.4
Lawrence Expressway to Bowers Avenue	24,300	72.2	24,945	Not Modeled	645	See Proj "B"
Bowers Avenue to San Tomas Expressway	28,660	72.9	28,675	Not Modeled	15	See Proj "B"
San Tomas Expressway to Central Expressway	16,180	70.6	16,320	Not Modeled	140	See Proj "B"
South of Central Expressway	29,320	72.2	29,290	Not Modeled	-30	See Proj "B"
Central Expressway						
West of Bowers Avenue	73,430	78.4	73,840	78.8	410	0.4
Bowers Avenue to Scott Boulevard	67,085	78.4	68,395	79.0	1,310	0.6
Scott Boulevard to Lafayette Street	60,415	77.8	61,260	78.4	845	0.6
Lafayette Stree to De La Cruz Boulevard / Trimble Road	59,140	77.4	59,815	78.1	675	0.7
Montague Expressway						
U.S. 101 to Mission Colleg Boulevard / Thomas Road	100,604	78.7	104,689	78.8	4,086	0.1
La Cruz Boulevard	89,123	78.6	89,940	79.2	817	0.6
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	86,120	79.0	86,680	Not Modeled	560	See Proj "B"
Lick Mill Boulevard to North 1st Street	100,955	79.1	102,445	79.7	1,490	0.6
North 1st Street to Zanker Rd	79,965	77.9	81,980	78.5	2,015	0.6
Zanker Road to Trimble Road	59,105	77.0	59,805	Not Modeled	700	See Proj "B"
Trimble Road to McCarthy Boulevard / O'Toole Avenue	79,145	78.1	79,310	Not Modeled	165	See Proj "B"
North of McCarthy Boulevard / O'Toole Avenue	73,500	77.4	74,040	Not Modeled	540	See Proj "B"
Trimble Road						
South of Montague Expressway	31,210	73.5	31,880	74.1	670	0.5
North of Central Expressway	57,530	76.0	57,640	Not Modeled	110	See Proj "B"
De La Cruz Boulevard						

TABLE 10: COMPARISON OF FUTURE BASELINE AND PHD SP "A" ATRAFFIC NOISE LEVELS						
ROAD SEGMENT	FUTURE BASELINE (2040 NO PROJECT)		FUTURE BASELINE (2040 PROJECT "A")		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
South of Central Expressway	38,760	74.4	38,440	Not Modeled	-320	See Proj "B"

TABLE 11: COMPARISON OF FUTURE BASELINE AND PHD SP "B" ATRAFFIC NOISE LEVELS						
ROAD SEGMENT	FUTURE BASELINE (2040 NO PROJECT)		FUTURE BASELINE (2040 PROJECT "B")		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
Lawrence Expressway						
SR 237 to Tasman Drive	42,300	75.5	49,692	76.5	7,392	1.1
Tasman Drive to Sandia Avenue / Lakehaven Road	44,935	76.4	51,681	77.3	6,746	0.9
Sandia Avenue / Lakehaven Road to U.S. 101	61,777	77.1	67,945	77.9	6,169	0.8
U.S. 101 to East Arques Avenue	57,340	77.1	58,280	Not Modeled	940	See Proj "A"
Patrick Henry Drive						
South of Tasman Drive	21,583	69.6	31,661	70.8	10,077	1.2
Great America Parkway to Old Ironside Drive	15,420	67.3	21,237	Not Modeled	5,817	See Proj "A"
West of Old Ironsides Drive	7,020	60.4	20,711	Not Modeled	13,691	See Proj "A"
Old Ironsides Drive						
Tasman Drive to Old Glory Lane	18,156	65.9	29,170	67.8	11,014	1.9
Old Glory Lane to Patrick Henry Drive	11,144	59.2	17,554	Not Modeled	6,410	See Proj "A"
Great America Parkway						
SR 237 Eastbound Ramp to Great America Parkway	40,125	72.3	40,745	Not Modeled	620	See Proj "A"
Great America Parkway to Old Mountain View Alviso Road	40,205	74.2	42,365	74.9	2,160	0.6
Old Mountain View Alviso Road to Bunker Hill Lane	44,580	74.7	47,605	Not Modeled	3,025	See Proj "A"
Bunker Hill Lane to Tasman Drive	51,442	75.0	53,864	Not Modeled	2,422	See Proj "A"
Tasman Drive to Old Glory Lane	44,300	74.7	44,010	Not Modeled	-290	See Proj "A"
Old Glory Lane to Patrick Henry Drive	50,461	75.3	63,404	76.5	12,943	1.1
Patrick Henry Drive to Mission College Boulevard	76,227	77.1	95,669	78.2	19,442	1.1
Northbound Ramp	77,220	76.7	86,359	Not Modeled	9,139	See Proj "A"
Bowers Avenue						
U.S. 101 Southbound Ramp to Augustine Drive	47,140	73.5	49,330	74.2	2,190	0.7
Augustine Drive to Scott Boulevard	40,580	73.7	42,730	Not Modeled	2,150	See Proj "A"
Scott Boulevard to Central Expressway	34,140	73.6	35,630	Not Modeled	1,490	See Proj "A"
Central Expressway to Kifer Boulevard / Walsh Avenue	30,130	72.3	30,410	Not Modeled	280	See Proj "A"
Mission College Boulevard						
Mission College Boulevard Loop to Great America Parkway	21,607	71.2	20,447	Not Modeled	-1,160	See Proj "A"
Great America Pkwy to Marriot Driveway	37,540	73.5	41,290	Not Modeled	3,751	See Proj "A"
Marriot Driveway to Freedom Circle West	37,320	73.3	38,320	Not Modeled	1,000	See Proj "A"
Freedom Circle West to Freedom Circle East	27,645	72.5	29,489	73.3	1,844	0.7
Agnew Rd / Freedom Circle East to Juliet Lane	29,074	72.4	32,734	73.3	3,660	0.9
Juliette Lane to Burton Circle	29,100	72.6	30,430	73.4	1,330	0.7
Burton Circle to Montague Expressway	48,212	75.1	49,623	Not Modeled	1,411	See Proj "A"
Mission College Boulevard Loop						
North of Mission College Blvd	4,953	63.2	11,970	Not Modeled	7,017	See Proj "A"
South of Mission College Blvd	17,531	68.5	7,970	Not Modeled	-9,561	See Proj "A"
Agnew Road / Freedom Circle East						
North of Mission College Blvd	18,355	68.2	18,240	Not Modeled	-115	See Proj "A"
South of Mission College Blvd	22,420	70.8	23,730	71.4	1,310	0.5
San Tomas Expressway						

TABLE 11: COMPARISON OF FUTURE BASELINE AND PHD SP "B" ATRAFFIC NOISE LEVELS						
ROAD SEGMENT	FUTURE BASELINE (2040 NO PROJECT)		FUTURE BASELINE (2040 PROJECT "B")		NET CHANGE	
	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET	ADT	CNEL @ 100 FEET
Mission College Boulevard / Thomas Road to Scott Boulevard	95,257	78.8	97,408	79.5	2,151	0.7
Scott Boulevard to Monroe Street	75,530	78.0	75,805	78.5	275	0.5
Monroe Street to El Camino Real	66,680	77.4	67,300	78.0	620	0.6
Tasman Drive						
Lawrence Expressway to Patrick Henry Drive	36,621	74.0	46,981	75.2	10,360	1.1
Patrick Henry Drive to Old Ironsides Drive	17,546	70.8	22,858	72.0	5,312	1.2
Old Ironsides Drive to Great America Parkway	30,519	72.6	37,071	73.6	6,552	1.0
Great America Parkway to Convention Center	32,018	72.7	34,595	Not Modeled	2,577	See Proj "A"
Convention Center to Centennial Boulevard	35,145	73.7	37,445	74.5	2,300	0.7
Centennial Boulevard to Calle Del Sol	30,785	73.2	32,965	73.8	2,180	0.6
Calle Del Sol to Lick Mill Boulevard	25,840	72.0	27,810	Not Modeled	1,970	See Proj "A"
Lafayette Street						
North of Calle De Luna	27,090	71.7	27,160	72.2	70	0.4
Calle Del Luna to Agnew Road	42,065	73.8	42,070	74.2	5	0.3
Agnew Road to Central Expressway	32,650	73.5	33,410	Not Modeled	760	See Proj "A"
South of Central Expressway	27,660	70.4	28,370	Not Modeled	710	See Proj "A"
East Arques / Scott Boulevard						
West of Lawrence Expressway	33,090	72.6	33,490	Not Modeled	400	See Proj "A"
Lawrence Expressway to Bowers Avenue	24,300	72.2	25,280	72.9	980	0.6
Bowers Avenue to San Tomas Expressway	28,660	72.9	32,510	73.8	3,850	0.9
San Tomas Expressway to Central Expressway	16,180	70.6	16,325	71.1	145	0.5
South of Central Expressway	29,320	72.2	29,380	72.2	60	-0.1
Central Expressway						
West of Bowers Avenue	73,430	78.4	73,110	Not Modeled	-320	See Proj "A"
Bowers Avenue to Scott Boulevard	67,085	78.4	68,075	Not Modeled	990	See Proj "A"
Scott Boulevard to Lafayette Street	60,415	77.8	61,105	Not Modeled	690	See Proj "A"
Lafayette Stree to De La Cruz Boulevard / Trimble Road	59,140	77.4	59,720	Not Modeled	580	See Proj "A"
Montague Expressway						
U.S. 101 to Mission Colleg Boulevard / Thomas Road	100,604	78.7	104,227	Not Modeled	3,623	See Proj "A"
La Cruz Boulevard	89,123	78.6	89,080	Not Modeled	-43	See Proj "A"
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	86,120	79.0	88,260	79.0	2,140	0.0
Lick Mill Boulevard to North 1st Street	100,955	79.1	101,640	Not Modeled	685	See Proj "A"
North 1st Street to Zanker Rd	79,965	77.9	80,715	Not Modeled	750	See Proj "A"
Zanker Road to Trimble Road	59,105	77.0	61,045	77.7	1,940	0.7
Trimble Road to McCarthy Boulevard / O'Toole Avenue	79,145	78.1	83,480	78.8	4,335	0.7
North of McCarthy Boulevard / O'Toole Avenue	73,500	77.4	76,840	78.1	3,340	0.7

TABLE 11: COMPARISON OF FUTURE BASELINE AND PHD SP "B" ATRAFFIC NOISE LEVELS						
ROAD SEGMENT	**FUTURE BASELINE (2040 NO PROJECT)**		**FUTURE BASELINE (2040 PROJECT "B")**		**NET CHANGE**	
	ADT	**CNEL @ 100 FEET**	**ADT**	**CNEL @ 100 FEET**	**ADT**	**CNEL @ 100 FEET**
Trimble Road						
South of Montague Expressway	31,210	73.5	31,530	Not Modeled	320	See Proj "A"
North of Central Expressway	57,530	76.0	59,980	76.6	2,450	0.6
De La Cruz Boulevard						
South of Central Expressway	38,760	74.4	38,630	74.9	-130	0.4

TABLE 12: COMPARISON OF EXISTING AND PHD SP TRAFFIC NOISE LEVELS			
ROAD SEGMENT	**EXISTING CONDITIONS ADT (2019)**	**PROPOSED PROJECT ADT (2040)**	**NET CHANGE (%)**
Lawrence Expressway			
SR 237 to Tasman Drive	36,920	7,392	20%
Tasman Drive to Sandia Avenue / Lakehaven Road	39,500	6,746	17%
Sandia Avenue / Lakehaven Road to U.S. 101	43,593	6,169	14%
U.S. 101 to East Arques Avenue	44,590	1,290	3%
Patrick Henry Drive			
South of Tasman Drive	5,370	10,077	188%
Great America Parkway to Old Ironside Drive	4,260	7,842	184%
West of Old Ironsides Drive	6,550	15,600	238%
Old Ironsides Drive			
Tasman Drive to Old Glory Lane	2,080	11,014	530%
Old Glory Lane to Patrick Henry Drive	1,360	6,686	492%
Great America Parkway			
SR 237 Eastbound Ramp to Great America Parkway	23,475	1,135	5%
Great America Parkway to Old Mountain View Alviso Road	21,890	2,160	10%
Old Mountain View Alviso Road to Bunker Hill Lane	18,050	3,085	17%
Bunker Hill Lane to Tasman Drive	19,670	3,081	16%
Tasman Drive to Old Glory Lane	24,690	632	3%
Old Glory Lane to Patrick Henry Drive	26,745	12,943	48%
Patrick Henry Drive to Mission College Boulevard	35,645	20,633	58%
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	42,140	9,645	23%
Bowers Avenue			
U.S. 101 Southbound Ramp to Augustine Drive	34,095	2,190	6%
Augustine Drive to Scott Boulevard	25,210	2,410	10%
Scott Boulevard to Central Expressway	20,280	1,620	8%
Central Expressway to Kifer Boulevard / Walsh Avenue	22,200	645	3%
Mission College Boulevard			
Mission College Boulevard Loop to Great America Parkway	14,025	4,273	30%
Great America Pkwy to Marriot Driveway	20,090	4,695	23%
Marriot Driveway to Freedom Circle West	19,185	2,010	10%
Freedom Circle West to Freedom Circle East	15,335	1,844	12%
Agnew Rd / Freedom Circle East to Juliet Lane	14,730	3,660	25%
Juliette Lane to Burton Circle	18,870	1,330	7%
Burton Circle to Montague Expressway	33,125	1,477	4%
Mission College Boulevard Loop			
North of Mission College Blvd	4,930	12,996	264%
South of Mission College Blvd	10,280	-3,510	-34%
Agnew Road / Freedom Circle East			
North of Mission College Blvd	9,865	-115	-1%
South of Mission College Blvd	3,970	1,310	33%

TABLE 12: COMPARISON OF EXISTING AND PHD SP TRAFFIC NOISE LEVELS			
ROAD SEGMENT	**EXISTING CONDITIONS ADT (2019)**	**PROPOSED PROJECT ADT (2040)**	**NET CHANGE (%)**
San Tomas Expressway			
Mission College Boulevard / Thomas Road to Scott Boulevard	71,315	2,151	3%
Scott Boulevard to Monroe Street	61,010	275	0%
Monroe Street to El Camino Real	52,105	620	1%
Tasman Drive			
Lawrence Expressway to Patrick Henry Drive	18,930	10,360	55%
Patrick Henry Drive to Old Ironsides Drive	11,490	5,973	52%
Old Ironsides Drive to Great America Parkway	11,835	6,552	55%
Great America Parkway to Convention Center	22,515	2,877	13%
Convention Center to Centennial Boulevard	25,815	2,300	9%
Centennial Boulevard to Calle Del Sol	22,830	2,180	10%
Calle Del Sol to Lick Mill Boulevard	19,670	2,025	10%
Lafayette Street			
North of Calle De Luna	14,740	70	0%
Calle Del Luna to Agnew Road	20,255	5	0%
Agnew Road to Central Expressway	18,880	915	5%
South of Central Expressway	22,400	1,260	6%
East Arques / Scott Boulevard			
West of Lawrence Expressway	22,130	850	4%
Lawrence Expressway to Bowers Avenue	15,355	980	6%
Bowers Avenue to San Tomas Expressway	18,285	3,850	21%
San Tomas Expressway to Central Expressway	13,755	145	1%
South of Central Expressway	23,790	60	0%
Central Expressway			
West of Bowers Avenue	44,250	410	1%
Bowers Avenue to Scott Boulevard	41,750	1,310	3%
Scott Boulevard to Lafayette Street	37,595	845	2%
Lafayette Stree to De La Cruz Boulevard / Trimble Road	37,385	675	2%
Montague Expressway			
U.S. 101 to Mission Colleg Boulevard / Thomas Road	70,940	4,086	6%
Mission College Boulevard / Thomas Rd to Agnew Road / De La Cruz Boulevard	65,900	817	1%
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	62,435	2,140	3%
Lick Mill Boulevard to North 1st Street	64,090	1,490	2%
North 1st Street to Zanker Rd	53,690	2,015	4%
Zanker Road to Trimble Road	37,605	1,940	5%
Trimble Road to McCarthy Boulevard / O'Toole Avenue	55,380	4,335	8%
North of McCarthy Boulevard / O'Toole Avenue	56,750	3,340	6%
Trimble Road			
South of Montague Expressway	19,360	670	3%
North of Central Expressway	44,780	2,450	5%
De La Cruz Boulevard			
South of Central Expressway	27,860	-130	0%

TABLE 13: EXISTING HOURLY VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicles Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Lawrence Expressway												
SR 237 to Tasman Drive	36,920	7,193	1,351	1,640	27	18	42	1,285	21	14	33	A,B,C,D,E
Tasman Drive to Sandia Avenue / Lakehaven Road	39,500	7,461	1,456	1,745	29	19	45	1,384	23	15	36	A,B,C,D,E
Sandia Avenue / Lakehaven Road to U.S. 101	43,593	8,478	1,596	1,936	32	21	50	1,517	25	17	39	A,B,C,D,E
U.S. 101 to East Arques Avenue	44,590	8,247	1,652	1,962	32	21	51	1,570	26	17	41	A,B,C,D,E
Patrick Henry Drive												
South of Tasman Drive	5,370	743	210	226	4	3	6	200	4	3	6	A,B,C,D,E
Great America Parkway to Old Ironside Drive	4,260	808	157	189	4	2	5	150	3	2	4	A,B,C,D,E
West of Old Ironsides Drive	6,550	1,007	252	280	5	3	8	240	4	3	7	A,B,C,D,E
Old Ironsides Drive												
Tasman Drive to Old Glory Lane	2,080	275	82	87	2	1	3	78	2	1	2	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	1,360	223	52	59	1	1	2	50	1	1	2	A,B,C,D,E
Great America Parkway												
SR 237 Eastbound Ramp to Great America Parkway	23,475	4,225	875	1,028	17	11	27	832	14	9	22	A,B,C,D,E
Great America Parkway to Old Mountain View Alviso	21,890	3,868	819	956	16	11	25	779	13	9	20	A,B,C,D,E
Old Mountain View Alviso Road to Bunker Hill Lane	18,050	3,213	674	789	13	9	21	641	11	7	17	A,B,C,D,E
Bunker Hill Lane to Tasman Drive	19,670	3,408	739	856	14	10	22	703	12	8	18	A,B,C,D,E
Tasman Drive to Old Glory Lane	24,690	4,465	919	1,082	18	12	28	874	15	10	23	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	26,745	4,667	1,004	1,165	19	13	30	954	16	11	25	A,B,C,D,E
Patrick Henry Drive to Mission College Boulevard	35,645	6,070	1,344	1,546	25	17	40	1,278	21	14	33	A,B,C,D,E
Mission College Boulevard to Bowers Avenue / U.S.	42,140	7,738	1,564	1,852	30	20	48	1,487	24	16	38	A,B,C,D,E
Bowers Avenue												
U.S. 101 Southbound Ramp to Augustine Drive	34,095	5,649	1,293	1,472	24	16	38	1,229	20	13	32	A,B,C,D,E
Augustine Drive to Scott Boulevard	25,210	4,305	950	1,094	18	12	28	904	15	10	24	A,B,C,D,E
Scott Boulevard to Central Expressway	20,280	3,821	748	896	15	10	23	711	12	8	19	A,B,C,D,E

TABLE 13: EXISTING HOURLY VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicles Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Central Expressway to Kifer Boulevard / Walsh Avenue	22,200	3,845	834	966	16	11	25	793	13	9	21	A,B,C,D,E
Mission College Boulevard												
Mission College Boulevard Loop to Great America	14,025	2,428	527	610	10	7	16	501	9	6	13	A,B,C,D,E
Great America Pkwy to Marriot Driveway	20,090	3,612	749	880	15	10	23	712	12	8	19	A,B,C,D,E
Marriot Driveway to Freedom Circle West	19,185	3,361	719	836	14	9	22	684	12	8	18	A,B,C,D,E
Freedom Circle West to Freedom Circle East	15,335	2,953	563	680	11	8	18	535	9	6	14	A,B,C,D,E
Agnew Rd / Freedom Circle East to Juliet Lane	14,730	2,860	540	654	11	7	17	513	9	6	14	A,B,C,D,E
Juliette Lane to Burton Circle	18,870	3,374	704	825	14	9	22	670	11	8	18	A,B,C,D,E
Burton Circle to Montague Expressway	33,125	4,226	1,314	1,375	23	15	36	1,249	21	14	32	A,B,C,D,E
Mission College Boulevard Loop												
North of Mission College Boulevard	4,930	846	186	215	4	3	6	177	3	2	5	A,B,C,D,E
South of Mission College Boulevard	10,280	1,467	401	434	7	5	12	381	7	5	10	A,B,C,D,E
Agnew Road / Freedom Circle East												
North of Mission College Boulevard	9,865	1,761	368	432	7	5	12	351	6	4	9	A,B,C,D,E
South of Mission College Boulevard	3,970	771	145	177	3	2	5	139	3	2	4	A,B,C,D,E
San Tomas Expressway												
Mission College Boulevard / Thomas Road to Scott	71,315	13,591	2,624	3,155	51	34	81	2,494	41	27	64	A,B,C,D,E
Scott Boulevard to Monroe Street	61,010	11,804	2,237	2,707	44	29	70	2,126	35	23	55	A,B,C,D,E
Monroe Street to El Camino Real	52,105	10,220	1,904	2,318	38	25	60	1,810	30	20	47	A,B,C,D,E
Tasman Drive												
Lawrence Expressway to Patrick Henry Drive	18,930	3,110	719	816	14	9	21	684	12	8	18	A,B,C,D,E
Patrick Henry Drive to Old Ironsides Drive	11,490	2,191	423	509	9	6	13	402	7	5	11	A,B,C,D,E
Old Ironsides Drive to Great America Parkway	11,835	2,265	435	524	9	6	14	414	7	5	11	A,B,C,D,E
Great America Parkway to Convention Center	22,515	3,859	848	978	16	11	25	806	14	9	21	A,B,C,D,E
Convention Center to Centennial Boulevard	25,815	4,552	967	1,126	19	12	29	919	15	10	24	A,B,C,D,E

TABLE 13: EXISTING HOURLY VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicles Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Centennial Boulevard to Calle Del Sol	22,830	4,166	848	1,002	17	11	26	807	14	9	21	A,B,C,D,E
Calle Del Sol to Lick Mill Boulevard	19,670	3,655	728	866	14	10	23	692	12	8	18	A,B,C,D,E
Lafayette Street												
North of Calle De Luna	14,740	2,737	546	649	11	7	17	519	9	6	14	A,B,C,D,E
Calle Del Luna to Agnew Road	20,255	3,710	752	890	15	10	23	715	12	8	19	A,B,C,D,E
Agnew Road to Central Expressway	18,880	3,523	698	832	14	9	22	664	11	8	17	A,B,C,D,E
South of Central Expressway	22,400	4,159	829	986	16	11	26	788	13	9	21	A,B,C,D,E
East Arques / Scott Boulevard												
West of Lawrence Expressway	22,130	3,730	836	958	16	11	25	795	13	9	21	A,B,C,D,E
Lawrence Expressway to Bowers Avenue	15,355	2,810	570	675	11	8	18	542	9	6	14	A,B,C,D,E
Bowers Avenue to San Tomas Expressway	18,285	3,422	676	807	14	9	21	643	11	7	17	A,B,C,D,E
San Tomas Expressway to Central Expressway	13,755	2,416	515	600	10	7	16	490	8	6	13	A,B,C,D,E
South of Central Expressway	23,790	4,093	895	1,034	17	11	27	851	14	9	22	A,B,C,D,E
Central Expressway												
West of Bowers Avenue	44,250	8,561	1,622	1,963	32	21	51	1,542	25	17	40	A,B,C,D,E
Bowers Avenue to Scott Boulevard	41,750	7,683	1,549	1,835	30	20	47	1,472	24	16	38	A,B,C,D,E
Scott Boulevard to Lafayette Street	37,595	7,138	1,384	1,662	27	18	43	1,316	22	14	34	A,B,C,D,E
Lafayette Stree to De La Cruz Boulevard / Trimble	37,385	7,288	1,368	1,661	27	18	43	1,301	21	14	34	A,B,C,D,E

TABLE 13: EXISTING HOURLY VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicles Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Montague Expressway												
U.S. 101 to Mission College Boulevard / Thomas Road	70,940	13,462	2,613	3,136	51	34	81	2,483	41	27	64	A,B,C,D,E
Mission College Boulevard / Thomas Road to Agnew	65,900	12,167	2,442	2,898	47	31	75	2,322	38	25	60	A,B,C,D,E
Agnew Road / De La Cruz Boulevard to Lick Mill	62,435	11,878	2,298	2,761	45	30	71	2,184	36	24	56	A,B,C,D,E
Lick Mill Boulevard to North 1st Street	64,090	12,053	2,365	2,828	46	30	73	2,248	37	24	58	A,B,C,D,E
North 1st Street to Zanker Rd	53,690	9,828	1,994	2,358	39	25	61	1,895	31	21	49	A,B,C,D,E
Zanker Road to Trimble Road	37,605	7,026	1,390	1,658	27	18	43	1,321	22	14	34	A,B,C,D,E
Trimble Road to McCarthy Boulevard / O'Toole Avenue	55,380	10,436	2,043	2,445	40	26	63	1,942	32	21	50	A,B,C,D,E
North of McCarthy Boulevard / O'Toole Avenue	56,750	11,202	2,070	2,527	41	27	65	1,968	32	21	51	A,B,C,D,E
Trimble Road												
South of Montague Expressway	19,360	3,746	710	859	14	10	22	675	11	8	18	A,B,C,D,E
North of Central Expressway	44,780	8,798	1,636	1,992	33	22	51	1,555	26	17	40	A,B,C,D,E
De La Cruz Boulevard												
South of Central Expressway	27,860	5,416	1,020	1,237	20	14	32	970	16	11	25	A,B,C,D,E
TABLE NOTES:												

A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.

B) Total peak hour vehicles is based on AM and PM peak hour traffic volume information provided by Hexagon Transportation Consultants.

C) Non peak-hour vehicles are derived by subtrating total peak hour traffic from ADT volumes and dividing by 22 (the number of non=peak hours in the day).

D) Vehicles per daytime includes peak hour traffic and non-peak hour traffic (10 hours) multiplied by EMFAC vehicle class distribution percentages.

E) Vehicles per nighttime includes non-peak hour traffic (12 hours) multipled by EMFAC vehicle class distribution percentages.

TABLE 14: EXISTING TRAFFIC NOISE ESTIMATE								
Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Lawrence Expressway								
SR 237 to Tasman Drive	36,920	69.7	69.7	74.5	68.1	78.1	75.1	A,B
Tasman Drive to Sandia Avenue / Lakehaven Road	39,500	70.6	69.0	73.8	69.0	79.0	75.9	A,B
Sandia Avenue / Lakehaven Road to U.S. 101	43,593	70.3	68.7	73.5	68.7	78.7	75.6	A,B
U.S. 101 to East Arques Avenue	44,590	70.7	69.2	74.0	69.2	79.2	76.0	A,B
Patrick Henry Drive								
South of Tasman Drive	5,370	58.0	57.2	62.0	57.2	67.2	63.9	A,B
Great America Parkway to Old Ironside Drive	4,260	56.4	55.2	60.0	55.2	65.2	62.0	A,B
West of Old Ironsides Drive	6,550	54.2	53.3	58.1	53.3	63.3	60.1	A,B
Old Ironsides Drive								
Tasman Drive to Old Glory Lane	2,080	51.7	50.9	55.7	50.9	60.9	57.6	A,B
Old Glory Lane to Patrick Henry Drive	1,360	46.3	45.8	50.6	45.8	55.8	52.5	A,B
Great America Parkway								
SR 237 Eastbound Ramp to Great America Parkway	23,475	64.7	63.3	68.1	63.3	73.3	70.1	A,B
Great America Parkway to Old Mountain View Alviso Road	21,890	66.3	64.9	69.7	64.9	74.9	71.7	A,B
Old Mountain View Alviso Road to Bunker Hill Lane	18,050	65.6	64.2	69.0	64.2	74.2	71.0	A,B
Bunker Hill Lane to Tasman Drive	19,670	65.5	64.0	68.8	64.0	74.0	70.8	A,B
Tasman Drive to Old Glory Lane	24,690	66.9	65.4	70.2	65.4	75.4	72.2	A,B
Old Glory Lane to Patrick Henry Drive	26,745	67.2	65.9	70.7	65.9	75.9	72.7	A,B
Patrick Henry Drive to Mission College Boulevard	35,645	68.4	67.0	71.8	67.0	77.0	73.8	A,B
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	42,140	68.6	67.2	72.0	67.2	77.2	74.0	A,B
Bowers Avenue								
U.S. 101 Southbound Ramp to Augustine Drive	34,095	66.0	65.3	70.1	65.3	75.3	72.0	A,B
Augustine Drive to Scott Boulevard	25,210	66.2	64.9	69.7	64.9	74.9	71.7	A,B
Scott Boulevard to Central Expressway	20,280	66.1	64.5	69.3	64.5	74.5	71.4	A,B
Central Expressway to Kifer Boulevard / Walsh Avenue	22,200	65.7	64.3	69.1	64.3	74.3	71.1	A,B
Mission College Boulevard								
Mission College Boulevard Loop to Great America Parkway	14,025	63.9	62.5	67.3	62.5	72.5	69.3	A,B
Great America Pkwy to Marriot Driveway	20,090	65.5	64.1	68.9	64.1	74.1	70.9	A,B
Marriot Driveway to Freedom Circle West	19,185	65.0	63.5	68.3	63.5	73.5	70.3	A,B
Freedom Circle West to Freedom Circle East	15,335	64.7	63.1	67.9	63.1	73.1	70.0	A,B
Agnew Rd / Freedom Circle East to Juliet Lane	14,730	64.3	62.7	67.5	62.7	72.7	69.6	A,B
Juliette Lane to Burton Circle	18,870	65.5	64.0	68.8	64.0	74.0	70.8	A,B
Burton Circle to Montague Expressway	33,125	67.7	66.7	71.5	66.7	76.7	73.5	A,B
Mission College Boulevard Loop								
North of Mission College Boulevard	4,930	58.0	56.3	61.1	56.3	66.3	63.2	A,B
South of Mission College Boulevard	10,280	60.7	59.8	64.6	59.8	69.8	66.6	A,B
Agnew Road / Freedom Circle East								
North of Mission College Boulevard	9,865	60.2	58.6	63.4	58.6	68.6	65.5	A,B
South of Mission College Boulevard	3,970	58.2	56.8	61.6	56.8	66.8	63.6	A,B
San Tomas Expressway								

TABLE 14: EXISTING TRAFFIC NOISE ESTIMATE

Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Mission College Boulevard / Thomas Road to Scott Boulevard	71,315	72.3	70.7	75.5	70.7	80.7	77.6	A,B
Scott Boulevard to Monroe Street	61,010	71.8	70.2	75.0	70.2	80.2	77.1	A,B
Monroe Street to El Camino Real	52,105	71.1	69.4	74.2	69.4	79.4	76.3	A,B
Tasman Drive								
Lawrence Expressway to Patrick Henry Drive	18,930	65.8	64.4	69.2	64.4	74.4	71.2	A,B
Patrick Henry Drive to Old Ironsides Drive	11,490	63.7	62.3	67.1	62.3	72.3	69.1	A,B
Old Ironsides Drive to Great America Parkway	11,835	63.2	61.9	66.7	61.9	71.9	68.7	A,B
Great America Parkway to Convention Center	22,515	65.9	64.6	69.4	64.6	74.6	71.4	A,B
Convention Center to Centennial Boulevard	25,815	67.1	65.6	70.4	65.6	75.6	72.4	A,B
Centennial Boulevard to Calle Del Sol	22,830	66.6	65.1	69.9	65.1	75.1	71.9	A,B
Calle Del Sol to Lick Mill Boulevard	19,670	65.5	64.0	68.8	64.0	74.0	70.8	A,B
Lafayette Street								
North of Calle De Luna	14,740	63.8	62.2	67.0	62.2	72.2	69.1	A,B
Calle Del Luna to Agnew Road	20,255	65.3	63.8	68.6	63.8	73.8	70.6	A,B
Agnew Road to Central Expressway	18,880	65.8	64.3	69.1	64.3	74.3	71.1	A,B
South of Central Expressway	22,400	64.2	62.7	67.5	62.7	72.7	69.5	A,B
East Arques / Scott Boulevard								
West of Lawrence Expressway	22,130	65.4	64.1	68.9	64.1	74.1	70.9	A,B
Lawrence Expressway to Bowers Avenue	15,355	64.9	63.4	68.2	63.4	73.4	70.2	A,B
Bowers Avenue to San Tomas Expressway	18,285	65.7	64.2	69.0	64.2	74.2	71.0	A,B
San Tomas Expressway to Central Expressway	13,755	64.4	63.0	67.8	63.0	73.0	69.8	A,B
South of Central Expressway	23,790	65.9	64.5	69.3	64.5	74.5	71.3	A,B
Central Expressway								
West of Bowers Avenue	44,250	70.9	69.3	74.1	69.3	79.3	76.2	A,B
Bowers Avenue to Scott Boulevard	41,750	71.0	69.5	74.3	69.5	79.5	76.3	A,B
Scott Boulevard to Lafayette Street	37,595	70.5	68.8	73.6	68.8	78.8	75.7	A,B
Lafayette Stree to De La Cruz Boulevard / Trimble Road	37,385	70.2	68.5	73.3	68.5	78.5	75.4	A,B
Montague Expressway								
U.S. 101 to Mission College Boulevard / Thomas Road	70,940	71.3	69.7	74.5	69.7	79.7	76.6	A,B
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	65,900	72.0	70.5	75.3	70.5	80.5	77.3	A,B
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	62,435	71.7	70.1	74.9	70.1	80.1	77.0	A,B
Lick Mill Boulevard to North 1st Street	64,090	71.8	70.2	75.0	70.2	80.2	77.1	A,B
North 1st Street to Zanker Rd	53,690	70.9	69.4	74.2	69.4	79.4	76.2	A,B
Zanker Road to Trimble Road	37,605	69.8	68.2	73.0	68.2	78.2	75.1	A,B
Trimble Road to McCarthy Boulevard / O'Toole Avenue	55,380	71.2	69.7	74.5	69.7	79.7	76.5	A,B
North of McCarthy Boulevard / O'Toole Avenue	56,750	71.1	69.4	74.2	69.4	79.4	76.3	A,B
Trimble Road								
South of Montague Expressway	19,360	66.1	64.6	69.4	64.6	74.6	71.4	A,B
North of Central Expressway	44,780	69.6	68.0	72.8	68.0	78.0	74.9	A,B
De La Cruz Boulevard								
South of Central Expressway	27,860	67.7	66.1	70.9	66.1	76.1	73.0	A,B

TABLE 14: EXISTING TRAFFIC NOISE ESTIMATE

Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
TABLE NOTES:								

A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.

B) 24-hour CNEL assumes 12 hours of daytime Leq (h), plus 3 hours of evening CNEL value Leq (h), plus 9 hours of nighttime CNEL value Leq (h).

TABLE 15: FUTURE BASELINE (2040 NO PROJECT) VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Lawrence Expressway												
SR 237 to Tasman Drive	42,300	8,153	1,552	1,875	31	20	48	1,476	24	16	38	A,B,C,D,E
Tasman Drive to Sandia Avenue / Lakehaven Road	44,935	8,826	1,641	1,999	33	22	52	1,560	26	17	40	A,B,C,D,E
Sandia Avenue / Lakehaven Road to U.S. 101	61,777	11,571	2,282	2,724	44	29	70	2,169	36	23	56	A,B,C,D,E
U.S. 101 to East Arques Avenue	57,340	10,799	2,116	2,531	41	27	65	2,011	33	22	52	A,B,C,D,E
Patrick Henry Drive												
South of Tasman Drive	21,583	4,065	796	953	16	11	25	757	13	9	20	A,B,C,D,E
Great America Parkway to Old Ironside Drive	15,420	2,489	588	663	11	8	17	559	10	6	15	A,B,C,D,E
West of Old Ironsides Drive	7,020	1,072	270	300	5	4	8	257	5	3	7	A,B,C,D,E
Old Ironsides Drive												
Tasman Drive to Old Glory Lane	18,156	3,474	667	804	13	9	21	635	11	7	17	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	11,144	2,160	408	495	8	6	13	389	7	5	10	A,B,C,D,E
Great America Parkway												
SR 237 Eastbound Ramp to Great America Parkway	40,125	7,585	1,479	1,773	29	19	46	1,406	23	15	36	A,B,C,D,E
Great America Parkway to Old Mountain View Alviso	40,205	7,563	1,484	1,774	29	19	46	1,411	23	15	37	A,B,C,D,E
Old Mountain View Alviso Road to Bunker Hill Lane	44,580	8,168	1,655	1,958	32	21	51	1,573	26	17	41	A,B,C,D,E
Bunker Hill Lane to Tasman Drive	51,442	9,263	1,917	2,252	37	24	58	1,823	30	20	47	A,B,C,D,E
Tasman Drive to Old Glory Lane	44,300	8,381	1,633	1,957	32	21	51	1,552	26	17	40	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	50,461	9,512	1,861	2,228	36	24	57	1,769	29	19	46	A,B,C,D,E
Patrick Henry Drive to Mission College Boulevard	76,227	14,203	2,819	3,358	55	36	86	2,680	44	29	69	A,B,C,D,E
Mission College Boulevard to Bowers Avenue / U.S.	77,220	15,119	2,823	3,433	56	37	88	2,683	44	29	69	A,B,C,D,E
Bowers Avenue												
U.S. 101 Southbound Ramp to Augustine Drive	47,140	8,047	1,777	2,045	34	22	53	1,689	28	18	44	A,B,C,D,E
Augustine Drive to Scott Boulevard	40,580	7,499	1,504	1,785	29	19	46	1,429	24	16	37	A,B,C,D,E
Scott Boulevard to Central Expressway	34,140	6,368	1,262	1,505	25	16	39	1,200	20	13	31	A,B,C,D,E

TABLE 15: FUTURE BASELINE (2040 NO PROJECT) VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Daytime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Central Expressway to Kifer Boulevard / Walsh Avenue	30,130	5,234	1,132	1,311	22	14	34	1,076	18	12	28	A,B,C,D,E
Mission College Boulevard												
Mission College Boulevard Loop to Great America	21,607	4,045	798	953	16	11	25	759	13	9	20	A,B,C,D,E
Great America Pkwy to Marriot Driveway	37,540	7,385	1,371	1,671	27	18	43	1,303	22	14	34	A,B,C,D,E
Marriot Driveway to Freedom Circle West	37,320	7,183	1,370	1,654	27	18	43	1,302	22	14	34	A,B,C,D,E
Freedom Circle West to Freedom Circle East	27,645	5,434	1,010	1,230	20	14	32	960	16	11	25	A,B,C,D,E
Agnew Rd / Freedom Circle East to Juliet Lane	29,074	5,762	1,060	1,296	21	14	34	1,007	17	11	26	A,B,C,D,E
Juliette Lane to Burton Circle	29,100	5,640	1,066	1,292	21	14	34	1,014	17	11	26	A,B,C,D,E
Burton Circle to Montague Expressway	48,212	6,479	1,897	2,016	33	22	52	1,803	30	20	47	A,B,C,D,E
Mission College Boulevard Loop												
North of Mission College Boulevard	4,953	854	186	216	4	3	6	178	3	2	5	A,B,C,D,E
South of Mission College Boulevard	17,531	3,051	658	763	13	9	20	626	11	7	16	A,B,C,D,E
Agnew Road / Freedom Circle East												
North of Mission College Boulevard	18,355	3,267	686	802	13	9	21	652	11	7	17	A,B,C,D,E
South of Mission College Boulevard	22,420	4,271	825	992	17	11	26	784	13	9	21	A,B,C,D,E
San Tomas Expressway												
Mission College Boulevard / Thomas Road to Scott	95,257	18,632	3,483	4,234	69	45	109	3,310	54	36	85	A,B,C,D,E
Scott Boulevard to Monroe Street	75,530	14,353	2,781	3,339	54	36	86	2,643	43	28	68	A,B,C,D,E
Monroe Street to El Camino Real	66,680	12,770	2,450	2,952	48	32	76	2,329	38	25	60	A,B,C,D,E
Tasman Drive												
Lawrence Expressway to Patrick Henry Drive	36,621	6,535	1,368	1,601	26	17	41	1,300	21	14	34	A,B,C,D,E
Patrick Henry Drive to Old Ironsides Drive	17,546	3,218	651	771	13	9	20	619	10	7	16	A,B,C,D,E
Old Ironsides Drive to Great America Parkway	30,519	6,010	1,114	1,359	22	15	35	1,059	18	12	28	A,B,C,D,E
Great America Parkway to Convention Center	32,018	5,830	1,190	1,405	23	15	36	1,132	19	12	29	A,B,C,D,E
Convention Center to Centennial Boulevard	35,145	6,495	1,302	1,546	25	17	40	1,238	20	14	32	A,B,C,D,E

TABLE 15: FUTURE BASELINE (2040 NO PROJECT) VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Centennial Boulevard to Calle Del Sol	30,785	5,772	1,137	1,358	22	15	35	1,081	18	12	28	A,B,C,D,E
Calle Del Sol to Lick Mill Boulevard	25,840	4,839	955	1,140	19	13	30	908	15	10	24	A,B,C,D,E
Lafayette Street												
North of Calle De Luna	27,090	4,830	1,012	1,184	20	13	31	962	16	11	25	A,B,C,D,E
Calle Del Luna to Agnew Road	42,065	7,482	1,572	1,838	30	20	47	1,494	25	16	39	A,B,C,D,E
Agnew Road to Central Expressway	32,650	6,135	1,205	1,441	24	16	37	1,146	19	13	30	A,B,C,D,E
South of Central Expressway	27,660	5,207	1,021	1,221	20	13	32	970	16	11	25	A,B,C,D,E
East Arques / Scott Boulevard												
West of Lawrence Expressway	33,090	5,642	1,248	1,435	24	16	37	1,186	20	13	31	A,B,C,D,E
Lawrence Expressway to Bowers Avenue	24,300	4,442	903	1,067	18	12	28	858	14	10	22	A,B,C,D,E
Bowers Avenue to San Tomas Expressway	28,660	5,492	1,053	1,269	21	14	33	1,001	17	11	26	A,B,C,D,E
San Tomas Expressway to Central Expressway	16,180	2,775	609	703	12	8	18	580	10	7	15	A,B,C,D,E
South of Central Expressway	29,320	5,282	1,093	1,284	21	14	33	1,039	17	11	27	A,B,C,D,E
Central Expressway												
West of Bowers Avenue	73,430	13,987	2,702	3,248	53	35	84	2,568	42	28	66	A,B,C,D,E
Bowers Avenue to Scott Boulevard	67,085	12,841	2,466	2,970	48	32	76	2,344	38	25	60	A,B,C,D,E
Scott Boulevard to Lafayette Street	60,415	11,466	2,225	2,671	44	29	69	2,115	35	23	55	A,B,C,D,E
Lafayette Stree to De La Cruz Boulevard / Trimble Road	59,140	11,549	2,163	2,628	43	28	68	2,056	34	22	53	A,B,C,D,E
Montague Expressway												
U.S. 101 to Mission College Boulevard / Thomas Road	100,604	19,832	3,671	4,479	73	48	115	3,490	57	37	90	A,B,C,D,E
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	89,123	17,017	3,278	3,944	64	42	101	3,115	51	33	80	A,B,C,D,E
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	86,120	16,902	3,146	3,831	62	41	98	2,990	49	32	77	A,B,C,D,E

TABLE 15: FUTURE BASELINE (2040 NO PROJECT) VEHICLE FLEET VOLUMES												
Road Segment	**ADT**	**Peak Hour Vehicles**	**Non-Peak Hour Vehicles**	**Vehicle Per Hour (Dayime)**				**Vehicle Per Hour (Evening and Nighttime)**				**Notes**
				Auto	**Med Truck**	**Heavy Truck**	**Motor-cycle**	**Auto**	**Med Truck**	**Heavy Truck**	**Motor-cycle**	
Lick Mill Boulevard to North 1st Street	100,955	19,254	3,714	4,466	73	48	115	3,530	57	38	91	A,B,C,D,E
North 1st Street to Zanker Rd	79,965	15,221	2,943	3,536	58	38	91	2,797	46	30	72	A,B,C,D,E
Zanker Road to Trimble Road	59,105	11,271	2,174	2,615	43	28	67	2,067	34	22	53	A,B,C,D,E
Trimble Road to McCarthy Boulevard / O'Toole Avenue	79,145	15,247	2,904	3,508	57	38	90	2,761	45	30	71	A,B,C,D,E
North of McCarthy Boulevard / O'Toole Avenue	73,500	14,467	2,683	3,271	53	35	84	2,551	42	27	66	A,B,C,D,E
Trimble Road												
South of Montague Expressway	31,210	5,797	1,155	1,374	23	15	36	1,098	18	12	29	A,B,C,D,E
North of Central Expressway	57,530	11,071	2,112	2,550	42	27	66	2,007	33	22	52	A,B,C,D,E
De La Cruz Boulevard												
South of Central Expressway	38,760	7,276	1,431	1,710	28	19	44	1,360	22	15	35	A,B,C,D,E
TABLE NOTES:												
A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.												
B) Total peak hour vehicles is based on AM and PM peak hour traffic volume information provided by Hexagon Transportation Consultants.												
C) Non peak-hour vehicles are derived by subtrating total peak hour traffic from ADT volumes and dividing by 22 (the number of non=peak hours in the day).												
D) Vehicles per daytime includes peak hour traffic and non-peak hour traffic (10 hours) multiplied by EMFAC vehicle class distribution percentages.												
E) Vehicles per nighttime includes non-peak hour traffic (12 hours) multipled by EMFAC vehicle class distribution percentages.												

TABLE 16: FUTURE BASELINE (2040 NO PROJECT) TRAFFIC NOISE ESTIMATE								
Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Lawrence Expressway								
SR 237 to Tasman Drive	42,300	70.3	68.6	73.4	68.6	78.6	75.5	A,B
Tasman Drive to Sandia Avenue / Lakehaven Road	44,935	71.2	69.5	74.3	69.5	79.5	76.4	A,B
Sandia Avenue / Lakehaven Road to U.S. 101	61,777	71.8	70.2	75.0	70.2	80.2	77.1	A,B
U.S. 101 to East Arques Avenue	57,340	71.8	70.2	75.0	70.2	80.2	77.1	A,B
Patrick Henry Drive								
South of Tasman Drive	21,583	64.0	62.8	67.6	62.8	72.8	69.6	A,B
Great America Parkway to Old Ironside Drive	15,420	61.8	60.5	65.3	60.5	70.5	67.3	A,B
West of Old Ironsides Drive	7,020	54.3	53.7	58.5	53.7	63.7	60.4	A,B
Old Ironsides Drive								
Tasman Drive to Old Glory Lane	18,156	60.6	59.1	63.9	59.1	69.1	65.9	A,B
Old Glory Lane to Patrick Henry Drive	11,144	53.5	52.4	57.2	52.4	62.4	59.2	A,B
Great America Parkway								
SR 237 Eastbound Ramp to Great America Parkway	40,125	67.0	65.5	70.3	65.5	75.5	72.3	A,B
Great America Parkway to Old Mountain View Alviso Road	40,205	68.9	67.4	72.2	67.4	77.4	74.2	A,B
Old Mountain View Alviso Road to Bunker Hill Lane	44,580	69.4	67.9	72.7	67.9	77.9	74.7	A,B
Bunker Hill Lane to Tasman Drive	51,442	69.6	68.2	73.0	68.2	78.2	75.0	A,B
Tasman Drive to Old Glory Lane	44,300	69.4	67.9	72.7	67.9	77.9	74.7	A,B
Old Glory Lane to Patrick Henry Drive	50,461	70.0	68.5	73.3	68.5	78.5	75.3	A,B
Patrick Henry Drive to Mission College Boulevard	76,227	71.8	70.2	75.0	70.2	80.2	77.1	A,B
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	77,220	71.4	69.8	74.6	69.8	79.8	76.7	A,B
Bowers Avenue								
U.S. 101 Southbound Ramp to Augustine Drive	47,140	68.0	66.7	71.5	66.7	76.7	73.5	A,B
Augustine Drive to Scott Boulevard	40,580	68.4	66.9	71.7	66.9	76.9	73.7	A,B
Scott Boulevard to Central Expressway	34,140	68.3	66.8	71.6	66.8	76.8	73.6	A,B
Central Expressway to Kifer Boulevard / Walsh Avenue	30,130	66.9	65.5	70.3	65.5	75.5	72.3	A,B
Mission College Boulevard								
Mission College Boulevard Loop to Great America Parkway	21,607	65.8	64.4	69.2	64.4	74.4	71.2	A,B
Great America Pkwy to Marriot Driveway	37,540	68.3	66.6	71.4	66.6	76.6	73.5	A,B
Marriot Driveway to Freedom Circle West	37,320	66.9	66.6	71.4	66.6	76.6	73.3	A,B
Freedom Circle West to Freedom Circle East	27,645	67.2	65.7	70.5	65.7	75.7	72.5	A,B
Agnew Rd / Freedom Circle East to Juliet Lane	29,074	67.1	65.6	70.4	65.6	75.6	72.4	A,B
Juliette Lane to Burton Circle	29,100	67.3	65.8	70.6	65.8	75.8	72.6	A,B
Burton Circle to Montague Expressway	48,212	69.6	68.3	73.1	68.3	78.3	75.1	A,B
Mission College Boulevard Loop								
North of Mission College Boulevard	4,953	58.0	56.3	61.1	56.3	66.3	63.2	A,B
South of Mission College Boulevard	17,531	63.1	61.7	66.5	61.7	71.7	68.5	A,B
Agnew Road / Freedom Circle East								
North of Mission College Boulevard	18,355	62.8	61.4	66.2	61.4	71.4	68.2	A,B
South of Mission College Boulevard	22,420	65.5	64.0	68.8	64.0	74.0	70.8	A,B
San Tomas Expressway								

Mission College Boulevard / Thomas Road to Scott Boulevard	95,257	73.6	71.9	76.7	71.9	81.9	78.8	A,B
Scott Boulevard to Monroe Street	75,530	72.7	71.1	75.9	71.1	81.1	78.0	A,B
Monroe Street to El Camino Real	66,680	72.3	70.5	75.3	70.5	80.5	77.4	A,B
Tasman Drive								
Lawrence Expressway to Patrick Henry Drive	36,621	68.6	67.2	72.0	67.2	77.2	74.0	A,B
Patrick Henry Drive to Old Ironsides Drive	17,546	65.5	63.9	68.7	63.9	73.9	70.8	A,B
Old Ironsides Drive to Great America Parkway	30,519	67.3	65.7	70.5	65.7	75.7	72.6	A,B
Great America Parkway to Convention Center	32,018	67.4	65.9	70.7	65.9	75.9	72.7	A,B
Convention Center to Centennial Boulevard	35,145	68.4	66.9	71.7	66.9	76.9	73.7	A,B
Centennial Boulevard to Calle Del Sol	30,785	67.9	66.3	71.1	66.3	76.3	73.2	A,B
Calle Del Sol to Lick Mill Boulevard	25,840	66.7	65.1	69.9	65.1	75.1	72.0	A,B
Lafayette Street								
North of Calle De Luna	27,090	66.3	64.9	69.7	64.9	74.9	71.7	A,B
Calle Del Luna to Agnew Road	42,065	68.4	67.0	71.8	67.0	77.0	73.8	A,B
Agnew Road to Central Expressway	32,650	68.2	66.7	71.5	66.7	76.7	73.5	A,B
South of Central Expressway	27,660	65.1	63.6	68.4	63.6	73.6	70.4	A,B
East Arques / Scott Boulevard								
West of Lawrence Expressway	33,090	67.1	65.8	70.6	65.8	75.8	72.6	A,B
Lawrence Expressway to Bowers Avenue	24,300	66.9	65.4	70.2	65.4	75.4	72.2	A,B
Bowers Avenue to San Tomas Expressway	28,660	67.6	66.1	70.9	66.1	76.1	72.9	A,B
San Tomas Expressway to Central Expressway	16,180	65.0	63.8	68.6	63.8	73.8	70.6	A,B
South of Central Expressway	29,320	66.8	65.4	70.2	65.4	75.4	72.2	A,B
Central Expressway								
West of Bowers Avenue	73,430	73.1	71.5	76.3	71.5	81.5	78.4	A,B
Bowers Avenue to Scott Boulevard	67,085	73.1	71.5	76.3	71.5	81.5	78.4	A,B
Scott Boulevard to Lafayette Street	60,415	72.5	70.9	75.7	70.9	80.9	77.8	A,B
Lafayette Stree to De La Cruz Boulevard / Trimble Road	59,140	72.2	70.5	75.3	70.5	80.5	77.4	A,B
Montague Expressway								
U.S. 101 to Mission College Boulevard / Thomas Road	100,604	72.8	72.0	76.8	72.0	82.0	78.7	A,B
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	89,123	73.3	71.7	76.5	71.7	81.7	78.6	A,B
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	86,120	73.1	72.2	77.0	72.2	82.2	79.0	A,B
Lick Mill Boulevard to North 1st Street	100,955	73.8	72.2	77.0	72.2	82.2	79.1	A,B
North 1st Street to Zanker Rd	79,965	72.6	71.0	75.8	71.0	81.0	77.9	A,B
Zanker Road to Trimble Road	59,105	71.7	70.1	74.9	70.1	80.1	77.0	A,B
Trimble Road to McCarthy Boulevard / O'Toole Avenue	79,145	72.8	71.2	76.0	71.2	81.2	78.1	A,B
North of McCarthy Boulevard / O'Toole Avenue	73,500	72.2	70.5	75.3	70.5	80.5	77.4	A,B
Trimble Road								
South of Montague Expressway	31,210	68.2	66.7	71.5	66.7	76.7	73.5	A,B
North of Central Expressway	57,530	70.7	69.1	73.9	69.1	79.1	76.0	A,B
De La Cruz Boulevard								
South of Central Expressway	38,760	69.1	67.6	72.4	67.6	77.6	74.4	A,B
TABLE NOTES:								
A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.								

B) 24-hour CNEL assumes 12 hours of daytime Leq (h), plus 3 hours of evening CNEL value Leq (h), plus 9 hours of nighttime CNEL value Leq (h).

TABLE 17: COMPARISON OF PHD SP "A" AND "B" TRAFFIC VOLUMES			
Road Segment	**PROPOSED PROJECT ADT - SCENARIO A**	**PROPOSED PROJECT ADT - SCENARIO B**	**NOTES**
Lawrence Expressway			
SR 237 to Tasman Drive	47,900	**49,692**	A,B
Tasman Drive to Sandia Avenue / Lakehaven Road	51,505	**51,681**	A,B
Sandia Avenue / Lakehaven Road to U.S. 101	67,910	**67,945**	A,B
U.S. 101 to East Arques Avenue	**58,630**	58,280	A,B
Patrick Henry Drive			
South of Tasman Drive	29,137	**31,661**	A,B
Great America Parkway to Old Ironside Drive	**23,262**	21,237	A,B
West of Old Ironsides Drive	**22,620**	20,711	A,B
Old Ironsides Drive			A,B
Tasman Drive to Old Glory Lane	28,794	**29,170**	A,B
Old Glory Lane to Patrick Henry Drive	**17,830**	17,554	A,B
Great America Parkway			
SR 237 Eastbound Ramp to Great America Parkway	**41,260**	40,745	A,B
Great America Parkway to Old Mountain View Alviso Road	41,955	**42,365**	A,B
Old Mountain View Alviso Road to Bunker Hill Lane	**47,665**	47,605	A,B
Bunker Hill Lane to Tasman Drive	**54,524**	53,864	A,B
Tasman Drive to Old Glory Lane	**44,932**	44,010	A,B
Old Glory Lane to Patrick Henry Drive	58,983	**63,404**	A,B
Patrick Henry Drive to Mission College Boulevard	**96,860**	95,669	A,B
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	**86,865**	86,359	A,B
Bowers Avenue			
U.S. 101 Southbound Ramp to Augustine Drive	49,325	**49,330**	A,B
Augustine Drive to Scott Boulevard	**42,990**	42,730	A,B
Scott Boulevard to Central Expressway	**35,760**	35,630	A,B
Central Expressway to Kifer Boulevard / Walsh Avenue	**30,775**	30,410	A,B
Mission College Boulevard			
Mission College Boulevard Loop to Great America Parkway	**25,880**	20,447	A,B
Great America Pkwy to Marriot Driveway	**42,235**	41,290	A,B
Marriot Driveway to Freedom Circle West	**39,330**	38,320	A,B
Freedom Circle West to Freedom Circle East	28,525	**29,489**	A,B
Agnew Rd / Freedom Circle East to Juliet Lane	29,855	**32,734**	A,B
Juliette Lane to Burton Circle	28,900	**30,430**	A,B
Burton Circle to Montague Expressway	**49,690**	49,623	A,B
Mission College Boulevard Loop			
North of Mission College Boulevard	**17,949**	11,970	A,B
South of Mission College Boulevard	**14,021**	7,970	A,B
Agnew Road / Freedom Circle East			A,B
North of Mission College Boulevard	17,965	**18,240**	A,B
South of Mission College Boulevard	22,160	**23,730**	A,B
San Tomas Expressway			
Mission College Boulevard / Thomas Road to Scott Boulevard	97,360	**97,408**	A,B
Scott Boulevard to Monroe Street	75,460	**75,805**	A,B
Monroe Street to El Camino Real	66,975	**67,300**	A,B

TABLE 17: COMPARISON OF PHD SP "A" AND "B" TRAFFIC VOLUMES			
Road Segment	**PROPOSED PROJECT ADT - SCENARIO A**	**PROPOSED PROJECT ADT - SCENARIO B**	**NOTES**
Tasman Drive			
Lawrence Expressway to Patrick Henry Drive	43,065	**46,981**	A,B
Patrick Henry Drive to Old Ironsides Drive	**23,519**	22,858	A,B
Old Ironsides Drive to Great America Parkway	36,254	**37,071**	A,B
Great America Parkway to Convention Center	**34,895**	34,595	A,B
Convention Center to Centennial Boulevard	36,910	**37,445**	A,B
Centennial Boulevard to Calle Del Sol	32,480	**32,965**	A,B
Calle Del Sol to Lick Mill Boulevard	**27,865**	27,810	A,B
Lafayette Street			
North of Calle De Luna	26,980	**27,160**	A,B
Calle Del Luna to Agnew Road	41,930	**42,070**	A,B
Agnew Road to Central Expressway	**33,565**	33,410	A,B
South of Central Expressway	**28,920**	28,370	A,B
East Arques / Scott Boulevard			
West of Lawrence Expressway	**33,940**	33,490	A,B
Lawrence Expressway to Bowers Avenue	24,945	**25,280**	A,B
Bowers Avenue to San Tomas Expressway	28,675	**32,510**	A,B
San Tomas Expressway to Central Expressway	16,320	**16,325**	A,B
South of Central Expressway	29,290	**29,380**	A,B
Central Expressway			
West of Bowers Avenue	**73,840**	73,110	A,B
Bowers Avenue to Scott Boulevard	**68,395**	68,075	A,B
Scott Boulevard to Lafayette Street	**61,260**	61,105	A,B
Lafayette Stree to De La Cruz Boulevard / Trimble Road	**59,815**	59,720	A,B
Montague Expressway			
U.S. 101 to Mission College Boulevard / Thomas Road	**104,689**	104,227	A,B
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	**89,940**	89,080	A,B
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	86,680	**88,260**	A,B
Lick Mill Boulevard to North 1st Street	**102,445**	101,640	A,B
North 1st Street to Zanker Rd	**81,980**	80,715	A,B
Zanker Road to Trimble Road	59,805	**61,045**	A,B
Trimble Road to McCarthy Boulevard / O'Toole Avenue	79,310	**83,480**	A,B
North of McCarthy Boulevard / O'Toole Avenue	74,040	**76,840**	A,B
Trimble Road			
South of Montague Expressway	**31,880**	31,530	A,B
North of Central Expressway	57,640	**59,980**	A,B
De La Cruz Boulevard			
South of Central Expressway	38,440	**38,630**	A,B

TABLE 17: COMPARISON OF PHD SP "A" AND "B" TRAFFIC VOLUMES			
Road Segment	**PROPOSED PROJECT ADT - SCENARIO A**	**PROPOSED PROJECT ADT - SCENARIO B**	**NOTES**
TABLE NOTES:			
A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.			
B) Bold text indicates the higher ADT value of the two scenarios.			

TABLE 18: PHD SP "A" VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Lawrence Expressway												
SR 237 to Tasman Drive	47,900	8,650	1,784	2,098	34	23	54	1,696	28	18	44	A,B,C,D,E
Tasman Drive to Sandia Avenue / Lakehaven Road	51,505	9,947	1,889	2,284	37	25	59	1,796	29	19	46	A,B,C,D,E
Sandia Avenue / Lakehaven Road to U.S. 101	67,910	12,260	2,530	2,975	49	32	77	2,404	39	26	62	A,B,C,D,E
U.S. 101 to East Arques Avenue	58,630	10,880	2,170	2,581	42	28	66	2,063	34	22	53	A,B,C,D,E
Patrick Henry Drive												
South of Tasman Drive	29,137	5,582	1,071	1,290	21	14	33	1,018	17	11	27	A,B,C,D,E
Great America Parkway to Old Ironside Drive	23,262	4,161	868	1,018	17	11	26	826	14	9	22	A,B,C,D,E
West of Old Ironsides Drive	22,620	4,164	839	995	17	11	26	798	13	9	21	A,B,C,D,E
Old Ironsides Drive												
Tasman Drive to Old Glory Lane	28,794	4,991	1,082	1,253	21	14	33	1,029	17	11	27	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	17,830	3,058	671	774	13	9	20	639	11	7	17	A,B,C,D,E
Great America Parkway												
SR 237 Eastbound Ramp to Great America Parkway	41,260	7,816	1,520	1,823	30	20	47	1,445	24	16	37	A,B,C,D,E
Great America Parkway to Old Mountain View Alviso	41,955	7,848	1,550	1,850	30	20	48	1,474	24	16	38	A,B,C,D,E
Old Mountain View Alviso Road to Bunker Hill Lane	47,665	8,669	1,773	2,091	34	23	54	1,685	28	18	44	A,B,C,D,E
Bunker Hill Lane to Tasman Drive	54,524	9,813	2,032	2,387	39	26	62	1,932	32	21	50	A,B,C,D,E
Tasman Drive to Old Glory Lane	44,932	8,598	1,652	1,989	33	22	51	1,570	26	17	41	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	58,983	10,639	2,197	2,583	42	28	67	2,089	34	23	54	A,B,C,D,E
Patrick Henry Drive to Mission College Boulevard	96,860	17,286	3,617	4,234	69	45	109	3,438	56	37	88	A,B,C,D,E
Mission College Boulevard to Bowers Avenue / U.S.	86,865	16,563	3,196	3,843	63	41	99	3,037	50	33	78	A,B,C,D,E
Bowers Avenue												
U.S. 101 Southbound Ramp to Augustine Drive	49,325	8,382	1,861	2,138	35	23	55	1,769	29	19	46	A,B,C,D,E
Augustine Drive to Scott Boulevard	42,990	7,887	1,596	1,889	31	20	49	1,517	25	17	39	A,B,C,D,E
Scott Boulevard to Central Expressway	35,760	6,560	1,327	1,571	26	17	41	1,262	21	14	33	A,B,C,D,E

TABLE 18: PHD SP "A" VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Central Expressway to Kifer Boulevard / Walsh Avenue	30,775	5,310	1,158	1,338	22	15	35	1,101	18	12	29	A,B,C,D,E
Mission College Boulevard												
Mission College Boulevard Loop to Great America	25,880	4,340	979	1,120	19	12	29	931	16	10	24	A,B,C,D,E
Great America Pkwy to Marriot Driveway	42,235	7,893	1,561	1,862	31	20	48	1,484	24	16	38	A,B,C,D,E
Marriot Driveway to Freedom Circle West	39,330	7,316	1,455	1,732	28	19	45	1,383	23	15	36	A,B,C,D,E
Freedom Circle West to Freedom Circle East	28,525	5,570	1,043	1,268	21	14	33	992	17	11	26	A,B,C,D,E
Agnew Rd / Freedom Circle East to Juliet Lane	29,855	5,917	1,088	1,331	22	15	35	1,035	17	11	27	A,B,C,D,E
Juliette Lane to Burton Circle	28,900	5,701	1,055	1,287	21	14	33	1,003	17	11	26	A,B,C,D,E
Burton Circle to Montague Expressway	49,690	6,691	1,954	2,078	34	22	54	1,858	30	20	48	A,B,C,D,E
Mission College Boulevard Loop												
North of Mission College Boulevard	17,949	2,956	682	774	13	9	20	648	11	7	17	A,B,C,D,E
South of Mission College Boulevard	14,021	2,090	542	595	10	7	16	516	9	6	14	A,B,C,D,E
Agnew Road / Freedom Circle East												
North of Mission College Boulevard	17,965	3,227	670	787	13	9	21	637	11	7	17	A,B,C,D,E
South of Mission College Boulevard	22,160	4,214	816	980	16	11	26	776	13	9	20	A,B,C,D,E
San Tomas Expressway												
Mission College Boulevard / Thomas Road to Scott	97,360	18,850	3,569	4,319	70	46	111	3,392	55	36	87	A,B,C,D,E
Scott Boulevard to Monroe Street	75,460	14,345	2,778	3,336	54	36	86	2,640	43	28	68	A,B,C,D,E
Monroe Street to El Camino Real	66,975	12,808	2,462	2,965	48	32	76	2,340	38	25	60	A,B,C,D,E
Tasman Drive												
Lawrence Expressway to Patrick Henry Drive	43,065	7,553	1,614	1,877	31	20	48	1,534	25	17	40	A,B,C,D,E
Patrick Henry Drive to Old Ironsides Drive	23,519	4,267	875	1,031	17	11	27	832	14	9	22	A,B,C,D,E
Old Ironsides Drive to Great America Parkway	36,254	6,944	1,332	1,606	26	17	42	1,267	21	14	33	A,B,C,D,E
Great America Parkway to Convention Center	34,895	6,254	1,302	1,527	25	17	40	1,238	20	14	32	A,B,C,D,E
Convention Center to Centennial Boulevard	36,910	6,806	1,368	1,623	27	18	42	1,301	21	14	34	A,B,C,D,E

TABLE 18: PHD SP "A" VEHICLE FLEET VOLUMES												
Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Centennial Boulevard to Calle Del Sol	32,480	6,085	1,200	1,433	24	16	37	1,141	19	13	30	A,B,C,D,E
Calle Del Sol to Lick Mill Boulevard	27,865	5,172	1,032	1,227	20	13	32	981	16	11	26	A,B,C,D,E
Lafayette Street												A,B,C,D,E
North of Calle De Luna	26,980	4,788	1,009	1,179	20	13	31	959	16	11	25	A,B,C,D,E
Calle Del Luna to Agnew Road	41,930	7,438	1,568	1,831	30	20	47	1,490	25	16	39	A,B,C,D,E
Agnew Road to Central Expressway	33,565	6,204	1,244	1,477	24	16	38	1,182	20	13	31	A,B,C,D,E
South of Central Expressway	28,920	5,308	1,073	1,271	21	14	33	1,020	17	11	27	A,B,C,D,E
East Arques / Scott Boulevard												
West of Lawrence Expressway	33,940	5,722	1,283	1,469	24	16	38	1,219	20	13	32	A,B,C,D,E
Lawrence Expressway to Bowers Avenue	24,945	4,542	927	1,095	18	12	28	882	15	10	23	A,B,C,D,E
Bowers Avenue to San Tomas Expressway	28,675	5,591	1,049	1,274	21	14	33	998	17	11	26	A,B,C,D,E
San Tomas Expressway to Central Expressway	16,320	2,773	616	708	12	8	19	586	10	7	15	A,B,C,D,E
South of Central Expressway	29,290	5,270	1,092	1,282	21	14	33	1,038	17	11	27	A,B,C,D,E
Central Expressway												
West of Bowers Avenue	73,840	14,025	2,719	3,264	53	35	84	2,584	42	28	67	A,B,C,D,E
Bowers Avenue to Scott Boulevard	68,395	12,990	2,518	3,024	49	32	78	2,394	39	26	62	A,B,C,D,E
Scott Boulevard to Lafayette Street	61,260	11,568	2,259	2,705	44	29	70	2,147	35	23	55	A,B,C,D,E
Lafayette Stree to De La Cruz Boulevard / Trimble Road	59,815	11,627	2,190	2,656	43	29	68	2,082	34	23	54	A,B,C,D,E
Montague Expressway												
U.S. 101 to Mission College Boulevard / Thomas Road	104,689	20,256	3,838	4,644	75	50	119	3,648	59	39	94	A,B,C,D,E
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	89,940	17,222	3,305	3,982	65	43	102	3,142	51	34	81	A,B,C,D,E
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	86,680	17,014	3,167	3,856	63	41	99	3,010	49	32	77	A,B,C,D,E

TABLE 18: PHD SP "A" VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Lick Mill Boulevard to North 1st Street	102,445	19,421	3,774	4,527	74	48	116	3,587	58	38	92	A,B,C,D,E
North 1st Street to Zanker Rd	81,980	15,480	3,023	3,620	59	39	93	2,873	47	31	74	A,B,C,D,E
Zanker Road to Trimble Road	59,805	11,406	2,200	2,646	43	28	68	2,091	34	23	54	A,B,C,D,E
Trimble Road to McCarthy Boulevard / O'Toole Avenue	79,310	15,387	2,906	3,520	57	38	90	2,762	45	30	71	A,B,C,D,E
North of McCarthy Boulevard / O'Toole Avenue	74,040	14,502	2,706	3,292	54	35	85	2,572	42	28	66	A,B,C,D,E
Trimble Road												
South of Montague Expressway	31,880	5,851	1,183	1,401	23	15	36	1,125	19	12	29	A,B,C,D,E
North of Central Expressway	57,640	11,163	2,113	2,558	42	28	66	2,008	33	22	52	A,B,C,D,E
De La Cruz Boulevard												
South of Central Expressway	38,440	7,238	1,418	1,697	28	18	44	1,348	22	15	35	A,B,C,D,E

TABLE NOTES:

A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.

B) Total peak hour vehicles is based on AM and PM peak hour traffic volume information provided by Hexagon Transportation Consultants.

C) Non peak-hour vehicles are derived by subtrating total peak hour traffic from ADT volumes and dividing by 22 (the number of non=peak hours in the day).

D) Vehicles per daytime includes peak hour traffic and non-peak hour traffic (10 hours) multiplied by EMFAC vehicle class distribution percentages.

E) Vehicles per nighttime includes non-peak hour traffic (12 hours) multipled by EMFAC vehicle class distribution percentages.

TABLE 19: PHD SP "A" TRAFFIC NOISE ESTIMATE								
Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Lawrence Expressway								
SR 237 to Tasman Drive	47,900	70.6	69.7	74.5	69.7	79.7	76.5	A,B
Tasman Drive to Sandia Avenue / Lakehaven Road	Segment not modeled - Scenario B has higher traffic volumes.							
Sandia Avenue / Lakehaven Road to U.S. 101	Segment not modeled - Scenario B has higher traffic volumes.							
U.S. 101 to East Arques Avenue	58,630	71.9	71.0	75.8	71.0	81.0	77.8	A,B
Patrick Henry Drive								
South of Tasman Drive	29,137	65.0	63.7	68.5	63.7	73.7	70.5	A,B
Great America Parkway to Old Ironside Drive	23,262	63.5	62.2	67.0	62.2	72.2	69.0	A,B
West of Old Ironsides Drive	22,620	57.8	56.8	61.6	56.8	66.8	63.6	A,B
Old Ironsides Drive								
Tasman Drive to Old Glory Lane	Segment not modeled - Scenario B has higher traffic volumes.							
Old Glory Lane to Patrick Henry Drive	17,830	54.7	54.0	58.8	54.0	64.0	60.7	A,B
Great America Parkway								
SR 237 Eastbound Ramp to Great America Parkway	41,260	67.1	66.4	71.2	66.4	76.4	73.1	A,B
Great America Parkway to Old Mountain View Alviso Road	Segment not modeled - Scenario B has higher traffic volumes.							
Old Mountain View Alviso Road to Bunker Hill Lane	47,665	69.6	68.7	73.5	68.7	78.7	75.5	A,B
Bunker Hill Lane to Tasman Drive	54,524	69.8	68.9	73.7	68.9	78.9	75.7	A,B
Tasman Drive to Old Glory Lane	44,932	69.5	68.6	73.4	68.6	78.6	75.4	A,B
Old Glory Lane to Patrick Henry Drive	58,983	70.4	69.5	74.3	69.5	79.5	76.3	A,B
Patrick Henry Drive to Mission College Boulevard	96,860	72.4	71.5	76.3	71.5	81.5	78.3	A,B
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	86,865	71.8	70.6	75.4	70.6	80.6	77.4	A,B
Bowers Avenue								
U.S. 101 Southbound Ramp to Augustine Drive	Segment not modeled - Scenario B has higher traffic volumes.							
Augustine Drive to Scott Boulevard	42,990	68.5	67.7	72.5	67.7	77.7	74.4	A,B
Scott Boulevard to Central Expressway	35,760	68.4	67.5	72.3	67.5	77.5	74.3	A,B
Central Expressway to Kifer Boulevard / Walsh Avenue	30,775	67.0	66.1	70.9	66.1	76.1	72.9	A,B
Mission College Boulevard								
Mission College Boulevard Loop to Great America Parkway	25,880	65.7	65.0	69.8	65.0	75.0	71.7	A,B
Great America Pkwy to Marriot Driveway	42,235	68.5	67.6	72.4	67.6	77.6	74.4	A,B
Marriot Driveway to Freedom Circle West	39,330	67.1	66.0	70.8	66.0	76.0	72.8	A,B
Freedom Circle West to Freedom Circle East	Segment not modeled - Scenario B has higher traffic volumes.							
Agnew Rd / Freedom Circle East to Juliet Lane	Segment not modeled - Scenario B has higher traffic volumes.							
Juliette Lane to Burton Circle	Segment not modeled - Scenario B has higher traffic volumes.							
Burton Circle to Montague Expressway	49,690	69.4	68.8	73.6	68.8	78.8	75.5	A,B
Mission College Boulevard Loop								
North of Mission College Boulevard	17,949	62.5	61.7	66.5	61.7	71.7	68.4	A,B
South of Mission College Boulevard	14,021	63.1	62.1	66.9	62.1	72.1	68.9	A,B
Agnew Road / Freedom Circle East								
North of Mission College Boulevard	Segment not modeled - Scenario B has higher traffic volumes.							
South of Mission College Boulevard	Segment not modeled - Scenario B has higher traffic volumes.							
San Tomas Expressway								

TABLE 19: PHD SP "A" TRAFFIC NOISE ESTIMATE								
Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Mission College Boulevard / Thomas Road to Scott Boulevard	Segment not modeled - Scenario B has higher traffic volumes.							
Scott Boulevard to Monroe Street	Segment not modeled - Scenario B has higher traffic volumes.							
Monroe Street to El Camino Real	Segment not modeled - Scenario B has higher traffic volumes.							
Tasman Drive								
Lawrence Expressway to Patrick Henry Drive	43,065	69.1	68.2	73.0	68.2	78.2	75.0	A,B
Patrick Henry Drive to Old Ironsides Drive	23,519	66.3	65.3	70.1	65.3	75.3	72.1	A,B
Old Ironsides Drive to Great America Parkway	Segment not modeled - Scenario B has higher traffic volumes.							
Great America Parkway to Convention Center	34,895	67.7	66.7	71.5	66.7	76.7	73.5	A,B
Convention Center to Centennial Boulevard	Segment not modeled - Scenario B has higher traffic volumes.							
Centennial Boulevard to Calle Del Sol	Segment not modeled - Scenario B has higher traffic volumes.							
Calle Del Sol to Lick Mill Boulevard	27,865	66.9	66.0	70.8	66.0	76.0	72.8	A,B
Lafayette Street								
North of Calle De Luna	Segment not modeled - Scenario B has higher traffic volumes.							
Calle Del Luna to Agnew Road	Segment not modeled - Scenario B has higher traffic volumes.							
Agnew Road to Central Expressway	33,565	68.2	67.4	72.2	67.4	77.4	74.1	A,B
South of Central Expressway	28,920	65.1	64.5	69.3	64.5	74.5	71.2	A,B
East Arques / Scott Boulevard								
West of Lawrence Expressway	33,940	67.1	66.3	71.1	66.3	76.3	73.0	A,B
Lawrence Expressway to Bowers Avenue	Segment not modeled - Scenario B has higher traffic volumes.							
Bowers Avenue to San Tomas Expressway	Segment not modeled - Scenario B has higher traffic volumes.							
San Tomas Expressway to Central Expressway	Segment not modeled - Scenario B has higher traffic volumes.							
South of Central Expressway	Segment not modeled - Scenario B has higher traffic volumes.							
Central Expressway								
West of Bowers Avenue	73,840	73.1	72.0	76.8	72.0	82.0	78.8	A,B
Bowers Avenue to Scott Boulevard	68,395	73.1	72.2	77.0	72.2	82.2	79.0	A,B
Scott Boulevard to Lafayette Street	61,260	72.6	71.6	76.4	71.6	81.6	78.4	A,B
Lafayette Stree to De La Cruz Boulevard / Trimble Road	59,815	72.2	71.3	76.1	71.3	81.3	78.1	A,B
Montague Expressway								
U.S. 101 to Mission College Boulevard / Thomas Road	104,689	72.9	72.1	76.9	72.1	82.1	78.8	A,B
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	89,940	73.4	72.4	77.2	72.4	82.4	79.2	A,B
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	Segment not modeled - Scenario B has higher traffic volumes.							
Lick Mill Boulevard to North 1st Street	102,445	73.8	72.9	77.7	72.9	82.9	79.7	A,B
North 1st Street to Zanker Rd	81,980	72.7	71.7	76.5	71.7	81.7	78.5	A,B
Zanker Road to Trimble Road	Segment not modeled - Scenario B has higher traffic volumes.							
Trimble Road to McCarthy Boulevard / O'Toole Avenue	Segment not modeled - Scenario B has higher traffic volumes.							
North of McCarthy Boulevard / O'Toole Avenue	Segment not modeled - Scenario B has higher traffic volumes.							
Trimble Road								
South of Montague Expressway	31,880	68.3	67.3	72.1	67.3	77.3	74.1	A,B
North of Central Expressway	Segment not modeled - Scenario B has higher traffic volumes.							
De La Cruz Boulevard								

TABLE 19: PHD SP "A" TRAFFIC NOISE ESTIMATE								
Road Segment	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
South of Central Expressway	Segment not modeled - Scenario B has higher traffic volumes.							
TABLE NOTES:								
A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.								
B) 24-hour CNEL assumes 12 hours of daytime Leq (h), plus 3 hours of evening CNEL value Leq (h), plus 9 hours of nighttime CNEL value Leq (h).								

TABLE 20: PHD SP "B" VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Lawrence Expressway												
SR 237 to Tasman Drive	49,692	8,803	1,859	2,170	36	23	56	1,767	29	19	46	A,B,C,D,E
Tasman Drive to Sandia Avenue / Lakehaven Road	51,681	10,024	1,893	2,294	38	25	59	1,800	30	20	46	A,B,C,D,E
Sandia Avenue / Lakehaven Road to U.S. 101	67,945	12,432	2,523	2,983	49	32	77	2,398	39	26	62	A,B,C,D,E
U.S. 101 to East Arques Avenue	58,280	11,202	2,140	2,582	42	28	66	2,034	33	22	52	A,B,C,D,E
Patrick Henry Drive												
South of Tasman Drive	31,661	5,821	1,175	1,392	23	15	36	1,117	19	12	29	A,B,C,D,E
Great America Parkway to Old Ironside Drive	21,237	4,173	776	945	16	10	25	738	12	8	19	A,B,C,D,E
West of Old Ironsides Drive	20,711	3,970	761	918	15	10	24	724	12	8	19	A,B,C,D,E
Old Ironsides Drive												
Tasman Drive to Old Glory Lane	29,170	5,007	1,098	1,267	21	14	33	1,044	17	12	27	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	17,554	3,076	658	765	13	9	20	626	11	7	16	A,B,C,D,E
Great America Parkway												
SR 237 Eastbound Ramp to Great America Parkway	40,745	7,712	1,502	1,800	30	20	47	1,427	24	16	37	A,B,C,D,E
Great America Parkway to Old Mountain View Alviso	42,365	8,013	1,561	1,872	31	20	48	1,484	24	16	38	A,B,C,D,E
Old Mountain View Alviso Road to Bunker Hill Lane	47,605	8,818	1,763	2,095	34	23	54	1,676	28	18	43	A,B,C,D,E
Bunker Hill Lane to Tasman Drive	53,864	9,950	1,996	2,369	39	26	61	1,897	31	21	49	A,B,C,D,E
Tasman Drive to Old Glory Lane	44,010	8,551	1,612	1,954	32	21	50	1,532	25	17	40	A,B,C,D,E
Old Glory Lane to Patrick Henry Drive	63,404	11,056	2,379	2,760	45	30	71	2,262	37	24	58	A,B,C,D,E
Patrick Henry Drive to Mission College Boulevard	95,669	17,307	3,562	4,192	68	45	108	3,385	55	36	87	A,B,C,D,E
Mission College Boulevard to Bowers Avenue / U.S.	86,359	16,560	3,173	3,825	62	41	98	3,016	49	32	78	A,B,C,D,E
Bowers Avenue												
U.S. 101 Southbound Ramp to Augustine Drive	49,330	8,388	1,861	2,139	35	23	55	1,769	29	19	46	A,B,C,D,E
Augustine Drive to Scott Boulevard	42,730	8,307	1,565	1,897	31	21	49	1,487	25	16	39	A,B,C,D,E
Scott Boulevard to Central Expressway	35,630	6,644	1,318	1,570	26	17	41	1,253	21	14	33	A,B,C,D,E

TABLE 20: PHD SP "B" VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Central Expressway to Kifer Boulevard / Walsh Avenue	30,410	5,403	1,137	1,329	22	15	34	1,081	18	12	28	A,B,C,D,E
Mission College Boulevard												
Mission College Boulevard Loop to Great America	20,447	3,889	753	905	15	10	24	716	12	8	19	A,B,C,D,E
Great America Pkwy to Marriot Driveway	41,290	7,830	1,521	1,825	30	20	47	1,446	24	16	37	A,B,C,D,E
Marriot Driveway to Freedom Circle West	38,320	7,161	1,416	1,689	28	18	44	1,346	22	15	35	A,B,C,D,E
Freedom Circle West to Freedom Circle East	29,489	5,675	1,082	1,307	22	14	34	1,029	17	11	27	A,B,C,D,E
Agnew Rd / Freedom Circle East to Juliet Lane	32,734	6,252	1,204	1,449	24	16	38	1,144	19	13	30	A,B,C,D,E
Juliette Lane to Burton Circle	30,430	5,909	1,115	1,351	22	15	35	1,060	18	12	28	A,B,C,D,E
Burton Circle to Montague Expressway	49,623	6,702	1,951	2,076	34	22	54	1,855	30	20	48	A,B,C,D,E
Mission College Boulevard Loop												
North of Mission College Boulevard	11,970	2,394	435	535	9	6	14	414	7	5	11	A,B,C,D,E
South of Mission College Boulevard	7,970	1,588	290	356	6	4	10	276	5	3	8	A,B,C,D,E
Agnew Road / Freedom Circle East												
North of Mission College Boulevard	18,240	3,280	680	799	13	9	21	647	11	7	17	A,B,C,D,E
South of Mission College Boulevard	23,730	4,613	869	1,054	18	12	27	826	14	9	22	A,B,C,D,E
San Tomas Expressway												
Mission College Boulevard / Thomas Road to Scott	97,408	19,016	3,563	4,328	70	46	111	3,387	55	36	87	A,B,C,D,E
Scott Boulevard to Monroe Street	75,805	14,606	2,782	3,360	55	36	86	2,644	43	28	68	A,B,C,D,E
Monroe Street to El Camino Real	67,300	12,950	2,470	2,982	49	32	77	2,348	38	25	61	A,B,C,D,E
Tasman Drive												
Lawrence Expressway to Patrick Henry Drive	46,981	8,392	1,754	2,054	34	22	53	1,667	27	18	43	A,B,C,D,E
Patrick Henry Drive to Old Ironsides Drive	22,858	4,199	848	1,005	17	11	26	807	14	9	21	A,B,C,D,E
Old Ironsides Drive to Great America Parkway	37,071	7,107	1,362	1,642	27	18	42	1,295	21	14	34	A,B,C,D,E
Great America Parkway to Convention Center	34,595	6,336	1,284	1,520	25	17	39	1,221	20	13	32	A,B,C,D,E
Convention Center to Centennial Boulevard	37,445	6,904	1,388	1,647	27	18	43	1,320	22	14	34	A,B,C,D,E

TABLE 20: PHD SP "B" VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Centennial Boulevard to Calle Del Sol	32,965	6,213	1,216	1,455	24	16	38	1,156	19	13	30	A,B,C,D,E
Calle Del Sol to Lick Mill Boulevard	27,810	5,327	1,022	1,232	20	14	32	972	16	11	25	A,B,C,D,E
Lafayette Street												
North of Calle De Luna	27,160	4,957	1,009	1,192	20	13	31	960	16	11	25	A,B,C,D,E
Calle Del Luna to Agnew Road	42,070	7,664	1,564	1,846	30	20	48	1,487	24	16	38	A,B,C,D,E
Agnew Road to Central Expressway	33,410	6,336	1,231	1,477	24	16	38	1,170	19	13	30	A,B,C,D,E
South of Central Expressway	28,370	5,297	1,049	1,251	21	14	32	997	17	11	26	A,B,C,D,E
East Arques / Scott Boulevard												
West of Lawrence Expressway	33,490	6,248	1,238	1,476	24	16	38	1,177	19	13	31	A,B,C,D,E
Lawrence Expressway to Bowers Avenue	25,280	4,729	934	1,115	18	12	29	888	15	10	23	A,B,C,D,E
Bowers Avenue to San Tomas Expressway	32,510	5,962	1,207	1,428	24	16	37	1,147	19	13	30	A,B,C,D,E
San Tomas Expressway to Central Expressway	16,325	2,855	612	711	12	8	19	582	10	7	15	A,B,C,D,E
South of Central Expressway	29,380	5,250	1,097	1,285	21	14	33	1,043	17	12	27	A,B,C,D,E
Central Expressway												
West of Bowers Avenue	73,110	14,524	2,663	3,260	53	35	84	2,531	41	27	65	A,B,C,D,E
Bowers Avenue to Scott Boulevard	68,075	13,376	2,486	3,029	49	33	78	2,363	39	25	61	A,B,C,D,E
Scott Boulevard to Lafayette Street	61,105	11,909	2,236	2,714	44	29	70	2,126	35	23	55	A,B,C,D,E
Lafayette Stree to De La Cruz Boulevard / Trimble	59,720	11,877	2,175	2,663	43	29	69	2,067	34	22	53	A,B,C,D,E
Montague Expressway												
U.S. 101 to Mission College Boulevard / Thomas Road	104,227	20,306	3,815	4,629	75	49	119	3,626	59	39	93	A,B,C,D,E
Mission College Boulevard / Thomas Road to Agnew	89,080	17,441	3,256	3,961	64	42	102	3,095	50	33	80	A,B,C,D,E
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	88,260	17,199	3,230	3,921	64	42	101	3,070	50	33	79	A,B,C,D,E
Lick Mill Boulevard to North 1st Street	101,640	19,993	3,711	4,523	73	48	116	3,527	57	38	91	A,B,C,D,E
North 1st Street to Zanker Rd	80,715	15,932	2,945	3,594	59	39	92	2,799	46	30	72	A,B,C,D,E

TABLE 20: PHD SP "B" VEHICLE FLEET VOLUMES

Road Segment	ADT	Peak Hour Vehicles	Non-Peak Hour Vehicles	Vehicle Per Hour (Dayime)				Vehicle Per Hour (Evening and Nighttime)				Notes
				Auto	Med Truck	Heavy Truck	Motor-cycle	Auto	Med Truck	Heavy Truck	Motor-cycle	
Zanker Road to Trimble Road	61,045	11,744	2,241	2,705	44	29	70	2,130	35	23	55	A,B,C,D,E
Trimble Road to McCarthy Boulevard / O'Toole Avenue	83,480	15,708	3,081	3,684	60	39	95	2,928	48	31	75	A,B,C,D,E
North of McCarthy Boulevard / O'Toole Avenue	76,840	14,748	2,822	3,404	55	36	87	2,683	44	29	69	A,B,C,D,E
Trimble Road												
South of Montague Expressway	31,530	6,172	1,153	1,402	23	15	36	1,096	18	12	28	A,B,C,D,E
North of Central Expressway	59,980	11,375	2,209	2,651	43	29	68	2,100	34	23	54	A,B,C,D,E
De La Cruz Boulevard												
South of Central Expressway	38,630	7,278	1,425	1,705	28	19	44	1,355	22	15	35	A,B,C,D,E
TABLE NOTES:												

A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.

B) Total peak hour vehicles is based on AM and PM peak hour traffic volume information provided by Hexagon Transportation Consultants.

C) Non peak-hour vehicles are derived by subtrating total peak hour traffic from ADT volumes and dividing by 22 (the number of non=peak hours in the day).

D) Vehicles per daytime includes peak hour traffic and non-peak hour traffic (10 hours) multiplied by EMFAC vehicle class distribution percentages.

E) Vehicles per nighttime includes non-peak hour traffic (12 hours) multipled by EMFAC vehicle class distribution percentages.

TABLE 21: PHD SP "B" TRAFFIC NOISE ESTIMATE								
Road	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Lawrence Expressway								
SR 237 to Tasman Drive	49,692	70.6	69.8	74.6	69.8	79.8	76.5	A,B
Tasman Drive to Sandia Avenue / Lakehaven Road	51,681	71.6	70.5	75.3	70.5	80.5	77.3	A,B
Sandia Avenue / Lakehaven Road to U.S. 101	67,945	72.1	71.1	75.9	71.1	81.1	77.9	A,B
U.S. 101 to East Arques Avenue	Segment not modeled - Scenario A has higher traffic volumes.							
Patrick Henry Drive								
South of Tasman Drive	31,661	65.3	64.0	68.8	64.0	74.0	70.8	A,B
Great America Parkway to Old Ironside Drive	Segment not modeled - Scenario A has higher traffic volumes.							
West of Old Ironsides Drive	Segment not modeled - Scenario A has higher traffic volumes.							
Old Ironsides Drive								
Tasman Drive to Old Glory Lane	29,170	62.2	61.0	65.8	61.0	71.0	67.8	A,B
Old Glory Lane to Patrick Henry Drive	Segment not modeled - Scenario A has higher traffic volumes.							
Great America Parkway								
SR 237 Eastbound Ramp to Great America Parkway	Segment not modeled - Scenario A has higher traffic volumes.							
Great America Parkway to Old Mountain View Alviso Road	42,365	69.1	68.1	72.9	68.1	78.1	74.9	A,B
Old Mountain View Alviso Road to Bunker Hill Lane	Segment not modeled - Scenario A has higher traffic volumes.							
Bunker Hill Lane to Tasman Drive	Segment not modeled - Scenario A has higher traffic volumes.							
Tasman Drive to Old Glory Lane	Segment not modeled - Scenario A has higher traffic volumes.							
Old Glory Lane to Patrick Henry Drive	63,404	70.6	69.7	74.5	69.7	79.7	76.5	A,B
Patrick Henry Drive to Mission College Boulevard	95,669	72.4	71.4	76.2	71.4	81.4	78.2	
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	Segment not modeled - Scenario A has higher traffic volumes.							
Bowers Avenue								
U.S. 101 Southbound Ramp to Augustine Drive	49,330	68.1	67.5	72.3	67.5	77.5	74.2	A,B
Augustine Drive to Scott Boulevard	Segment not modeled - Scenario A has higher traffic volumes.							
Scott Boulevard to Central Expressway	Segment not modeled - Scenario A has higher traffic volumes.							
Central Expressway to Kifer Boulevard / Walsh Avenue	Segment not modeled - Scenario A has higher traffic volumes.							
Mission College Boulevard								
Mission College Boulevard Loop to Great America Parkway	Segment not modeled - Scenario A has higher traffic volumes.							
Great America Pkwy to Marriot Driveway	Segment not modeled - Scenario A has higher traffic volumes.							
Marriot Driveway to Freedom Circle West	Segment not modeled - Scenario A has higher traffic volumes.							
Freedom Circle West to Freedom Circle East	29,489	67.4	66.5	71.3	66.5	76.5	73.3	A,B
Agnew Rd / Freedom Circle East to Juliet Lane	32,734	67.4	66.6	71.4	66.6	76.6	73.3	A,B
Juliette Lane to Burton Circle	30,430	67.5	66.6	71.4	66.6	76.6	73.4	A,B
Burton Circle to Montague Expressway	Segment not modeled - Scenario A has higher traffic volumes.							
Mission College Boulevard Loop								
North of Mission College Boulevard	Segment not modeled - Scenario A has higher traffic volumes.							
South of Mission College Boulevard	Segment not modeled - Scenario A has higher traffic volumes.							
Agnew Road / Freedom Circle East								
North of Mission College Boulevard	18,240	62.9	61.5	66.3	61.5	71.5	68.3	A,B
South of Mission College Boulevard	23,730	65.7	64.6	69.4	64.6	74.6	71.4	A,B
San Tomas Expressway								

TABLE 21: PHD SP "B" TRAFFIC NOISE ESTIMATE								
Road	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
Mission College Boulevard / Thomas Road to Scott Boulevard	97,408	73.6	72.7	77.5	72.7	82.7	79.5	A,B
Scott Boulevard to Monroe Street	75,805	72.7	71.7	76.5	71.7	81.7	78.5	A,B
Monroe Street to El Camino Real	67,300	72.1	71.2	76.0	71.2	81.2	78.0	A,B
Tasman Drive								
Lawrence Expressway to Patrick Henry Drive	46,981	69.3	68.4	73.2	68.4	78.4	75.2	A,B
Patrick Henry Drive to Old Ironsides Drive	22,858	66.2	65.2	70.0	65.2	75.2	72.0	A,B
Old Ironsides Drive to Great America Parkway	37,071	67.8	66.8	71.6	66.8	76.8	73.6	A,B
Great America Parkway to Convention Center	Segment not modeled - Scenario A has higher traffic volumes.							
Convention Center to Centennial Boulevard	37,445	68.6	67.7	72.5	67.7	77.7	74.5	A,B
Centennial Boulevard to Calle Del Sol	32,965	68.1	67.0	71.8	67.0	77.0	73.8	A,B
Calle Del Sol to Lick Mill Boulevard	Segment not modeled - Scenario A has higher traffic volumes.							
Lafayette Street								
North of Calle De Luna	27,160	66.3	65.4	70.2	65.4	75.4	72.2	A,B
Calle Del Luna to Agnew Road	42,070	68.4	67.4	72.2	67.4	77.4	74.2	A,B
Agnew Road to Central Expressway	Segment not modeled - Scenario A has higher traffic volumes.							
South of Central Expressway	Segment not modeled - Scenario A has higher traffic volumes.							
East Arques / Scott Boulevard								
West of Lawrence Expressway	Segment not modeled - Scenario A has higher traffic volumes.							
Lawrence Expressway to Bowers Avenue	25,280	67.0	66.1	70.9	66.1	76.1	72.9	A,B
Bowers Avenue to San Tomas Expressway	32,510	67.9	67.1	71.9	67.1	77.1	73.8	A,B
San Tomas Expressway to Central Expressway	16,325	65.1	64.4	69.2	64.4	74.4	71.1	A,B
South of Central Expressway	29,380	66.4	65.4	70.2	65.4	75.4	72.2	A,B
Central Expressway								
West of Bowers Avenue	Segment not modeled - Scenario A has higher traffic volumes.							
Bowers Avenue to Scott Boulevard	Segment not modeled - Scenario A has higher traffic volumes.							
Scott Boulevard to Lafayette Street	Segment not modeled - Scenario A has higher traffic volumes.							
Lafayette Stree to De La Cruz Boulevard / Trimble Road	Segment not modeled - Scenario A has higher traffic volumes.							
Montague Expressway								
U.S. 101 to Mission College Boulevard / Thomas Road	Segment not modeled - Scenario A has higher traffic volumes.							
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	Segment not modeled - Scenario A has higher traffic volumes.							
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	88,260	73.2	72.2	77.0	72.2	82.2	79.0	A,B
Lick Mill Boulevard to North 1st Street	Segment not modeled - Scenario A has higher traffic volumes.							
North 1st Street to Zanker Rd	Segment not modeled - Scenario A has higher traffic volumes.							
Zanker Road to Trimble Road	61,045	71.8	70.9	75.7	70.9	80.9	77.7	A,B
Trimble Road to McCarthy Boulevard / O'Toole Avenue	83,480	72.9	72.0	76.8	72.0	82.0	78.8	A,B
North of McCarthy Boulevard / O'Toole Avenue	76,840	72.3	71.3	76.1	71.3	81.3	78.1	A,B
Trimble Road								
South of Montague Expressway	Segment not modeled - Scenario A has higher traffic volumes.							
North of Central Expressway	59,980	70.8	69.8	74.6	69.8	79.8	76.6	A,B
De La Cruz Boulevard								

TABLE 21: PHD SP "B" TRAFFIC NOISE ESTIMATE								
Road	ADT	Daytime	Evening		Nighttime		24-Hour CNEL	Notes
		Leq(h)	Leq(h)	CNEL Value	Leq(h)	CNEL Value		
South of Central Expressway	38,630	69.1	68.1	72.9	68.1	78.1	74.9	A,B
TABLE NOTES:								
A) Average daily traffic (ADT) volumes derived from peak hour traffic volume information provided by Hexagon Transportation Consultants. The highest AM or PM peak hour volume was assumed to be equal to 10% of ADT.								
B) 24-hour CNEL assumes 12 hours of daytime Leq (h), plus 3 hours of evening CNEL value Leq (h), plus 9 hours of nighttime CNEL value Leq (h).								

TABLE 22: SUMMARY OF MAJOR TNM2.5 ROADWAY GEOMETRY INPUTS

ROAD SEGMENT	Length (Feet)	Average Width (Feet)	Posted Speed (MPH)	Point 1 (Feet)		Point 2 (Feet)		Point 3 (Feet)		Point 4 (Feet)		RECEPTOR (FEET)	
				X	Y	X	Y	X	Y	X	Y	X	Y
Lawrence Expressway													
SR 237 to Tasman Drive	2112	110	50	0	25.5	2100	25.5	2100	-25.5	0	-25.5	1050	100
Tasman Drive to Sandia Avenue / Lakehaven Road	2640	115	50	0	26.75	2600	26.75	2600	-26.75	0	-26.75	1300	100
Sandia Avenue / Lakehaven Road to U.S. 101	1584	100	50	0	23	1600	23	1600	-23	0	-23	800	100
U.S. 101 to East Arques Avenue	3696	135	50	0	31.75	3700	31.75	3700	-31.75	0	-31.75	1850	100
Patrick Henry Drive													
South of Tasman Drive	2640	50	25	0	10.5	2600	10.5	2600	-10.5	0	-10.5	1300	100
Great America Parkway to Old Ironside Drive	396	50	25	0	10.5	400	10.5	400	-10.5	0	-10.5	200	100
West of Old Ironsides Drive	1584	50	25	0	10.5	1600	10.5	1600	-10.5	0	-10.5	800	100
Old Ironsides Drive													
Tasman Drive to Old Glory Lane	1320	70	25	0	15.5	1300	15.5	1300	-15.5	0	-15.5	650	100
Old Glory Lane to Patrick Henry Drive	1320	70	25	0	15.5	1300	15.5	1300	-15.5	0	-15.5	650	100
Great America Parkway													
SR 237 Eastbound Ramp to Great America Parkway	528	100	40	0	23	500	23	500	-23	0	-23	250	100
Great America Parkway to Old Mountain View Alviso Road	1214.4	100	40	0	23	1200	23	1200	-23	0	-23	600	100
Old Mountain View Alviso Road to Bunker Hill Lane	1584	100	40	0	23	1600	23	1600	-23	0	-23	800	100
Bunker Hill Lane to Tasman Drive	792	100	40	0	23	800	23	800	-23	0	-23	400	100
Tasman Drive to Old Glory Lane	1320	110	40	0	25.5	1300	25.5	1300	-25.5	0	-25.5	650	100
Old Glory Lane to Patrick Henry Drive	1320	110	40	0	25.5	1300	25.5	1300	-25.5	0	-25.5	650	100
Patrick Henry Drive to Mission College Boulevard	1320	115	40	0	26.75	1300	26.75	1300	-26.75	0	-26.75	650	100
Mission College Boulevard to Bowers Avenue / U.S. 1010 Northbound Ramp	1584	130	40	0	30.5	1600	30.5	1600	-30.5	0	-30.5	800	100
Bowers Avenue													
U.S. 101 Southbound Ramp to Augustine Drive	792	105	40	0	24.25	800	24.25	800	-24.25	0	-24.25	400	100
Augustine Drive to Scott Boulevard	633.6	100	40	0	23	600	23	600	-23	0	-23	300	100
Scott Boulevard to Central Expressway	1584	100	40	0	23	1600	23	1600	-23	0	-23	800	100

TABLE 22: SUMMARY OF MAJOR TNM2.5 ROADWAY GEOMETRY INPUTS

ROAD SEGMENT	Length (Feet)	Average Width (Feet)	Posted Speed (MPH)	Point 1 (Feet)		Point 2 (Feet)		Point 3 (Feet)		Point 4 (Feet)		RECEPTOR (FEET)	
				X	Y	X	Y	X	Y	X	Y	X	Y
Central Expressway to Kifer Boulevard / Walsh Avenue	528	100	40	0	23	500	23	500	-23	0	-23	250	100
Mission College Boulevard													
Mission College Boulevard Loop to Great America Parkway	633.6	112	40	0	26	600	26	600	-26	0	-26	300	100
Great America Pkwy to Marriot Driveway	792	85	40	0	19.25	800	19.25	800	-19.25	0	-19.25	400	100
Marriot Driveway to Freedom Circle West	528	85	40	0	19.25	500	19.25	500	-19.25	0	-19.25	250	100
Freedom Circle West to Freedom Circle East	1056	85	40	0	19.25	1100	19.25	1100	-19.25	0	-19.25	550	100
Agnew Rd / Freedom Circle East to Juliet Lane	792	80	40	0	18	800	18	800	-18	0	-18	400	100
Juliette Lane to Burton Circle	950.4	80	40	0	18	1000	18	1000	-18	0	-18	500	100
Burton Circle to Montague Expressway	1056	80	40	0	18	1100	18	1100	-18	0	-18	550	100
Mission College Boulevard Loop													
North of Mission College Boulevard	1584	66	25	0	14.5	1600	14.5	1600	-14.5	0	-14.5	800	100
South of Mission College Boulevard	1584	66	25	0	14.5	1600	14.5	1600	-14.5	0	-14.5	800	100
Agnew Road / Freedom Circle East												0	100
North of Mission College Boulevard	528	50	40	0	10.5	500	10.5	500	-10.5	0	-10.5	250	100
South of Mission College Boulevard	1584	50	40	0	10.5	1600	10.5	1600	-10.5	0	-10.5	800	100
San Tomas Expressway													
Mission College Boulevard / Thomas Road to Scott Boulevard	3168	95	45	0	21.75	3200	21.75	3200	-21.75	0	-21.75	1600	100
Scott Boulevard to Monroe Street	5808	110	45	0	25.5	5800	25.5	5800	-25.5	0	-25.5	2900	100
Monroe Street to El Camino Real	4224	110	45	0	25.5	4200	25.5	4200	-25.5	0	-25.5	2100	100
Tasman Drive												0	100
Lawrence Expressway to Patrick Henry Drive	3168	90	40	0	20.5	3200	20.5	3200	-20.5	0	-20.5	1600	100
Patrick Henry Drive to Old Ironsides Drive	1320	105	40	0	24.25	1300	24.25	1300	-24.25	0	-24.25	650	100
Old Ironsides Drive to Great America Parkway	528	130	40	0	30.5	500	30.5	500	-30.5	0	-30.5	250	100
Great America Parkway to Convention Center	528	130	40	0	30.5	500	30.5	500	-30.5	0	-30.5	250	100

TABLE 22: SUMMARY OF MAJOR TNM2.5 ROADWAY GEOMETRY INPUTS													
ROAD SEGMENT	Length (Feet)	Average Width (Feet)	Posted Speed (MPH)	Point 1 (Feet)		Point 2 (Feet)		Point 3 (Feet)		Point 4 (Feet)		RECEPTOR (FEET)	
				X	Y	X	Y	X	Y	X	Y	X	Y
Convention Center to Centennial Boulevard	1742.4	100	40	0	23	1700	23	1700	-23	0	-23	850	100
Centennial Boulevard to Calle Del Sol	1742.4	100	40	0	23	1700	23	1700	-23	0	-23	850	100
Calle Del Sol to Lick Mill Boulevard	739.2	120	40	0	28	700	28	700	-28	0	-28	350	100
Lafayette Street													
North of Calle De Luna	1056	80	40	0	18	1100	18	1100	-18	0	-18	550	100
Calle Del Luna to Agnew Road	5280	80	40	0	18	5300	18	5300	-18	0	-18	2650	100
Agnew Road to Central Expressway	8448	80	50	0	18	8400	18	8400	-18	0	-18	4200	100
South of Central Expressway	2640	90	35	0	20.5	2600	20.5	2600	-20.5	0	-20.5	1300	100
East Arques / Scott Boulevard													
West of Lawrence Expressway	1320	65	40	0	14.25	1300	14.25	1300	-14.25	0	-14.25	650	100
Lawrence Expressway to Bowers Avenue	5280	75	40	0	16.75	5300	16.75	5300	-16.75	0	-16.75	2650	100
Bowers Avenue to San Tomas Expressway	3696	75	40	0	16.75	3700	16.75	3700	-16.75	0	-16.75	1850	100
San Tomas Expressway to Central Expressway	3696	75	40	0	16.75	3700	16.75	3700	-16.75	0	-16.75	1850	100
South of Central Expressway	2640	70	40	0	15.5	2600	15.5	2600	-15.5	0	-15.5	1300	100
Central Expressway													
West of Bowers Avenue	2640	130	50	0	30.5	2600	30.5	2600	-30.5	0	-30.5	1300	100
Bowers Avenue to Scott Boulevard	5280	130	50	0	30.5	5300	30.5	5300	-30.5	0	-30.5	2650	100
Scott Boulevard to Lafayette Street	2640	130	50	0	30.5	2600	30.5	2600	-30.5	0	-30.5	1300	100
Lafayette Stree to De La Cruz Boulevard / Trimble Road	1953.6	100	50	0	23	2000	23	2000	-23	0	-23	1000	100

TABLE 22: SUMMARY OF MAJOR TNM2.5 ROADWAY GEOMETRY INPUTS													
ROAD SEGMENT	Length (Feet)	Average Width (Feet)	Posted Speed (MPH)	Point 1 (Feet)		Point 2 (Feet)		Point 3 (Feet)		Point 4 (Feet)		RECEPTOR (FEET)	
				X	Y	X	Y	X	Y	X	Y	X	Y
Montague Expressway													
U.S. 101 to Mission College Boulevard / Thomas Road	1584	100	45	0	23	1600	23	1600	-23	0	-23	800	100
Mission College Boulevard / Thomas Road to Agnew Road / De La Cruz Boulevard	4488	100	45	0	23	4500	23	4500	-23	0	-23	2250	100
Agnew Road / De La Cruz Boulevard to Lick Mill Boulevard	2640	100	45	0	23	2600	23	2600	-23	0	-23	1300	100
Lick Mill Boulevard to North 1st Street	2112	115	45	0	26.75	2100	26.75	2100	-26.75	0	-26.75	1050	100
North 1st Street to Zanker Rd	1320	130	45	0	30.5	1300	30.5	1300	-30.5	0	-30.5	650	100
Zanker Road to Trimble Road	4752	130	45	0	30.5	4800	30.5	4800	-30.5	0	-30.5	2400	100
Trimble Road to McCarthy Boulevard / O'Toole Avenue	2640	115	45	0	26.75	2600	26.75	2600	-26.75	0	-26.75	1300	100
North of McCarthy Boulevard / O'Toole Avenue	1320	115	45	0	26.75	1300	26.75	1300	-26.75	0	-26.75	650	100
Trimble Road													
South of Montague Expressway	2640	105	45	0	24.25	2600	24.25	2600	-24.25	0	-24.25	1300	100
North of Central Expressway	2640	70	45	0	15.5	2600	15.5	2600	-15.5	0	-15.5	1300	100
De La Cruz Boulevard													
South of Central Expressway	2640	95	45	0	21.75	2600	21.75	2600	-21.75	0	-21.75	1300	100
TABLE NOTES:													
A) Information from Google Earth. Receptors were assumed to be at a height of 5 feet above ground.													

TABLE 23: TNM2.5/EMFAC2017 VEHICLE POPULATION INFORMATION					
TNM Vehicle Type	**Vehicle Class (EMFAC2007)**	**2019 Vehicle Population**	**2015 Vehicle Population %**	**2040 Vehicle Population**	**2040 Vehicle Population %**
Auto	LDA	707,880	56.4%	1,087,717	57.7%
Auto	LDT1	68,210	5.4%	109,000	5.8%
Auto	LDT2	242,427	19.3%	337,573	17.9%
Auto	LHDT1	26,224	2.1%	39,229	2.1%
Auto	MDV	147,490	11.8%	221,043	11.7%
	Subtotal	***1,192,231***	***95.0%***	***1,794,561***	***95.2%***
Medium Truck	LHDT2	5,930	0.5%	10,892	0.6%
Medium Truck	MHDT	10,831	0.9%	14,644	0.8%
Medium Truck	OBUS	1,270	0.1%	1,467	0.1%
Medium Truck	SBUS	1,213	0.1%	1,367	0.1%
	Subtotal	***19,244***	***1.5%***	***28,368***	***1.5%***
Heavy Truck	HHDT	8,135	0.6%	10,328	0.5%
Heavy Truck	MH	3,943	0.3%	4,744	0.3%
Heavy Truck	UBUS	530	0.0%	539	0.0%
	Subtotal	***12,607***	***1.0%***	***15,611***	***0.8%***
Motorcycle	MC	30,475	2.4%	46,403	2.5%
	Subtotal	***30,475***	***2.4%***	***46,403***	***2.5%***
	TOTAL	**1,254,557**	**100.0%**	**1,884,944**	**100.0%**
TABLE NOTES:					
A) EMFAC raw data file is available upon request					

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.7	0	69.7	0	Snd Lvl	69.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01B_Lawrence_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.6	0	70.6	0	Snd Lvl	70.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01C_Lawrence_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.3	0	70.3	0	Snd Lvl	70.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01D_Lawrence_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.7	0	70.7	0	Snd Lvl	70.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	58.0	0	58.0	0	Snd Lvl	58.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02B_PatrickHenryDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	56.4	0	56.4	0	Snd Lvl	56.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02C_PatrickHenryDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	54.2	0	54.2	0	Snd Lvl	54.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03A_OldIronsidesDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	51.7	0	51.7	0	Snd Lvl	51.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 12 January 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03B_OldIronsidesDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	46.3	0	46.3	0	Snd Lvl	46.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.7	0	64.7	0	Snd Lvl	64.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04B_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04C_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.6	0	65.6	0	Snd Lvl	65.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04D_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04E_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.2	0	67.2	0	Snd Lvl	67.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04H_GreatAmericaPkwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.6	0	68.6	0	Snd Lvl	68.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05A_Bowers_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.0	0	66.0	0	Snd Lvl	66.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05B_Bowers_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.2	0	66.2	0	Snd Lvl	66.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 12 January 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05C_Bowers_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.1	0	66.1	0	Snd Lvl	66.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05D_Bowers_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.7	0	65.7	0	Snd Lvl	65.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06A_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.9	0	63.9	0	Snd Lvl	63.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06B_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06C_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.0	0	65.0	0	Snd Lvl	65.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06D_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.7	0	64.7	0	Snd Lvl	64.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06E_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.3	0	64.3	0	Snd Lvl	64.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06F_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06G_MsnCollBlvd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.7	0	67.7	0	Snd Lvl	67.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07A_MCBLoop_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	58.0	0	58.0	0	Snd Lvl	58.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07B_MCBLoop_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	60.7	0	60.7	0	Snd Lvl	60.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08A_FreedomCircleEast_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	60.2	0	60.2	0	Snd Lvl	60.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08B_FreedomCircleEast_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	58.2	0	58.2	0	Snd Lvl	58.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09A_SanTomasExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.3	0	72.3	0	Snd Lvl	72.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09B_SanTomasExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.8	0	71.8	0	Snd Lvl	71.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09C_SanTomasExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.1	0	71.1	0	Snd Lvl	71.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.8	0	65.8	0	Snd Lvl	65.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.7	0	63.7	0	Snd Lvl	63.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10C_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.2	0	63.2	0	Snd Lvl	63.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10D_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.9	0	65.9	0	Snd Lvl	65.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10E_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10F_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.6	0	66.6	0	Snd Lvl	66.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10G_TasmanDr_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11A_Lafayette_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.8	0	63.8	0	Snd Lvl	63.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11B_Lafayette_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.3	0	65.3	0	Snd Lvl	65.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11C_Lafayette_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.8	0	65.8	0	Snd Lvl	65.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11D_Lafayette_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.2	0	64.2	0	Snd Lvl	64.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12A_ArquesScott_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.4	0	65.4	0	Snd Lvl	65.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12B_ArquesScott_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.9	0	64.9	0	Snd Lvl	64.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12C_ArquesScott_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.7	0	65.7	0	Snd Lvl	65.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12D_ArquesScott_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.4	0	64.4	0	Snd Lvl	64.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12E_ArquesScott_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.9	0	65.9	0	Snd Lvl	65.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13A_CentralExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.9	0	70.9	0	Snd Lvl	70.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13B_CentralExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.0	0	71.0	0	Snd Lvl	71.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13C_CentralExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.5	0	70.5	0	Snd Lvl	70.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13D_CentralExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.2	0	70.2	0	Snd Lvl	70.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14A_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.3	0	71.3	0	Snd Lvl	71.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14B_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.0	0	72.0	0	Snd Lvl	72.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14C_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.7	0	71.7	0	Snd Lvl	71.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14D_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.8	0	71.8	0	Snd Lvl	71.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14E_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.9	0	70.9	0	Snd Lvl	70.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14F_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.8	0	69.8	0	Snd Lvl	69.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14G_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.2	0	71.2	0	Snd Lvl	71.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14H_MontagueExpwy_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.1	0	71.1	0	Snd Lvl	71.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
14 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15A_TrimbleRd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.1	0	66.1	0	Snd Lvl	66.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
14 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15B_TrimbleRd_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.6	0	69.6	0	Snd Lvl	69.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
14 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 16A_DeLaCruz_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.7	0	67.7	0	Snd Lvl	67.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
14 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_Ex19_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.1	0	68.1	0	Snd Lvl	68.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01B_Lawrence_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.0	0	69.0	0	Snd Lvl	69.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01C_Lawrence_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.7	0	68.7	0	Snd Lvl	68.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01D_Lawrence_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.2	0	69.2	0	Snd Lvl	69.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	57.2	0	57.2	0	Snd Lvl	57.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02B_PatrickHenryDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	55.2	0	55.2	0	Snd Lvl	55.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02C_PatrickHenryDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	53.3	0	53.3	0	Snd Lvl	53.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03A_OldIronsidesDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	50.9	0	50.9	0	Snd Lvl	50.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03B_OldIronsidesDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	45.8	0	45.8	0	Snd Lvl	45.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.3	0	63.3	0	Snd Lvl	63.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04B_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.9	0	64.9	0	Snd Lvl	64.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04C_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.2	0	64.2	0	Snd Lvl	64.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04D_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.0	0	64.0	0	Snd Lvl	64.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04E_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.4	0	65.4	0	Snd Lvl	65.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.9	0	65.9	0	Snd Lvl	65.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 3 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04H_GreatAmericaPkwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.2	0	67.2	0	Snd Lvl	67.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05A_Bowers_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.3	0	65.3	0	Snd Lvl	65.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05B_Bowers_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.9	0	64.9	0	Snd Lvl	64.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05C_Bowers_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.5	0	64.5	0	Snd Lvl	64.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05D_Bowers_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.3	0	64.3	0	Snd Lvl	64.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06A_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.5	0	62.5	0	Snd Lvl	62.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06B_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.1	0	64.1	0	Snd Lvl	64.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
12 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06C_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.5	0	63.5	0	Snd Lvl	63.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06D_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.1	0	63.1	0	Snd Lvl	63.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06E_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.7	0	62.7	0	Snd Lvl	62.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06F_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.0	0	64.0	0	Snd Lvl	64.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06G_MsnCollBlvd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07A_MCBLoop_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	56.3	0	56.3	0	Snd Lvl	56.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07B_MCBLoop_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	59.8	0	59.8	0	Snd Lvl	59.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08A_FreedomCircleEast_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	58.6	0	58.6	0	Snd Lvl	58.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 13 January 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08B_FreedomCircleEast_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	56.8	0	56.8	0	Snd Lvl	56.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09A_SanTomasExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.7	0	70.7	0	Snd Lvl	70.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09B_SanTomasExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.2	0	70.2	0	Snd Lvl	70.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09C_SanTomasExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.4	0	69.4	0	Snd Lvl	69.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.4	0	64.4	0	Snd Lvl	64.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.3	0	62.3	0	Snd Lvl	62.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10C_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.9	0	61.9	0	Snd Lvl	61.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10D_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.6	0	64.6	0	Snd Lvl	64.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10E_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.6	0	65.6	0	Snd Lvl	65.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10F_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.1	0	65.1	0	Snd Lvl	65.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10G_TasmanDr_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type	With Barrier Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc	Impact	LAeq1h	Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.0	0	64.0	0	Snd Lvl	64.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11A_Lafayette_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.2	0	62.2	0	Snd Lvl	62.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11B_Lafayette_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.8	0	63.8	0	Snd Lvl	63.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11C_Lafayette_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.3	0	64.3	0	Snd Lvl	64.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11D_Lafayette_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.7	0	62.7	0	Snd Lvl	62.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12A_ArquesScott_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h		Increase over existing		Type	With Barrier Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc	Impact	LAeq1h	Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.1	0	64.1	0	Snd Lvl	64.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12B_ArquesScott_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.4	0	63.4	0	Snd Lvl	63.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12C_ArquesScott_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.2	0	64.2	0	Snd Lvl	64.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12D_ArquesScott_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.0	0	63.0	0	Snd Lvl	63.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12E_ArquesScott_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.5	0	64.5	0	Snd Lvl	64.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13A_CentralExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.3	0	69.3	0	Snd Lvl	69.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13B_CentralExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.5	0	69.5	0	Snd Lvl	69.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13C_CentralExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.8	0	68.8	0	Snd Lvl	68.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13D_CentralExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.5	0	68.5	0	Snd Lvl	68.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14A_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.7	0	69.7	0	Snd Lvl	69.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14B_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.5	0	70.5	0	Snd Lvl	70.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14C_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.1	0	70.1	0	Snd Lvl	70.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14D_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.2	0	70.2	0	Snd Lvl	70.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14E_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.4	0	69.4	0	Snd Lvl	69.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14F_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.2	0	68.2	0	Snd Lvl	68.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14G_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.7	0	69.7	0	Snd Lvl	69.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
13 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14H_MontagueExpwy_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.4	0	69.4	0	Snd Lvl	69.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
14 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15A_TrimbleRd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.6	0	64.6	0	Snd Lvl	64.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
14 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15B_TrimbleRd_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.0	0	68.0	0	Snd Lvl	68.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 14 January 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 16A_DeLaCruz_Ex19_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.1	0	66.1	0	Snd Lvl	66.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.3	0	70.3	0	Snd Lvl	70.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01B_Lawrence_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.2	0	71.2	0	Snd Lvl	71.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01C_Lawrence_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.8	0	71.8	0	Snd Lvl	71.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01D_Lawrence_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.8	0	71.8	0	Snd Lvl	71.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.0	0	64.0	0	Snd Lvl	64.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02B_PatrickHenryDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.8	0	61.8	0	Snd Lvl	61.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02C_PatrickHenryDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	54.3	0	54.3	0	Snd Lvl	54.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03A_OldIronsidesDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	60.6	0	60.6	0	Snd Lvl	60.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03B_OldIronsidesDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	53.5	0	53.5	0	Snd Lvl	53.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04B_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	Noise Reduction Goal	With Barrier Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.9	0	68.9	0	Snd Lvl	68.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04C_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.4	0	69.4	0	Snd Lvl	69.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04D_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.6	0	69.6	0	Snd Lvl	69.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04E_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.4	0	69.4	0	Snd Lvl	69.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.0	0	70.0	0	Snd Lvl	70.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04H_GreatAmericaPkwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.4	0	71.4	0	Snd Lvl	71.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05A_Bowers_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.0	0	68.0	0	Snd Lvl	68.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05B_Bowers_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05C_Bowers_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.3	0	68.3	0	Snd Lvl	68.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05D_Bowers_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06A_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.8	0	65.8	0	Snd Lvl	65.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06B_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.3	0	68.3	0	Snd Lvl	68.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06C_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06D_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.2	0	67.2	0	Snd Lvl	67.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06E_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06F_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.3	0	67.3	0	Snd Lvl	67.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06G_MsnCollBlvd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.3	0	69.3	0	Snd Lvl	69.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07A_MCBLoop_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	58.0	0	58.0	0	Snd Lvl	58.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07B_MCBLoop_Np40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.1	0	63.1	0	Snd Lvl	63.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 3 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08A_FreedomCircleEast_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.8	0	62.8	0	Snd Lvl	62.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08B_FreedomCircleEast_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09A_SanTomasExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.6	0	73.6	0	Snd Lvl	73.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09B_SanTomasExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.7	0	72.7	0	Snd Lvl	72.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09C_SanTomasExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.3	0	72.3	0	Snd Lvl	72.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.6	0	68.6	0	Snd Lvl	68.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10C_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.3	0	67.3	0	Snd Lvl	67.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10D_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10E_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10F_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.9	0	67.9	0	Snd Lvl	67.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
21 January 2021
C. Dugan
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10G_TasmanDr_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11A_Lafayette_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11B_Lafayette_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11C_Lafayette_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.2	0	68.2	0	Snd Lvl	68.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11D_Lafayette_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.1	0	65.1	0	Snd Lvl	65.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12A_ArquesScott_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12B_ArquesScott_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12C_ArquesScott_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.6	0	67.6	0	Snd Lvl	67.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12D_ArquesScott_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.0	0	65.0	0	Snd Lvl	65.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12E_ArquesScott_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.8	0	66.8	0	Snd Lvl	66.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13A_CentralExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.1	0	73.1	0	Snd Lvl	73.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13B_CentralExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.1	0	73.1	0	Snd Lvl	73.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13C_CentralExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.5	0	72.5	0	Snd Lvl	72.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13D_CentralExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14A_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.8	0	72.8	0	Snd Lvl	72.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14B_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.3	0	73.3	0	Snd Lvl	73.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14C_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.1	0	73.1	0	Snd Lvl	73.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14D_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.8	0	73.8	0	Snd Lvl	73.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14E_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.6	0	72.6	0	Snd Lvl	72.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14F_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.7	0	71.7	0	Snd Lvl	71.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14G_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.8	0	72.8	0	Snd Lvl	72.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14H_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15A_TrimbleRd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.2	0	68.2	0	Snd Lvl	68.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15B_TrimbleRd_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.7	0	70.7	0	Snd Lvl	70.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 16A_DeLaCruz_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.1	0	69.1	0	Snd Lvl	69.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.6	0	68.6	0	Snd Lvl	68.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01B_Lawrence_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.5	0	69.5	0	Snd Lvl	69.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01C_Lawrence_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.2	0	70.2	0	Snd Lvl	70.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01D_Lawrence_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.2	0	70.2	0	Snd Lvl	70.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.8	0	62.8	0	Snd Lvl	62.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 21 January 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02B_PatrickHenryDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	60.5	0	60.5	0	Snd Lvl	60.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02C_PatrickHenryDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	53.7	0	53.7	0	Snd Lvl	53.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03A_OldIronsidesDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	59.1	0	59.1	0	Snd Lvl	59.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 21 January 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03B_OldIronsidesDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	52.4	0	52.4	0	Snd Lvl	52.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04B_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04C_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.9	0	67.9	0	Snd Lvl	67.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04D_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.2	0	68.2	0	Snd Lvl	68.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04E_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.9	0	67.9	0	Snd Lvl	67.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.5	0	68.5	0	Snd Lvl	68.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.2	0	70.2	0	Snd Lvl	70.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04H_GreatAmericaPkwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.8	0	69.8	0	Snd Lvl	69.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
21 January 2021
C. Dugan
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05A_Bowers_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05B_Bowers_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05C_Bowers_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.8	0	66.8	0	Snd Lvl	66.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05D_Bowers_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.5	0	65.5	0	Snd Lvl	65.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06A_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.4	0	64.4	0	Snd Lvl	64.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06B_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.6	0	66.6	0	Snd Lvl	66.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06C_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06D_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.7	0	65.7	0	Snd Lvl	65.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06E_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.6	0	65.6	0	Snd Lvl	65.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06F_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.8	0	65.8	0	Snd Lvl	65.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06G_MsnCollBlvd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.3	0	68.3	0	Snd Lvl	68.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07A_MCBLoop_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	56.3	0	56.3	0	Snd Lvl	56.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07B_MCBLoop_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.7	0	61.7	0	Snd Lvl	61.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08A_FreedomCircleEast_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.4	0	61.4	0	Snd Lvl	61.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08B_FreedomCircleEast_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.0	0	64.0	0	Snd Lvl	64.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09A_SanTomasExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.9	0	71.9	0	Snd Lvl	71.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09B_SanTomasExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.1	0	71.1	0	Snd Lvl	71.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09C_SanTomasExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.5	0	70.5	0	Snd Lvl	70.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.2	0	67.2	0	Snd Lvl	67.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.9	0	63.9	0	Snd Lvl	63.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10C_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.7	0	65.7	0	Snd Lvl	65.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10D_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.9	0	65.9	0	Snd Lvl	65.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10E_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10F_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10G_TasmanDr_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.1	0	65.1	0	Snd Lvl	65.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11A_Lafayette_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.9	0	64.9	0	Snd Lvl	64.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11B_Lafayette_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11C_Lafayette_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11D_Lafayette_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.6	0	63.6	0	Snd Lvl	63.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12A_ArquesScott_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.8	0	65.8	0	Snd Lvl	65.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12B_ArquesScott_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.4	0	65.4	0	Snd Lvl	65.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12C_ArquesScott_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.1	0	66.1	0	Snd Lvl	66.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12D_ArquesScott_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.8	0	63.8	0	Snd Lvl	63.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12E_ArquesScott_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.4	0	65.4	0	Snd Lvl	65.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13A_CentralExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.5	0	71.5	0	Snd Lvl	71.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13B_CentralExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.5	0	71.5	0	Snd Lvl	71.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13C_CentralExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.9	0	70.9	0	Snd Lvl	70.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13D_CentralExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.5	0	70.5	0	Snd Lvl	70.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14A_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.0	0	72.0	0	Snd Lvl	72.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14B_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	Noise Reduction Goal	With Barrier Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.7	0	71.7	0	Snd Lvl	71.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14C_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14D_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14E_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.0	0	71.0	0	Snd Lvl	71.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14F_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.1	0	70.1	0	Snd Lvl	70.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14G_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.2	0	71.2	0	Snd Lvl	71.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14H_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.5	0	70.5	0	Snd Lvl	70.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15A_TrimbleRd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15B_TrimbleRd_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.1	0	69.1	0	Snd Lvl	69.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
21 January 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 16A_DeLaCruz_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.6	0	67.6	0	Snd Lvl	67.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.6	0	70.6	0	Snd Lvl	70.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01B_Lawrence_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.6	0	71.6	0	Snd Lvl	71.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01C_Lawrence_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.1	0	72.1	0	Snd Lvl	72.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01D_Lawrence_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.9	0	71.9	0	Snd Lvl	71.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.3	0	65.3	0	Snd Lvl	65.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02B_PatrickHenryDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.5	0	63.5	0	Snd Lvl	63.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02C_PatrickHenryDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	57.8	0	57.8	0	Snd Lvl	57.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03A_OldIronsidesDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.2	0	62.2	0	Snd Lvl	62.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03B_OldIronsidesDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	54.7	0	54.7	0	Snd Lvl	54.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04B_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.1	0	69.1	0	Snd Lvl	69.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04C_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.6	0	69.6	0	Snd Lvl	69.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04D_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.8	0	69.8	0	Snd Lvl	69.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04E_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.5	0	69.5	0	Snd Lvl	69.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.6	0	70.6	0	Snd Lvl	70.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.4	0	72.4	0	Snd Lvl	72.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04H_GreatAmericaPkwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.8	0	71.8	0	Snd Lvl	71.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05A_Bowers_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.1	0	68.1	0	Snd Lvl	68.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05B_Bowers_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.5	0	68.5	0	Snd Lvl	68.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05C_Bowers_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05D_Bowers_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06A_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.7	0	65.7	0	Snd Lvl	65.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06B_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.5	0	68.5	0	Snd Lvl	68.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06C_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06D_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06E_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06F_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.5	0	67.5	0	Snd Lvl	67.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06G_MsnCollBlvd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.4	0	69.4	0	Snd Lvl	69.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
25 July 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07A_MCBLoop_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.5	0	62.5	0	Snd Lvl	62.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07B_MCBLoop_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.1	0	63.1	0	Snd Lvl	63.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08A_FreedomCircleEast_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.7	0	62.7	0	Snd Lvl	62.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08B_FreedomCircleEast_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.7	0	65.7	0	Snd Lvl	65.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09A_SanTomasExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.6	0	73.6	0	Snd Lvl	73.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09B_SanTomasExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.7	0	72.7	0	Snd Lvl	72.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09C_SanTomasExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.1	0	72.1	0	Snd Lvl	72.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.3	0	69.3	0	Snd Lvl	69.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10C_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.8	0	67.8	0	Snd Lvl	67.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10D_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.7	0	67.7	0	Snd Lvl	67.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10E_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.6	0	68.6	0	Snd Lvl	68.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10F_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.1	0	68.1	0	Snd Lvl	68.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10G_TasmanDr_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.9	0	66.9	0	Snd Lvl	66.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11A_Lafayette_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11B_Lafayette_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11C_Lafayette_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.2	0	68.2	0	Snd Lvl	68.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11D_Lafayette_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.1	0	65.1	0	Snd Lvl	65.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12A_ArquesScott_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12B_ArquesScott_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12C_ArquesScott_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.9	0	67.9	0	Snd Lvl	67.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12D_ArquesScott_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.1	0	65.1	0	Snd Lvl	65.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12E_ArquesScott_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.4	0	66.4	0	Snd Lvl	66.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13A_CentralExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.1	0	73.1	0	Snd Lvl	73.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13B_CentralExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.1	0	73.1	0	Snd Lvl	73.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13C_CentralExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.6	0	72.6	0	Snd Lvl	72.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13D_CentralExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14A_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.9	0	72.9	0	Snd Lvl	72.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14B_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.4	0	73.4	0	Snd Lvl	73.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14C_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.2	0	73.2	0	Snd Lvl	73.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14D_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	73.8	0	73.8	0	Snd Lvl	73.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14E_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.7	0	72.7	0	Snd Lvl	72.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14F_MontagueExpwy_NP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.8	0	71.8	0	Snd Lvl	71.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14G_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.9	0	72.9	0	Snd Lvl	72.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14H_MontagueExpwy_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.3	0	72.3	0	Snd Lvl	72.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15A_TrimbleRd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.3	0	68.3	0	Snd Lvl	68.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15B_TrimbleRd_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.8	0	70.8	0	Snd Lvl	70.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 16A_DeLaCruz_PP40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.1	0	69.1	0	Snd Lvl	69.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.8	0	69.8	0	Snd Lvl	69.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01B_Lawrence_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.5	0	70.5	0	Snd Lvl	70.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01C_Lawrence_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.1	0	71.1	0	Snd Lvl	71.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01D_Lawrence_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.0	0	71.0	0	Snd Lvl	71.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.0	0	64.0	0	Snd Lvl	64.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02B_PatrickHenryDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.2	0	62.2	0	Snd Lvl	62.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02C_PatrickHenryDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	56.8	0	56.8	0	Snd Lvl	56.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03A_OldIronsidesDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.0	0	61.0	0	Snd Lvl	61.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 03B_OldIronsidesDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	54.0	0	54.0	0	Snd Lvl	54.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04A_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.4	0	66.4	0	Snd Lvl	66.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04B_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.1	0	68.1	0	Snd Lvl	68.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04C_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.7	0	68.7	0	Snd Lvl	68.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04D_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.9	0	68.9	0	Snd Lvl	68.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04E_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.6	0	68.6	0	Snd Lvl	68.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.7	0	69.7	0	Snd Lvl	69.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.5	0	71.5	0	Snd Lvl	71.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04H_GreatAmericaPkwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.6	0	70.6	0	Snd Lvl	70.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05A_Bowers_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.5	0	67.5	0	Snd Lvl	67.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05B_Bowers_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.7	0	67.7	0	Snd Lvl	67.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05C_Bowers_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.5	0	67.5	0	Snd Lvl	67.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 05D_Bowers_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.1	0	66.1	0	Snd Lvl	66.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06A_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.0	0	65.0	0	Snd Lvl	65.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06B_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.6	0	67.6	0	Snd Lvl	67.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06C_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.0	0	66.0	0	Snd Lvl	66.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06D_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.5	0	66.5	0	Snd Lvl	66.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06E_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.6	0	66.6	0	Snd Lvl	66.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06F_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.6	0	66.6	0	Snd Lvl	66.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 06G_MsnCollBlvd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.8	0	68.8	0	Snd Lvl	68.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
25 July 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07A_MCBLoop_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.7	0	61.7	0	Snd Lvl	61.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 07B_MCBLoop_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h Calculated	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	62.1	0	62.1	0	Snd Lvl	62.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08A_FreedomCircleEast_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	61.5	0	61.5	0	Snd Lvl	61.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 2 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 08B_FreedomCircleEast_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.6	0	64.6	0	Snd Lvl	64.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09A_SanTomasExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.7	0	72.7	0	Snd Lvl	72.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09B_SanTomasExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.7	0	71.7	0	Snd Lvl	71.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 09C_SanTomasExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.2	0	71.2	0	Snd Lvl	71.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.4	0	68.4	0	Snd Lvl	68.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.3	0	65.3	0	Snd Lvl	65.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10C_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.8	0	66.8	0	Snd Lvl	66.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10D_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.7	0	66.7	0	Snd Lvl	66.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10E_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.7	0	67.7	0	Snd Lvl	67.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10F_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.0	0	67.0	0	Snd Lvl	67.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10G_TasmanDr_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.0	0	66.0	0	Snd Lvl	66.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11A_Lafayette_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.4	0	65.4	0	Snd Lvl	65.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11B_Lafayette_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11C_Lafayette_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.4	0	67.4	0	Snd Lvl	67.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 11D_Lafayette_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.5	0	64.5	0	Snd Lvl	64.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12A_ArquesScott_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.3	0	66.3	0	Snd Lvl	66.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12B_ArquesScott_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.1	0	66.1	0	Snd Lvl	66.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12C_ArquesScott_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.1	0	67.1	0	Snd Lvl	67.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12D_ArquesScott_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	64.4	0	64.4	0	Snd Lvl	64.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 12E_ArquesScott_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.4	0	65.4	0	Snd Lvl	65.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13A_CentralExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.0	0	72.0	0	Snd Lvl	72.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13B_CentralExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13C_CentralExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.6	0	71.6	0	Snd Lvl	71.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 13D_CentralExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.3	0	71.3	0	Snd Lvl	71.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 2 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14A_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.1	0	72.1	0	Snd Lvl	72.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 2 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14B_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.4	0	72.4	0	Snd Lvl	72.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 2 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14C_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.2	0	72.2	0	Snd Lvl	72.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14D_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.9	0	72.9	0	Snd Lvl	72.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14E_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.7	0	71.7	0	Snd Lvl	71.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14F_MontagueExpwy_NP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.9	0	70.9	0	Snd Lvl	70.9	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 2 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14G_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.0	0	72.0	0	Snd Lvl	72.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 2 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 14H_MontagueExpwy_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.3	0	71.3	0	Snd Lvl	71.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15A_TrimbleRd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	67.3	0	67.3	0	Snd Lvl	67.3	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 15B_TrimbleRd_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.8	0	69.8	0	Snd Lvl	69.8	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
2 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 16A_DeLaCruz_PP40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.1	0	68.1	0	Snd Lvl	68.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_PPA40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.6	0	70.6	0	Snd Lvl	70.6	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 01A_Lawrence_PPA40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.7	0	69.7	0	Snd Lvl	69.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_PPA40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.0	0	65.0	0	Snd Lvl	65.0	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 02A_PatrickHenryDr_PPA40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	63.7	0	63.7	0	Snd Lvl	63.7	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_PPA40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	70.4	0	70.4	0	Snd Lvl	70.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04F_GreatAmericaPkwy_PPA40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.5	0	69.5	0	Snd Lvl	69.5	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 3 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_PPA40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	72.4	0	72.4	0	Snd Lvl	72.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG 3 February 2021
C. Dugan TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 04G_GreatAmericaPkwy_PPA40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	With Barrier Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	71.4	0	71.4	0	Snd Lvl	71.4	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_PPA40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	69.1	0	69.1	0	Snd Lvl	69.1	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan
3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10A_TasmanDr_PPA40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	68.2	0	68.2	0	Snd Lvl	68.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_PPA40_D
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	66.2	0	66.2	0	Snd Lvl	66.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

MIG
C. Dugan

3 February 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Patrick Henry Specific Plan
RUN: 10B_TasmanDr_PPA40_EN
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	0.0	65.2	0	65.2	0	Snd Lvl	65.2	0.0	0	0.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	1	0.0	0.0	0.0
All Impacted	1	0.0	0.0	0.0
All that meet NR Goal	1	0.0	0.0	0.0

APPENDIX 25.6

HEXAGON TRANSPORTATION ANALYSIS

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Patrick Henry Drive Specific Plan

Transportation Analysis

Prepared for:

MIG

April 5, 2021

Hexagon Transportation Consultants, Inc.
Hexagon Office: 4 North Second Street, Suite 400
San José, CA 95113
Phone: 408.971.6100
Hexagon Job Number: 20MH01
Client Name: MIG

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1. Introduction

This report presents the results of the transportation analysis (TA) conducted for the proposed Patrick Henry Drive Specific Plan in Santa Clara, California (see Figure 1). The Patrick Henry Drive Specific Plan encompasses approximately 73.6 gross acres in an employment-rich area of northern Santa Clara, comprising several moderate-intensity office and industrial parks accompanied by surface parking. The Plan Area is bounded by Sunnyvale and Calabazas Creek to the west, the Hetch Hetchy right-of-way to the north, Great America Parkway to the east, and Mission College to the south. The green and orange light rail lines on Tasman Drive are approximately a ten-minute walk from any portion of the Patrick Henry focus area, and VTA bus service is also available on Great America Parkway.

The Patrick Henry Drive Specific Plan would transform this industrial area into a high-density, mixed-use residential community supported by walkable streets and a range of neighborhood-serving amenities, including parks, trails, ground-floor retail, and new community spaces. This traffic analysis evaluates two development scenarios. In the first scenario, the Plan Area would include approximately 12,000 residential units and 310,000 square feet (s.f.) of non-residential uses, including 150,000 s.f. of retail space, a 45,000 s.f. library, 25,000 s.f. of community/civic uses, and 90,000 s.f. of flex space, which is assumed to be an equal mix of office space, retail space, and residential amenities. The second scenario would be the same as the first but would substitute office for high-density residential in the “High Density Flex” zone along the east edge of the Plan Area, reducing the total residential development within the Plan Area by 1,700 units and adding 785,000 s.f. of office space. Appendix A shows a summary of development by parcel within the Specific Plan area. As illustrated on Figure 2 (Draft Conceptual Land Use Plan), the highest intensity uses are anticipated within the core and along the southern border of the Plan Area, with development intensity scaling down to the west approaching the Sunnyvale border. The proposed uses would replace existing buildings totaling 995,541 s.f. including 432,216 s.f. of office space, 154,467 s.f. of research and development space, 120,900 s.f. of industrial space, a 29,400 s.f. church, a 137,075 s.f. data center, and 121,483 s.f. of vacant space.

The Specific Plan would maintain the existing roadways and vehicle connections from Great America Parkway and Tasman Drive. Slow-speed interior roadways will be added to provide emergency vehicle and resident access, and to increase the walkability of the neighborhood by breaking down large blocks and parcels. One new vehicle connection from Patrick Henry Drive to Mission College Boulevard is proposed in the Specific Plan. Two potential alignments were considered. The western alignment would be located between parcels 6 and 7, while the eastern alignment would be between parcels 7 and 10 (see Figure 2). The new roadway connection would require the consent of Mission College as it would connect to a private roadway controlled by the College. Because is it uncertain if the College will consent to this new roadway connection, the PHDSP was evaluated both with and without this new

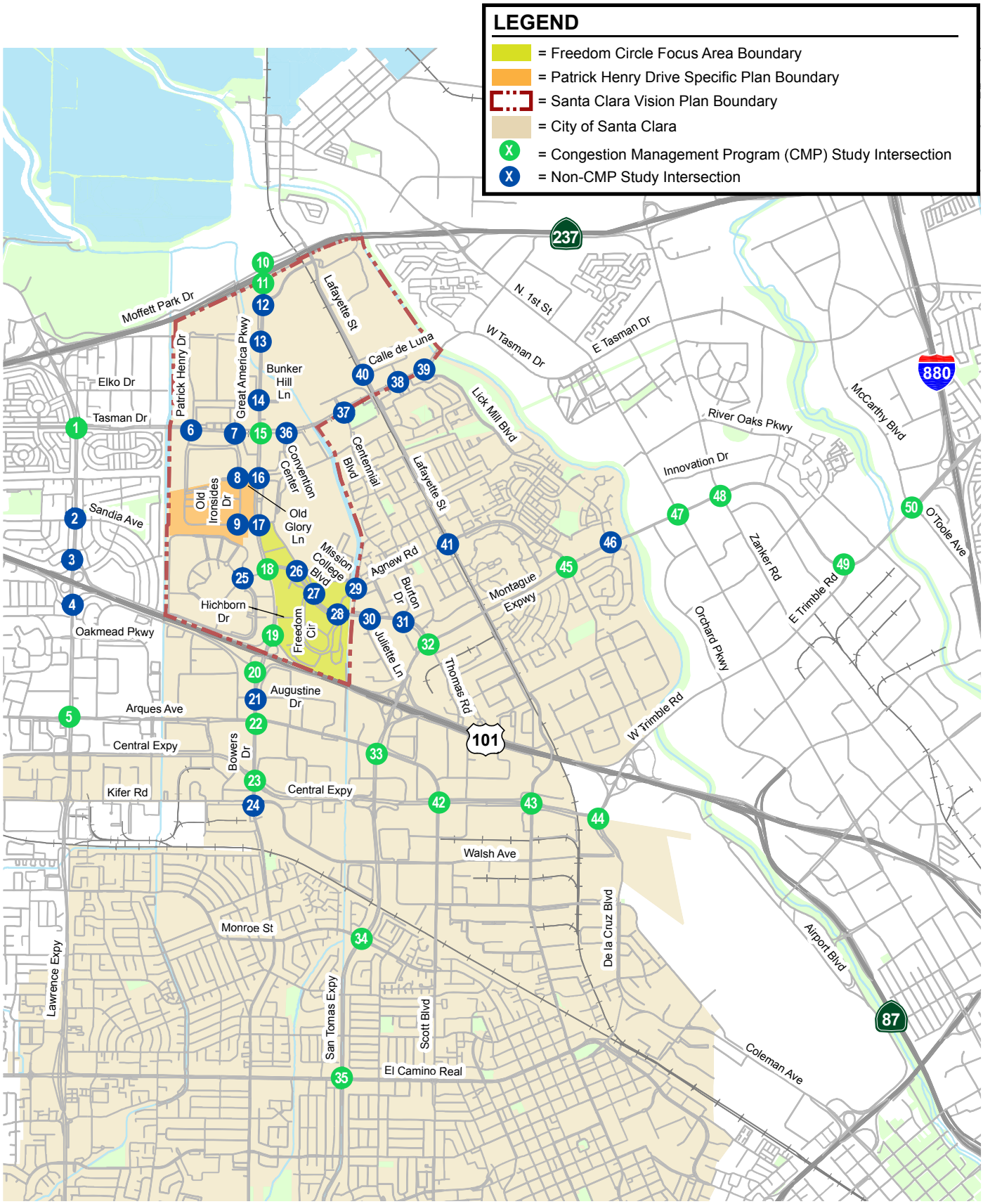


Figure 1
Study Intersections

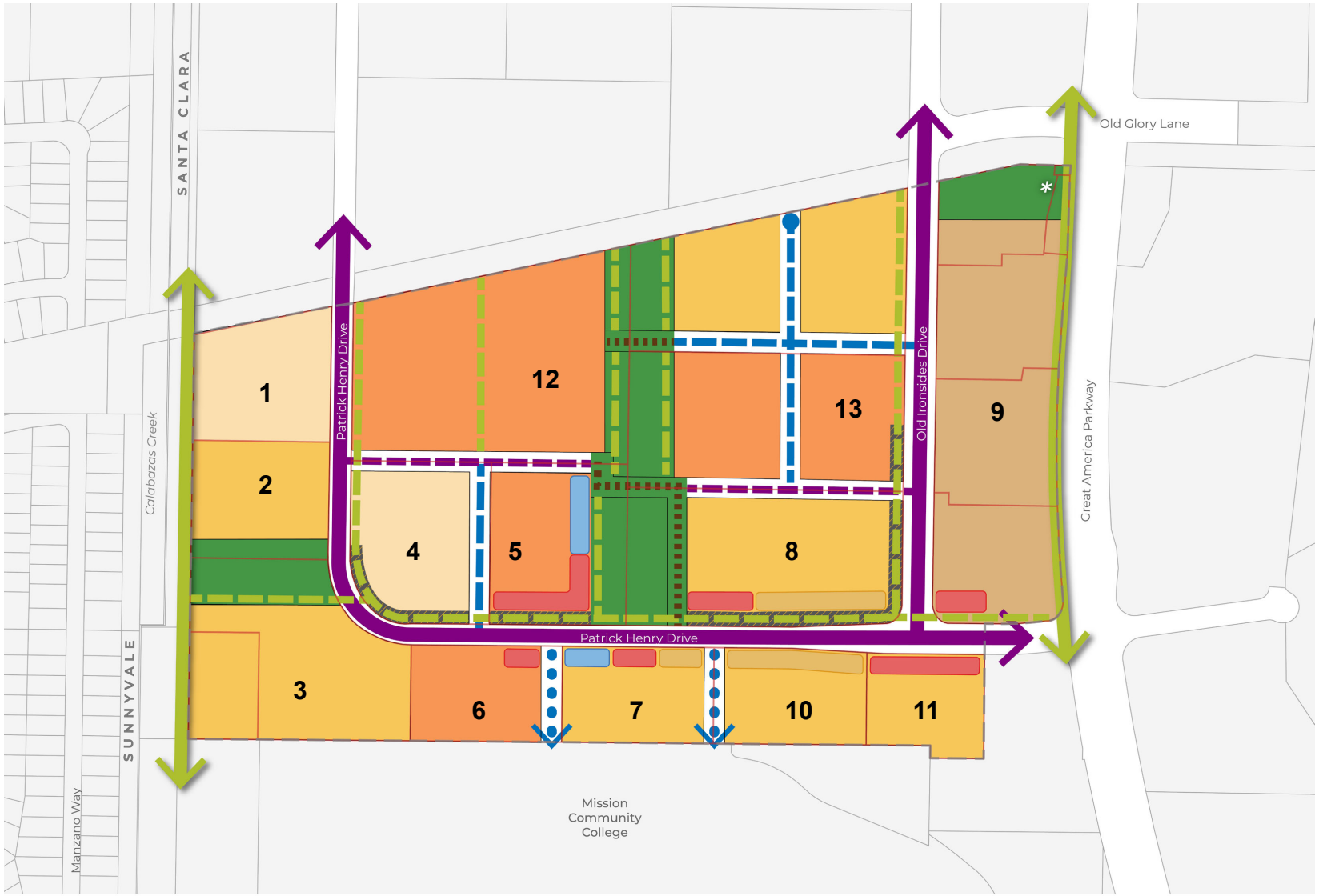


FIGURE 4.X: DEVELOPMENT FRAMEWORK

Figure 2
Draft Conceptual Land Use Plan for Patrick Henry Drive Specific Plan

roadway connection. As explained in Chapter 6, the western alignment is preferable and was assumed in this analysis.

Scope of Study

The purpose of the transportation analysis (TA) is to satisfy the requirements of the City of Santa Clara and the Congestion Management Program (CMP) of the Santa Clara Valley Transportation Authority (VTA) and the California Environmental Quality Act (CEQA).

It should be noted that this transportation analysis is based on existing conditions as of 2018/2019, prior to the recent reductions in traffic volumes and transit services associated with the current pandemic. Since the institution of shelter in place orders went into effect in March 2020 due to COVID-19, most offices and schools are closed, and people are working at home to the extent possible. As a result, current traffic volumes are a fraction of what they were prior to the virus outbreak and transit providers are operating on reduced schedules. It is not known when traffic conditions will return to pre-virus levels, but it is expected that the current reductions in traffic volumes and transit services are only temporary. Since development of the Patrick Henry Drive Specific Plan Area is anticipated to occur over a period of many years or decades, this transportation analysis is based on pre-virus conditions. Furthermore, future year traffic forecasts reflect assumptions regarding land use developments and transportation improvements developed in 2019 without any modifications to reflect the potential long-range economic effects of the current pandemic. Thus, this transportation analysis is considered to be a conservative evaluation of the project's effects since the growth in traffic volumes reflected in this report may not occur until many years after the horizon years evaluated in this report.

Vehicle Miles Traveled

In 2013, Governor Brown signed Senate Bill 743. SB 743 directed the State Office of Planning and Research (OPR) to develop new California Environmental Quality Act (CEQA) guidelines and to replace Level of Service (LOS) as the evaluation measure for transportation impacts under CEQA with another measure such as Vehicle Miles Traveled (VMT). VMT measures the amount of vehicle trip making and trip length and is a direct measurement of greenhouse gas emissions. A reduction in VMT would promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses that reduces the reliance on individual vehicles.

The City of Santa Clara recently adopted a VMT Transportation Analysis Policy for Environmental Review[1]. The Policy sets forth screening criteria that allow various types of developments such as infill developments, small projects, and/or transit supportive projects near major transit corridors to be presumed to have a less than significant impact on VMT. The Patrick Henry Drive Specific Plan would qualify as a transit supportive project since it meets the following criteria:

Proximity to Transit

Transit supportive projects must be located within ½ mile of an existing Major Transit Stop or an existing transit stop along a High-Quality Transit Corridor, as those terms are defined by Public Resources Code sections 21064.3 and 21155. A "Major Transit Stop" is defined as a site containing any of the following: (a) an existing rail or bus rapid transit station; (b) the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and

[1] City of Santa Clara, Resolution No. 20-8861, "A Resolution of the City of Santa Clara, California to Amend Resolution 5713 to Adopt a Transportation Analysis Policy to Comply with the California Environmental Quality Act Pursuant to State Senate Bill 743 (2013) and CEQA Guidelines Section 15064.3," adopted June 23, 2020.

afternoon peak commute periods; or (3) a major transit stop that is included in Plan Bay Area 2040 (Pub. Res. Code §§ 21064.3, 21155(b)). A "High-Quality Transit Corridor" is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. (Pub. Res. Code § 21155(b).

Several parcels within the PHDSP area are within ½ mile of the Old Ironsides LRT station, which meets the definition of a Major Transit Stop. In addition, VTA provides the frequent bus service via Route 57, which runs along Great America Parkway with 15-minute headways during the AM and PM peak commute periods. Thus, Great America Parkway is considered a High-Quality Transit Corridor. All of the parcels within the Plan area are within ½ mile of the nearest Route 57 bus stops on Great America Parkway at either Patrick Henry Drive or Old Glory Lane. A map showing these transit facilities and a full description of other nearby transit services are presented in Chapter 2 (see Figure 5).

Density

For office/R&D projects, transit supportive projects must have a minimum floor area ratio (FAR) of 0.75. Likewise, residential projects must have a minimum density of 35 dwelling units per acre. Residential densities within the PHDSP area are proposed to range from a minimum of 65 du/ac to a maximum of 250 du/ac. Under Option 1, a small amount of office space would be permitted as flex space in addition to proposed residential development. Under Option 2, 785,000 s.f. of office space would be built on a 9.86-acre parcel in place of the residential use assumed under Option 1. The office development on this parcel equates to an FAR of approximately 1.83. Thus, the development densities permitted within the PHDSP Area meet the minimum requirements to be considered a transit supportive project.

Multimodal Transportation Networks

The City Policy requires that transit supportive projects promote multimodal transportation networks. The PHDSP Area will provide balanced, multimodal internal circulation as well as easy access to nearby destinations and transit stations. The Plan includes the following policies that support safe, active, and sustainable travel options for residents and visitors:

- Prioritize the comfort and safety for pedestrians and cyclists
- Retrofit the right-of-way to accommodate all travel modes including walking, cycling, driving, micro-mobility, and transit
- Support access to transit stops on Tasman Drive and Great America Parkway
- Improve infrastructure for pedestrians, cyclists, and micro-mobility (e.g., scooters) to mitigate the impact of urban-scale development on traffic congestion
- Improve connections to the Calabazas Creek Trail and other trails and greenways
- Design flexible street environments that allow for innovative transit and ride-share options (e.g., jitneys) as well as emerging technology (e.g., autonomous vehicles)
- Use Transportation Demand Management (TDM) strategies in partnership with area employers and property owners to minimize vehicle miles traveled
- Limit vehicle parking spaces for residences and businesses, and
- Reduce carbon emissions from transportation.

Transit-Oriented Design Elements

Transit supportive projects must include transit-oriented design elements. The PHDSP will include design guidelines and standards to ensure a pedestrian-oriented, mixed-use residential neighborhood that is walkable with convenient connections to high-quality transit. The following urban design principles will ensure the PHD Specific Plan Area is a transit-oriented development:

- Create a human-scaled public realm with a distinctly urban feel
- Enliven the street environment and create multi-use activity nodes

- Prioritize the safety and comfort of pedestrians of all ages and abilities
- Create a fine-grained network of pedestrian paths
- Use landscaping to create a comfortable pedestrian realm and contribute color and depth
- Use signage appropriate in scale and orientation to the primary audience: pedestrians versus motorists

Parking

Transit supportive projects may not include more parking for use by residents, customers, or employees of the project than required by the City Code. No development applications have been submitted for projects within the PHDSP area, thus the proposed on-site parking supply is unknown. The PHDSP does not require parking at a higher rate than the code requirements in effect in other areas. Thus, it is assumed that future developments within the PHDSP Area will not include excess parking and would qualify as transit supportive under this metric. Moving forward, development proposals will undergo review upon submittal and any applications that propose excess parking would not qualify as transit supportive and would be required to evaluate their potential impacts on VMT.

Affordable Housing

Affordable housing has been shown to generate fewer vehicle miles traveled per capita than market rate housing. Accordingly, the City's VMT Policy states that transit supportive projects must not replace affordable residential units with a smaller number of affordable units, and any replacement units must be at the same level of affordability. Currently, the PHDSP Area does not contain any residential dwelling units. The PHDSP will require 15 percent of the proposed new residential dwelling units be affordable to those earning less than 80 percent of the Area Median Income (AMI). Therefore, the project would add new affordable dwelling units and not result in a loss of affordable units.

Findings

Per the State's guidance and the City's VMT Policy, the Patrick Henry Drive Specific Plan qualifies as a transit supportive project and is presumed to have a less than significant impact on VMT.

Local Transportation Analysis

Although the Patrick Henry Drive Specific Plan does not require a VMT analysis, the City still requires all projects to measure intersection efficiency (LOS) as part of an operational analysis and to provide improvements or address project related operational deficiencies. Thus, this report contains a local transportation analysis to evaluate the project's consistency with the level of service standards set forth in the City's General Plan and to identify feasible improvements to remedy any deficiencies.

The study area was determined using the City of Santa Clara's (CSC) travel demand forecast model. The study analyzes the effects of the project on the key intersections, freeway segments, and freeway ramps in the study area during the weekday AM and PM peak hours of traffic. Locally, the AM peak hour of traffic is usually between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday.

The Santa Clara County VTA CMP guidelines require that the CMP freeway segments be evaluated to determine the impact of added traffic for projects that generate trips equal to or greater than one percent of the freeway segment's capacity. Implementation of the Specific Plan is expected to generate added traffic volume on multiple freeway segments along US 101, SR 237, and SR 87. The traffic analysis also includes a capacity analysis for 16 freeway ramps.

Study Intersections

Fifty study intersections were selected in accordance with VTA's *Transportation Impact Analysis Guidelines* (October 2014) and in consultation with Santa Clara staff. The study includes those intersections that provide primary access to the project areas and intersections that would experience a substantial increase in traffic volumes. The study intersections are listed below and shown on Figure 1. Twenty-two study intersections are designated as CMP intersections. Five of the study intersections are located in the City of Sunnyvale, six of the study intersections are located in the City of San José, and the remaining intersections are in Santa Clara. All study intersections were evaluated against the standards of the applicable municipality, while the CMP intersections also were evaluated against the standards of the Santa Clara County CMP.

1. Lawrence Expressway and Tasman Drive (CMP) [Sunnyvale]
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive [Sunnyvale]
3. Lawrence Expressway and US 101 Northbound Ramps [Sunnyvale]
4. Lawrence Expressway and US 101 Southbound Ramps [Sunnyvale]
5. Lawrence Expressway and E. Arques Avenue (CMP) [Sunnyvale]
6. Patrick Henry Drive and Tasman Drive
7. Old Ironsides Drive and Tasman Drive
8. Old Ironsides Drive and Old Glory Lane (Unsignalized)
9. Old Ironsides Drive and Patrick Henry Drive (Unsignalized)
10. Great America Parkway and SR 237 Westbound Ramps (CMP) [San José]
11. Great America Parkway and SR 237 Eastbound Ramps (CMP) [San José]
12. Great America Parkway and Great America Way
13. Great America Parkway and Old Mountain View-Alviso Road
14. Great America Parkway and Bunker Hill Lane
15. Great America Parkway and Tasman Drive (CMP)
16. Great America Parkway and Old Glory Lane
17. Great America Parkway and Patrick Henry Drive
18. Great America Parkway and Mission College Boulevard (CMP)
19. Great America Pkwy/Bowers Ave and US 101 Northbound Off Ramp (CMP)
20. Bowers Avenue and US 101 Southbound Off Ramp (CMP)
21. Bowers Avenue and Augustine Drive
22. Bowers Avenue and Scott Boulevard (CMP)
23. Bowers Avenue and Central Expressway (CMP)
24. Bowers Avenue and Kifer Road/Walsh Avenue
25. Mission College Boulevard Loop and Mission College Boulevard
26. Marriott Driveway and Mission College Boulevard
27. Freedom Circle Drive (W) and Mission College Boulevard
28. Agnew Road/Freedom Circle Drive (E) and Mission College Boulevard
29. Great America employee entrance and Agnew Road
30. Juliette Lane and Mission College Boulevard
31. Burton Drive and Mission College Boulevard
32. Mission College Boulevard and Montague Expressway (CMP)
33. San Tomas Expressway and Scott Boulevard (CMP)
34. San Tomas Expressway and Monroe Street (CMP)
35. San Tomas Expressway and El Camino Real (CMP)
36. Convention Center and Tasman Drive
37. Centennial Boulevard and Tasman Drive
38. Calle Del Sol and Tasman Drive
39. Lick Mill Boulevard and Tasman Drive
40. Lafayette Street and Calle De Luna

41. Lafayette Street and Agnew Road
42. Scott Street and Central Expressway (CMP)
43. Lafayette Street and Central Expressway (CMP)
44. De la Cruz Boulevard and Central Expressway (CMP)
45. Agnew Road/De La Cruz Boulevard and Montague Expressway (CMP)
46. Lick Mill Boulevard and Montague Expressway
47. N. 1st Street and Montague Expressway (CMP) [San José]
48. Zanker Road and Montague Expressway (CMP) [San José]
49. Trimble Road and Montague Expressway (CMP) [San José]
50. McCarthy Boulevard/O'Toole Avenue and Montague Expressway (CMP) [San José]

Freeway Segments

- US 101 between McKee Road and Embarcadero Road
- SR 237 between I-880 and El Camino Real
- SR 87 between I-280 and US 101

Study Freeway Ramps

US 101 and Great America Parkway Interchange

- Northbound On-Ramp from Southbound Great America Parkway
- Southbound On-Ramp from Southbound Great America Parkway
- Northbound Off-Ramp to Great America Parkway
- Southbound Off-Ramp to Great America Parkway

SR 237 and Great America Parkway Interchange

- Eastbound On-Ramp from Great America Parkway
- Westbound On-Ramp from Great America Parkway
- Eastbound Off-Ramp to Great America Parkway
- Westbound Off-Ramp to Great America Parkway

US 101 and Lawrence Expressway Interchange

- Northbound On-Ramp from Southbound Lawrence Expressway
- Southbound On-Ramp from Southbound Lawrence Expressway
- Northbound Off-Ramp to Lawrence Expressway
- Southbound Off-Ramp to Lawrence Expressway

SR 237 and Lawrence Expressway Interchange

- Eastbound On-Ramp from Northbound Lawrence Expressway
- Westbound On-Ramp from Northbound Lawrence Expressway
- Eastbound Off-Ramp to Southbound Lawrence Expressway
- Westbound Off-Ramp to Southbound Lawrence Expressway

Other Transportation Issues

The study includes an evaluation of the project's impacts on transit services and pedestrian and bicycle facilities, and a review of internal vehicular circulation, hazards, and emergency access. In addition, vehicle queuing was evaluated at selected locations where the Plan Area would add a significant number of left-turning vehicles. Lastly, a signal warrant analysis was conducted for the unsignalized study intersections.

Traffic conditions at the study intersections were evaluated for the following scenarios:

- ***Existing Conditions.*** Existing AM and PM peak-hour traffic volumes were obtained from new turning-movement counts conducted in May 2019, previously completed traffic studies, and the latest available CMP database.
- ***Background (Year 2030) Conditions*****.** Background traffic volumes were developed using the CSC travel demand forecasting model. In most locations, the model reflects anticipated growth according to ABAG 2030 land use projections. In the vicinity of the Plan Area, the model assumes completion of City Place Phases 1-3 and buildout of the Tasman East Specific Plan. The existing land uses are assumed to remain unchanged within the Patrick Henry Specific Plan Area. The analysis reflects planned transportation improvements anticipated to occur by the Year 2030. Intersection levels of service under background conditions were evaluated using the City methodology.
- ***Background Plus Project Conditions.*** The Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* and the CSC travel demand forecasting model were used to develop traffic forecasts for background plus project conditions under two development scenarios. Intersection level of service calculations were conducted to evaluate background plus project traffic conditions during the AM and PM peak hours. Adverse effects on intersection levels of service associated with the buildout of the Plan Area were evaluated relative to background conditions.
- ***Cumulative (Year 2040) No Project Conditions.*** Cumulative no project traffic volumes were developed using the CSC travel demand model. Cumulative conditions reflect future development and planned transportation improvements anticipated to occur by the year 2040. The model land use assumptions reflect ABAG land uses in most locations. Within the vicinity of the Plan Area, the model assumes buildout of City Place, buildout of the proposed Kylli project and the Freedom Circle Focus Area as well as development of an additional 1,500 dwelling units per a proposed Amendment to the Tasman East Specific Plan. Cumulative no project conditions assume no growth within the Patrick Henry Drive Specific Plan Area. Intersection level of service calculations under cumulative no project conditions were evaluated using the City methodology.
- ***Cumulative Plus Project Conditions.*** Cumulative plus project traffic volumes were developed using ITE trip rates and the CSC travel demand model and reflect trips generated by buildout of the Patrick Henry Drive Specific Plan under two development scenarios. Intersection levels of service under cumulative plus project conditions were evaluated using the City methodology.

Methodology

This section presents the methods used to determine traffic conditions on study roadways and effects on traffic operations caused by the project. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, the City of Santa Clara, City of San José, City of Sunnyvale, the CMP, and field observations. The following data were collected from these sources:

- Existing traffic volumes,
- Lane geometries,
- Signal timing and phasing, and
- Lists of approved and pending developments.

Intersection Level of Service Methodologies and Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

Signalized Intersections

The Cities of Santa Clara, San José, and Sunnyvale evaluate level of service at signalized intersections based on the 2000 *Highway Capacity Manual (HCM)* level of service methodology. This HCM method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. This average delay can then be correlated to a level of service. Table 1 presents the level of service definitions for signalized intersections.

This study utilizes TRAFFIX software to determine intersection levels of service based on the HCM method. Since TRAFFIX is approved by VTA as the level of service analysis software for CMP signalized intersections, the Cities of Santa Clara, San José, and Sunnyvale employ the CMP defaults values for the analysis parameters. TRAFFIX software was used to analyze intersection operations and to identify adverse effects based on the increases in critical-movement delay and the volume-to-capacity ratio (v/c) between no-project and project scenarios.

The Cities of Santa Clara, San José, and Sunnyvale have set forth LOS D as the minimum standard, except on CMP and expressway facilities within Santa Clara and roadways considered “regionally significant” within Sunnyvale, which have a standard of LOS E. Study intersections within Sunnyvale along Lawrence Expressway are considered regionally significant.

Unsignalized Intersections

The study includes the analysis of two unsignalized intersections located in the City of Santa Clara. The City of Santa Clara does not have a level of service standard for unsignalized intersections. The two unsignalized study intersections were analyzed for operational purposes.

Level of service analysis at unsignalized intersections is generally used to determine the need for modification in the type of intersection control (i.e., all-way stop or signalization). As part of the evaluation, traffic volumes and delays are evaluated to determine if the existing intersection control is appropriate.

For unsignalized intersections, the level of service is reported based on the average delay for all movements. The level of service definitions for unsignalized intersections is shown in Table 2. This study utilizes TRAFFIX software to determine intersection levels of service based on the 2000 HCM methodology for unsignalized intersections.

Table 1
Signalized Intersection Level of Service Definitions Based on Average Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though some vehicles may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000), p.10-16.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Average Delay

Level of Service	Description	Average Delay Per Vehicle (Sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p17-2.

Traffic Signal Warrant Analysis

An assessment of the need for signalization was conducted for unsignalized study intersections. For this study, the need for signalization was assessed on the basis of the peak hour volume signal warrant (Warrant #3) described in the *2014 California Manual on Uniform Traffic Control Devices* (CA MUTCD). This method provides an indication of whether traffic conditions and peak-hour traffic levels are, or would be, sufficient to justify the installation of a traffic signal. It should be noted that it is just one of the factors/warrants used to indicate whether installation of a traffic control signal is justified.

Freeway Segments

Within Santa Clara County, freeway segments are analyzed as prescribed in the Santa Clara County CMP technical guideline. The level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

$$D = V / (N*S)$$

Where:

D = density, in vehicles per mile per lane (vpmpl)

V = peak hour volume, in vehicle per hour (vph)

N = number of travel lanes

S = average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to level of service as shown in Table 3. The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from high-occupancy vehicle (HOV) lanes (otherwise known as carpool lanes). The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for segments three lanes or wider in one direction, and a capacity of 2,200 vphpl be used for segments two lanes wide in one direction. HOV lanes are specified as having a capacity of 1,650 vphpl.

Table 3
Freeway Segment Level of Service Definitions

Level of Service	Description	Density (vehicles/mile/lane)
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	11.0 or less
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	11.0 to 18.0
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	18.0 to 26.0
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	26.0 to 46.0
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	46.0 to 58.0
F	Vehicular flow breakdowns occurs. Large queues form behind breakdown points.	greater than 58.0

Source: Santa Clara County Valley Transportation Authority, Transportation Impact Analysis Guidelines, Updated March 2009 (Based on the *Highway Capacity Manual (2000), Washington, D.C.)*

Freeway Ramps

A freeway ramp analysis was performed in order to verify that the freeway ramps have sufficient capacity to serve the projected traffic volumes with the development of the Patrick Henry Drive Specific Plan Area. This analysis consisted of a volume-to-capacity ratio evaluation of the freeway ramps at the study interchanges. The ramp capacities were obtained from the *Highway Capacity Manual 2000*, and considered the free-flow speed, number of lanes on the ramp, and ramp metering.

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at study intersections where the Plan Area would add a substantial number of vehicle trips to the left-turn movements. The analysis provides a basis for estimating future left-turn pocket storage requirements at the study intersections and is presented for informational purposes only, since the City of Santa Clara has not defined a policy related to queuing. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane

λ = average # of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles for a particular left-turn movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

For signalized intersections, the 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles or a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement. Vehicle queuing at unsignalized intersections are evaluated based on the delay experienced by the turn movement.

Definition of Adverse Effects

Although measures of congestion such as delay and level of service are no longer used to identify significant impacts under CEQA, a local transportation analysis was conducted to evaluate the project's consistency with the level of service standards set forth in the City's General Plan and to identify feasible improvements to remedy any deficiencies. Deficiencies in intersection operations that meet specific criteria are labeled as an "adverse effect" of the project. Such adverse effects on intersection operations do not constitute significant impacts under CEQA.

Signalized Intersections

According to the Cities of Santa Clara, Sunnyvale, and San José, a project is said to create an adverse effect at a signalized intersection if for either peak hour, either of the following conditions occurs:

1. The level of service at the intersection drops below its respective level of service standard (LOS D or better for all San José intersections and local intersections in Santa Clara and Sunnyvale and LOS E or better for CMP and regionally significant intersections in Santa Clara and Sunnyvale) when project traffic is added, or
2. An intersection that operates below its level of service standard under no-project conditions experiences an increase in critical-movement delay of four (4) or more seconds, and an increase in critical volume-to-capacity ratio (v/c) of one percent (0.01) or more when project traffic is added.

The exception to this criterion is when the addition of project traffic reduces the amount of average control delay for critical movements, i.e., the change in average control delay for critical movements are negative. In this case, the criterion is when the project increases the critical v/c value by 0.01 or more.

Although adverse effects on intersection operations do not constitute significant impacts under CEQA, the City may require developers to implement improvements to address deficiencies in the local transportation network. Adverse effects at signalized intersections can be addressed by one of the following approaches:

- Construct or pay a fair share towards improvements to the subject intersection or proximate to the intersection to increase overall capacity (e.g., traffic signal modifications, construction of additional turn lanes), or

- Construct or pay a fair share towards improvements to the pedestrian or bicycle facilities within the intersection or proximate to the intersection, or
- Construct or pay a fair share towards improved access to transit or transit facility proximate to the intersection, or
- Implement transportation demand management (TDM) measures that will reduce the project traffic at the intersection and improve the deficiency.

Unsignalized Intersections

The City of Santa Clara has not established criteria to define adverse effects for unsignalized intersections. The determination of appropriate improvements to unsignalized intersections typically includes a qualitative and quantitative analysis of movement delay, movement traffic volumes, intersection safety, and need for signalization. For this reason, adverse effects, and the associated improvements to unsignalized intersections are frequently determined on the basis of professional judgment. Like at signalized intersections, adverse effects at unsignalized intersections do not constitute significant impacts under CEQA.

For this study, the following criteria were used to determine if the project would create an adverse effect on traffic conditions at an unsignalized intersection:

1. The addition of project traffic causes the average intersection delay to degrade to LOS E or worse, and
2. The intersection satisfies the California Manual of Uniform Traffic Control Devices (CA MUTCD) peak-hour volume signal warrant.

Freeway Segments and Ramps

In Santa Clara County, a development is said to create a deficiency at a CMP freeway segment if for either peak hour:

1. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under project conditions or,
2. The level of service on the freeway segment is an unacceptable LOS F under project conditions, and the number of project trips on that segment constitutes at least one percent (0.01) of capacity on that segment.

The VTA does not provide thresholds for acceptable freeway ramp operations; however, the City of Santa Clara considers ramps operating at less than their capacity (less than a volume capacity ratio of 1.00) to be acceptable. For the purpose of this study, the project is said to create a deficiency at a freeway ramp if its implementation:

1. Causes the volume-to-capacity (V/C) ratio of the freeway ramp to exceed 1.0; or
2. Increases the amount of traffic on a freeway ramp that is already exceeding its capacity by more than one percent (1%) of the ramp's capacity.

Report Organization

This report has a total of six chapters. Chapter 2 describes the existing roadway network, transit service, bicycle and pedestrian facilities, and intersection levels of service. Chapter 3 presents the intersection levels of service under background conditions with the addition of traffic from future development and planned transportation improvements anticipated to occur by the year 2030. Chapter

4 describes the method used to forecast 2030 traffic volumes with the proposed Patrick Henry Drive Specific Plan, the resulting intersection levels of service, and potential improvements recommended to address deficiencies identified under background plus project conditions both with and without the proposed new roadway connection to Mission College Boulevard. Chapter 5 presents the traffic conditions in the study area under cumulative conditions with the addition of traffic from future development and planned transportation improvements anticipated to occur by the year 2040. Cumulative conditions were evaluated both without and with the Patrick Henry Drive Specific Plan development. Cumulative plus project conditions were analyzed both with and without the proposed new roadway connection between Patrick Henry Drive and Mission College Boulevard. Chapter 6 presents the analysis of other transportation-related issues, including freeway segment analysis, freeway ramp analysis, vehicle queuing, signal warrants, internal vehicular circulation, hazards, emergency access, and impacts on bicycle, pedestrian, and transit facilities.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit services, pedestrian and bicycle facilities, and traffic operations at the study intersections. It should be noted that existing conditions presented in this chapter reflect traffic conditions in 2018/2019, prior to the recent reductions in traffic volumes and transit services associated with the current pandemic.

Existing Roadway Network

Regional access to the project area is provided via US 101 and SR 237. These roads are described below.

US 101 is an eight-lane freeway with three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction in the vicinity of the site. It extends north through San Francisco and south through Gilroy. Regional access to the project site is provided via its interchanges with Great America Parkway and Lawrence Expressway.

SR 237 is a four-lane to six-lane freeway within the vicinity of the study area that extends west to El Camino Real and east to I-880 in Milpitas. East of Mathilda Avenue, SR 237 has two mixed-flow lanes and one HOV lane in each direction. West of Mathilda Avenue, SR 237 has two mixed-flow lanes in each direction. SR 237 provides access to the study area via its interchanges at Great America Parkway and Lawrence Expressway.

Major roadways serving the Plan Area include Lawrence Expressway, Montague Expressway, Great America Parkway, Bowers Avenue, Mission College Boulevard, and Tasman Drive. Local roads serving the Plan Area include Patrick Henry Drive, Old Ironside Drive, and Old Glory Lane.

Lawrence Expressway is a north-south, eight-lane expressway with a raised median and a posted speed limit of 50 mph. It begins at Saratoga Avenue in the south, crosses through Sunnyvale, and extends northward where it transitions into Caribbean Drive at SR 237. HOV lanes are present on Lawrence Expressway between Stevens Creek Boulevard and Arques Avenue. Lawrence Expressway connects with US 101 and SR 237 via full-access freeway interchanges. Lawrence Expressway includes sidewalks along both sides on most segments and crosswalks at signalized intersections. There are no bike lanes on Lawrence Expressway, but bikes are allowed to ride on the shoulders. On-street parking is not permitted.

Montague Expressway is an east-west expressway that begins at US 101 and extends northeastward to Milpitas where it transitions into Landess Avenue at I-680. Full interchanges are located at I-680, I-880, and US 101. Montague Expressway transitions to San Tomas Expressway at US 101. West of McCarthy Boulevard, Montague Expressway has carpool lanes (also known as high-occupancy vehicle

(HOV) lanes). The HOV lane designation is in effect in both directions of travel during both the AM and PM peak commute hours. During other times, the lane is open to all users.

Central Expressway is a six-lane east-west expressway that begins at De La Cruz Boulevard and extends westward to San Antonio Road where it transitions into Alma Street in Mountain View. East of San Tomas Expressway, Central Expressway has HOV lanes. It has a posted speed limit of 50 miles per hour (mph).

Great America Parkway is a north-south thoroughfare that begins at US 101 and extends northward to SR 237. Full interchanges are located at both US 101 and SR 237. Great America Parkway is primarily a six-lane roadway with a raised median and a posted speed limit of 40 mph. There is an additional northbound lane between Tasman Drive and US 101. Bike lanes are present along both directions of the roadway and on-street parking is not permitted. There are sidewalks on both sides of the street for the whole length of the roadway. Great America Parkway serves the east boundary of the Patrick Henry Drive Specific Plan Area and provides access to and from the project site via its intersections with Patrick Henry Drive and Old Glory Lane.

Bowers Avenue is a six-lane north-south street north of Kifer Road, and a four-lane street south of Kifer Road. It transitions from Great America Parkway north of US 101 and extends southerly to El Camino Real, where it transitions to Kiely Boulevard. Bowers Avenue has a speed limit of 35 mph. Bike lanes exist along most of Bowers Avenue except between Central Expressway and Kifer Road.

Tasman Drive is an east-west, two-lane to four-lane roadway with a posted speed limit of 40 mph in the project vicinity. Tasman Drive begins at Morse Avenue in the west and extends east past I-880 and transitions into Great Mall Parkway. The VTA Light Rail tracks are present in the middle of Tasman Drive east of Fair Oaks Avenue. Tasman Drive includes sidewalks along most segments and crosswalks at signalized intersections. Bike routes or lanes are provided, and on-street parking is prohibited within the project vicinity.

Mission College Boulevard to the west of Great America Parkway is a loop road circumnavigating Mission College and the Mercado Shopping Center. The eastern portion of Mission College Boulevard is a four-lane east-west thoroughfare, running between Great America Parkway and Montague Expressway.

Old Glory Lane serves as the primary entrance to the Great America Amusement Park east of Great America Parkway. West of Great America Parkway, Old Glory Lane is a two-lane roadway with a raised center median that connects to Old Ironsides Drive. Old Glory Lane and the Hetch Hetchy right-of-way form the northern boundary of the Plan Area.

Old Ironsides Drive is a two-lane roadway with a center two-way left-turn lane that runs between Tasman Drive and Patrick Henry Drive. Old Ironsides Drive provides direct access to and from the Plan Area. On-street parking is prohibited along Old Ironsides Drive. The speed limit on Old Ironsides Drive is 25 mph.

Patrick Henry Drive is a two-lane roadway with center two-way left-turn lane that runs between Tasman Drive and Great America Parkway. The speed limit on Patrick Henry Drive is 25 mph. On-street parking is prohibited. Between Great America Parkway and Old Ironsides Drive, sidewalks are available on both sides of Patrick Henry Drive. West of Old Ironsides Drive, Sidewalks are available on the west and south sides of the roadway and only a small section on the north side of the road. Patrick Henry Drive runs through the Plan Area and provides direct access to and from the development in the Plan Area.

Existing Pedestrian Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections (Figure 3). In the project vicinity, sidewalks and separated pedestrian walkways are provided on the following roadways:

- Both sides of Patrick Henry Drive between Great America Parkway and Old Ironsides Drive
- South and west sides of Patrick Henry Drive between Old Ironsides Drive and Democracy Way
- Both sides of Patrick Henry Drive between Democracy Way and Tasman Drive
- North side of Patrick Henry Drive for a small section west of Old Ironsides Drive
- East side of Old Ironsides Drive between Patrick Henry Drive and Tasman Drive
- West side of Old Ironsides Drive, north of Patrick Henry Drive for approximately 700 feet
- Both sides of Old Glory Lane between Great America Parkway and Old Ironsides Drive
- Both sides of Mission College Boulevard
- One or both sides of the Mission College Boulevard Loop (see Figure 3 for details)
- Both sides of Great America Parkway
- Both sides of Tasman Drive
- Both sides of Freedom Circle

Crosswalks are provided at the following intersections in the immediate vicinity of the project site:

- Old Ironsides Drive and Patrick Henry Drive
- Great America Parkway and Patrick Henry Drive
- Old Ironsides Drive and Old Glory Lane
- Great America Parkway and Old Glory Lane
- Old Ironsides Drive and Democracy Way
- Old Ironsides Drive and Tasman Drive
- Patrick Henry Drive and Tasman Drive
- Patrick Henry Drive and Democracy Way
- Midblock on Patrick Henry Drive

All of the crosswalks at the signalized study intersections include pedestrian signal heads and push buttons. However, the existing pedestrian transition at some intersections as shown on Figure 3 does not comply with Americans with Disabilities Act (ADA) guidelines.

Pedestrians are permitted to use the shared-use paths such as the Calabazas Creek Trail, which is immediately adjacent to the western edge of the Plan Area, as well as other trails described below.

Existing Bicycle Facilities

The bicycle facilities that exist in the project vicinity (see Figure 4) include multi-use trails/paths (Class I bikeway), striped bike lanes (Class II bikeway), and shared bike routes (Class III bikeway).

Class I Trail or Path is an off-street path with exclusive right-of-way for non-motorized transportation used for commuting as well as recreation.

The San Tomas Aquino Creek trail extends from Sunnyvale Baylands Park, north of SR 237, southward to San Tomas Expressway, where it connects to a bike path along the west side of San Tomas Expressway north of Cabrillo Avenue and extends southward to Homestead Road. The trail connects to bike lanes on Great America Parkway, Tasman Drive and Mission College Boulevard.

The Calabazas Creek Trail connects Mountain View-Alviso Road to Mission College and passes near Levi's Stadium. This trail can be accessed via Tasman Drive or Mission College Boulevard. A pedestrian/bike bridge connects the Calabazas Creek Trail with the John W. Christian Greenbelt near the northwestern corner of the Patrick Henry Drive Specific Plan Area.

The John W. Christian Greenbelt is a shared-use path that extends from the Calabazas Creek Trail westward into Sunnyvale to Blazingwood Drive near the Lawrence Expressway/Lakehaven Drive/Sandia Avenue intersection.

The Guadalupe River Trail is located approximately 2.0 miles east of the Plan Area. The northern segment of this trail begins at Gold Street in Alviso and connects to the SR 237 Bikeway. Continuing south, the trail passes beneath most roadways, including SR 237, US 101 and I-880 and connects to downtown San José. The trail can be accessed via the bike lanes on Tasman Drive, a pathway from Lick Mill Boulevard through Thamien Park, and from Montague Expressway.

The Baylands Park Trail is located north of the specific Plan Area and runs from the Baylands Park in Sunnyvale and tracks parallel to Hwy 237. It serves as the northern trailhead for some of the South Bay's major north to south trails including the Calabazas Creek Trail, the San Tomas Aquino Creek Trail, and the Guadalupe River Trail.

Class II Bike Lanes are lanes on roadways designated for use by bicycles with special lane markings. Within a one-mile radius of the project site, striped bike lanes are present along the following roadway segments:

- Great America Parkway, south of Great America Way (except for a small segment just north and south of Mission College Boulevard)
- Tasman Drive, east of Patrick Henry Drive and west of Calabazas Creek Trail
- Mission College Boulevard, from Montague Expressway to west of Great America Parkway at Marriott Driveway
- Mission College Boulevard Loop south of the intersection at Mission College Blvd
- Bowers Avenue, from Chromite Drive extending onto Great America Parkway
- Lafayette Street, from Gold Street Connector to Agnew Road
- Old Mountain View-Alviso/Lawrence Station Road, from Elko Drive to Great America Parkway
- Agnew Road, from San Tomas Aquino Creek Trail to Montague Expressway
- Elko Drive, from Reamwood Avenue to Lawrence Expressway
- Reamwood Avenue, from Tasman Drive to Elko Drive
- Scott Boulevard, from Monroe Street to Arques Avenue
- Lakeside Drive, from Scott Boulevard to Arques Avenue
- Oakmead Parkway, from Central Expressway to Lawrence Expressway
- Octavius Drive, from Scott Boulevard to Montgomery Drive
- Hope Drive, from Lafayette Street to Lick Mill Boulevard
- N. First Street, from Liberty Street to Charcot Avenue
- River Oaks Parkway, from Guadalupe River Trail to Montague Expressway

Class III Bike Routes are streets designated for bike travel and shared with motor vehicles. Within a one-mile radius of the project site, bike routes are present along the following roadway segments:

- Great America Way, from Great America Parkway to Lafayette Street

Bicycles are also permitted on Central Expressway, Lawrence Expressway, and Montague Expressway. However, due to high speeds and traffic volumes, the expressways are recommended for use only by bicyclists of intermediate to advanced skills.

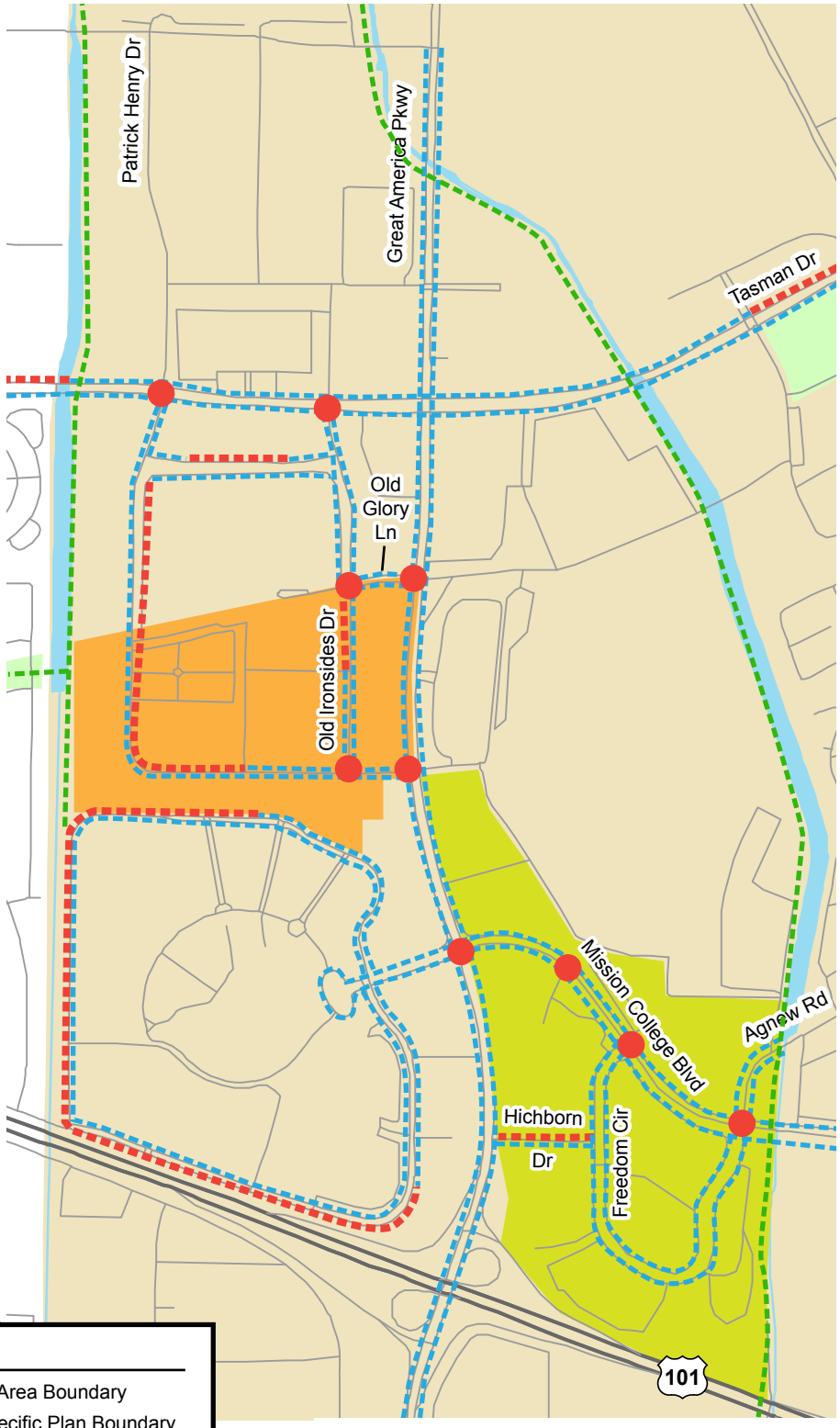


Figure 3
Existing Pedestrian Facilities

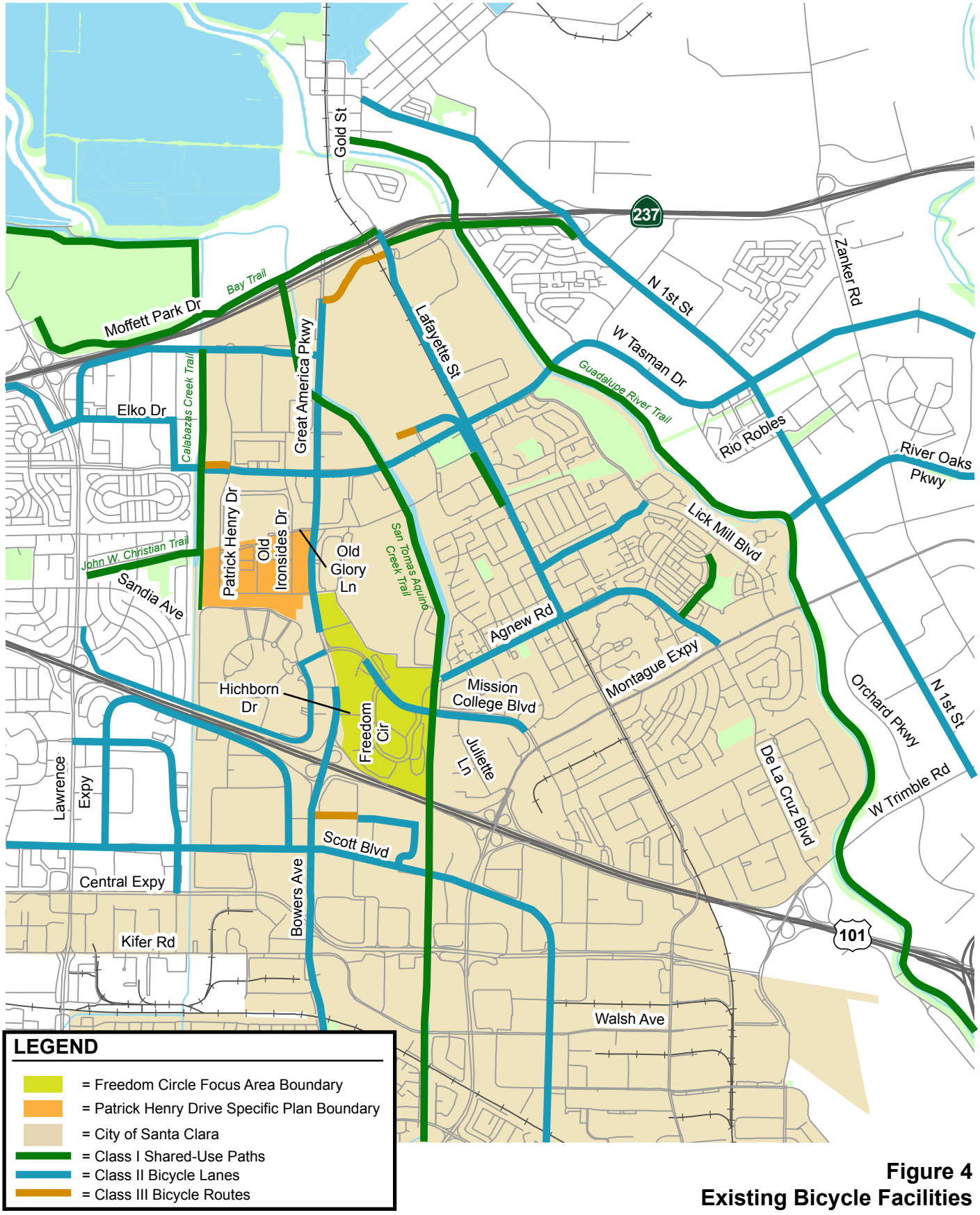


Figure 4
Existing Bicycle Facilities

NORTH
Not to Scale

Existing Transit Services

Existing transit services within the study area are provided by the VTA, the San Joaquin Regional Rail Commission (SJRRC), and the Capitol Corridor Joint Powers Authority. The following discussion of the project's accessibility via transit is based on transit service as of February 2020, prior to the temporary reductions in transit service that have been implemented in response to the COVID-19 pandemic.

The VTA provides scheduled bus and light rail transit (LRT) routes through Santa Clara County. In the vicinity of the Patrick Henry Drive Specific Plan (PHDSP) Area, VTA provides rapid and local bus services as well as LRT service. VTA bus service near the PHDSP Area is provided along Tasman Drive, Great America Parkway, Lawrence Expressway, Mission College Boulevard, and Agnew Road with the closest VTA bus stops located on Tasman Drive, Great America Parkway, and Mission College Boulevard. VTA LRT service includes the Mountain View-Alum Rock (Orange) LRT line and the Winchester-Old Ironsides (Green) LRT line, which run along Tasman Drive in the project vicinity. Old Ironsides and Great America Stations are the nearest LRT stops to the PHDSP Area.

The SJRRC manages the Altamont Corridor Express (ACE) commuter rail service between the Central Valley and Silicon Valley with a shuttle that connects the PHDSP Area to the Great America Transit Station. There are several bus stops served by ACE shuttle along Patrick Henry Drive, Old Ironsides Drive, Tasman Drive, and Great America Parkway in the immediate vicinity of the PHDSP Area. The Capitol Corridor Joint Powers Authority also operates passenger train service operated by Amtrak between San José and Sacramento and the foothills of the Sierra Nevada with stops at the Great America Transit Station.

Although not within walking distance of the PHDSP Area, commuters to the Plan Area also use Caltrain, which provides commuter rail service from San Francisco in the north through San Mateo County to Santa Clara County in the south. Commuters to the study area can access the Sunnyvale and Santa Clara Caltrain Stations, which are located approximately five miles from the PHDSP Area, via VTA bus routes or a Caltrain shuttle.

Transit services within walking distance (½ mile) of the PHDSP Area are described below and illustrated on Figure 5.

Mountain View-Alum Rock (Orange) LRT line provides service with headways of 10-20 minutes during peak hours between Mountain View station and Alum Rock station.

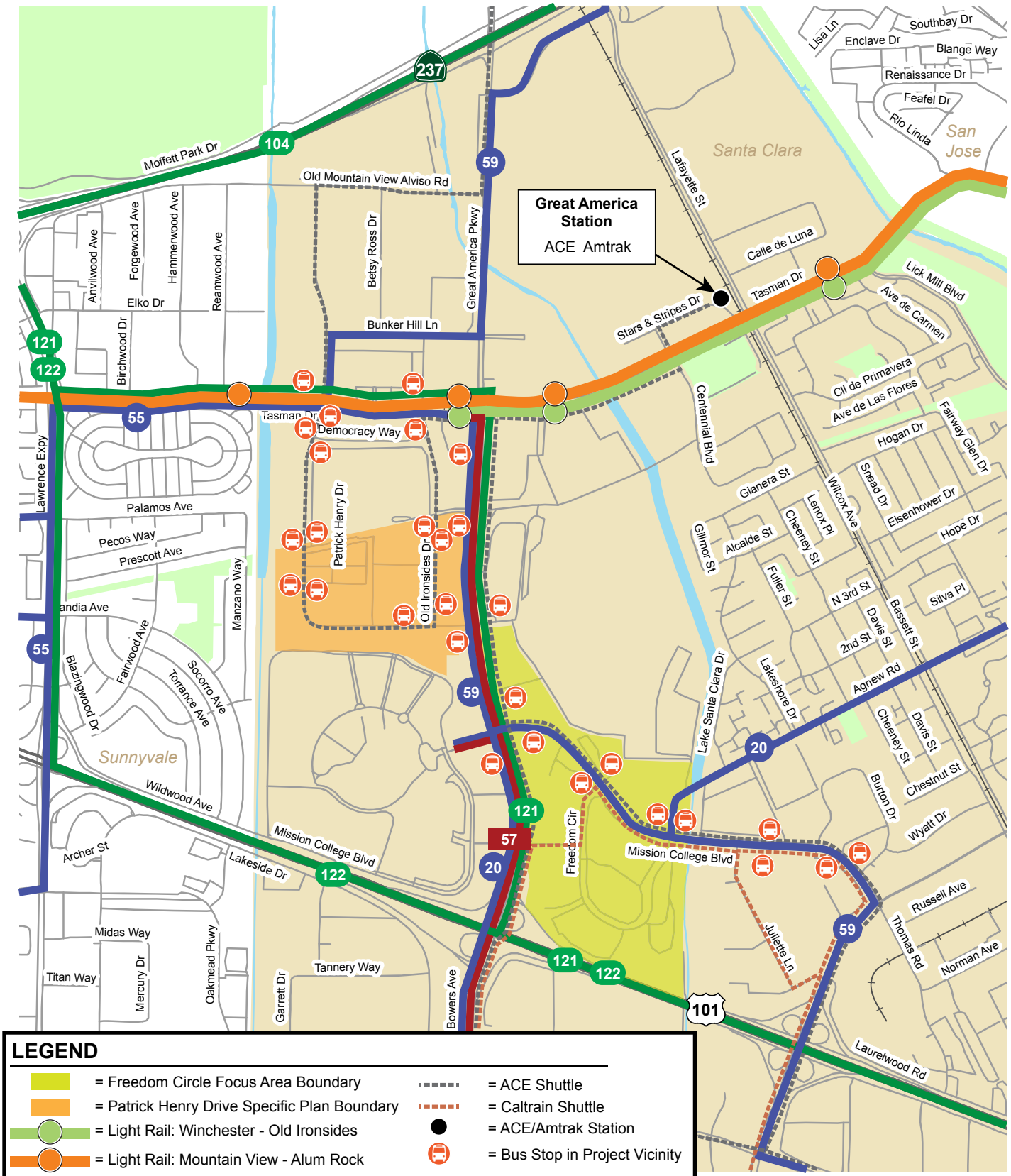
Winchester-Old Ironsides (Green) LRT line provides service with headways of 10-20 minutes during peak hours between Winchester Station and Old Ironsides Station.

VTA Route 20 is a local route, which provides service with headways of 15 minutes during peak hours and 30 minutes during non-peak hours between Milpitas BART station and Sunnyvale Transit Center via Agnew Road near the project site.

VTA Route 55 is a local route, which provides service with headways of 30 minutes between Old Ironsides Station and De Anza College via Lawrence Expressway near the project site.

VTA Route 57 is a rapid route, which provides service with headways of 15 minutes between Old Ironsides Station and West Valley College via Great America Parkway near the project site.

VTA Route 59 is a local route, which provides service with headways of 30 minutes between Valley Fair and Baypointe station via Great America Parkway near the project site.



LEGEND

- = Freedom Circle Focus Area Boundary
- = Patrick Henry Drive Specific Plan Boundary
- = Light Rail: Winchester - Old Ironsides
- = Light Rail: Mountain View - Alum Rock
- = VTA Local Bus Route
- = VTA Express Stop Bus Route
- = VTA Frequent Bus Route
- = ACE Shuttle
- = Caltrain Shuttle
- = ACE/Amtrak Station
- = Bus Stop in Project Vicinity

Figure 5
Existing Transit Services

Existing Lane Configurations and Traffic Volumes

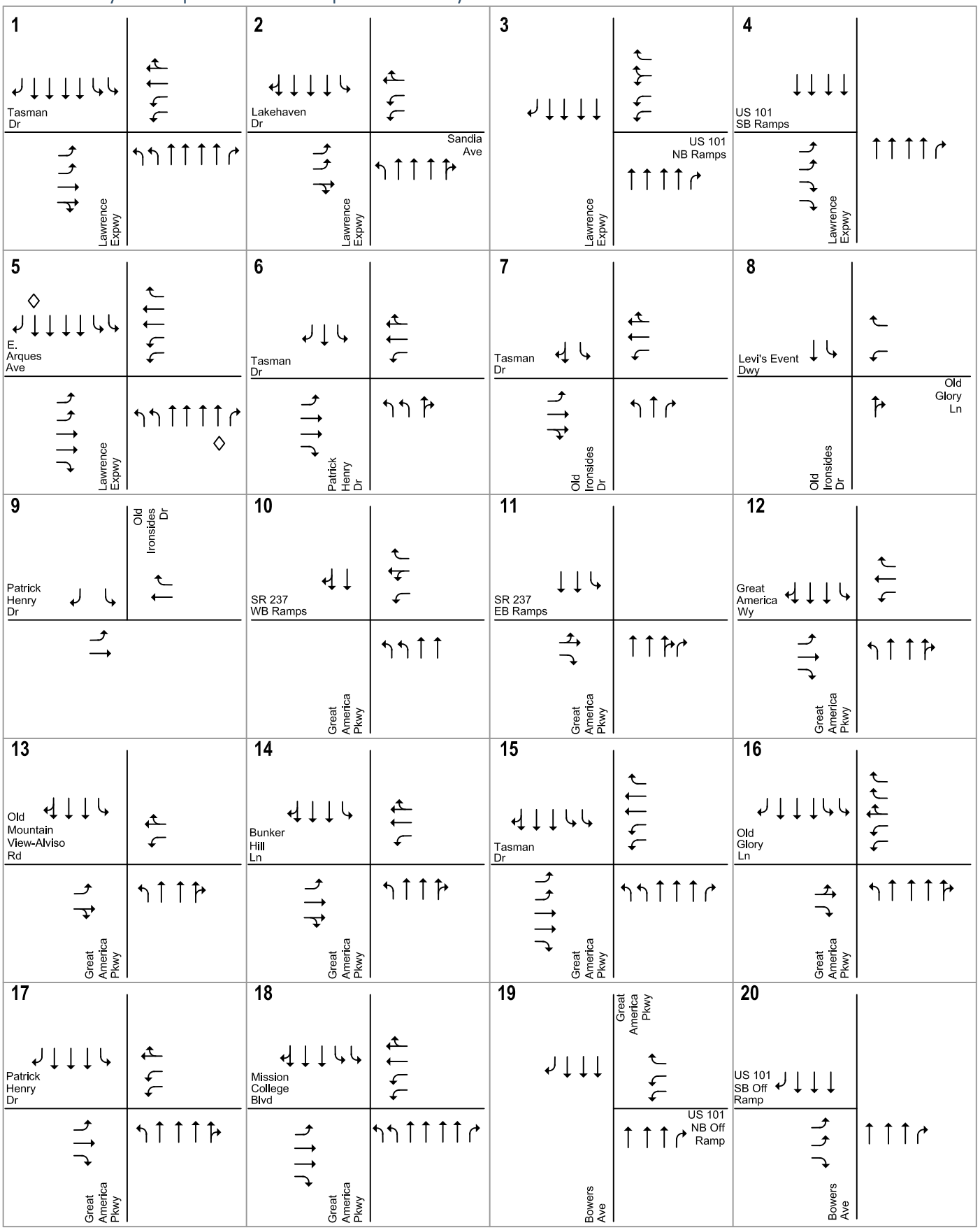
The existing lane configurations at the study intersections were obtained from field observations (see Figure 6).

Existing traffic volumes were obtained from new turning movement counts collected in May 2019, between 7:00 and 9:00 AM and between 4:00 and 6:00 PM, and previously completed traffic studies. PM peak-hour counts for CMP intersections were obtained from the latest available CMP database for the 2018 CMP Annual Monitoring Report. Traffic counts for PM peak hours at Great America Parkway and Patrick Henry Drive from 2018/2019 are lower than 2016 counts. Thus, 2020 traffic volumes were estimated by applying a 2 percent annual growth factor to 2016 PM counts at this intersection. Traffic counts from 2018/2019 are not available for Lafayette Street and Calle De Luna. Thus, 2020 traffic volumes were estimated by applying a 2 percent annual growth factor to 2014 counts. The existing peak-hour intersection volumes are shown on Figure 7. The intersection turning-movement counts conducted for this analysis are presented in Appendix B.

Existing Intersection Levels of Service

The results of the intersection level of service analysis show that most of the study intersections currently are operating at acceptable levels of service (see Table 4). The following intersections operate below the level of service standard:

- 44. De la Cruz Boulevard and Central Expressway (AM peak hour)
- 47. N. 1st Street and Montague Expressway (AM and PM peak hours)
- 50. McCarthy Boulevard/O'Toole Avenue and Montague Expressway (PM peak hour)

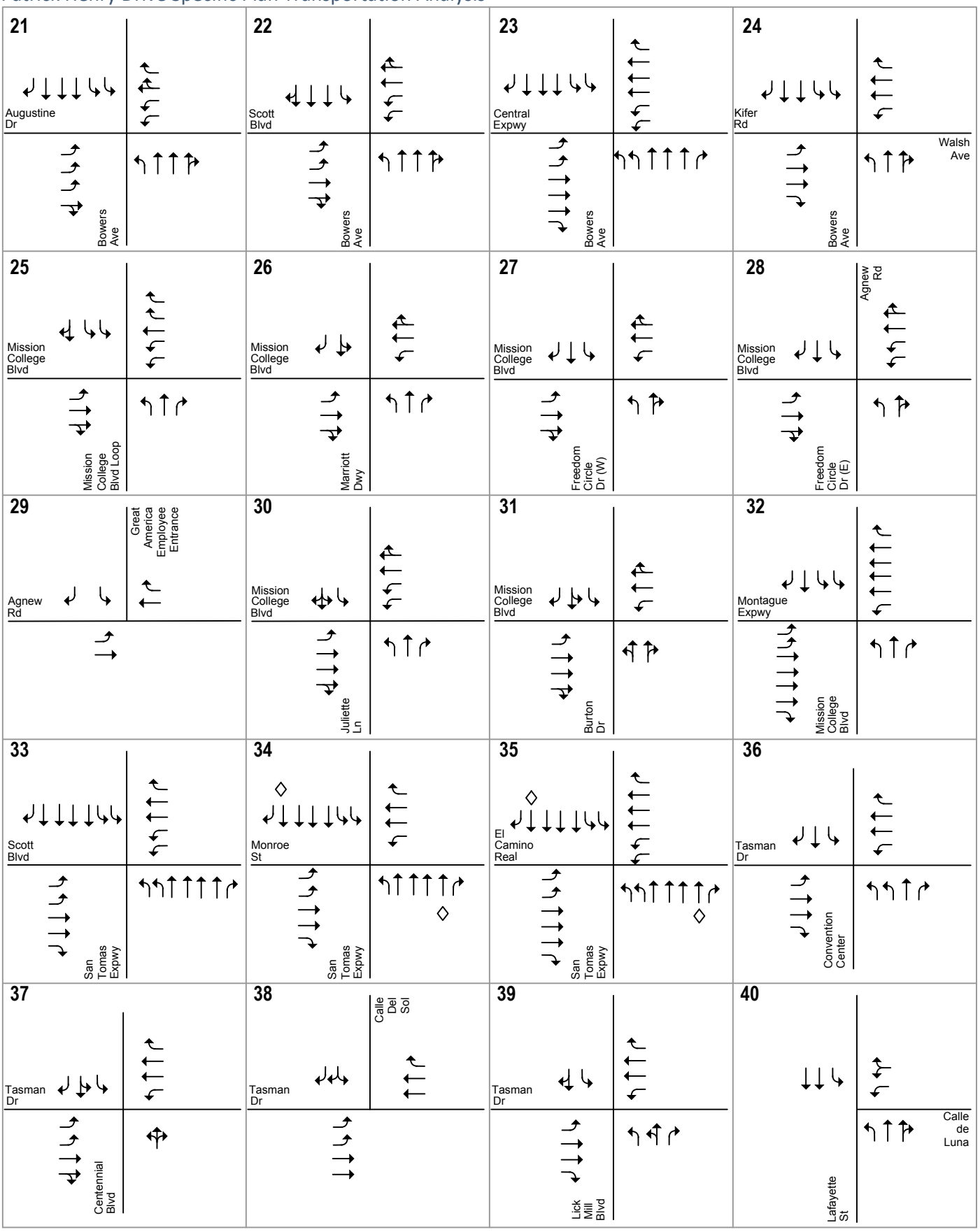


LEGEND

◇ = HOV Lane

Figure 6
Existing Lane Configurations

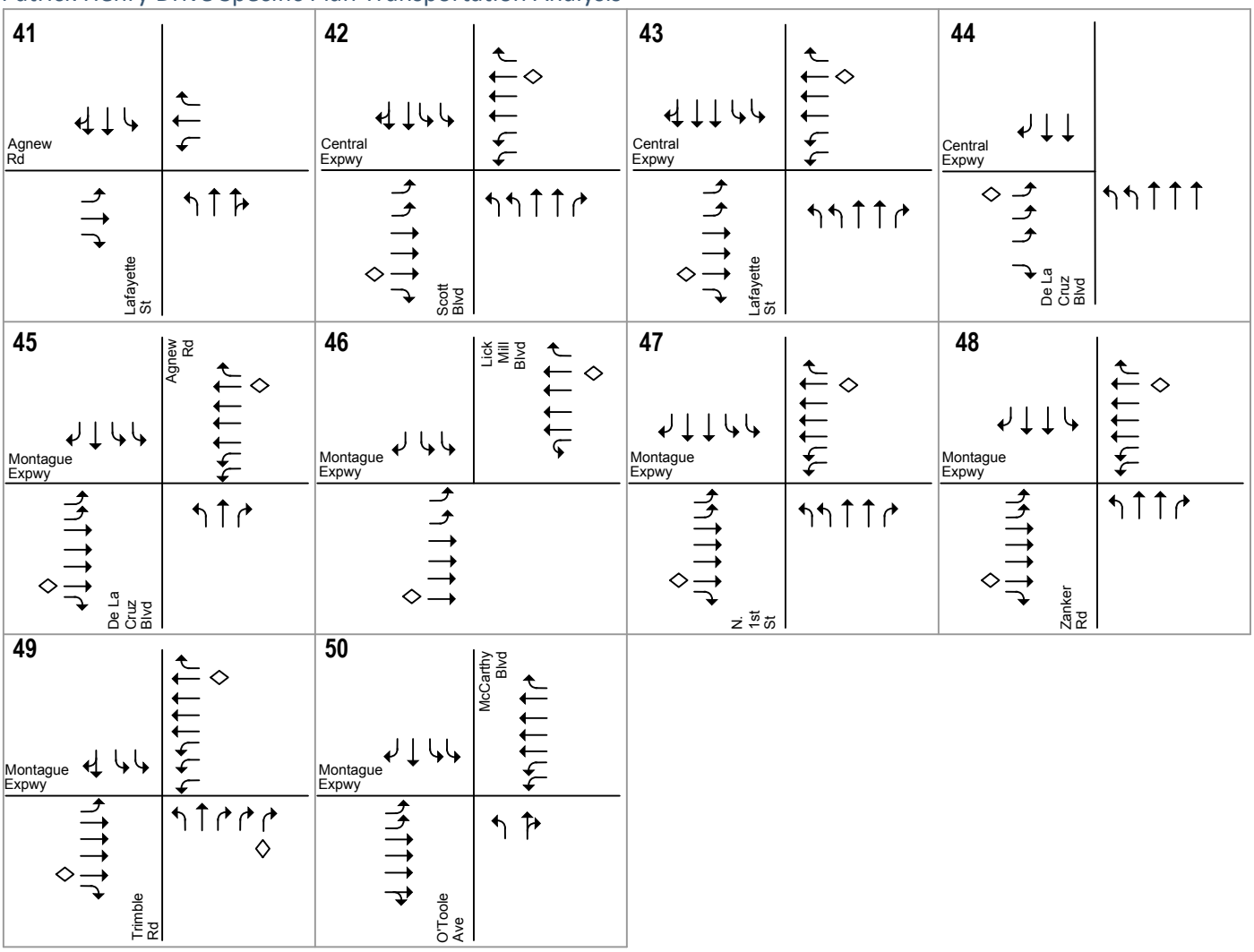
NORTH
Not to Scale



LEGEND

◇ = HOV Lane

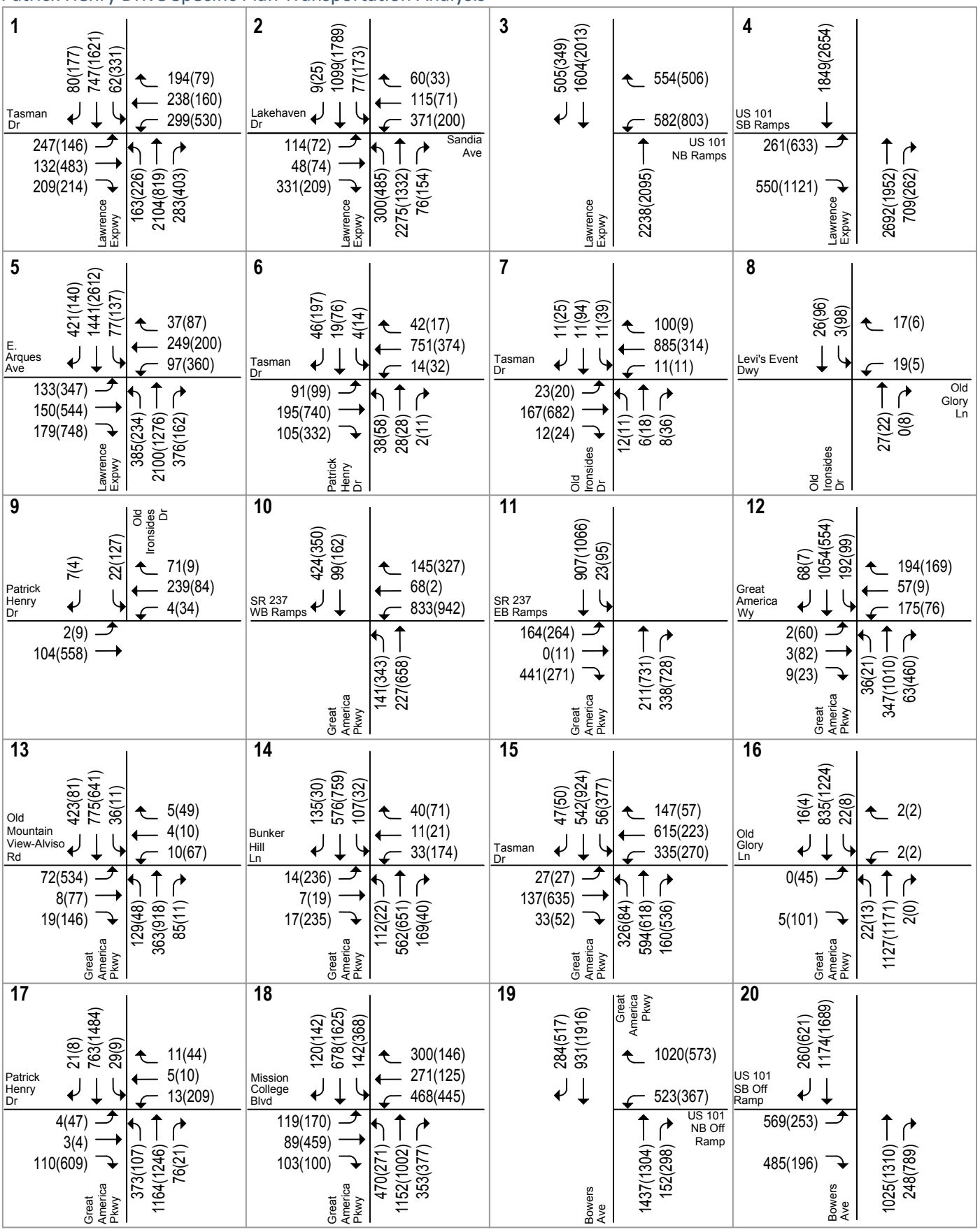
Figure 6
Existing Lane Configurations



LEGEND

◇ = HOV Lane

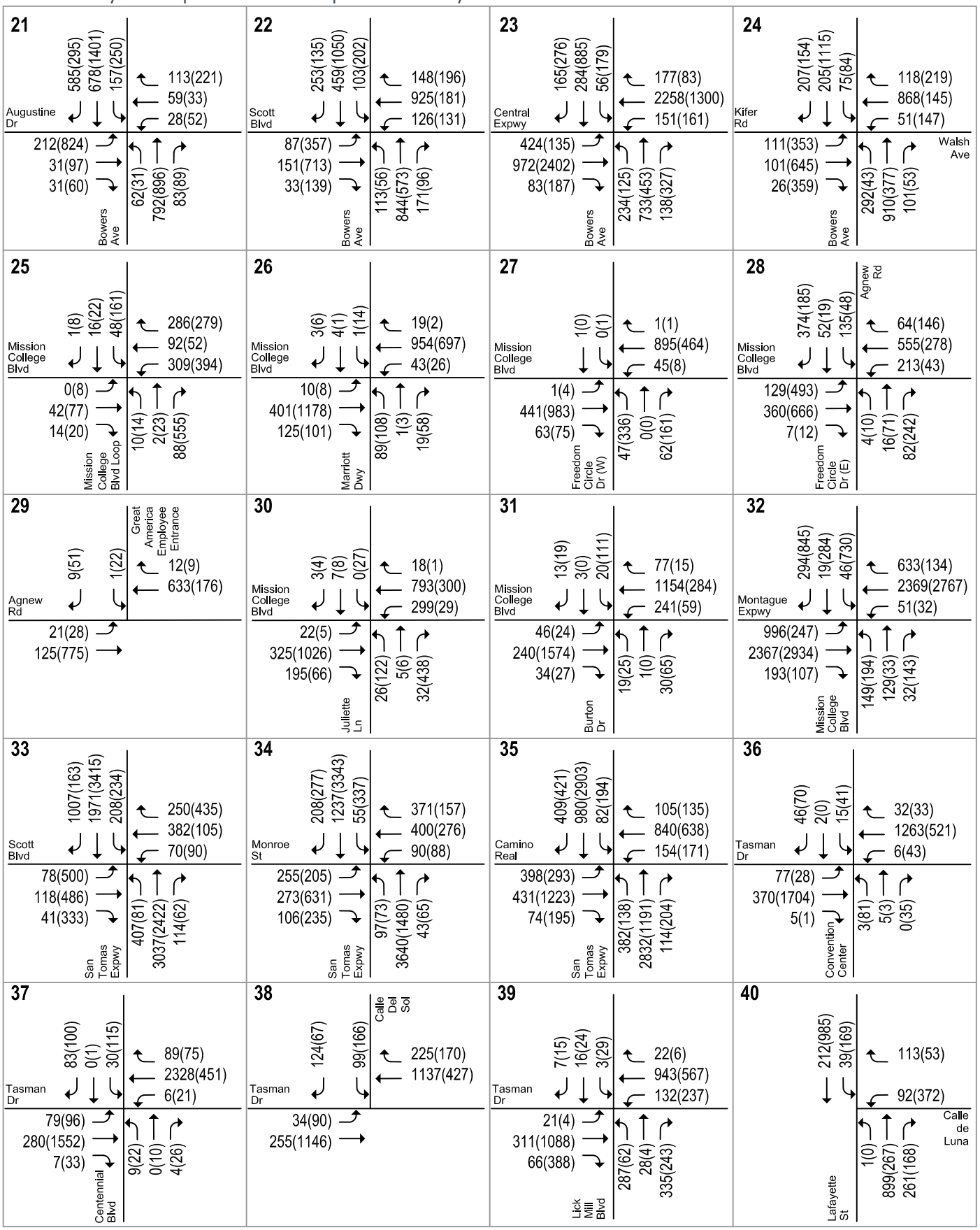
Figure 6
Existing Lane Configurations



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

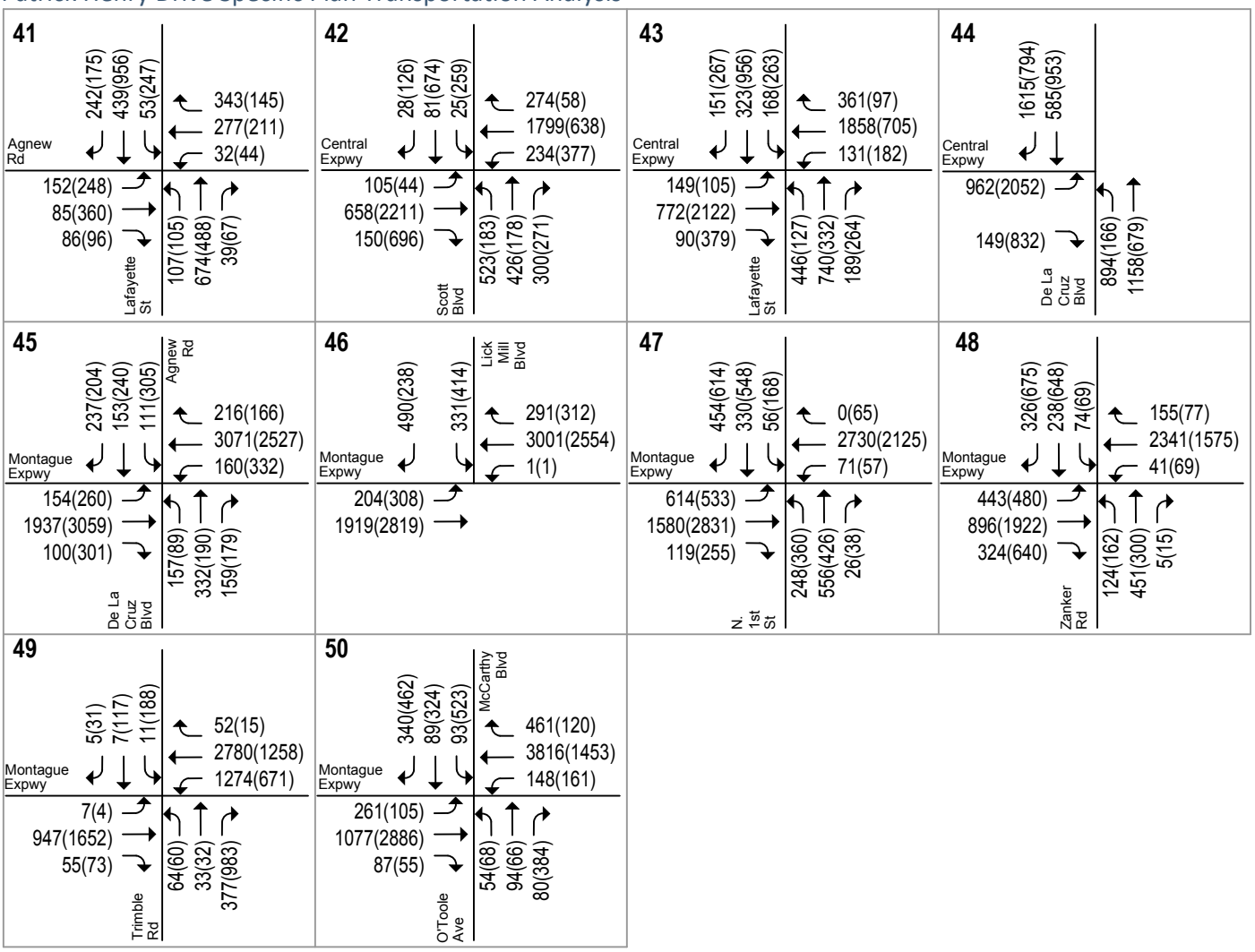
Figure 7
Existing Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 7
Existing Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 7
Existing Traffic Volumes

Table 4
Existing Intersection Levels of Service

#	Intersection	Jurisdiction	LOS Standard	Peak Hour	Count Date	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	SCC	E	AM	05/17/18	42.0	D
	(CMP)			PM	11/08/18	55.1	E
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	SCC	E	AM	05/17/18	63.4	E
				PM	05/17/18	58.3	E
3	Lawrence Expressway and US 101 NB Ramps	SCC	E	AM	05/17/18	10.0	B
				PM	05/17/18	13.8	B
4	Lawrence Expressway and US 101 SB Ramps	SCC	E	AM	05/17/18	6.6	A
				PM	05/17/18	71.5	E
5	Lawrence Expressway and E. Arques Ave.	SCC	E	AM	05/16/19	37.7	D
	(CMP)			PM	11/13/18	71.6	E
6	Patrick Henry Drive and Tasman Drive	SC	D	AM	05/10/18	17.2	B
				PM	05/10/18	17.7	B
7	Old Ironsides Drive and Tasman Drive	SC	D	AM	05/10/18	6.4	A
				PM	05/10/18	15.9	B
8	Old Ironsides Drive and Old Glory Lane	SC	D	AM	05/10/18	3.6	A
	(Unsignalized)			PM	05/10/18	3.5	A
9	Old Ironsides Drive and Patrick Henry Drive	SC	D	AM	05/10/18	0.8	A
	(Unsignalized)			PM	05/10/18	3.9	A
10	Great America Parkway and SR 237 WB Ramps	SJ	D	AM	05/10/18	15.7	B
	(CMP)			PM	11/01/18	19.0	B
11	Great America Parkway and SR 237 EB Ramps	SJ	D	AM	05/10/18	13.4	B
	(CMP)			PM	11/01/18	14.5	B
12	Great America Parkway and Great America Way	SC	D	AM	05/10/18	23.6	C
				PM	05/10/18	16.9	B
13	Great America Pkwy and Old Mt View-Alviso Rd	SC	D	AM	05/10/18	19.4	B
				PM	05/10/18	44.4	D
14	Great America Parkway and Bunker Hill Lane	SC	D	AM	05/10/18	16.9	B
				PM	05/10/18	29.8	C
15	Great America Parkway and Tasman Drive	SC	E	AM	03/07/18	42.0	D
	(CMP)			PM	11/15/18	28.4	C
16	Great America Parkway and Old Glory Lane	SC	D	AM	05/10/18	10.7	B
				PM	05/10/18	16.9	B
17	Great America Parkway and Patrick Henry Drive	SC	D	AM	05/16/19	29.6	C
				PM	01/01/20 [1]	53.6	D
18	Great America Pkwy and Mission College Blvd	SC	E	AM	03/07/18	44.8	D
	(CMP)			PM	11/15/18	42.6	D
19	Great America Pkwy and US 101 NB Off Ramp	SC	E	AM	05/16/19	11.6	B
	(CMP)			PM	11/15/18	10.0	A
20	Bowers Avenue and US 101 SB Off Ramp	SC	E	AM	05/16/19	13.2	B
	(CMP)			PM	11/15/18	7.6	A
21	Bowers Avenue and Augustine Drive	SC	D	AM	05/10/18	21.3	C
				PM	05/10/18	33.2	C
22	Bowers Avenue and Scott Boulevard	SC	E	AM	05/16/19	40.5	D
	(CMP)			PM	11/15/18	33.5	C
23	Bowers Avenue and Central Expressway	SCC	E	AM	05/16/19	56.2	E
	(CMP)			PM	11/13/18	53.8	D
24	Bowers Avenue and Kifer Road/Walsh Avenue	SC	D	AM	05/16/19	31.2	C
				PM	03/07/18	28.6	C
25	Mission College Loop and Mission College Blvd	SC	D	AM	05/16/19	12.0	B
				PM	05/16/19	25.6	C
26	Marriott Dwy and Mission College Blvd	SC	D	AM	05/16/19	11.6	B
				PM	05/16/19	11.6	B

Table 4 (Continued)
Existing Intersection Levels of Service

#	Intersection		LOS Standard	Peak Hour	Count Date	Avg Delay	LOS
27	Freedom Circle W and Mission College Blvd	SC	D	AM	05/24/18	12.3	B
				PM	05/24/18	26.2	C
28	Agnew/Freedom Circle E & Mission College Blvd	SC	D	AM	05/24/18	30.0	C
				PM	05/24/18	31.8	C
29	Great America employee entrance and Agnew Rd	SC	D	AM	05/16/19	3.9	A
				PM	05/16/19	5.2	A
30	Juliette Lane and Mission College Boulevard	SC	D	AM	05/24/18	19.8	B
				PM	05/24/18	30.6	C
31	Burton Drive and Mission College Boulevard	SC	D	AM	05/24/18	20.6	C
				PM	05/24/18	19.1	B
32	Mission College Blvd and Montague Expwy	SCC	E	AM	04/09/19	65.8	E
	(CMP)			PM	11/08/18	52.4	D
33	San Tomas Expressway and Scott Boulevard	SCC	E	AM	05/16/19	30.8	C
	(CMP)			PM	11/13/18	50.7	D
34	San Tomas Expressway and Monroe Street	SCC	E	AM	04/09/19	39.5	D
	(CMP)			PM	11/08/18	38.5	D
35	San Tomas Expressway and El Camino Real	SCC	E	AM	04/09/19	72.6	E
	(CMP)			PM	11/08/18	71.3	E
36	Convention Center and Tasman Drive	SC	D	AM	05/16/19	14.4	B
				PM	05/16/19	14.8	B
37	Centennial Boulevard and Tasman Drive	SC	D	AM	05/16/19	24.8	C
				PM	05/16/19	17.5	B
38	Calle Del Sol and Tasman Drive	SC	D	AM	05/10/18	14.6	B
				PM	05/10/18	18.3	B
39	Lick Mill Boulevard and Tasman Drive	SC	D	AM	05/10/18	27.5	C
				PM	05/10/18	24.8	C
40	Lafayette Street and Calle De Luna	SC	D	AM	01/01/20 [2]	13.1	B
				PM	01/01/20 [2]	19.3	B
41	Lafayette Street and Agnew Road	SC	D	AM	05/10/18	27.9	C
				PM	05/10/18	29.9	C
42	Scott Boulevard and Central Expressway	SCC	E	AM	05/16/19	41.8	D
	(CMP)			PM	11/13/18	64.9	E
43	Lafayette Street and Central Expressway	SCC	E	AM	04/09/19	52.4	D
	(CMP)			PM	11/13/18	53.3	D
44	De la Cruz Boulevard and Central Expressway	SCC	E	AM	04/09/19	**96.8**	**F**
	(CMP)			PM	11/13/18	32.8	C
45	Agnew Rd/De La Cruz Blvd and Montague Expwy	SCC	E	AM	05/16/19	52.3	D
	(CMP)			PM	11/08/18	48.1	D
46	Lick Mill Boulevard and Montague Expressway	SCC	E	AM	05/10/18	38.7	D
				PM	05/10/18	28.4	C
47	N. 1st Street and Montague Expressway	SCC	D	AM	05/10/18	**87.3**	**F**
	(CMP)			PM	11/08/18	**69.9**	**E**
48	Zanker Road and Montague Expressway	SCC	D	AM	05/10/18	50.2	D
	(CMP)			PM	11/08/18	50.5	D
49	Trimble Road and Montague Expressway	SCC	D	AM	05/10/18	36.3	D
	(CMP)			PM	11/08/18	46.7	D
50	McCarthy Blvd/O'Toole Av and Montague Expwy	SCC	D	AM	05/10/18	41.8	D
	(CMP)			PM	11/08/18	**82.3**	**F**

Notes:
SCC = Santa Clara County, SC = Santa Clara, SJ = San Jose, SV = Sunnyvale
Bold indicates a substandard level of service.
1. Traffic counts from 2018/2019 are lower than 2016 counts. Thus, 2020 traffic volumes were estimated by applying a 2% annual growth factor to 2016 counts.
2. Traffic counts from 2018/2019 are not available. Thus, 2020 traffic volumes were estimated by applying a 2% annual growth factor to 2014 counts.

3. Background Conditions

Background conditions reflect Year 2030 traffic conditions without the land use development and transportation network changes envisioned under the proposed Patrick Henry Drive Specific Plan. This chapter describes background improvements assumed in the Year 2030 transportation network, the procedure used to forecast background traffic volumes, and the resulting traffic conditions.

Roadway Network Under Background Conditions

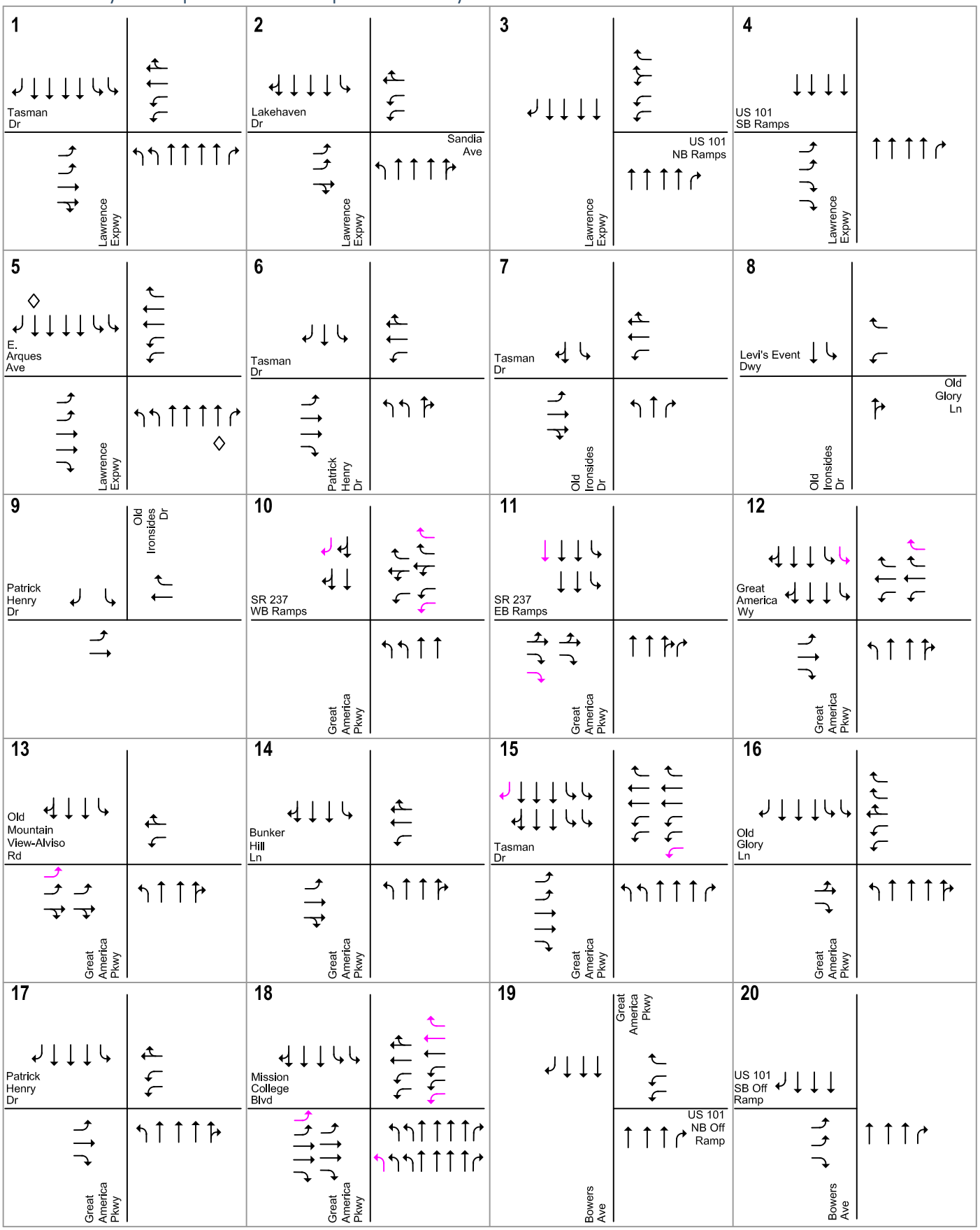
The Year 2030 forecasts produced using the CSC model reflect planned transportation improvements anticipated to occur by the Year 2030. Most notable is the planned BART extension into Silicon Valley. The base year (2018) CSC model reflects BART service that terminated at the Warm Springs/South Fremont Station. In June 2020, BART service commenced on the Phase I extension from Warm Springs to Milpitas and Berryessa/North San José. The Phase II BART extension into downtown San José and Santa Clara is assumed to be complete by 2030.

VTA light rail service also was modified at the end of 2019. While the base year (2018) model assumed that LRT service between Old Ironsides Station and Milpitas would require a transfer, the 2030 model reflects the current LRT lines. The Orange Line now offers direct LRT service with 15-minute headways from the PHDSP Area via the Old Ironsides Station to the Milpitas BART station as well as to the Moffett Park business park in Sunnyvale, Mountain View, and the Alum Rock area of San José. Similarly, the PHDSP Area will benefit from the Green Line, which provides direct LRT service with 15-minute headways from the Old Ironsides Station to downtown San José and Campbell. LRT service between the PHDSP Area and South San José would require a transfer to the Blue Line.

In addition, the 2030 model assumes the existing carpool (HOV) lanes on US 101 will be converted to express lanes. Carpools with three or more occupants will be permitted to use the express lane free of charge, while vehicles with two or fewer occupants must pay a fee to access the express lane.

The transportation network under background conditions is assumed to include the following improvements at study intersections. The intersection improvements are planned CIP projects or improvements that will be fully funded by Tasman East Specific Plan and City Place Phases 1, 2, and 3 developments. Figure 8 shows the lane configurations at the study intersections under background conditions.

10. Great America Parkway and SR 237 Westbound Ramps: restripe the southbound approach as one through/right-turn lane and one right-turn lane, add a second westbound right-turn lane and a third westbound left-turn lane and associated receiving lane under underpass.



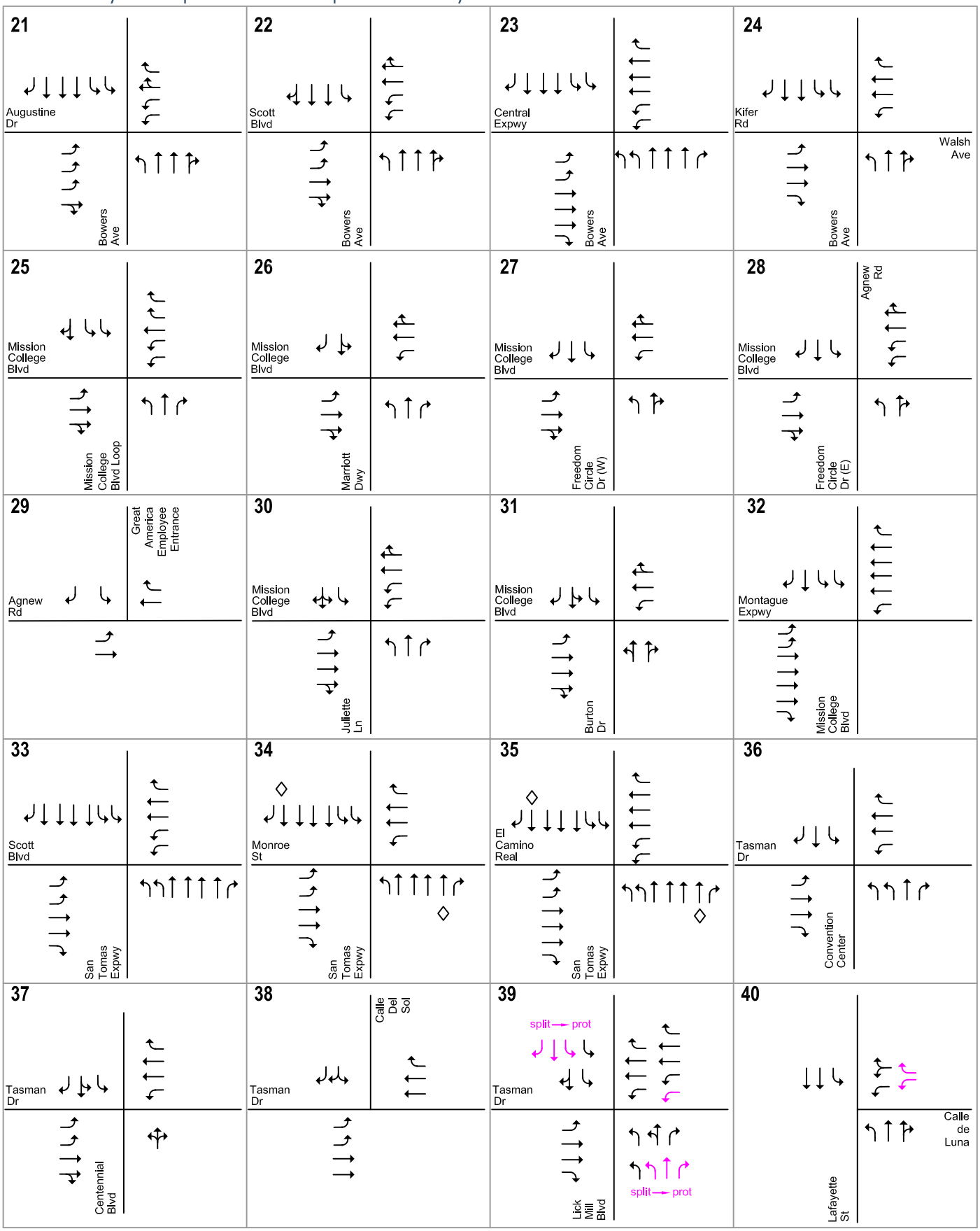
LEGEND

← = Improvement

◇ = HOV Lane

Figure 8
Background No Project Lane Configurations

NORTH
Not to Scale

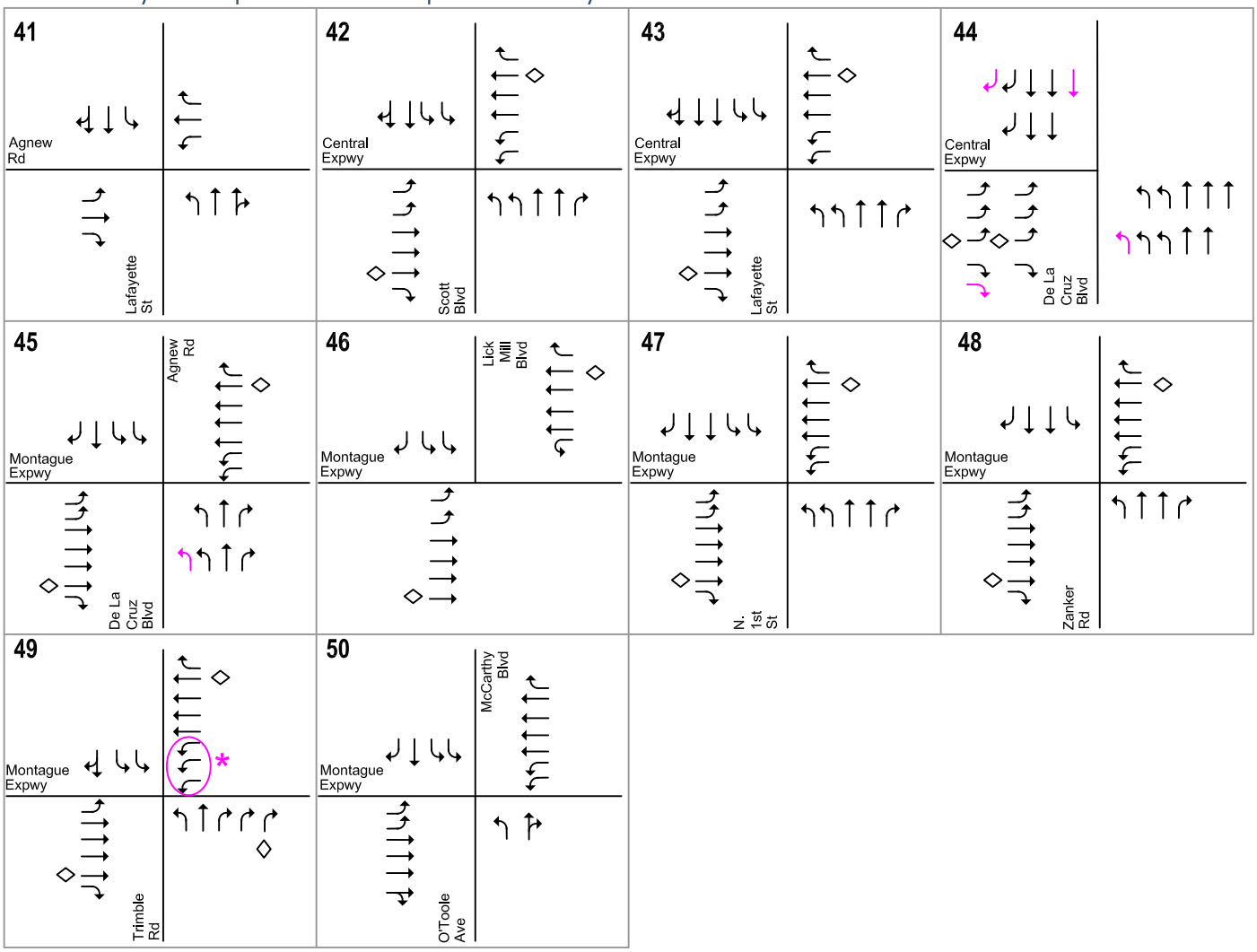


LEGEND

← = Improvement

◇ = HOV Lane

Figure 8
Background No Project Lane Configurations



* The WBL will be replaced with a new flyover to serve WBL to SB direction.

LEGEND
← = Improvement
◇ = HOV Lane

Figure 8
Background No Project Lane Configurations

11. Great America Parkway and SR 237 Eastbound Ramps: add a third southbound through lane and a second eastbound right-turn lane.

12. Great America Parkway and Great America Way: add a second westbound right-turn lane with an overlap phase and a second southbound left-turn lane.

13. Great America Parkway and Old Mountain View-Alviso Road: add a second eastbound left-turn lane.

15. Great America Parkway and Tasman Drive: add a southbound right-turn lane and a third westbound left-turn lane.

18. Great America Parkway and Mission College Boulevard: add a third northbound left-turn lane, a third westbound left-turn lane, a second eastbound left-turn lane, and a westbound right-turn pocket.

39. Lick Mill Boulevard and Tasman Drive: reconfigure northbound and southbound approaches to include two left-turn lanes, one through lane, and one right-turn lane; change the northbound/southbound phasing from split to protected phasing; add a second westbound left-turn lane.

40. Lafayette Street and Calle De Luna: restripe the westbound approach to include one left-turn lane and one right-turn lane.

44. De la Cruz Boulevard and Central Expressway: add a third southbound through lane and a second southbound right-turn lane; add a second eastbound right-turn lane; add a third northbound left-turn lane and remove one northbound through lane.

45. Agnew Road/De La Cruz Boulevard and Montague Expressway: add a second northbound left-turn lane.

49. Trimble Road and Montague Expressway: construction of a flyover to serve westbound left turn traffic from Montague Expressway to southbound Trimble Road.

Background Traffic Volumes

Background traffic volumes were developed using the CSC travel demand forecasting model. In most locations, the model reflects anticipated growth according to ABAG 2030 land use projections. In the vicinity of the Plan Area, the model assumes completion of City Place Phases 1-3 and buildout of the Tasman East Specific Plan. For consistency, the trip estimates reported in the EIR for each of these developments was hard coded into the model. The proposed Kylli development is not assumed in 2030.

While the ABAG land use data do not reflect any growth in enrollment at Mission College from 2018 to 2030, the forecasts were modified to reflect a five percent increase in enrollment by the Year 2030 based on historic data obtained from the California Community Colleges Chancellor's Office.[2]

The existing land uses are assumed to remain unchanged within the Patrick Henry Drive Specific Plan Area. The trip generation estimates for the PHDSP Area under Background (2030) conditions were developed based on the land use type and size of existing uses and account for the current vacancy rate and trip reductions for transit use. 2030 ABAG employment data for the traffic analysis zones that

[2] https://datamart.cccco.edu/Students/Enrollment_Status.aspx

represent the PHDSP Area were modified to match more closely the ITE trip estimates for the existing uses. Table 5 presents the CSC model trip estimates for the existing uses within the PHDSP Area.

Table 5
Trip Generation Estimates for Existing Uses in the PHDSP Area

		Daily			AM Peak Hour					PM Peak Hour				
				Mode		Vehicle Trips			Mode		Vehicle Trips			Mode
		Rate	Trips	Share	Rate	In	Out	Total	Share	Rate	In	Out	Total	Share
Total Project Trips [1]														
Employment[2]	2,592 jobs	2.81	**7,276**	100.0%	0.25	535	115	**650**	100.0%	0.31	221	589	**810**	100.0%
Less External Public Transit Trips			(313)	4.3%		(39)	(8)	(47)	7.2%		(13)	(35)	(48)	5.9%
External Vehicle Trips			**6,963**	95.7%		**496**	**107**	**603**	92.8%		**208**	**554**	**762**	94.1%

[1] For comparison purposes, project trip estimates listed above do not include external bike/walk trips forecast by the CSC model since ITE trip rates reflect only vehicle trips.

[2] Existing uses occupy approximately 874,000 s.f. including a mix of office, research & development, industrial, data center, and church uses (excluding vacant space). Existing employment in the CSC model was adjusted so that the CSC model trip estimates would match ITE trip generation estimates.

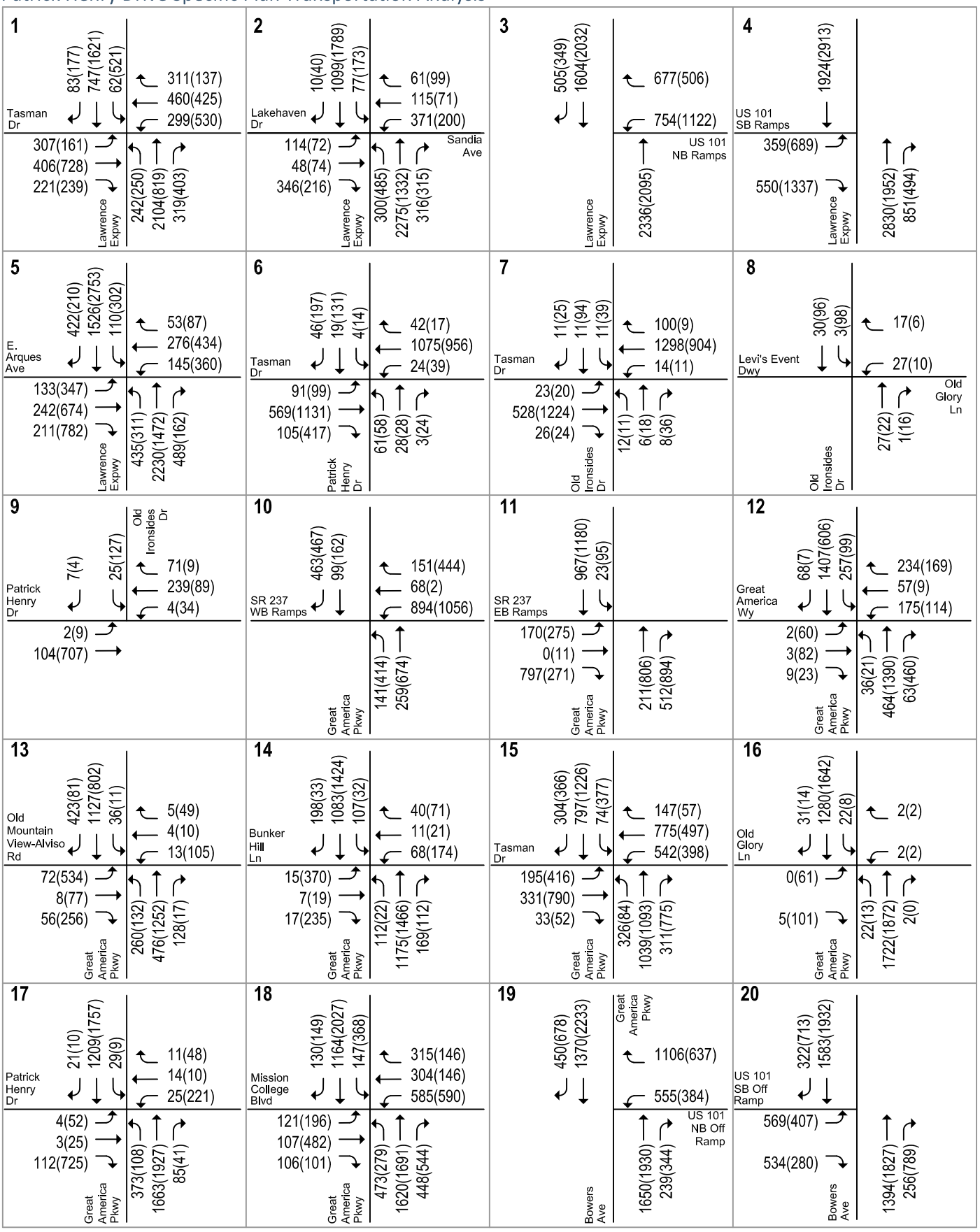
Figure 9 shows the traffic volumes at the study intersections under background conditions.

Background Intersection Levels of Service

The results of the intersection level of service analysis show that the following 14 study intersections would operate at an unacceptable level of service (LOS E or worse for any San José intersection and locally controlled Santa Clara and Sunnyvale intersections and LOS F for CMP and expressway intersections in Santa Clara and Sunnyvale) during at least one peak hour under background conditions (see Table 6).

4. Lawrence Expressway and US101 Southbound Ramps (PM peak hour)
5. Lawrence Expressway and E. Arques Avenue (PM peak hour)
17. Great America Parkway and Patrick Henry Drive (PM peak hour)
23. Bowers Avenue and Central Expressway (AM and PM peak hours)
32. Mission College Boulevard and Montague Expressway (AM peak hour)
35. San Tomas Expressway and El Camino Real (AM peak hour)
39. Lick Mill Boulevard and Tasman Drive (PM Peak Hour)
42. Scott Street and Central Expressway (PM peak hour)
44. De La Cruz Boulevard and Central Expressway (AM peak hour)
45. Agnew Road/De La Cruz Boulevard and Montague Expressway (AM and PM peak hours)
47. N. 1st Street and Montague Expressway (AM and PM peak hours)
48. Zanker Road and Montague Expressway (AM and PM Peak hours)
49. Trimble Rd and Montague Expressway (PM peak hour)
50. McCarthy Boulevard/O'Toole Avenue and Montague Expressway (AM and PM peak hours)

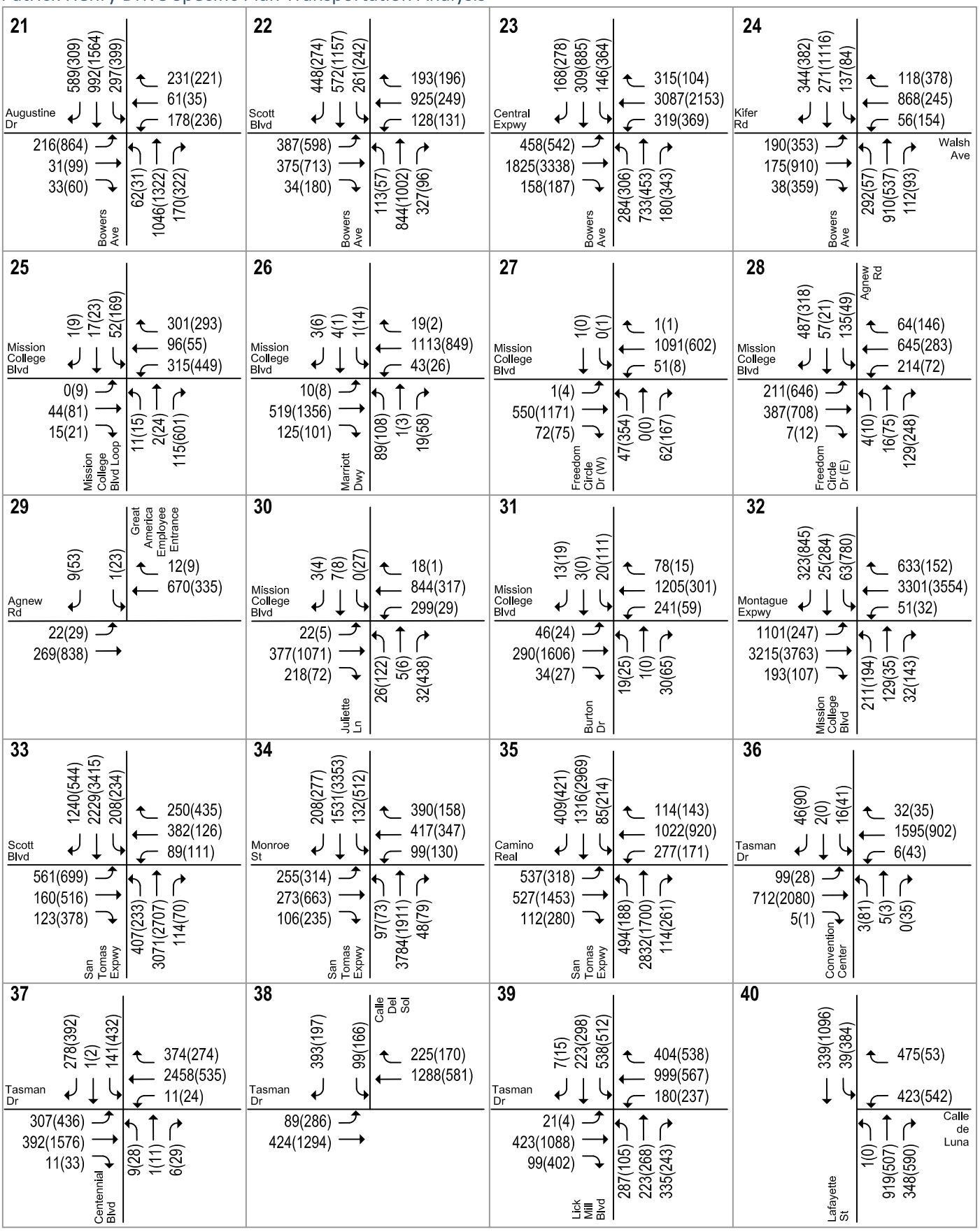
All other study intersections would operate at acceptable levels during both the AM and PM peak hours of traffic. The intersection levels of service calculation sheets are included in Appendix B.



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

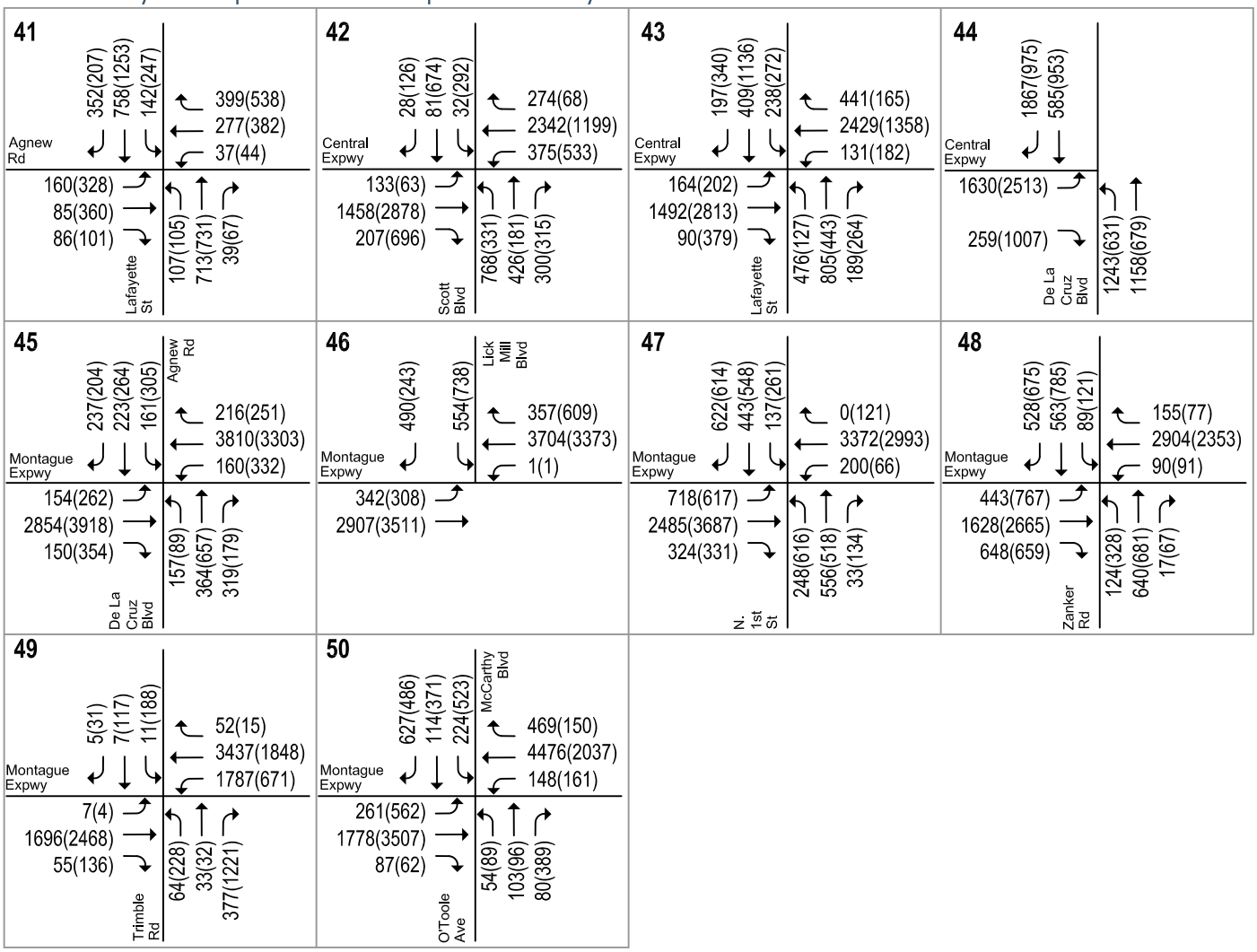
Figure 9
Background Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 9
Background Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 9
Background Traffic Volumes

Table 6
Background Intersection Levels of Service

#	Intersection	Jurisdiction	LOS Standard	Peak Hour	Existing Avg Delay	Existing LOS	Background (2030) No Project Avg Delay	Background (2030) No Project LOS
1	Lawrence Expressway and Tasman Drive	SCC	E	AM	42.0	D	47.6	D
	(CMP)			PM	55.1	E	64.5	E
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	SCC	E	AM	63.4	E	64.3	E
				PM	58.3	E	62.5	E
3	Lawrence Expressway and US 101 NB Ramps	SCC	E	AM	10.0	B	11.6	B
				PM	13.8	B	19.7	B
4	Lawrence Expressway and US 101 SB Ramps	SCC	E	AM	6.6	A	7.2	A
				PM	71.5	E	**109.4**	**F**
5	Lawrence Expressway and E. Arques Ave.	SCC	E	AM	37.7	D	39.9	D
	(CMP)			PM	71.6	E	**81.2**	**F**
6	Patrick Henry Drive and Tasman Drive	SC	D	AM	17.2	B	16.2	B
				PM	17.7	B	18.0	B
7	Old Ironsides Drive and Tasman Drive	SC	D	AM	6.4	A	5.5	A
				PM	15.9	B	10.9	B
8	Old Ironsides Drive and Old Glory Lane	SC	D	AM	3.6	A	3.9	A
	(Unsignalized)			PM	3.5	A	3.6	A
9	Old Ironsides Drive and Patrick Henry Drive	SC	D	AM	0.8	A	0.9	A
	(Unsignalized)			PM	3.9	A	4.4	A
10	Great America Parkway and SR 237 WB Ramps	SJ	D	AM	15.7	B	13.1	B
	(CMP)			PM	19.0	B	18.8	B
11	Great America Parkway and SR 237 EB Ramps	SJ	D	AM	13.4	B	10.7	B
	(CMP)			PM	14.5	B	13.2	B
12	Great America Parkway and Great America Way	SC	D	AM	23.6	C	22.1	C
				PM	16.9	B	17.3	B
13	Great America Pkwy and Old Mt View-Alviso Rd	SC	D	AM	19.4	B	22.2	C
				PM	44.4	D	42.5	D
14	Great America Parkway and Bunker Hill Lane	SC	D	AM	16.9	B	13.3	B
				PM	29.8	C	29.5	C
15	Great America Parkway and Tasman Drive	SC	E	AM	42.0	D	44.5	D
	(CMP)			PM	28.4	C	33.1	C
16	Great America Parkway and Old Glory Lane	SC	D	AM	10.7	B	10.5	B
				PM	16.9	B	13.3	B
17	Great America Parkway and Patrick Henry Drive	SC	D	AM	29.6	C	27.4	C
				PM	53.6	D	**66.5**	**E**
18	Great America Pkwy and Mission College Blvd	SC	E	AM	44.8	D	36.6	D
	(CMP)			PM	42.6	D	39.7	D
19	Great America Pkwy and US 101 NB Off Ramp	SC	E	AM	11.6	B	11.4	B
	(CMP)			PM	10.0	A	9.6	A
20	Bowers Avenue and US 101 SB Off Ramp	SC	E	AM	13.2	B	11.9	B
	(CMP)			PM	7.6	A	10.9	B
21	Bowers Avenue and Augustine Drive	SC	D	AM	21.3	C	26.0	C
				PM	33.2	C	36.4	D
22	Bowers Avenue and Scott Boulevard	SC	E	AM	40.5	D	49.6	D
				PM	33.5	C	37.1	D
23	Bowers Avenue and Central Expressway	SCC	E	AM	56.2	E	**89.0**	**F**
				PM	53.8	D	**103.6**	**F**
24	Bowers Avenue and Kifer Road/Walsh Avenue	SC	D	AM	31.2	C	36.0	D
				PM	28.6	C	30.4	C
25	Mission College Loop and Mission College Blvd	SC	D	AM	12.0	B	12.1	B
				PM	25.6	C	25.2	C
26	Marriott Dwy and Mission College Blvd	SC	D	AM	11.6	B	10.6	B
				PM	11.6	B	10.9	B

Table 6 (Continued)
Background Intersection Levels of Service

#	Intersection	Jurisdiction	LOS Standard	Peak Hour	Existing Avg Delay	Existing LOS	Background (2030) No Project Avg Delay	Background (2030) No Project LOS
27	Freedom Circle W and Mission College Blvd	SC	D	AM	12.3	B	11.0	B
				PM	26.2	C	25.9	C
28	Agnew/Freedom Circle E & Mission College Blvd	SC	D	AM	30.0	C	31.1	C
				PM	31.8	C	31.5	C
29	Great America employee entrance and Agnew Rd	SC	D	AM	3.9	A	3.6	A
				PM	5.2	A	5.1	A
30	Juliette Lane and Mission College Boulevard	SC	D	AM	19.8	B	19.8	B
				PM	30.6	C	30.5	C
31	Burton Drive and Mission College Boulevard	SC	D	AM	20.6	C	21.1	C
				PM	19.1	B	19.0	B
32	Mission College Blvd and Montague Expwy	SCC	E	AM	65.8	E	**98.3**	**F**
	(CMP)			PM	52.4	D	72.7	E
33	San Tomas Expressway and Scott Boulevard	SCC	E	AM	30.8	C	79.0	E
	(CMP)			PM	50.7	D	56.7	E
34	San Tomas Expressway and Monroe Street	SCC	E	AM	39.5	D	43.2	D
	(CMP)			PM	38.5	D	45.8	D
35	San Tomas Expressway and El Camino Real	SCC	E	AM	72.6	E	**85.5**	**F**
	(CMP)			PM	71.3	E	74.5	E
36	Convention Center and Tasman Drive	SC	D	AM	14.4	B	14.8	B
				PM	14.8	B	15.5	B
37	Centennial Boulevard and Tasman Drive	SC	D	AM	24.8	C	50.9	D
				PM	17.5	B	27.3	C
38	Calle Del Sol and Tasman Drive	SC	D	AM	14.6	B	21.8	C
				PM	18.3	B	23.3	C
39	Lick Mill Boulevard and Tasman Drive	SC	D	AM	27.5	C	41.3	D
				PM	24.8	C	41.2	D
40	Lafayette Street and Calle De Luna	SC	D	AM	13.1	B	23.2	C
				PM	19.3	B	36.9	D
41	Lafayette Street and Agnew Road	SC	D	AM	27.9	C	29.3	C
				PM	29.9	C	51.0	D
42	Scott Boulevard and Central Expressway	SCC	E	AM	41.8	D	67.6	E
	(CMP)			PM	64.9	E	**109.5**	**F**
43	Lafayette Street and Central Expressway	SCC	E	AM	52.4	D	75.2	E
	(CMP)			PM	53.3	D	62.6	E
44	De la Cruz Boulevard and Central Expressway	SCC	E	AM	**96.8**	**F**	**107.2**	**F**
	(CMP)			PM	32.8	C	70.3	E
45	Agnew Rd/De La Cruz Blvd and Montague Expwy	SCC	E	AM	52.3	D	**94.4**	**F**
	(CMP)			PM	48.1	D	**106.0**	**F**
46	Lick Mill Boulevard and Montague Expressway	SCC	E	AM	38.7	D	56.1	E
				PM	28.4	C	52.1	D
47	N. 1st Street and Montague Expressway	SCC	D	AM	**87.3**	**F**	**132.6**	**F**
	(CMP)			PM	**69.9**	**E**	**121.4**	**F**
48	Zanker Road and Montague Expressway	SCC	D	AM	50.2	D	**57.5**	**E**
	(CMP)			PM	50.5	D	**79.2**	**E**
49	Trimble Road and Montague Expressway	SCC	D	AM	36.3	D	36.5	D
	(CMP)			PM	46.7	D	**105.7**	**F**
50	McCarthy Blvd/O'Toole Av and Montague Expwy	SCC	D	AM	41.8	D	**75.9**	**E**
	(CMP)			PM	**82.3**	**F**	**134.0**	**F**

Notes:
SCC = Santa Clara County, SC = Santa Clara, SJ = San Jose, SV = Sunnyvale
Bold indicates a substandard level of service.

4.
Background Plus Project Conditions

This chapter describes background plus project traffic conditions. Background plus project conditions were evaluated relative to background conditions in order to determine potential project impacts.

Roadway Network Under Background Plus Project Conditions

The Patrick Henry Drive Specific Plan proposes a new roadway connection between Patrick Henry Drive and Mission College Boulevard Loop. This new roadway would provide a direct link between the Plan Area and Mission College and the Mercado shopping center located at the southwest quadrant of the Mission College Boulevard Loop. In addition, the roadway would provide a new connection between the Plan Area and Lawrence Expressway via Wildwood Avenue and a new access route for traffic traveling to and from the south on Great America Parkway. Lastly, the new roadway may be used by PHDSP Area residents traveling to and from Montague Expressway via Mission College Boulevard. In addition to serving traffic associated with the PHDSP Area development, the proposed roadway connection is expected to be used by other travelers to and from other developments in the vicinity. Because it is uncertain if Mission College District will consent to this new roadway connection, background plus project traffic conditions were analyzed both with and without this new roadway connection.

The roadway network under background plus project conditions would be the same as the background roadway network as described in Chapter 3 at all study intersections.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Vehicle trips generated by development of the Patrick Henry Drive Specific Plan Area were estimated using the trip rates for a general Urban/Suburban area published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition (2017).* For residential land uses, trips rates for "Multi-family Housing Mid-Rise" (Land Use 221) and "Multi-family Housing High-Rise" (Land Use 222) were used. As defined by the ITE, "mid-rise" multifamily housing are buildings that have between 3 and

10 floors, and "high-rise" multifamily housing are buildings that have more than 10 floors. ITE trip rates for "General Office Building" (Land Use 710) were used for office uses, "Shopping Center" (Land Use 820) trip rates were used for retail uses, "Library" (Land Use 590) trip rates were used for the library, and "Recreational Community Center" (Land Use 495) trip rates were used for the community center.

This report analyzes two mixed-use development options for the PHDSP Area. The first option would include approximately 12,000 residential units, 310,000 square feet (s.f.) of non-residential uses, including 150,000 s.f. of retail space, a 45,000 s.f. library, a 25,000 s.f. community center, and 90,000 s.f. of flex space, which is assumed to be an equal mix of office space, retail space, and residential amenity space, which is assumed to serve residents only and thus generate no external vehicle trips. The second option would be the same as the first but would substitute office for high-density residential in the "High Density Flex" zone along the east edge of the Plan Area, reducing the total residential development within the Plan Area by 1,700 units and adding 785,000 s.f. of office space.

As shown in Table 7, development of PHDSP option 1 is estimated to generate 71,303 gross daily vehicle trips, 4,359 (1,221 inbound and 3,138 outbound) gross AM peak hour trips, and 6,020 (3,511 inbound and 2,509 outbound) gross PM peak hour trips. As shown in Table 8, development of PHDSP option 2 is estimated to generate 69,701 gross daily vehicle trips, 4,657 (1,845 inbound and 2,812 outbound) gross AM peak hour trips, and 6,174 (3,199 inbound and 2,975 outbound) gross PM peak hour trips.

Table 7
PHDSP Trip Generation Estimates – Option 1 (Year 2030)

			Daily			AM Peak Hour					PM Peak Hour				
							Trips					Trips			
Land Use	Size		Rate	Trips	Mode Share	Rate	In	Out	Total	Mode Share	Rate	In	Out	Total	Mode Share
Multifamily Housing (Mid-Rise)	6,918	Dwelling Units	5.44	37,634		0.36	647	1,843	2,490		0.44	1,857	1,187	3,044	
Multifamily Housing (High-Rise)	5,083	Dwelling Units	4.45	22,619		0.31	378	1,198	1,576		0.36	1,116	714	1,830	
Total Residential Trips	*12,001*	*Dwelling Units*	*5.02*	*60,253*		*0.34*	*1,025*	*3,041*	*4,066*		*0.41*	*2,973*	*1,901*	*4,874*	
General Office Building	30,000	Square Feet	9.740	292		1.160	30	5	35		1.150	6	29	35	
Retail	180,000	Square Feet	37.75	6,795		0.94	105	64	169		3.81	329	357	686	
Residential Amenities[1]	30,000	Square Feet	--	--		--	--	--	--		--	--	--	--	
Library	45,000	Square Feet	72.05	3,242		1.00	32	13	45		8.16	176	191	367	
Community Center	25,000	Square Feet	28.82	721		1.76	29	15	44		2.31	27	31	58	
Total Employment Trips	*310,000*	*Square Feet*	*35.645*	*11,050*			*196*	*97*	*293*			*538*	*608*	*1,146*	
Total Proposed Project Trips				**71,303**	**100.0%**		**1,221**	**3,138**	**4,359**	**100.0%**		**3,511**	**2,509**	**6,020**	**100.0%**
Less Internal Trips				(7,434)	10.4%		(84)	(84)	(168)	3.9%		(123)	(123)	(246)	4.1%
Less External Public Transit Trips				(11,145)	15.6%		(222)	(624)	(846)	19.4%		(519)	(349)	(868)	14.4%
Less Retail Passby Trips				*(1,024)*	1.4%		*(17)*	*(10)*	*(27)*	0.6%		*(68)*	*(74)*	*(142)*	2.4%
External Vehicle Trips				**51,700**	**72.5%**		**898**	**2,420**	**3,318**	**76.1%**		**2,801**	**1,963**	**4,764**	**79.1%**

Source: Trip rates from ITE *Trip Generation Manual, 10th Edition,* 2017. Internal and transit trip reductions derived from CSC travel demand model.
[1]Residential amenities are assumed to serve residents only and thus generate no external vehicle trips.

Table 8
PHDSP Trip Generation Estimates – Option 2 (Year 2030)

			Daily			AM Peak Hour					PM Peak Hour				
							Trips					Trips			
Land Use	Size		Rate	Trips	Mode Share	Rate	In	Out	Total	Mode Share	Rate	In	Out	Total	Mode Share
Multifamily Housing (Mid-Rise)	5,218	Dwelling Units	5.44	28,386		0.36	488	1,390	1,878		0.44	1,401	895	2,296	
Multifamily Housing (High-Rise)	5,083	Dwelling Units	4.45	22,619		0.31	378	1,198	1,576		0.36	1,116	714	1,830	
Total Residential Trips	*10,301*	*Dwelling Units*	*4.95*	*51,005*		*0.34*	*866*	*2,588*	*3,454*		*0.40*	*2,517*	*1,609*	*4,126*	
General Office Building	815,000	Square Feet	9.740	7,938		1.160	813	132	945		1.150	150	787	937	
Retail	180,000	Square Feet	37.75	6,795		0.94	105	64	169		3.81	329	357	686	
Residential Amenities[1]	30,000	Square Feet	--	--		--	--	--	--		--	--	--	--	
Library	45,000	Square Feet	72.05	3,242		1.00	32	13	45		8.16	176	191	367	
Community Center	25,000	Square Feet	28.82	721		1.76	29	15	44		2.31	27	31	58	
Total Employment Trips	*1,095,000*	*Square Feet*	*17.074*	*18,696*			*979*	*224*	*1,203*			*682*	*1,366*	*2,048*	
Total Proposed Project Trips				**69,701**	**100.0%**		**1,845**	**2,812**	**4,657**	**100.0%**		**3,199**	**2,975**	**6,174**	**100.0%**
Less Internal Trips				(7,134)	10.2%		(98)	(98)	(196)	4.2%		(137)	(137)	(275)	4.4%
Less External Public Transit Trips				(10,987)	15.8%		(378)	(514)	(892)	19.2%		(483)	(477)	(960)	15.5%
Less Retail Passby Trips				*(1,080)*	1.5%		*(18)*	*(11)*	*(29)*	0.6%		*(62)*	*(67)*	*(129)*	2.1%
External Vehicle Trips				**50,500**	**72.5%**		**1,351**	**2,189**	**3,540**	**76.0%**		**2,517**	**2,293**	**4,810**	**77.9%**

Source: Trip rates from ITE *Trip Generation Manual, 10th Edition,* 2017. Internal and transit trip reductions derived from CSC travel demand model.
[1]Residential amenities are assumed to serve residents only and thus generate no external vehicle trips.

Since this PHDSP would include a mix of land uses, a portion of the trips generated by Plan Area developments will both begin and end within the PHDSP Area, also known as internal trips. Some trips to and from the Plan Area will also occur using alternative modes of travel like public transit. The Year 2030 CSC travel demand forecasting model was used to estimate trip reductions for internalization and transit usage under background conditions. The model estimates that approximately 10 percent of the daily trips and 4 percent of the AM and PM peak hour trips would be internal within the PHDSP. Internal trips are assumed to be made via an alternative mode such as walking or bicycling. Transit trips are estimated to comprise roughly 14 to 19 percent of all trips.

The project also includes retail uses, which attract some of their customers from people who are passing by the site as they head to their destination. These customers do not need to make a separate vehicle trip to come to the project site. Such vehicle trips are categorized as pass-by trips as they are not new trips generated on the roadway network and are credited from the project trip generation. The pass-by trip reduction for the retail land uses is assumed to be 25 percent for daily, AM and PM peak hours.

After applying the internal capture, transit, and pass-by reductions, the development of PHDSP option 1 is expected to generate 51,700 net daily vehicle trips, 3,318 (898 inbound and 2,420 outbound) net AM peak hour trips, and 4,764 (2,801 inbound and 1,963 outbound) net PM peak hour trips under background plus project conditions. The development of PHDSP option 2 is expected to generate 50,500 net daily vehicle trips, 3,540 (1,351 inbound and 2,189 outbound) net AM peak hour trips, and 4,810 (2,517 inbound and 2,293 outbound) net PM peak hour trips under background plus project conditions.

Trip Distribution and Assignment

The net project trip estimates were hard coded into the CSC model, which was then used to determine the distribution and assignment of project trips. Note that the trip estimates presented in Tables 7 and 8 do not include any credits for existing use trips because the CSC model inputs need to reflect the total vehicle trips generated by the Plan Area rather than the incremental increase in trips beyond the existing trip generation.

The CSC model represents the entire PHDSP Area in a single traffic analysis zone (TAZ) with only a few connectors to the adjacent roadways. While the model is capable of estimating gross traffic patterns, it does not accurately model trip patterns at study intersections within and immediately adjacent to the Plan Area. Thus, a more detailed model of the PHDSP Area was created using the TRAFFIX software to refine the traffic forecasts for nearby study intersections on Tasman Drive, Great America Parkway, and Mission College Boulevard and study intersections within the Plan Area on Patrick Henry Drive and Old Ironsides Drive. The TRAFFIX model represents the future land uses anticipated within the PHDSP Area on a parcel level and includes the proposed new internal roadways within the Plan Area as well as the proposed new roadway connection between Patrick Henry Drive and Mission College Boulevard Loop.

In addition, while pass-by trips are not new trips to the study area, they are new to roadways within the PHDSP Area. Pass-by trips result in a reduction in through trips along Tasman Drive and Great America Parkway and an increase in turning movements to and from these roadways. Thus, pass-by trips were estimated manually and added to the affected intersections.

Background Plus Project Traffic Volumes

In addition to the new vehicle trips associated with developments within the PHDSP Area, model forecasts under background plus project conditions also reflect changes in background no project trips not associated with the Plan Area. For example, the introduction of a large number of residential units in an employment-rich area of northern Santa Clara is expected to cause changes in trip distribution patterns for background traffic, changes in the mode split choices of other travelers, and a diversion of some vehicles from one route to another in order to avoid the most congested routes and reduce travel time. In addition, the CSC model shows changes in background traffic patterns due to the proposed new roadway connection between Patrick Henry Drive and Mission College Boulevard Loop.

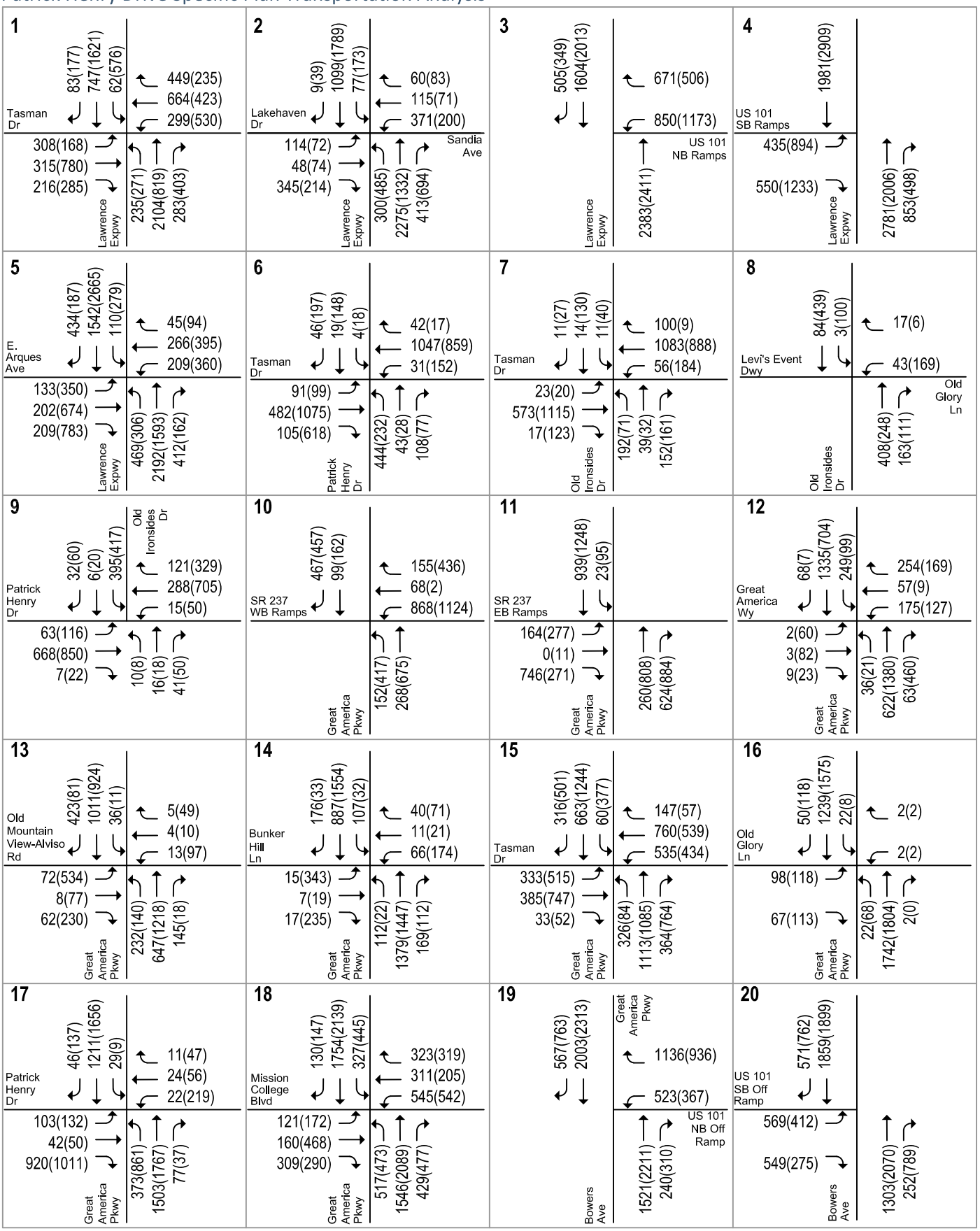
Figures 10 and 11 show the traffic volumes forecast under background plus project conditions with the proposed new roadway connection to Mission College Boulevard for PHDSP Options 1 and 2, respectively.

Background Plus Project Intersection Levels of Service with Mission College Boulevard Connection – Option 1

The results of the intersection level of service analysis (see Table 9) show that development of the PHDSP Area under Option 1 with the proposed new roadway connection to Mission College Boulevard would cause adverse effects at the following five intersections:

9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)
23. Bowers Avenue and Central Expressway (AM and PM peak hours)
47. N. 1st Street and Montague Expressway (PM peak hour)
48. Zanker Road and Montague Expressway (PM peak hour)

The adverse effects and proposed improvements to alleviate the deficiencies are described below.

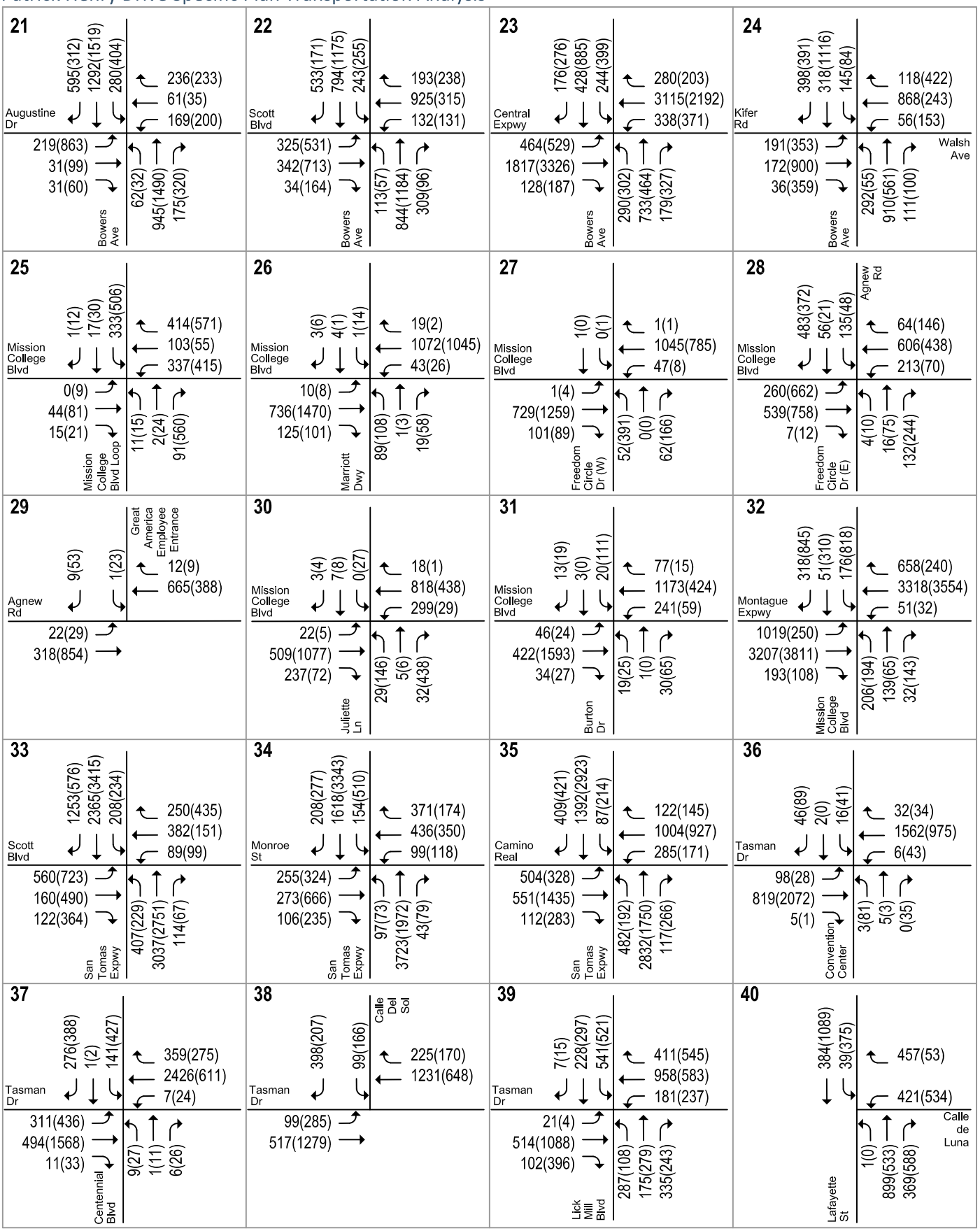


LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 10
Background Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 1

NORTH
Not to Scale

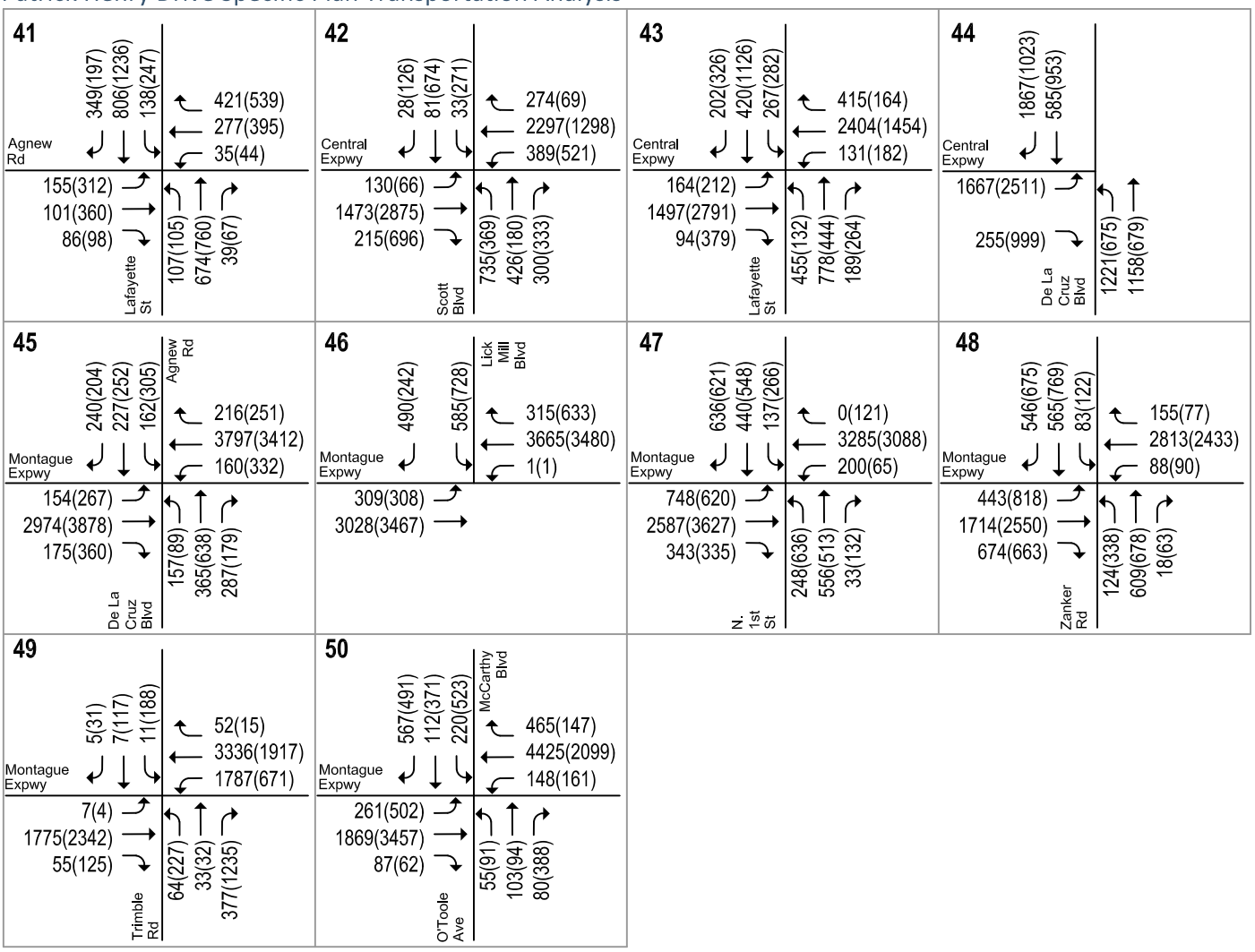


LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 10

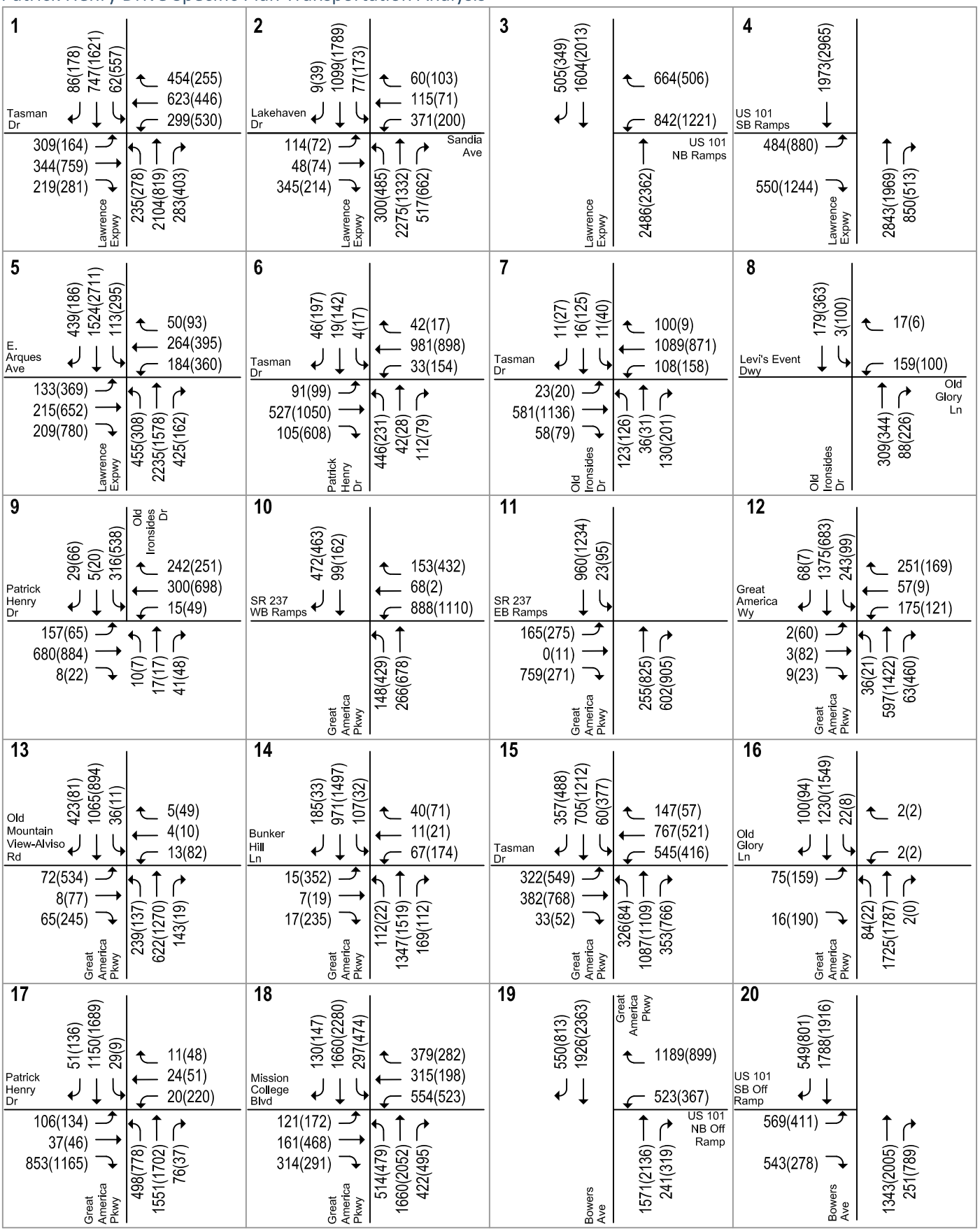
Background Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 1



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 10
Background Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 1

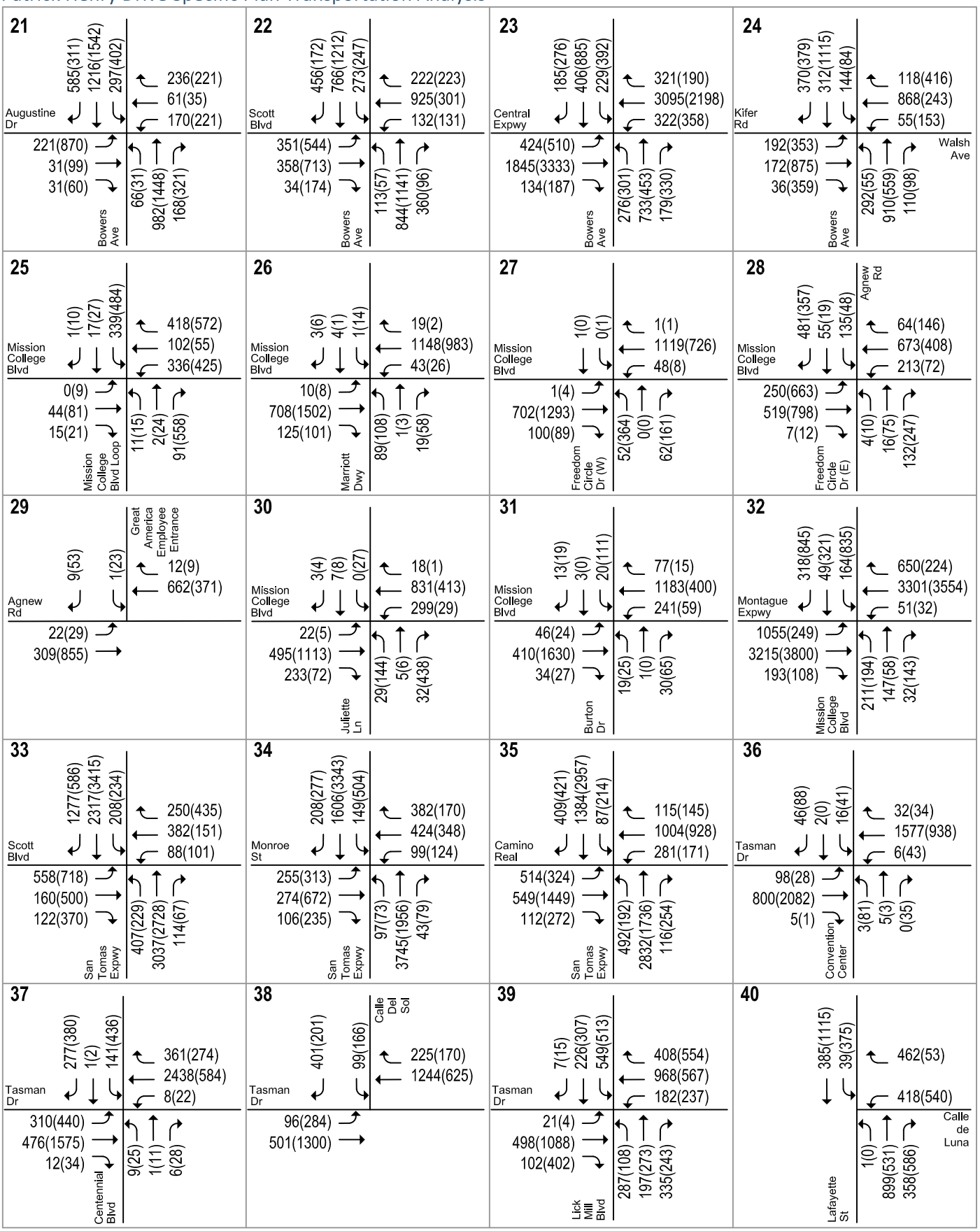


LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 11

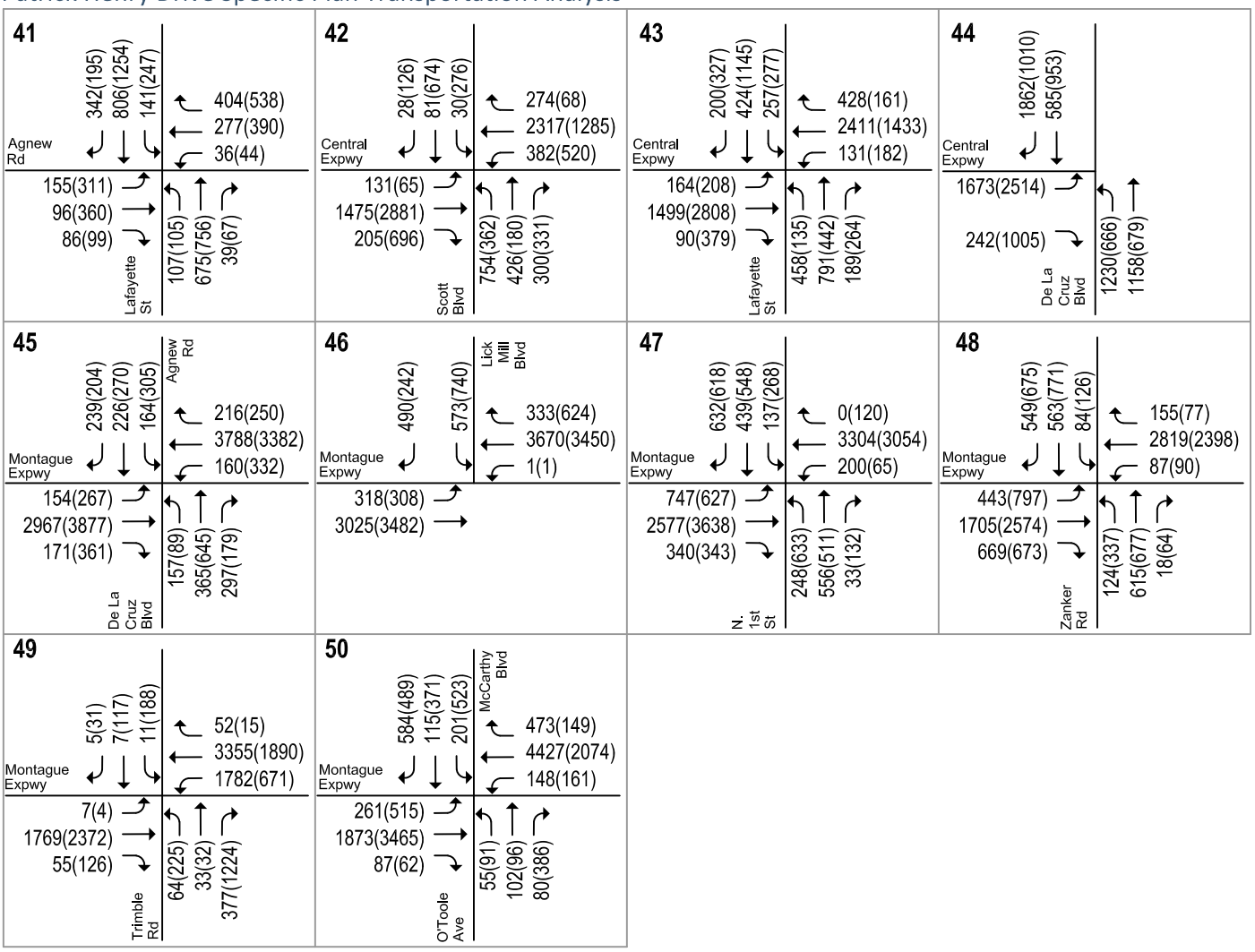
Background Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 2



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 11
Background Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 2



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 11
Background Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 2

Table 9
Background Intersection Levels of Service with Mission College Blvd. Connection – Option 1

			Background (2030) Conditions							
					with Project					
			No Project		Option 1				Option 1 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Crit. Delay	Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	47.6	D	60.7	E	21.6	0.100		
	(CMP)	PM	64.5	E	71.7	E	9.9	0.035		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	64.3	E	64.9	E	0.0	0.000		
		PM	62.5	E	58.4	E	-8.6	0.165		
3	Lawrence Expressway and US 101 NB Ramps	AM	11.6	B	12.2	B	0.3	0.010		
		PM	19.7	B	22.3	C	4.3	0.056		
4	Lawrence Expressway and US 101 SB Ramps	AM	7.2	A	8.4	A	0.1	-0.007		
		PM	**109.4**	**F**	**105.5**	**F**	**-30.1**	**-0.036**		
5	Lawrence Expressway and E. Arques Ave.	AM	39.9	D	41.7	D	3.6	0.019		
	(CMP)	PM	**81.2**	**F**	78.4	E	-1.4	-0.013		
6	Patrick Henry Drive and Tasman Drive	AM	16.2	B	27.8	C	13.1	0.135		
		PM	18.0	B	25.7	C	12.6	0.132		
7	Old Ironsides Drive and Tasman Drive	AM	5.5	A	16.4	B	10.9	0.046		
		PM	10.9	B	19.2	B	12.0	0.133		
8	Old Ironsides Drive and Old Glory Lane	AM	3.9	A	1.2	A	-2.7	0.077		
	(Unsignalized)	PM	3.6	A	10.5	B	6.9	0.726		
9	Old Ironsides Drive and Patrick Henry Drive	AM	0.9	A	**OVRL**	**F**	**OVRL**	**3.948**	25.1	C
	(Unsignalized)	PM	4.4	A	**OVRL**	**F**	**OVRL**	**OVRL**	28.7	C
10	Great America Parkway and SR 237 WB Ramps	AM	13.1	B	13.2	B	0.1	-0.001		
	(CMP)	PM	18.8	B	18.8	B	0.0	0.014		
11	Great America Parkway and SR 237 EB Ramps	AM	10.7	B	9.6	A	-1.1	0.033		
	(CMP)	PM	13.2	B	13.2	B	0.1	-0.002		
12	Great America Parkway and Great America Way	AM	22.1	C	22.6	C	0.2	-0.016		
		PM	17.3	B	17.7	B	0.6	0.007		
13	Great America Pkwy and Old Mt View-Alviso Rd	AM	22.2	C	20.4	C	-1.0	-0.041		
		PM	42.5	D	42.3	D	8.7	0.009		
14	Great America Parkway and Bunker Hill Lane	AM	13.3	B	13.3	B	-0.7	0.042		
		PM	29.5	C	28.2	C	-2.3	-0.022		
15	Great America Parkway and Tasman Drive	AM	44.5	D	45.0	D	-3.8	0.019		
	(CMP)	PM	33.1	C	33.4	C	-0.1	-0.005		
16	Great America Parkway and Old Glory Lane	AM	10.5	B	11.4	B	1.0	0.068		
		PM	13.3	B	17.2	B	6.2	0.031		
17	Great America Parkway and Patrick Henry Drive	AM	27.4	C	**107.9**	**F**	**111.3**	**0.555**	42.4	D
		PM	**66.5**	**E**	**242.3**	**F**	**283.9**	**0.669**	50.6	D
18	Great America Pkwy and Mission College Blvd	AM	36.6	D	37.9	D	-1.7	0.128		
	(CMP)	PM	39.7	D	41.6	D	3.6	0.053		
19	Great America Pkwy and US 101 NB Off Ramp	AM	11.4	B	10.2	B	-0.9	0.056		
	(CMP)	PM	9.6	A	9.1	A	-0.6	0.009		
20	Bowers Avenue and US 101 SB Off Ramp	AM	11.9	B	11.1	B	-0.4	0.052		
	(CMP)	PM	10.9	B	10.6	B	-0.2	0.027		
21	Bowers Avenue and Augustine Drive	AM	26.0	C	25.1	C	-0.4	-0.001		
		PM	36.4	D	37.2	D	1.5	0.040		
22	Bowers Avenue and Scott Boulevard	AM	49.6	D	51.6	D	8.8	0.032		
	(CMP)	PM	37.1	D	38.1	D	1.6	0.054		
23	Bowers Avenue and Central Expressway	AM	**89.0**	**F**	**93.4**	**F**	**5.4**	**0.040**		
	(CMP)	PM	**103.6**	**F**	**105.8**	**F**	**5.0**	**0.012**		
24	Bowers Avenue and Kifer Road/Walsh Avenue	AM	36.0	D	36.3	D	0.4	0.004		
		PM	30.4	C	30.7	C	2.0	0.027		
25	Mission College Loop and Mission College Blvd	AM	12.1	B	22.4	C	10.0	0.123		
		PM	25.2	C	27.9	C	2.9	0.147		
26	Marriott Dwy and Mission College Blvd	AM	10.6	B	10.4	B	0.1	-0.013		
		PM	10.9	B	10.5	B	0.0	0.035		

Table 9 (Continued)
Background Intersection Levels of Service with Mission College Blvd. Connection – Option 1

			Background (2030) Conditions							
					with Project					
			No Project		Option 1				Option 1 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Crit. Delay	Crit. V/C	Avg Delay	LOS
27	Freedom Circle W and Mission College Blvd	AM	11.0	B	10.7	B	0.1	-0.015		
		PM	25.9	C	26.7	C	1.8	0.054		
28	Agnew/Freedom Circle E & Mission College Blvd	AM	31.1	C	30.3	C	-0.7	-0.015		
		PM	31.5	C	33.3	C	3.7	0.054		
29	Great America employee entrance and Agnew Rd	AM	3.6	A	3.5	A	0.0	-0.003		
		PM	5.1	A	5.0	A	0.1	0.010		
30	Juliette Lane and Mission College Boulevard	AM	19.8	B	20.5	C	0.2	-0.006		
		PM	30.5	C	30.7	C	0.0	0.001		
31	Burton Drive and Mission College Boulevard	AM	21.1	C	22.2	C	-0.1	-0.011		
		PM	19.0	B	18.8	B	0.0	-0.003		
32	Mission College Blvd and Montague Expwy	AM	**98.3**	**F**	**96.0**	**F**	**-4.8**	**-0.014**		
	(CMP)	PM	72.7	E	78.2	E	6.5	0.031		
33	San Tomas Expressway and Scott Boulevard	AM	79.0	E	78.9	E	0.3	-0.005		
	(CMP)	PM	56.7	E	57.2	E	1.0	0.007		
34	San Tomas Expressway and Monroe Street	AM	43.2	D	41.6	D	-0.2	0.019		
	(CMP)	PM	45.8	D	45.8	D	0.6	0.003		
35	San Tomas Expressway and El Camino Real	AM	**85.5**	**F**	**81.6**	**F**	**-8.7**	**-0.007**		
	(CMP)	PM	74.5	E	73.0	E	-2.8	-0.011		
36	Convention Center and Tasman Drive	AM	14.8	B	14.3	B	-0.2	-0.011		
		PM	15.5	B	15.3	B	-0.1	-0.002		
37	Centennial Boulevard and Tasman Drive	AM	50.9	D	47.8	D	-2.8	-0.008		
		PM	27.3	C	27.2	C	-0.3	-0.007		
38	Calle Del Sol and Tasman Drive	AM	21.8	C	21.9	C	0.5	-0.012		
		PM	23.3	C	23.6	C	0.3	-0.001		
39	Lick Mill Boulevard and Tasman Drive	AM	41.3	D	41.2	D	0.5	-0.012		
		PM	41.2	D	41.6	D	0.7	0.010		
40	Lafayette Street and Calle De Luna	AM	23.2	C	23.0	C	-0.1	-0.001		
		PM	36.9	D	35.6	D	-2.7	-0.012		
41	Lafayette Street and Agnew Road	AM	29.3	C	29.5	C	-1.2	0.032		
		PM	51.0	D	49.2	D	-3.2	-0.011		
42	Scott Boulevard and Central Expressway	AM	67.6	E	63.3	E	-6.2	-0.003		
	(CMP)	PM	**109.5**	**F**	**107.3**	**F**	**2.9**	**0.008**		
43	Lafayette Street and Central Expressway	AM	75.2	E	73.4	E	-8.4	0.027		
	(CMP)	PM	62.6	E	62.0	E	-2.2	0.025		
44	De la Cruz Boulevard and Central Expressway	AM	**107.2**	**F**	**105.5**	**F**	**-2.7**	**0.006**		
	(CMP)	PM	70.3	E	77.6	E	13.4	0.010		
45	Agnew Rd/De La Cruz Blvd and Montague Expwy	AM	**94.4**	**F**	**94.3**	**F**	**-1.6**	**-0.001**		
	(CMP)	PM	**106.0**	**F**	**102.5**	**F**	**-6.5**	**-0.017**		
46	Lick Mill Boulevard and Montague Expressway	AM	56.1	E	56.7	E	1.4	-0.007		
		PM	52.1	D	50.7	D	-2.0	-0.010		
47	N. 1st Street and Montague Expressway	AM	**132.6**	**F**	**128.3**	**F**	**-6.2**	**-0.006**		
	(CMP)	PM	**121.4**	**F**	**126.5**	**F**	**12.1**	**0.021**		
48	Zanker Road and Montague Expressway	AM	**57.5**	**E**	**55.6**	**E**	**-2.0**	**-0.004**	53.1	D
	(CMP)	PM	**79.2**	**E**	**84.3**	**F**	**9.0**	**0.030**	**64.0**	**E**
49	Trimble Road and Montague Expressway	AM	36.5	D	36.8	D	-0.9	-0.016		
	(CMP)	PM	**105.7**	**F**	**108.6**	**F**	**1.1**	**0.014**		
50	McCarthy Blvd/O'Toole Av and Montague Expwy	AM	**75.9**	**E**	**67.6**	**E**	**-11.6**	**-0.043**		
	(CMP)	PM	**134.0**	**F**	**127.3**	**F**	**-16.5**	**-0.013**		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

The following study intersections also would operate at unacceptable levels of service under background plus project conditions.

4. Lawrence Expressway and US 101 SB Ramps (PM peak hour)
32. Mission College Boulevard and Montague Expressway (AM peak hour)
35. San Tomas Expressway and El Camino Real (AM peak hour)
42. Scott Boulevard and Central Expressway (PM peak hour)
44. De la Cruz Boulevard and Central Expressway (AM peak hour)
45. Agnew Road/De la Cruz Boulevard and Montague Expressway (AM and PM peak hours)
49. Trimble Road and Montague Expressway (PM peak hour)
50. McCarthy Boulevard/O'Toole Avenue and Montague Expressway (AM and PM peak hours)

However, since the development of the PHDSP Area under Option 1 would not cause the critical-movement delay at the signalized intersections listed above to increase by four or more seconds and the V/C to increase by one percent (0.01) or more compared to background conditions, the project would not have an adverse effect on the operation of those intersections. The level of service calculation sheets are included in Appendix B.

Adverse Effects and Recommended Improvements – Option 1

This section discusses the adverse effects identified under background plus project conditions with the proposed new roadway connection to Mission College Boulevard and proposed improvements to address the deficiencies under Option 1. Adverse effects on intersection operations do not constitute significant impacts under CEQA.

In addition to physical improvements recommended to resolve deficiencies at affected intersections, the PHDSP will include travel demand management (TDM) measures that could reduce the vehicle trips below the level documented in this report. The City of Santa Clara's Climate Action Plan requires a 20 percent reduction in vehicle miles traveled for high density residential developments and high intensity office/R&D developments north of Caltrain, of which 10 percent must come from TDM. A sensitivity analysis was conducted to determine if a reduction in project vehicle trips due to TDM would avoid any of the adverse effects at study intersections.

9. Old Ironsides Drive and Patrick Henry Drive

This unsignalized intersection in the City of Santa Clara would operate at an acceptable LOS A under background conditions during the AM and PM peak hours. The development of the PHDSP under Option 1 would cause the intersection to degrade to an unacceptable LOS F during the AM and PM peak hours. Furthermore, the intersection is expected to satisfy the peak-hour signal warrant. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by installing a traffic signal. In addition, when the adjacent property on the south side of Patrick Henry Drive redevelops, it is assumed that the site driveway would be relocated to align with Old Ironsides Drive and a westbound left-turn pocket would be added leading to a relocated driveway. With these improvements and a 10 percent TDM reduction, the intersection is expected to operate at an acceptable LOS C during the AM and PM peak hours under background plus project conditions. These improvements should be fully funded by the PHDSP Area developments.

17. Great America Parkway and Patrick Henry Drive

This City of Santa Clara intersection would operate at an acceptable LOS C during the AM peak hour and an unacceptable LOS E during the PM peak hour under background conditions. The development of the PHDSP under Option 1 would cause the intersection to degrade to LOS F during the AM peak

hour and cause average critical movement delay to increase by 283.9 seconds and the critical v/c to increase by 0.669 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by constructing a second northbound left-turn lane and implementing TDM measures to reduce the vehicle trips associated with the PHDSP Area. With the recommended improvement and a 10 percent TDM reduction, the intersection is expected to operate at an acceptable LOS D during both peak hours under background plus project conditions. The cost of this improvement will be fully funded by PHDSP Area developments.

23. Bowers Avenue and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under background conditions during the AM and PM peak hours. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by 5.4 and 5.0 seconds and the critical v/c to increase by 0.040 and 0.012 during the AM and PM peak hours, respectively. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

47. N. 1st Street and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS F under background conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by 12.1 seconds and the critical v/c to increase by 0.021 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development and lessen the adverse effect. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

48. Zanker Road and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS E under background conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by 9.0 seconds and the critical v/c to increase by 0.030 during the PM peak hour. This constitutes an adverse effect on intersection operations.

The City of San José plans to widen Zanker Road to three lanes in each direction from River Oaks Parkway to Trimble Road and to add a second left-turn lane on both the northbound and southbound approaches. This improvement is anticipated to be complete sometime between the Year 2030 and 2040. Thus, this improvement is assumed under cumulative conditions but not background conditions. This planned improvement and a 10 percent TDM reduction would cause the increase in critical movement delay to be less than four seconds such that the project would not be considered to have an

adverse effect on intersection operations. The PHDSP Area developments should either pay the North San José fee, or a fair-share contribution for the improvement, or a fair-share contribution for off-setting multimodal improvements based on the amount of Project's percent contribution of the traffic volume growth at the intersection.

Background Plus Project Intersection Levels of Service with Mission College Boulevard Connection – Option 2

The results of the intersection level of service analysis (see Table 10) show that development of the PHDSP Area under Option 2 with the proposed new roadway connection to Mission College Boulevard would cause adverse effects at the following five intersections:

9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)
32. Mission College Boulevard/Thomas Road and Montague Expressway (PM peak hour)
47. N. 1st Street and Montague Expressway (PM peak hour)
48. Zanker Road and Montague Expressway (PM peak hour)

The adverse effects and proposed improvements to alleviate the deficiencies are described below.

The following study intersections also would operate at unacceptable levels of service under background plus project conditions.

4. Lawrence Expressway and US 101 SB Ramps (PM peak hour)
5. Lawrence Expressway and E. Arques Avenue (PM peak hour)
23. Bowers Avenue and Central Expressway (AM and PM peak hours)
33. San Tomas Expressway and Scott Boulevard (AM peak hour)
35. San Tomas Expressway and El Camino Real (AM peak hour)
42. Scott Boulevard and Central Expressway (PM peak hour)
44. De la Cruz Boulevard and Central Expressway (AM peak hour)
45. Agnew Road/De la Cruz Boulevard and Montague Expressway (AM and PM peak hours)

Table 10
Background Intersection Levels of Service with Mission College Blvd. Connection – Option 2

			Background (2030) Conditions							
					with Project					
			No Project		Option 2				Option 2 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Crit. Delay	Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	47.6	D	57.9	E	17.0	0.090		
	(CMP)	PM	64.5	E	70.1	E	7.4	0.031		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	64.3	E	65.7	E	0.0	0.000		
		PM	62.5	E	62.0	E	5.4	0.175		
3	Lawrence Expressway and US 101 NB Ramps	AM	11.6	B	12.0	B	0.0	0.021		
		PM	19.7	B	25.4	C	10.7	0.060		
4	Lawrence Expressway and US 101 SB Ramps	AM	7.2	A	10.2	B	0.0	0.002		
		PM	**109.4**	**F**	**105.7**	**F**	**-28.8**	**-0.024**		
5	Lawrence Expressway and E. Arques Ave.	AM	39.9	D	40.9	D	2.0	0.007		
	(CMP)	PM	**81.2**	**F**	**80.1**	**F**	**-1.2**	**-0.008**		
6	Patrick Henry Drive and Tasman Drive	AM	16.2	B	27.8	C	13.2	0.114		
		PM	18.0	B	25.6	C	12.5	0.122		
7	Old Ironsides Drive and Tasman Drive	AM	5.5	A	14.7	B	6.9	0.002		
		PM	10.9	B	19.2	B	10.5	0.106		
8	Old Ironsides Drive and Old Glory Lane	AM	3.9	A	3.9	A	0.0	0.346		
	(Unsignalized)	PM	3.6	A	4.5	A	0.9	0.470		
9	Old Ironsides Drive and Patrick Henry Drive	AM	0.9	A	**OVFL**	**F**	**OVFL**	**5.749**	23.6	C
	(Unsignalized)	PM	4.4	A	**OVFL**	**F**	**OVFL**	**OVFL**	40.6	D
10	Great America Parkway and SR 237 WB Ramps	AM	13.1	B	13.2	B	0.1	0.004		
	(CMP)	PM	18.8	B	18.9	B	0.2	0.017		
11	Great America Parkway and SR 237 EB Ramps	AM	10.7	B	9.8	A	-0.9	0.026		
	(CMP)	PM	13.2	B	13.1	B	-0.1	0.004		
12	Great America Parkway and Great America Way	AM	22.1	C	22.4	C	0.1	-0.007		
		PM	17.3	B	17.5	B	0.4	0.012		
13	Great America Pkwy and Old Mt View-Alviso Rd	AM	22.2	C	20.7	C	-0.8	-0.022		
		PM	42.5	D	41.3	D	-2.3	-0.018		
14	Great America Parkway and Bunker Hill Lane	AM	13.3	B	13.2	B	-0.6	0.036		
		PM	29.5	C	28.5	C	-1.2	-0.001		
15	Great America Parkway and Tasman Drive	AM	44.5	D	45.1	D	-4.0	0.013		
	(CMP)	PM	33.1	C	34.0	C	1.6	0.008		
16	Great America Parkway and Old Glory Lane	AM	10.5	B	11.3	B	0.7	0.049		
		PM	13.3	B	21.4	C	8.1	0.044		
17	Great America Parkway and Patrick Henry Drive	AM	27.4	C	**113.0**	**F**	**124.7**	**0.581**	36.3	D
		PM	**66.5**	**E**	**263.1**	**F**	**307.5**	**0.723**	**72.4**	**E**
18	Great America Pkwy and Mission College Blvd	AM	36.6	D	37.8	D	-1.1	0.112		
	(CMP)	PM	39.7	D	42.0	D	4.0	0.077		
19	Great America Pkwy and US 101 NB Off Ramp	AM	11.4	B	10.3	B	-0.9	0.041		
	(CMP)	PM	9.6	A	8.9	A	-0.6	0.018		
20	Bowers Avenue and US 101 SB Off Ramp	AM	11.9	B	11.3	B	-0.3	0.039		
	(CMP)	PM	10.9	B	10.8	B	-0.1	0.015		
21	Bowers Avenue and Augustine Drive	AM	26.0	C	25.7	C	0.1	-0.006		
		PM	36.4	D	36.8	D	0.9	0.029		
22	Bowers Avenue and Scott Boulevard	AM	49.6	D	49.7	D	-0.9	0.001		
	(CMP)	PM	37.1	D	37.7	D	0.9	0.036		
23	Bowers Avenue and Central Expressway	AM	**89.0**	**F**	**90.0**	**F**	**1.8**	**0.018**		
	(CMP)	PM	**103.6**	**F**	**102.8**	**F**	**2.4**	**0.005**		
24	Bowers Avenue and Kifer Road/Walsh Avenue	AM	36.0	D	36.4	D	0.4	0.003		
		PM	30.4	C	30.7	C	1.7	0.023		
25	Mission College Loop and Mission College Blvd	AM	12.1	B	22.5	C	10.0	0.125		
		PM	25.2	C	27.7	C	2.7	0.139		
26	Marriott Dwy and Mission College Blvd	AM	10.6	B	10.1	B	-0.1	0.011		
		PM	10.9	B	10.6	B	0.1	0.045		

Table 10 (Continued)
Background Intersection Levels of Service with Mission College Blvd. Connection – Option 2

			Background (2030) Conditions							
					with Project					
			No Project		Option 2				Option 2 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Crit. Delay	Crit. V/C	Avg Delay	LOS
27	Freedom Circle W and Mission College Blvd	AM	11.0	B	10.5	B	-0.1	0.009		
		PM	25.9	C	25.8	C	0.5	0.047		
28	Agnew/Freedom Circle E & Mission College Blvd	AM	31.1	C	30.6	C	-0.2	0.005		
		PM	31.5	C	32.8	C	3.2	0.048		
29	Great America employee entrance and Agnew Rd	AM	3.6	A	3.5	A	0.0	-0.005		
		PM	5.1	A	5.1	A	0.1	0.011		
30	Juliette Lane and Mission College Boulevard	AM	19.8	B	20.4	C	0.2	-0.002		
		PM	30.5	C	30.7	C	-0.1	0.009		
31	Burton Drive and Mission College Boulevard	AM	21.1	C	22.1	C	-0.1	-0.008		
		PM	19.0	B	18.8	B	0.0	0.005		
32	Mission College Blvd and Montague Expwy	AM	**98.3**	**F**	**96.2**	**F**	**-4.1**	**-0.002**		
	(CMP)	PM	72.7	E	**80.4**	**F**	**9.7**	**0.032**	78.9	E
33	San Tomas Expressway and Scott Boulevard	AM	79.0	E	**80.1**	**F**	**-0.4**	**-0.006**		
	(CMP)	PM	56.7	E	57.0	E	0.8	0.005		
34	San Tomas Expressway and Monroe Street	AM	43.2	D	42.2	D	-0.4	0.014		
	(CMP)	PM	45.8	D	45.5	D	-0.1	-0.001		
35	San Tomas Expressway and El Camino Real	AM	**85.5**	**F**	**82.9**	**F**	**-5.8**	**-0.001**		
	(CMP)	PM	74.5	E	74.3	E	-0.6	-0.002		
36	Convention Center and Tasman Drive	AM	14.8	B	14.4	B	-0.1	-0.006		
		PM	15.5	B	15.4	B	0.0	0.001		
37	Centennial Boulevard and Tasman Drive	AM	50.9	D	48.9	D	-1.7	-0.005		
		PM	27.3	C	27.4	C	0.1	-0.003		
38	Calle Del Sol and Tasman Drive	AM	21.8	C	21.9	C	0.4	-0.008		
		PM	23.3	C	23.3	C	0.1	0.003		
39	Lick Mill Boulevard and Tasman Drive	AM	41.3	D	41.4	D	0.6	-0.006		
		PM	41.2	D	41.4	D	0.3	0.003		
40	Lafayette Street and Calle De Luna	AM	23.2	C	23.0	C	-0.2	-0.006		
		PM	36.9	D	35.9	D	-2.2	-0.009		
41	Lafayette Street and Agnew Road	AM	29.3	C	29.2	C	-2.2	0.015		
		PM	51.0	D	49.3	D	-3.1	-0.010		
42	Scott Boulevard and Central Expressway	AM	67.6	E	65.6	E	-2.8	0.002		
	(CMP)	PM	**109.5**	**F**	**107.7**	**F**	**2.2**	**0.007**		
43	Lafayette Street and Central Expressway	AM	75.2	E	73.5	E	-4.2	-0.006		
	(CMP)	PM	62.6	E	62.7	E	-0.3	0.023		
44	De la Cruz Boulevard and Central Expressway	AM	**107.2**	**F**	**107.7**	**F**	**-0.1**	**0.009**		
	(CMP)	PM	70.3	E	76.1	E	10.7	0.008		
45	Agnew Rd/De La Cruz Blvd and Montague Expwy	AM	**94.4**	**F**	**93.7**	**F**	**-2.6**	**-0.002**		
	(CMP)	PM	**106.0**	**F**	**102.9**	**F**	**-5.6**	**-0.013**		
46	Lick Mill Boulevard and Montague Expressway	AM	56.1	E	55.9	E	0.2	-0.007		
		PM	52.1	D	52.2	D	0.7	-0.004		
47	N. 1st Street and Montague Expressway	AM	**132.6**	**F**	**129.6**	**F**	**1.9**	**-0.014**		
	(CMP)	PM	**121.4**	**F**	**124.7**	**F**	**9.0**	**0.018**		
48	Zanker Road and Montague Expressway	AM	**57.5**	**E**	**55.9**	**E**	**-1.6**	**-0.001**	53.3	D
	(CMP)	PM	**79.2**	**E**	**82.6**	**F**	**5.8**	**0.018**	**62.4**	**E**
49	Trimble Road and Montague Expressway	AM	36.5	D	36.8	D	-0.7	-0.013		
	(CMP)	PM	**105.7**	**F**	**106.7**	**F**	**-0.9**	**0.007**		
50	McCarthy Blvd/O'Toole Av and Montague Expwy	AM	**75.9**	**E**	**68.1**	**E**	**-9.2**	**-0.032**		
	(CMP)	PM	**134.0**	**F**	**128.6**	**F**	**-13.0**	**-0.013**		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

49. Trimble Road and Montague Expressway (PM peak hour)
50. McCarthy Boulevard/O'Toole Avenue and Montague Expressway (AM and PM peak hours)

However, since the development of the PHDSP Area under Option 2 would not cause the critical-movement delay at the above signalized intersections to increase by four or more seconds and the V/C to increase by one percent (0.01) or more compared to background conditions, the project would not have an adverse effect on the operation of those intersections. The level of service calculation sheets are included in Appendix C.

Adverse Effects and Recommended Improvements – Option 2

This section discusses the adverse effects identified under background plus project conditions with the proposed new roadway connection to Mission College Boulevard and proposed improvements to address the deficiencies under Option 2. As previously stated, adverse effects on intersection operations do not constitute significant impacts under CEQA.

In addition to physical improvements recommended to resolve deficiencies at affected intersections, the PHDSP will include TDM measures to achieve a 10 percent reduction in VMT per the City's Climate Action Plan. A sensitivity analysis was conducted to determine if a reduction in project vehicle trips due to TDM would avoid any of the adverse effects at any study intersections.

9. Old Ironsides Drive and Patrick Henry Drive

This unsignalized intersection in the City of Santa Clara would operate at an acceptable LOS A under background conditions during the both peak hours. The development of the PHDSP under Option 2 would cause the intersection to degrade to an unacceptable LOS F during the both peak hours. Furthermore, the intersection is expected to satisfy the peak-hour signal warrant. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by installing a traffic signal. In addition, when the adjacent property on the south side of Patrick Henry Drive redevelops, it is assumed that the site driveway would be relocated to align with Old Ironsides Drive and a westbound left-turn pocket would be added leading to a relocated driveway. With these improvements and a 10 percent TDM reduction, the intersection is expected to operate at an acceptable LOS C and LOS D during the AM and PM peak hours, respectively, under background plus project conditions. These improvements should be fully funded by the PHDSP Area developments.

17. Great America Parkway and Patrick Henry Drive

This City of Santa Clara intersection would operate at an acceptable LOS C during the AM peak hour and an unacceptable LOS E during the PM peak hour under background conditions. The development of the PHDSP under Option 2 would cause the intersection to degrade to LOS F during the AM peak hour and cause the average critical movement delay to increase by 307.5 seconds and the critical v/c to increase by 0.723 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by constructing a second northbound left-turn lane and a second eastbound right-turn lane. Although intersection widening for dual right-turn lanes may improve vehicle operations, this improvement conflicts with bicycle and pedestrian policies within the City's *2010-2035 General Plan* (GP), *2018 Bicycle Master Plan* (BMP), and *2019 Pedestrian Master Plan* (PMP). Intersection widening is discouraged by GP Policy 5.8.2-P2 and PMP Policies 1.A.3, 2.A.1, and 2.A.4. Dual right-turn lanes result in challenges with visibility between turning vehicles and pedestrians (*Caltrans Highway Design Manual* 403.6(1)) and this conflicts with GP Policy 5.8.4-P13, BMP Policy 1.A.2 and PMP Policies 1.A.3 and 2.A.5. Furthermore, intersection widening reduces the width of

sidewalks and conflicts with GP Policy 5.8.2-P1 and the PMP Pedestrian Recommendation Toolbox. Therefore, intersection widening for dual right-turn lanes is not recommended. With only the recommended dual northbound left-turn lanes and a 10 percent TDM reduction, the intersection is expected to operate at an acceptable LOS D during the AM peak hour and an unacceptable LOS E during the PM peak hour under background plus project conditions. The cost of this improvement will be fully funded by PHDSP Area developments.

Developments within the PHDSP Area also will be responsible for construction of a Class IV separated bikeway on Patrick Henry Drive. This multimodal improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would encourage residents and employees to leave their vehicles at home by adding a physical barrier between the existing bike lane and the vehicular travel lane, thereby increasing the comfort level for cyclists. Within the Specific Plan area, the bikeway improvement will be constructed as part of the Plan. Outside the Specific Plan area, PHDSP area stakeholders will pay a fair share fee for future construction of the bikeway on the Patrick Henry Drive segment between the Plan Area and Tasman Drive.

32. Mission College Boulevard/Thomas Road and Montague Expressway

This CMP intersection in the City of Santa Clara would operate at an acceptable LOS E under background conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection to degrade to an unacceptable LOS F during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. A sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would reduce the average delay to 78.9 seconds per vehicle, which corresponds to an acceptable LOS E. Thus, TDM measures are expected to be sufficient to avoid the adverse effect without any physical improvements at this intersection.

47. N. 1st Street and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS F under background conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by 9.0 seconds and the critical v/c to increase by 0.018 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development and lessen the adverse effect. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

48. Zanker Road and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS E under background conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by 5.8 seconds and the critical v/c to increase by 0.018 during the PM peak hour. This constitutes an adverse effect on intersection operations.

The City of San José plans to widen Zanker Road to three lanes in each direction from River Oaks Parkway to Trimble Road and to add a second left-turn lane on both the northbound and southbound

approaches. This improvement is anticipated to be complete sometime between the Year 2030 and 2040. Thus, this improvement is assumed under cumulative conditions but not background conditions. This planned improvement and a 10 percent TDM reduction would cause the increase in critical movement delay to be less than four seconds such that the project would not be considered to have an adverse effect on intersection operations. The PHDSP Area developments should either pay the North San José fee, or a fair-share contribution for the improvement, or a fair-share contribution for off-setting multimodal improvements based on the amount of Project's percent contribution of the traffic volume growth at the intersection.

Summary of Background Plus Project Conditions with Mission College Boulevard Connection

Table 11 presents a summary of the intersections that would be adversely affected under each project option and the improvements recommended under background plus project conditions with the proposed new roadway connection to Mission College Boulevard. The table also shows the development level triggering the need for each improvement both as a percentage of the PHDSP area buildout and as the total daily vehicle trips generated by all parcels within the PHDSP area. With the exception of planned improvements to intersections on County Expressways, to which the project would pay a fair-share contribution, the project will fully fund the improvements required to offset adverse effects identified under background plus project conditions. Funding commitments of individual stakeholders within the PHDSP area will be determined through an infrastructure fee.

Table 11
Summary of Affected Intersections under Background Plus Project Conditions with Mission College Boulevard Connection

#	Intersection	Jurisdiction	With Mission College Boulevard Connection Affected Scenario		Development Level Triggering Need for Improvement % (daily trips)		Recommended Improvements	Project Responsibility[1]
			Option 1	Option 2	Option 1	Option 2		
9	Old Ironsides Drive and Patrick Henry Drive *(Unsignalized)*	SC	**YES**	**YES**	1% (628)	2% (814)	Install a traffic signal Install WB LT lane when adjacent property develops	100% 100%
17	Great America Parkway and Patrick Henry Drive	SC	**YES**	**YES**	1% (773)	1% (698)	Opt. 1 & 2: Add a second northbound left-turn lane Opt. 2 only: Construct Class IV separated bikeway on Patrick Henry Drive within Plan area and from Plan area to Tasman Dr. (Bicycle Master Plan Update 2018)	100% 100% within Plan area fair share outside Plan area
23	Bowers Avenue and Central Expressway (CMP)	SCC	**YES**	NO	74% (38,296)	n/a	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
32	Mission College Blvd and Montague Expwy *(CMP)*	SCC	NO	**YES**	n/a	95% (47,877)	TDM Measures with 10% Trip Reduction	100%
47	N. 1st Street and Montague Expressway *(CMP)*	SCC	**YES**	**YES**	48% (24,619)	56% (28,056)	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
48	Zanker Road and Montague Expressway *(CMP)*	SCC	**YES**	**YES**	44% (22,978)	69% (34,828)	Widen Zanker Rd to 3 lanes in each direction from River Oaks Parkway to Trimble Rd and add a 2nd left-turn lane on both the NB and SB approaches (North San José Deficiency Plan)	Pay North San José fee or % of Total Traffic

Notes:

SCC = Santa Clara County, SC = Santa Clara, SJ = San Jose, SV = Sunnyvale

[1] "100%" = The cost and construction of the recommended improvement is the full responsibility of PHDSP area developements. These are discrete improvements that counter adverse effects caused by the project. "% of Total Traffic" = PHDSP area developements shall pay a fair-share contribution to the recommended improvement, which is typically a larger transportation improvement, such as an expressway interchange or bike lanes along a corridor, that has been identified in an adopted plan. "Pay North San José fee or % of Total Traffic" = PHDSP area developements can pay the North San José fee, or a fair-share contribution for the improvement, or a fair-share contribution for off-setting multimodal improvements based on the amount of Project's percent contribution of the traffic volume growth at the intersection.

Background Plus Project Intersection Levels of Service - without Mission College Boulevard Connection

The intersection operations analyses presented in the previous section assume that the Patrick Henry Drive Specific Plan would construct a new roadway connecting Patrick Henry Drive with the Mission College Boulevard loop. The new roadway connection would require the consent of Mission College as it would connect to a private roadway controlled by the College. Because it is uncertain if the College will consent to this new roadway connection, background traffic conditions also were analyzed without this new roadway connection.

As presented above, the analysis without the new roadway connection also covers two development options within the PHDSP Area. The analysis was limited to 10 key study intersections that would be substantially affected by the elimination of the proposed new roadway connection.

The elimination of this short roadway segment between Patrick Henry Drive and Mission College Boulevard is not expected to have an appreciable effect on the mode split or project trip distribution. Thus, traffic forecasts were developed for the new background scenarios by manually reassigning trips that had been forecast to use the new roadway connection to alternative routes. The following roadway segments are expected to experience an increase in traffic without the new roadway connection:

- Lawrence Expressway between Lakewood Drive/Bridgewood Way and Tasman Drive
- Tasman Drive between Lawrence Expressway and Old Ironsides Drive
- Mission College Boulevard between Wildwood Avenue and Great America Parkway (south side of the Mission College Boulevard loop)
- Great America Parkway between Mission College Boulevard and Old Glory Lane

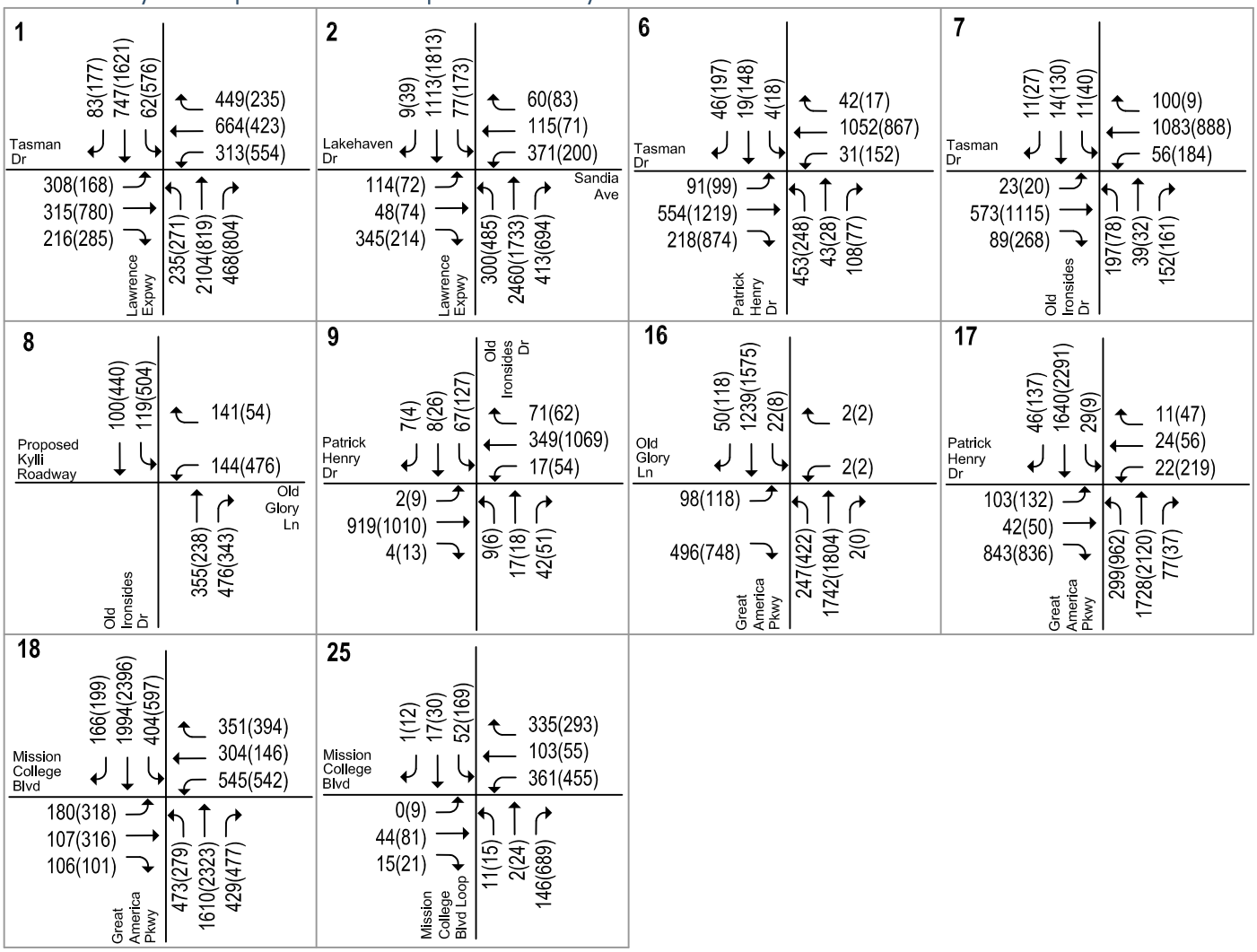
Thus, the analysis was limited to the following 10 key study intersections that would be substantially affected by the elimination of the proposed new roadway connection:

1. Lawrence Expressway and Tasman Drive
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive
6. Patrick Henry Drive and Tasman Drive
7. Old Ironsides Drive and Tasman Drive
8. Old Ironsides Drive and Old Glory Lane
9. Old Ironsides Drive and Patrick Henry Drive
16. Great America Parkway and Old Glory Lane
17. Great America Parkway and Patrick Henry Drive
18. Great America Parkway and Mission College Boulevard
25. Mission College Loop and Mission College Boulevard

The traffic volumes and level of service at the other 40 study intersections would be the same with or without the new roadway connection. The resulting background plus project traffic volume forecasts without the new roadway connection to Mission College Boulevard under PHDSP Options 1 and 2 are presented in Figures 12 and 13, respectively.

Background Plus Project Intersection Levels of Service without Mission College Boulevard Connection

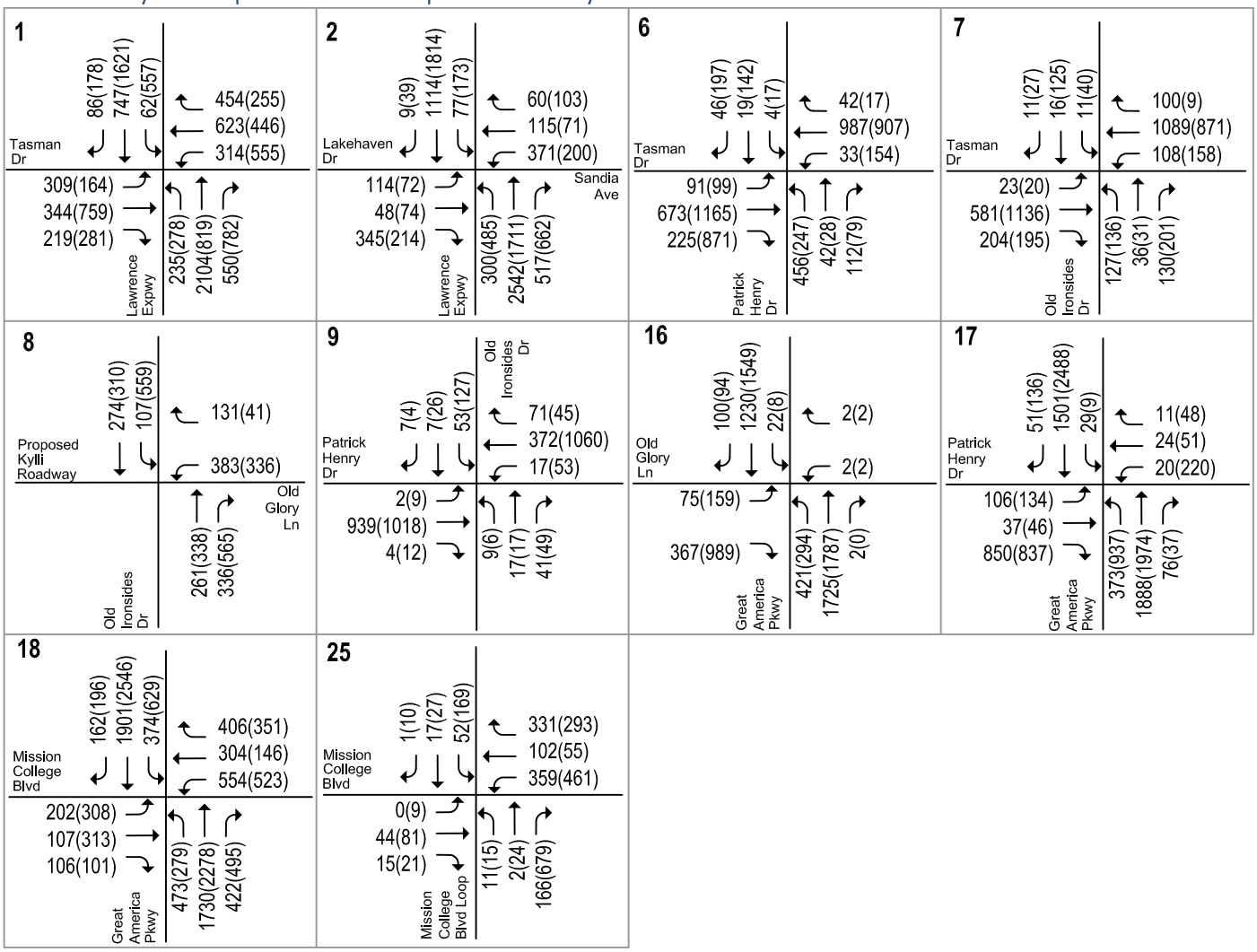
The results of the intersection level of service analysis without the new roadway connection to Mission College Boulevard under PHDSP Options 1 and 2 are presented in Tables 12 and 13, respectively. Compared to the results of similar background plus project scenarios with the new roadway connection (see Tables 9 and 10), the elimination of the proposed new roadway connection would exacerbate traffic operations at many intersections and result in adverse effects at additional intersections.



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 12
Background Plus Project Traffic Volumes
Without Mission College Boulevard Connection - Option 1



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 13
Background Plus Project Traffic Volumes
Without Mission College Boulevard Connection - Option 2

Table 12
Background Plus Project Intersection Levels of Service without Mission College Boulevard Connection – Option 1

					with Mission College Bouelvard Connection						without Mission College Boulevard Connection					
			No Project		Option 1				Option 1 - With 10% TDM & Improvement		Option 1				Option 1 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	47.6	D	60.7	E	21.6	0.100			59.7	E	21.6	0.100		
	(CMP)	PM	64.5	E	71.7	E	9.9	0.035			74.0	E	10.6	0.044		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	64.3	E	64.9	E	0.0	0.000			66.6	E	-0.1	0.002		
		PM	62.5	E	58.4	E	-8.6	0.165			57.4	E	-11.0	0.165		
6	Patrick Henry Drive and Tasman Drive	AM	16.2	B	27.8	C	13.1	0.135			27.0	C	13.3	0.140		
		PM	18.0	B	25.7	C	12.6	0.132			24.9	C	15.6	0.297		
7	Old Ironsides Drive and Tasman Drive	AM	5.5	A	16.4	B	10.9	0.046			16.5	B	11.2	0.049		
		PM	10.9	B	19.2	B	12.0	0.133			19.1	B	11.6	0.178		
8	Old Ironsides Drive and Old Glory Lane	AM	3.9	A	1.2	A	-2.7	0.077			8.4	A	4.6	0.682	10.9	B
	(Unsignalized)	PM	3.6	A	10.5	B	6.9	0.726			**OVFL**	**F**	**OVFL**	16.326	19.1	B
9	Old Ironsides Drive and Patrick Henry Drive	AM	0.9	A	**OVFL**	**F**	**OVFL**	**3.948**	25.1	C	11.2	B	10.3	0.957	12.8	B
	(Unsignalized)	PM	4.4	A	**OVFL**	**F**	**OVFL**	**51.350**	28.7	C	**OVFL**	**F**	**OVFL**	**20.525**	17.8	B
16	Great America Parkway and Old Glory Lane	AM	10.5	B	11.4	B	1.0	0.068			27.4	C	20.3	0.505	19.0	B
		PM	13.3	B	17.2	B	6.2	0.031			**72.7**	**E**	**88.6**	**0.660**	40.1	D
17	Great America Parkway and Patrick Henry Drive	AM	27.4	C	**107.9**	**F**	**111.3**	**0.555**	42.4	D	**102.0**	**F**	**103.6**	**0.542**	48.6	D
		PM	**66.5**	**E**	**242.3**	**F**	**OVFL**	**0.669**	50.6	D	**260.9**	**F**	**OVFL**	**0.749**	**63.4**	**E**
18	Great America Pkwy and Mission College Blvd	AM	36.6	D	37.9	D	-1.7	0.128			37.8	D	-4.6	0.157		
	(CMP)	PM	39.7	D	41.6	D	3.6	0.053			38.9	D	-4.9	0.023		
25	Mission College Loop and Mission College Blvd	AM	12.1	B	22.4	C	10.0	0.123			11.7	B	-0.6	0.018		
		PM	25.2	C	27.9	C	2.9	0.147			25.3	C	-0.1	0.002		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

Table 13
Background Plus Project Intersection Levels of Service without Mission College Boulevard Connection – Option 2

					with Mission College Bouelvard Connection						without Mission College Boulevard Connection					
			No Project		Option 2				Option 2 - With 10% TDM & Improvement		Option 2				Option 2- With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	47.6	D	57.9	E	17.0	0.090			56.6	E	17.0	0.090		
	(CMP)	PM	64.5	E	70.1	E	7.4	0.031			71.6	E	8.2	0.039		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	64.3	E	65.7	E	0.0	0.000			70.3	E	-0.1	0.002		
		PM	62.5	E	62.0	E	5.4	0.175			60.9	E	2.6	0.175		
6	Patrick Henry Drive and Tasman Drive	AM	16.2	B	27.8	C	13.2	0.114			26.6	C	13.4	0.120		
		PM	18.0	B	25.6	C	12.5	0.122			24.7	C	15.2	0.293		
7	Old Ironsides Drive and Tasman Drive	AM	5.5	A	14.7	B	6.9	0.002			14.7	B	7.1	0.005		
		PM	10.9	B	19.2	B	10.5	0.106			19.2	B	10.1	0.142		
8	Old Ironsides Drive and Old Glory Lane	AM	3.9	A	3.9	A	0.0	0.346			**105.2**	**F**	**101.3**	**1.748**	15.7	B
	(Unsignalized)	PM	3.6	A	4.5	A	**0.9**	**0.470**			**OVFL**	**F**	**OVFL**	**OVFL**	14.7	B
9	Old Ironsides Drive and Patrick Henry Drive	AM	0.9	A	**OVFL**	**F**	**400.4**	**5.749**	23.6	C	8.3	A	7.4	0.820	12.5	B
	(Unsignalized)	PM	4.4	A	**OVFL**	**F**	**OVFL**	**OVFL**	40.6	D	**OVFL**	**F**	**OVFL**	**17.635**	15.6	B
16	Great America Parkway and Old Glory Lane	AM	10.5	B	11.3	B	0.7	0.049			26.2	C	22.9	0.536	16.7	B
		PM	13.3	B	21.4	C	8.1	0.044			**89.9**	**F**	**110.5**	**0.727**	51.3	D
17	Great America Parkway and Patrick Henry Drive	AM	27.4	C	**113.0**	**F**	**124.7**	**0.581**	36.3	D	**107.0**	**F**	**116.6**	**0.567**	47.1	D
		PM	**66.5**	**E**	**263.1**	**F**	**307.5**	**0.723**	**72.4**	**E**	**276.0**	**F**	**OVFL**	**0.774**	**72.4**	**E**
18	Great America Pkwy and Mission College Blvd	AM	36.6	D	37.8	D	-1.1	0.112			39.3	D	-4.5	0.187		
	(CMP)	PM	39.7	D	42.0	D	4.0	0.077			38.7	D	-5.0	0.046		
25	Mission College Loop and Mission College Blvd	AM	12.1	B	22.5	C	10.0	0.125			11.7	B	-0.6	0.018		
		PM	25.2	C	27.7	C	2.7	0.139			25.1	C	-0.2	0.005		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

Of the 10 study intersections evaluated without the proposed new roadway connection, the following 4 intersections would be adversely affected by development of the PHDSP Area under Option 1:

8. Old Ironsides Drive and Old Glory Lane (PM peak hour)
9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
16. Great America Parkway and Old Glory Lane (PM peak hour)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)

Under the development of the PHDSP Area under Option 2, the following 4 study intersections evaluated without the proposed new roadway connection would be adversely affected:

8. Old Ironsides Drive and Old Glory Lane (AM and PM peak hours)
9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
16. Great America Parkway and Old Glory Lane (PM peak hour)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)

The adverse effects identified in this analysis do not constitute significant impacts under CEQA. The intersection level of service calculation sheets are included in Appendix C.

Recommended Improvements Without Mission College Boulevard Connection

While the traffic volume forecasts would be higher without the new roadway connection to Mission College Boulevard exacerbating congestion at many study intersections, additional intersection improvements beyond those recommended in the previous chapters are not feasible at many locations. Thus, at most study intersections, the recommended improvements for adverse effects on intersection operations would be the same with or without the proposed new roadway connection (see Table 14). The following two intersections would require additional improvements without the roadway connection that were not identified in the previous section. The recommended improvements would be the same under PHDSP Option 1 and Option 2 unless stated otherwise.

8. Old Ironsides Drive and Old Glory Lane

With the proposed new roadway connection to Mission College Boulevard, this unsignalized intersection is expected to operate at an acceptable level of service and would not meet the peak-hour signal warrant under background plus project conditions. However, without the proposed roadway connection, the intersection would operate at an unacceptable level of service and would satisfy the peak-hour signal warrant during one or both peak hours under both PHDSP development options. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP development and lessen the adverse effect. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. Intersection operations could be improved to an acceptable LOS B during the peak hours by installing a traffic signal and achieving a 10 percent TDM reduction. The PHDSP Area developments should provide full funding for this new signal.

16. Great America Parkway and Old Glory Lane

This City of Santa Clara intersection is expected to operate at an acceptable LOS B or C during the PM peak hour under background plus project conditions with the proposed new roadway connection. However, without the proposed roadway connection, the intersection would degrade to an unacceptable LOS E and LOS F under PHDSP Option 1 and Option 2, respectively. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP development and lessen the adverse effect. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. Intersection operations could be improved to an acceptable LOS D by adding a second northbound left-turn lane and achieving a 10 percent TDM reduction. The PHDSP Area developments should provide full funding for this improvement.

Table 14
Summary of Affected Intersections under Background Plus Project Conditions without Mission College Blvd. Connection

#	Intersection	Jurisdiction	Without Mission College Boulevard Connection Affected Scenario		Development Level Triggering Need for Improvement % (daily trips)		Recommended Improvements	Project Responsibility[1]
			Option 1	Option 2	Option 1	Option 2		
8	*Old Ironsides Drive and Old Glory Lane (Unsignalized)*	*SC*	**YES**	**YES**	1% (517)	1% (505)	Install a traffic signal	100%
9	Old Ironsides Drive and Patrick Henry Drive *(Unsignalized)*	SC	**YES**	**YES**	8% (4,173)	9% (4,715)	Install a traffic signal Install WB LT lane when adjacent property develops	100% 100%
16	Great America Parkway and Old Glory Lane	SC	**YES**	**YES**	70% (36,294)	54% (28,145)	Add a second northbound left-turn lane	100%
17	Great America Parkway and Patrick Henry Drive	SC	**YES**	**YES**	1% (728)	1% (657)	Add a second northbound left-turn lane and Construct Class IV separated bikeway on Patrick Henry Drive within Plan area and from Plan area to Tasman Dr. (Bicycle Master Plan Update 2018)	100% 100% within Plan area fair share outside Plan area
23	Bowers Avenue and Central Expressway (CMP)	SCC	**YES**	NO	74% (38,296)	n/a	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
32	Mission College Blvd and Montague Expwy *(CMP)*	SCC	NO	**YES**	n/a	95% (47,877)	TDM Measures with 10% Trip Reduction	100%
47	N. 1st Street and Montague Expressway *(CMP)*	SCC	**YES**	**YES**	48% (24,619)	56% (28,056)	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
48	Zanker Road and Montague Expressway *(CMP)*	SCC	**YES**	**YES**	44% (22,978)	69% (34,828)	Widen Zanker Rd to 3 lanes in each direction from River Oaks Parkway to Trimble Rd and add a 2nd left-turn lane on both the NB and SB approaches (North San José Deficiency Plan)	Pay North San José fee or % of Total Traffic

Notes:
SCC = Santa Clara County, SC = Santa Clara, SJ = San Jose, SV = Sunnyvale

[1] "100%" = The cost and construction of the recommended improvement is the full responsibility of PHDSP area developements. These are discrete improvements that counter adverse effects caused by the project. "% of Total Traffic" = PHDSP area developements shall pay a fair-share contribution to the recommended improvement, which is typically a larger transportation improvement, such as an expressway interchange or bike lanes along a corridor, that has been identified in an adopted plan. "Pay North San José fee or % of Total Traffic" = PHDSP area developements can pay the North San José fee, or a fair-share contribution for the improvement, or a fair-share contribution for off-setting multimodal improvements based on the amount of Project's percent contribution of the traffic volume growth at the intersection.

5. Cumulative Conditions

This chapter describes the roadway traffic operations under cumulative no project conditions and cumulative plus project conditions. Cumulative conditions represent the Year 2040. Cumulative no project conditions include all anticipated developments in the area including the Freedom Circle Focus Area, except development of the Patrick Henry Drive Specific Plan Area. Cumulative plus project conditions were evaluated relative to cumulative no project conditions to identify adverse effects of the PHDSP Area development. As in the previous chapter, this report evaluates two development options in the PHDSP Area both with and without the proposed new vehicle connection from Patrick Henry Drive to Mission College Boulevard. This chapter describes cumulative improvements assumed in the Year 2040 transportation network, the procedure used to forecast cumulative traffic volumes, the resulting traffic conditions, and improvements recommended to alleviate adverse effects of the PHDSP Area development.

Roadway Network under Cumulative Conditions

The transportation network under cumulative conditions is assumed to include all of the background transportation improvements described in Chapter 3 plus the following additional improvements at study intersections. The intersection improvements are planned CIP projects and improvements that will be funded by City Place as mitigation for buildout of the project. Figure 14 shows the lane configurations at the study intersections under cumulative conditions.

38. Calle Del Sol and Tasman Drive: reconfigure southbound approach to include two left-turn lanes and one right-turn lane with overlap phase.

40. Lafayette Street and Calle De Luna: reconstruct the westbound approach to include two left-turn lanes and one right-turn lane.

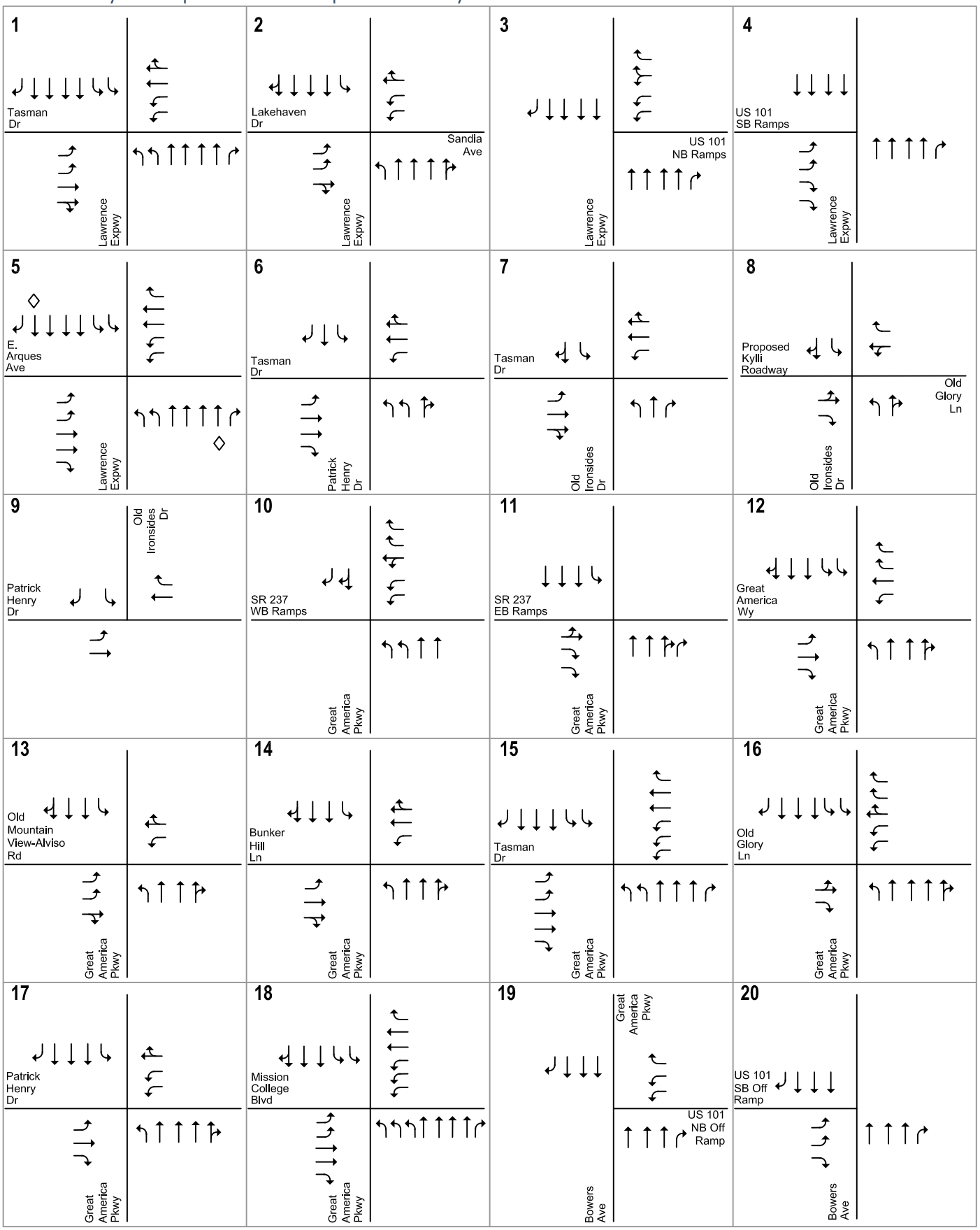
41. Lafayette Street and Agnew Road: add a second eastbound left-turn lane and a second southbound left-turn lane.

42. Scott Boulevard and Central Expressway: convert Central Expressway HOV lane to mixed-flow lane, resulting in 3 mixed-flow lanes in each direction (eastbound and westbound).

43. Lafayette Street and Central Expressway: convert Central Expressway HOV lane to mixed-flow lane, resulting in 3 mixed-flow lanes in each direction (eastbound and westbound).

44. De la Cruz Boulevard and Central Expressway: convert Central Expressway HOV lane to mixed-flow lane, resulting in 3 mixed-flow lanes in eastbound direction.

46. Lick Mill Boulevard and Montague Expressway: add a third southbound left-turn lane.



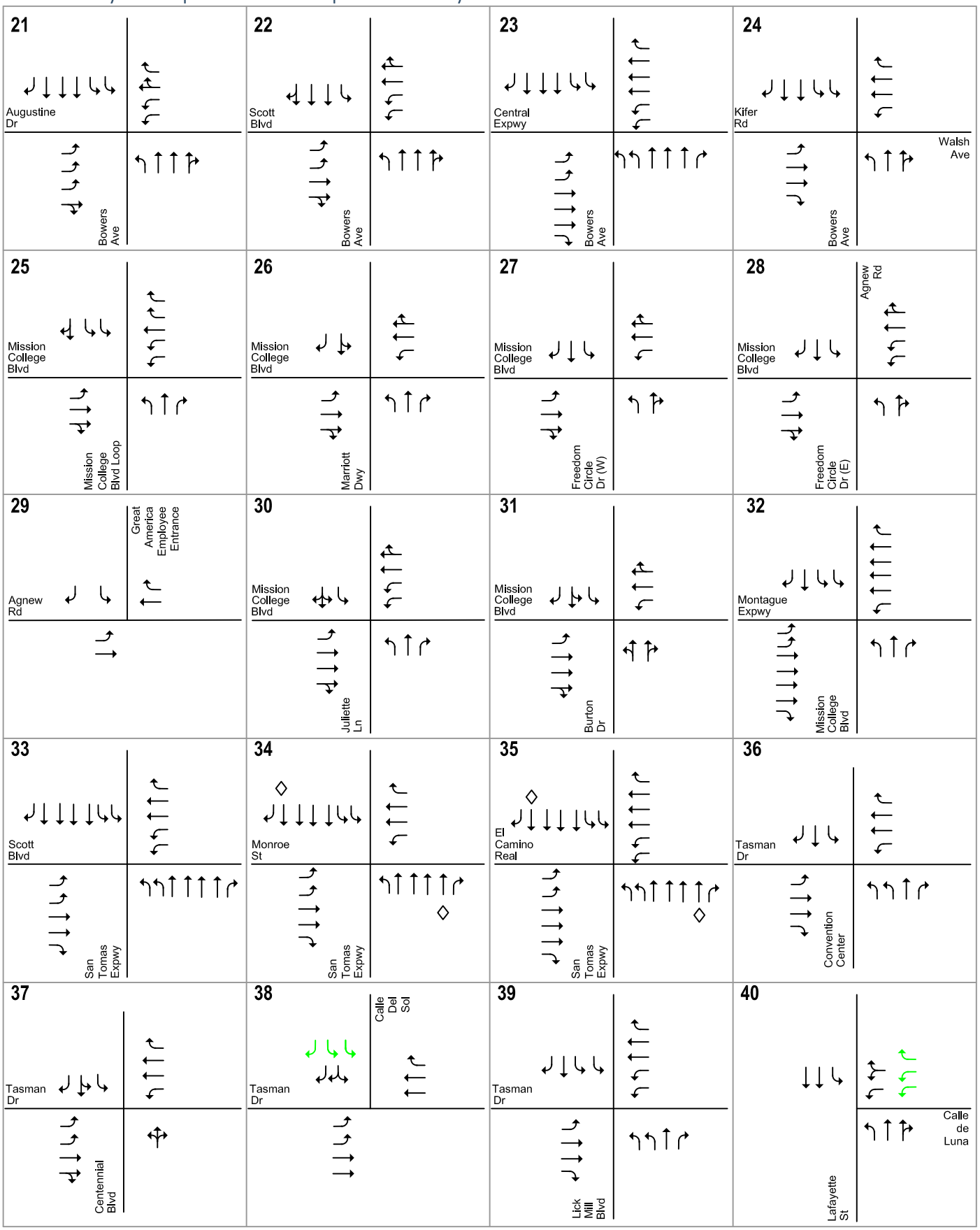
LEGEND

← = Cumulative Improvement

◇ = HOV Lane

Figure 14
Cumulative No Project Lane Configurations

NORTH
Not to Scale

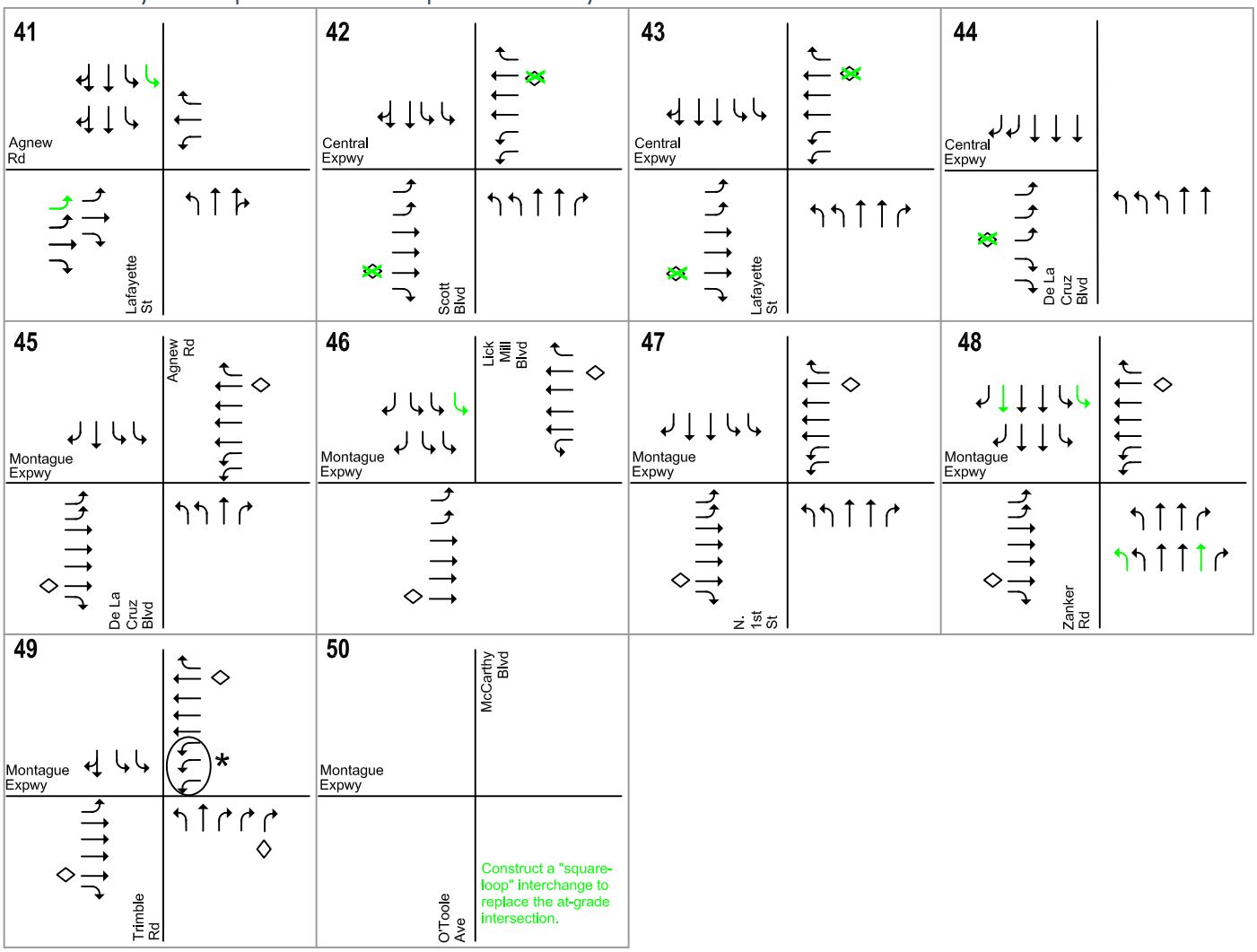


LEGEND

← = Cumulative Improvement

◇ = HOV Lane

Figure 14
Cumulative No Project Lane Configurations



* The WBL will be replaced with a new flyover to serve WBL to SB direction.

LEGEND
⟵ = Cumulative Improvement
◇ = HOV Lane

Figure 14
Cumulative No Project Lane Configurations

48. Zanker Road and Montague Expressway: widen Zanker Road to three lanes in northbound and southbound directions from River Oaks Parkway to Trimble Road; Add a second northbound left-turn lane and a second southbound left-turn lane.

50. McCarthy Boulevard/O'Toole Avenue and Montague Expressway: construction of a "square-loop" interchange to replace the at-grade intersection.

Cumulative conditions with the project assume the above transportation improvements plus those described in Chapter 4 including the proposed new roadway connection between Patrick Henry Drive and Mission College Boulevard Loop and a change in the lane configuration at the intersection of Patrick Henry Drive and Old Ironsides Drive.

Cumulative Traffic Volumes

Cumulative No Project Traffic Volumes

Traffic volumes under cumulative no project conditions (see Figure 15) were estimated using the CSC travel demand forecast model. The model land use assumptions reflect ABAG 2040 land use projections in most locations. In the vicinity of the Plan Area, the model assumes buildout of City Place and the Tasman East Specific Plan Area as well as development of an additional 1,500 dwelling units per a proposed Amendment to the Tasman East Specific Plan.

Cumulative no project conditions also assume buildout of the proposed Kylli site located immediately north of the PHDSP Area and the Freedom Circle Focus Area located southeast of the PHDSP Area. As originally proposed, the Kylli mixed-use development totaled 10.61 million gross square feet. The application is currently on hold as Kylli works to prepare a reduced-density plan with reduced heights based on feedback from the FAA. While the reduced density plan has not yet been finalized, for the purpose of this analysis, the Kylli site is assumed to contain 3,170 residential dwelling units, 3,060,000 s.f. of office space, approximately 250,000 s.f. of retail/restaurant space, a 300-room hotel, a 600-student elementary school and a 160-student day care.

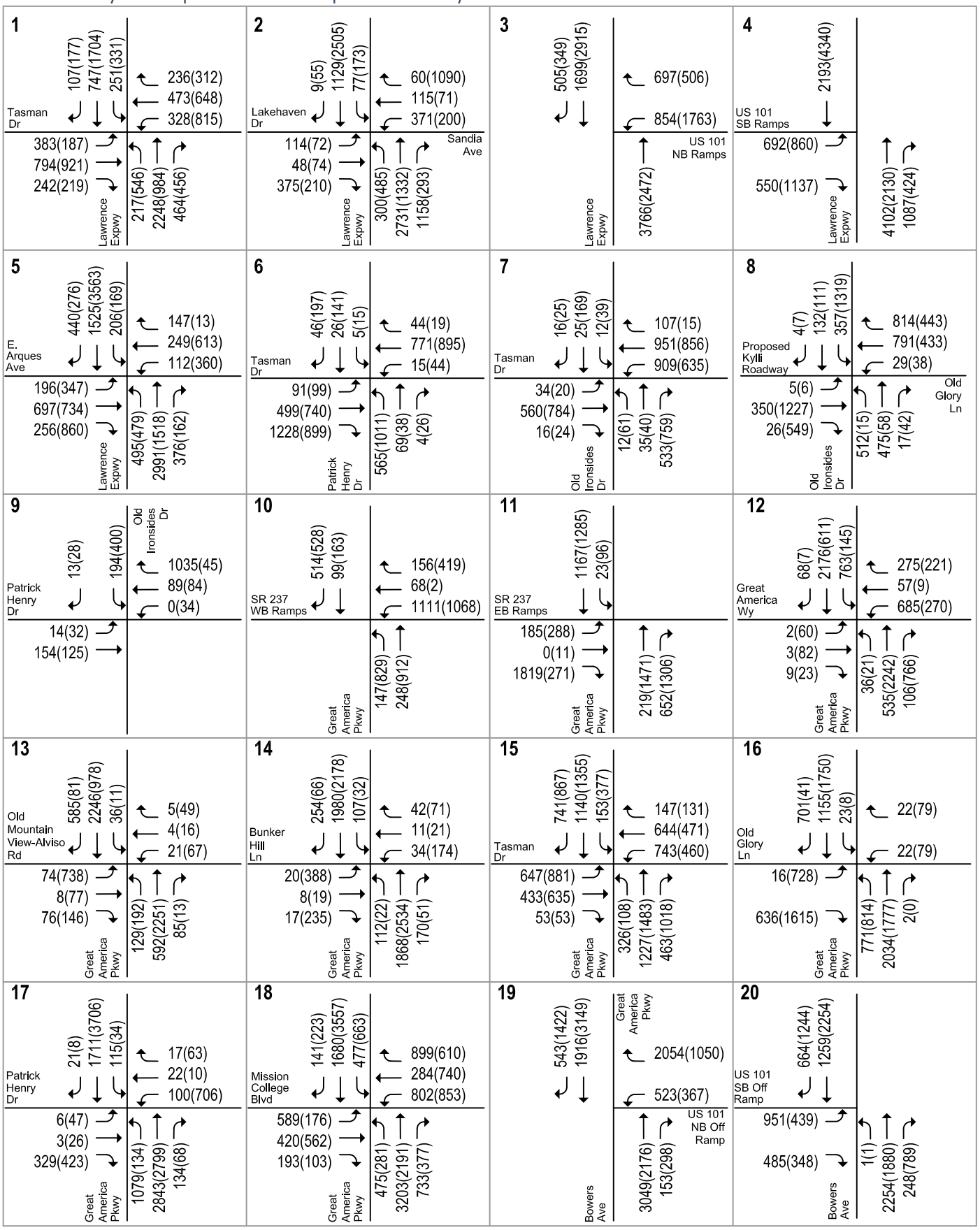
The Freedom Circle Focus Area land uses under this cumulative scenario are assumed to include existing employment plus ABAG projected employment growth (from 3,906 jobs under the Year 2018 baseline to 4,409 jobs in the Year 2040, an increase of approximately 13 percent), the completion of the approved 718,000 s.f. office development at 4301, 4401, 4551 Great America Parkway, and the construction of 2,000,000 s.f. of additional office space, 3,600 residential dwelling units (1,100 units on the Greystar site and the 2,500 units on the Irvine property), and 2,000 s.f. of retail space as permitted under the proposed Freedom Circle Focus Area Plan. The existing Marriott hotel is assumed to remain unchanged under cumulative conditions with the Focus Area employment growth divided among the other non-residential parcels.

Like under background no project conditions, cumulative no project conditions assume no growth in the existing employment within the Patrick Henry Drive Specific Plan Area.

While the ABAG land use data do not reflect any growth in enrollment at Mission College from 2018 to 2040, the forecasts were modified to reflect a ten percent increase in enrollment by the Year 2040 based on historic data obtained from the California Community Colleges Chancellor’s Office.

Cumulative Plus Project Traffic Volumes

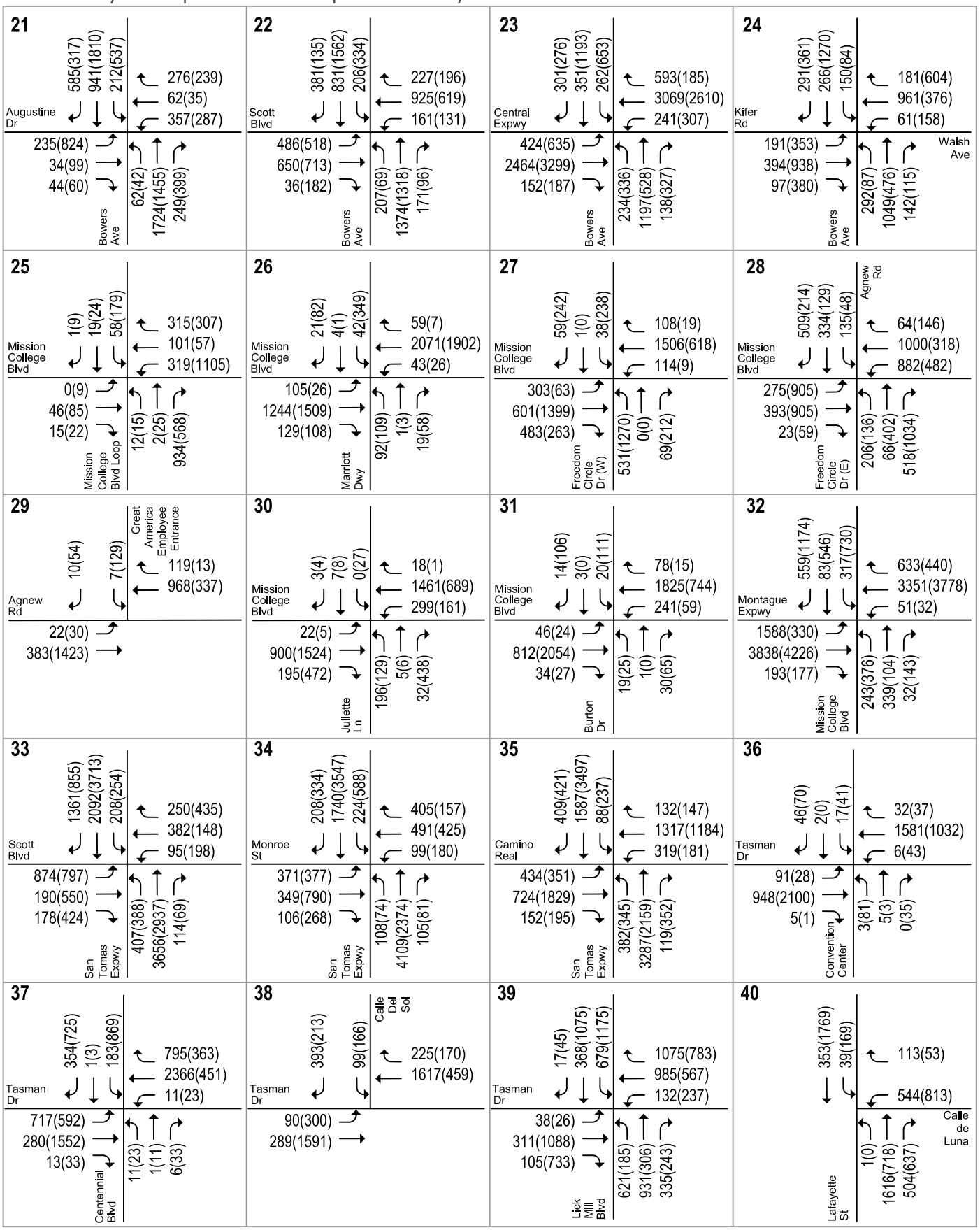
Traffic volumes under cumulative plus project conditions with the proposed new roadway connection to Mission College Boulevard were estimated for both PHDSP Option 1 and Option 2 using the CSC travel demand forecast model. The land use assumptions outside the PHDSP Area are unchanged from the above cumulative no project scenario. The land uses assumptions within the PHDSP Area are



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

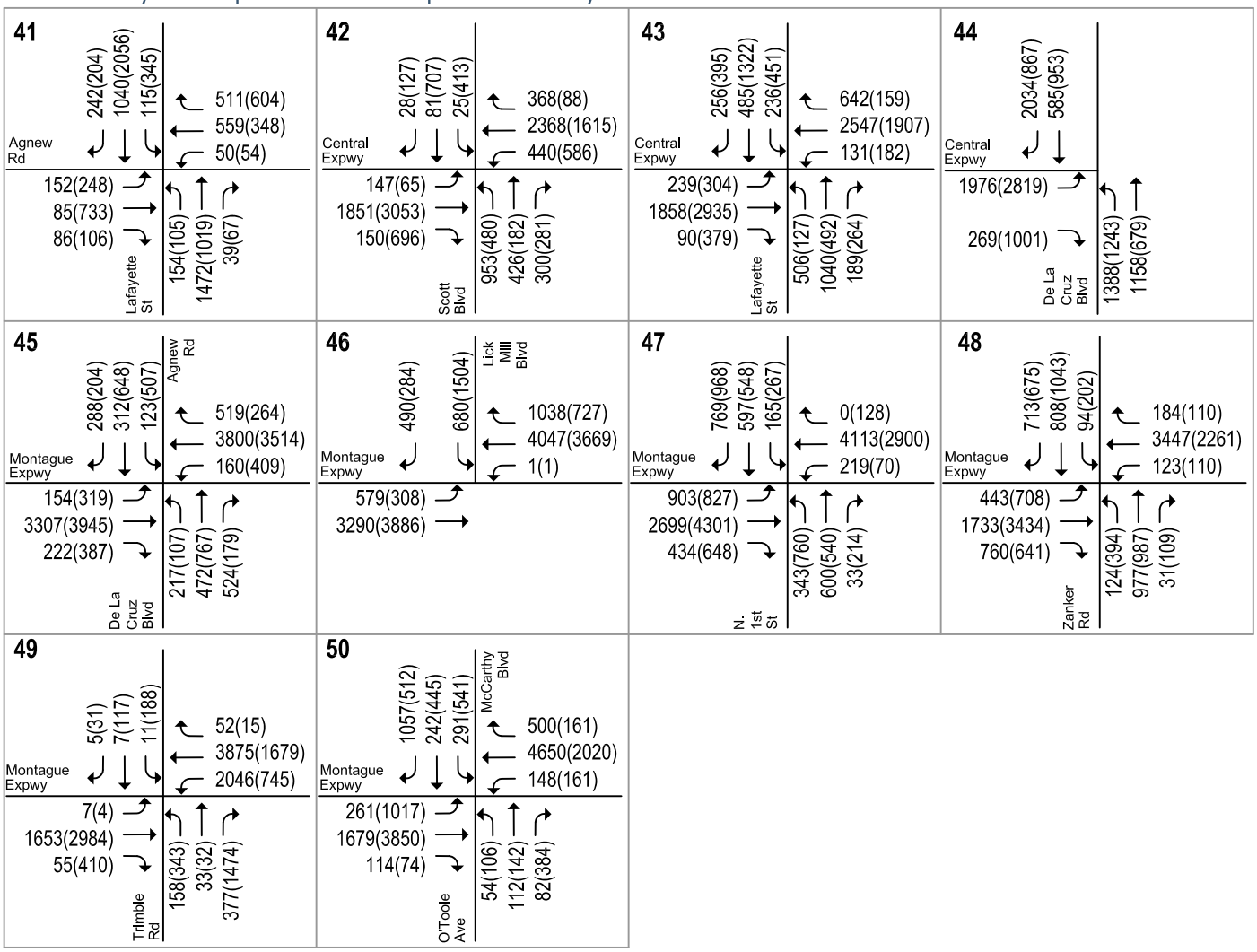
Figure 15
Cumulative No Project Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 15
Cumulative No Project Traffic Volumes



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 15
Cumulative No Project Traffic Volumes

unchanged from those presented in Chapter 4. Like under background plus project conditions, the trips generated by the PHDSP Area development were estimated based on ITE trip rates, a 25-percent pass-by trip reduction for retail uses, and reductions for internal trips and transit usage based on CSC model estimates.

The gross project trips generated by the development of PHDSP Option 1 and Option 2 remain the same as described in Chapter 4. After applying the trip reductions, the PHDSP option 1 development is expected to generate 51,666 net daily vehicle trips, 3,253 (881 inbound and 2,372 outbound) net AM peak hour trips, and 4,698 (2,760 inbound and 1,938 outbound) net PM peak hour trips under cumulative conditions (see Table 15). PHDSP Option 2 development is expected to generate 50,157 net new daily vehicle trips, 3,420 (1,269 inbound and 2,151 outbound) net new AM peak hour trips, and 4,763 (2,494 inbound and 2,269 outbound) net new PM peak hour trips under cumulative conditions (see Table 16). See Figures 16 and 17 for traffic volumes under cumulative plus project conditions with the proposed new roadway connection to Mission College Boulevard.

Compared to the project trip estimates in the Year 2030 (see Tables 7 and 8 in the previous chapter), the Year 2040 project trip estimates reflect a slightly lower reduction for internal trips because nearby large developments assumed in the Year 2040 that were not included in the Year 2030 (e.g. the Kylli mixed-use project and the Freedom Circle Focus Area), attract some vehicle trips from the proposed project that would have been internal bike/walk trips in 2030. Conversely, the 2040 forecasts show a greater percentage of project trips would use transit than in 2030. This is due to the generally higher traffic volumes on area roadways in 2040, which cause increasing levels of roadway congestion and in turn make transit a relatively more attractive alternative in 2040 than in 2030.

Table 15
Project Trip Generation Estimates – Option 1 (Year 2040)

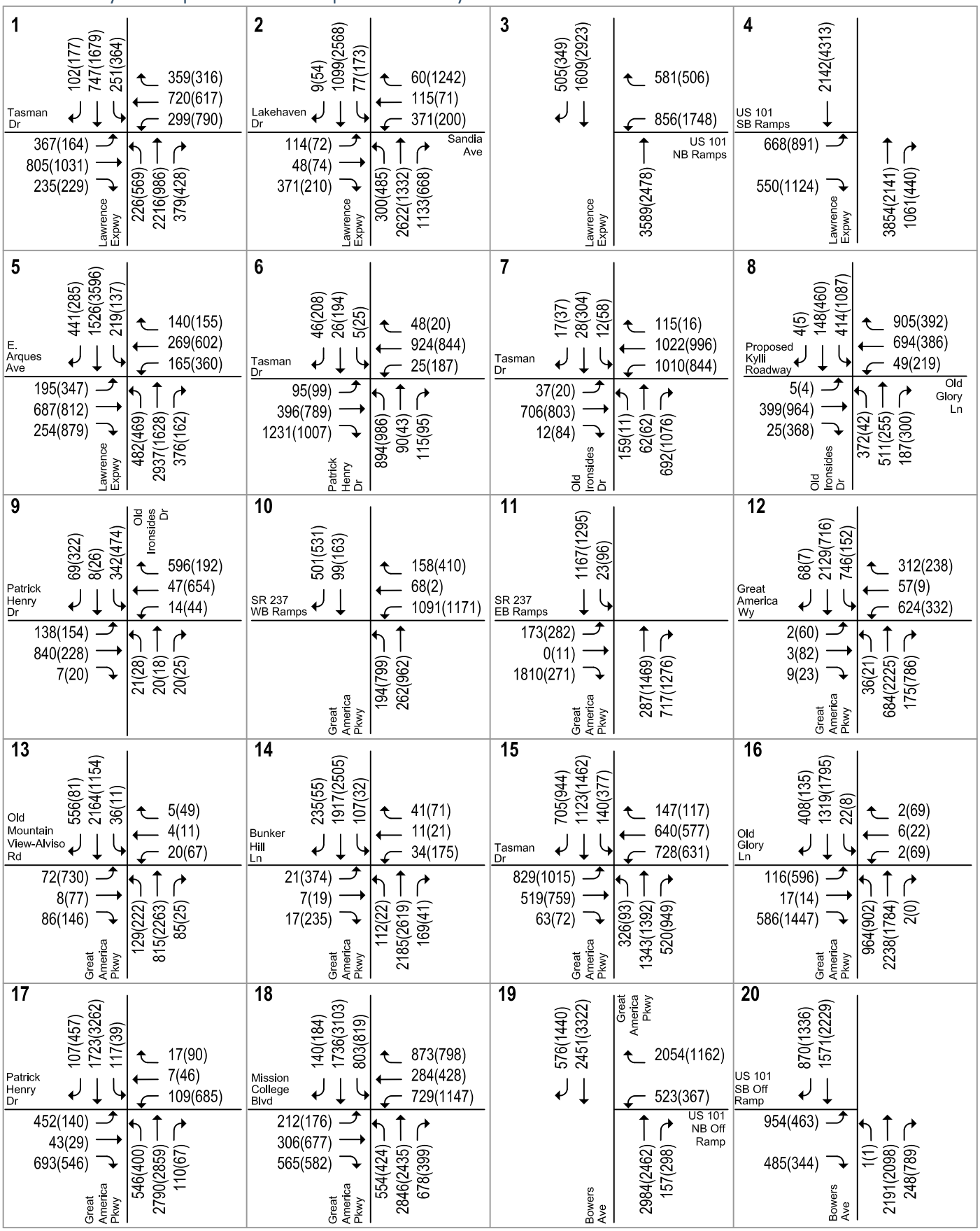
			Daily			AM Peak Hour					PM Peak Hour				
							Trips					Trips			
Land Use	Size		Rate	Trips	Mode Share	Rate	In	Out	Total	Mode Share	Rate	In	Out	Total	Mode Share
Multifamily Housing (Mid-Rise)	6,918	Dwelling Units	5.44	37,634		0.36	647	1,843	2,490		0.44	1,857	1,187	3,044	
Multifamily Housing (High-Rise)	5,083	Dwelling Units	4.45	22,619		0.31	378	1,198	1,576		0.36	1,116	714	1,830	
Total Residential Trips	*12,001*	*Dwelling Units*	*5.02*	*60,253*		*0.34*	*1,025*	*3,041*	*4,066*		*0.41*	*2,973*	*1,901*	*4,874*	
General Office Building	30,000	Square Feet	9.740	292		1.160	30	5	35		1.150	6	29	35	
Retail	180,000	Square Feet	37.75	6,795		0.94	105	64	169		3.81	329	357	686	
Residential Amenities[1]	30,000	Square Feet	--	--		--	--	--	--		--	--	--	--	
Library	45,000	Square Feet	72.05	3,242		1.00	32	13	45		8.16	176	191	367	
Community Center	25,000	Square Feet	28.82	721		1.76	29	15	44		2.31	27	31	58	
Total Employment Trips	*310,000*	*Square Feet*	*35.645*	*11,050*			*196*	*97*	*293*			*538*	*608*	*1,146*	
Total Proposed Project Trips				**71,303**	**100.0%**		**1,221**	**3,138**	**4,359**	**100.0%**		**3,511**	**2,509**	**6,020**	**100.0%**
Less Internal Trips				(6,300)	8.8%		(73)	(73)	(146)	3.3%		(109)	(109)	(219)	3.6%
Less External Public Transit Trips				(12,259)	17.2%		(250)	(683)	(933)	21.4%		(574)	(388)	(962)	16.0%
Less Retail Passby Trips				*(1,078)*	1.5%		*(17)*	*(10)*	*(27)*	0.6%		*(68)*	*(73)*	*(141)*	2.3%
External Vehicle Trips				**51,666**	**72.5%**		**881**	**2,372**	**3,253**	**74.6%**		**2,760**	**1,938**	**4,698**	**78.0%**

Source: Trip rates from ITE *Trip Generation Manual, 10th Edition,* 2017. Internal and transit trip reductions derived from CSC travel demand model.
[1]Residential amenities are assumed to serve residents only and thus generate no external vehicle trips.

Table 16
Project Trip Generation Estimates – Option 2 (Year 2040)

Land Use	Size		Daily			AM Peak Hour					PM Peak Hour				
							Trips					Trips			
			Rate	Trips	Mode Share	Rate	In	Out	Total	Mode Share	Rate	In	Out	Total	Mode Share
Multifamily Housing (Mid-Rise)	5,218	Dwelling Units	5.44	28,386		0.36	488	1,390	1,878		0.44	1,401	895	2,296	
Multifamily Housing (High-Rise)	5,083	Dwelling Units	4.45	22,619		0.31	378	1,198	1,576		0.36	1,116	714	1,830	
Total Residential Trips	*10,301*	*Dwelling Units*	*4.95*	*51,005*		*0.34*	*866*	*2,588*	*3,454*		*0.40*	*2,517*	*1,609*	*4,126*	
General Office Building	815,000	Square Feet	9.740	7,938		1.160	813	132	945		1.150	150	787	937	
Retail	180,000	Square Feet	37.75	6,795		0.94	105	64	169		3.81	329	357	686	
Residential Amenities[1]	30,000	Square Feet	--	--		--	--	--	--		--	--	--	--	
Library	45,000	Square Feet	72.05	3,242		1.00	32	13	45		8.16	176	191	367	
Community Center	25,000	Square Feet	28.82	721		1.76	29	15	44		2.31	27	31	58	
Total Employment Trips	*1,095,000*	*Square Feet*	*17.074*	*18,696*			*979*	*224*	*1,203*			*682*	*1,366*	*2,048*	
Total Proposed Project Trips				**69,701**	**100.0%**		**1,845**	**2,812**	**4,657**	**100.0%**		**3,199**	**2,975**	**6,174**	**100.0%**
Less Internal Trips				(5,930)	8.5%		(74)	(74)	(148)	3.2%		(107)	(107)	(215)	3.5%
Less External Public Transit Trips				(12,555)	18.0%		(486)	(577)	(1,063)	22.8%		(536)	(533)	(1,069)	17.3%
Less Retail Passby Trips				*(1,059)*	1.5%		*(16)*	*(10)*	*(26)*	0.6%		*(61)*	*(66)*	*(127)*	2.1%
External Vehicle Trips				**50,157**	**72.0%**		**1,269**	**2,151**	**3,420**	**73.4%**		**2,494**	**2,269**	**4,763**	**77.1%**

Source: Trip rates from ITE *Trip Generation Manual, 10th Edition,* 2017. Internal and transit trip reductions derived from CSC travel demand model.
[1]Residential amenities are assumed to serve residents only and thus generate no external vehicle trips.

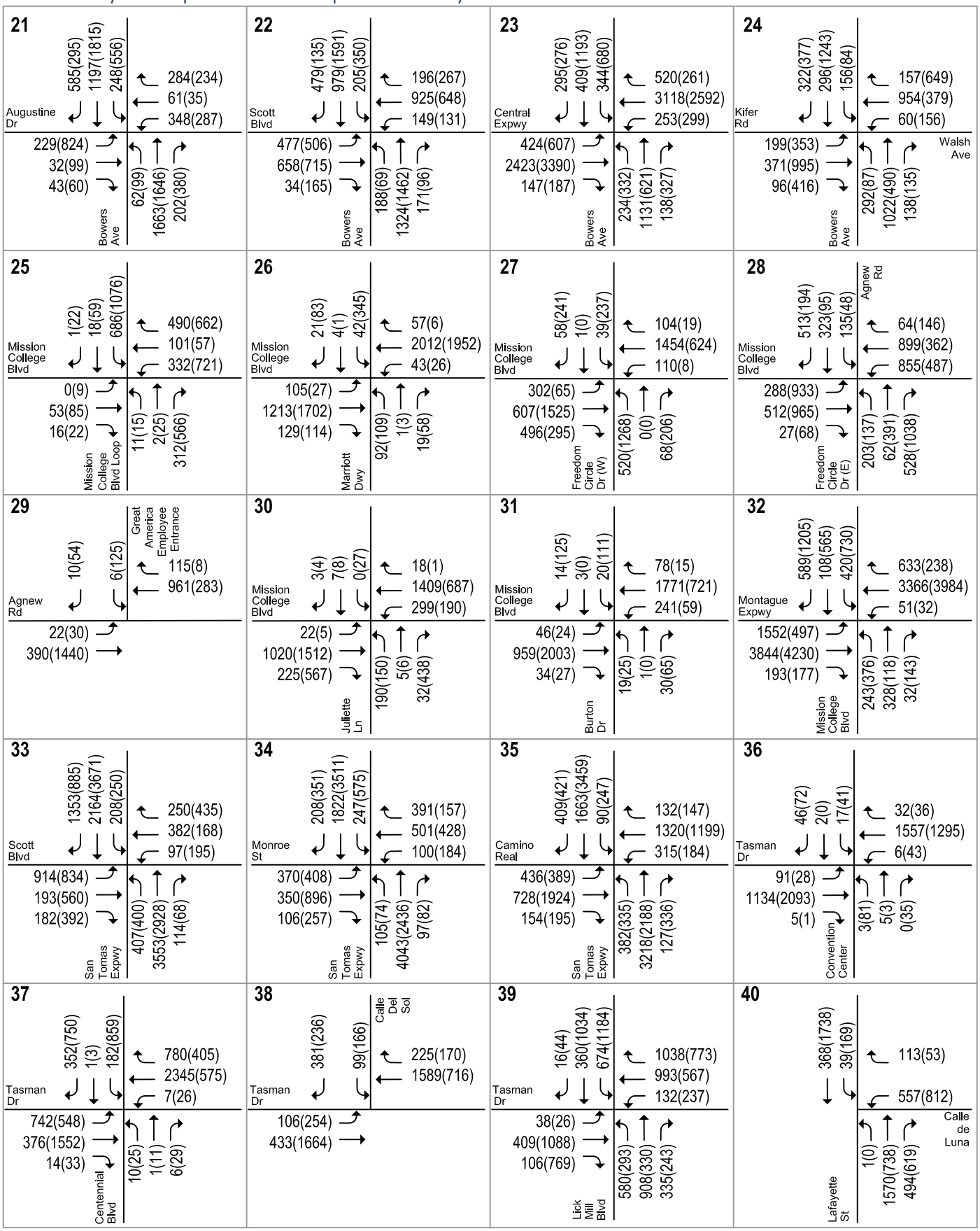


LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 16

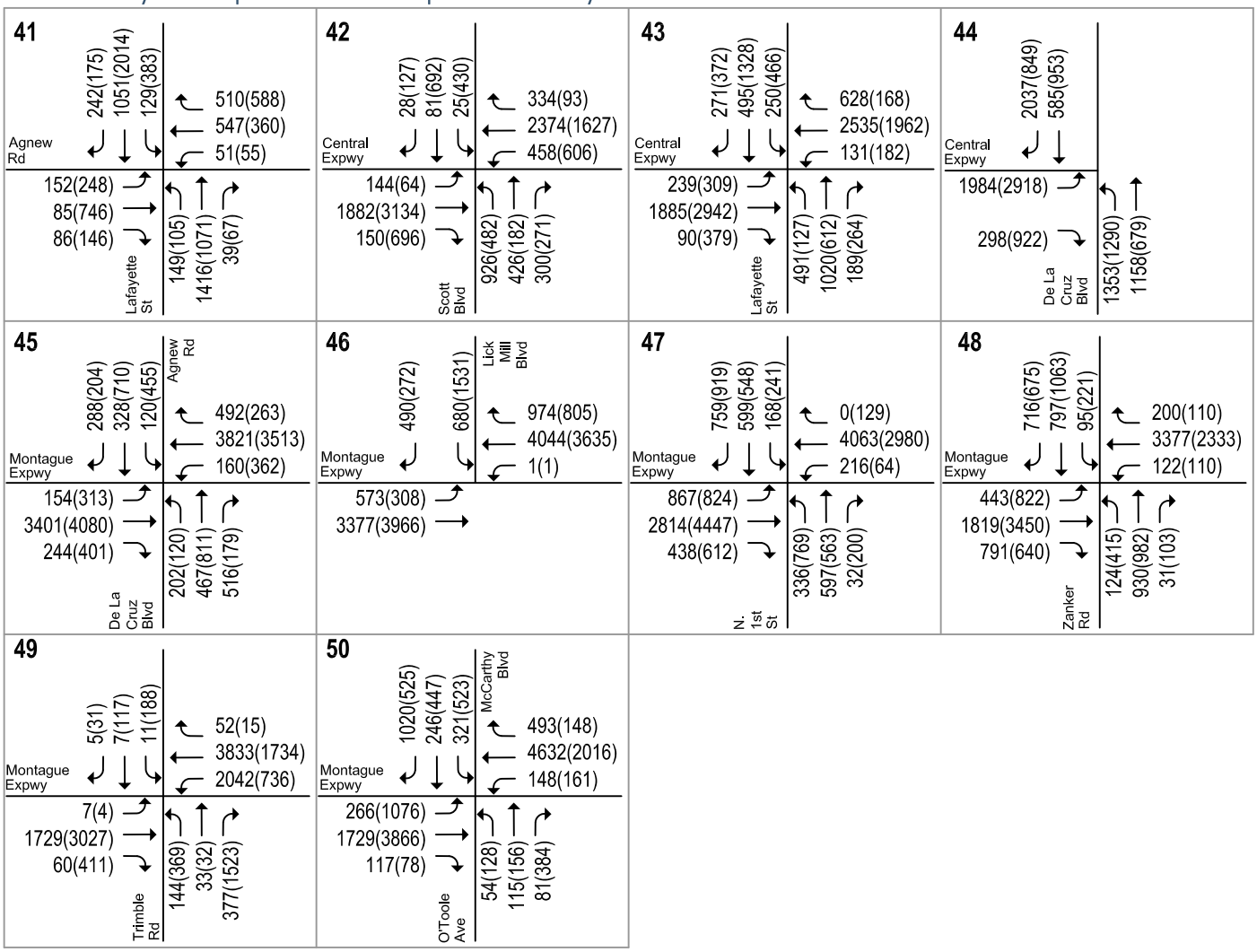
Cumulative Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 1



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

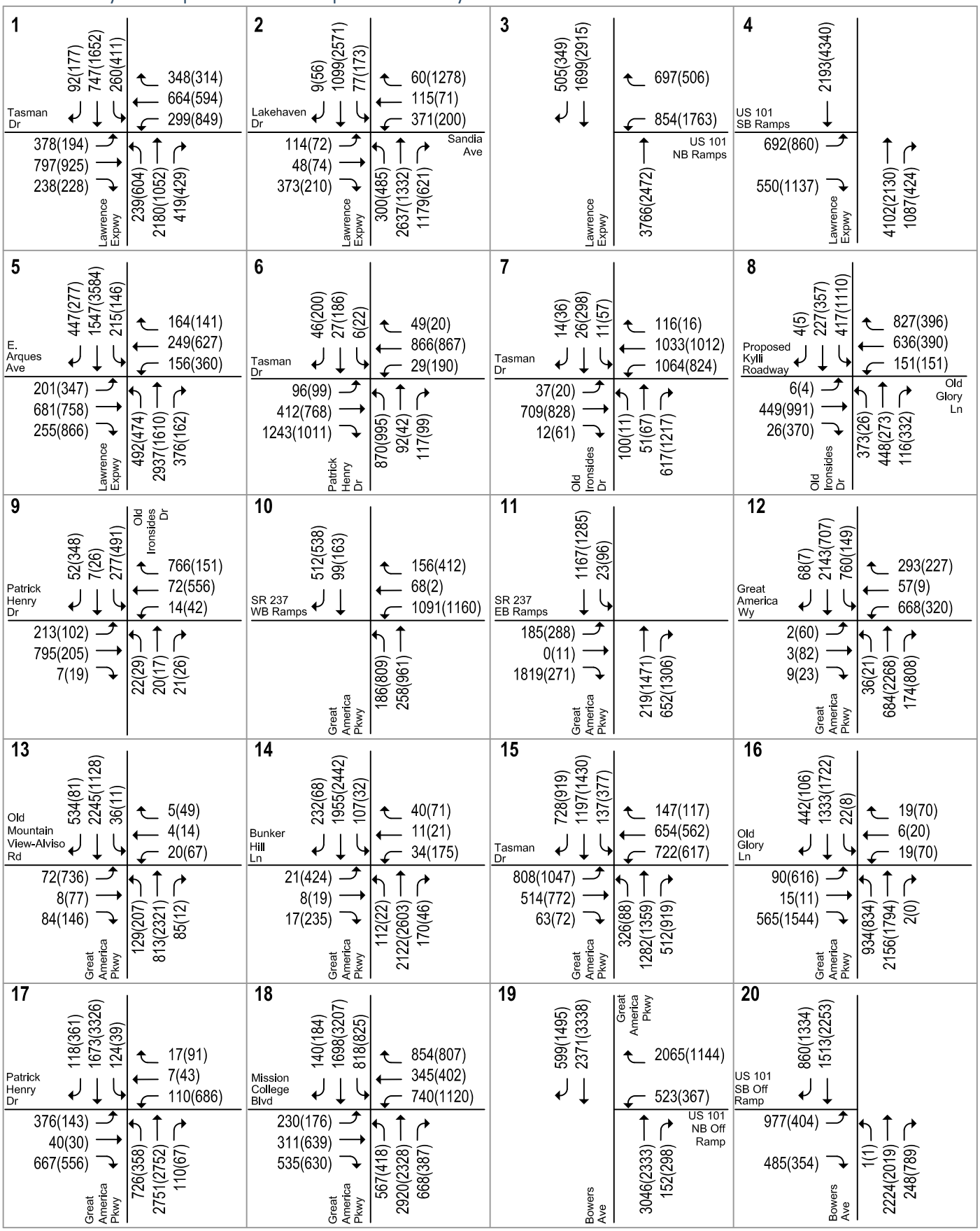
Figure 16
Cumulative Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 1



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

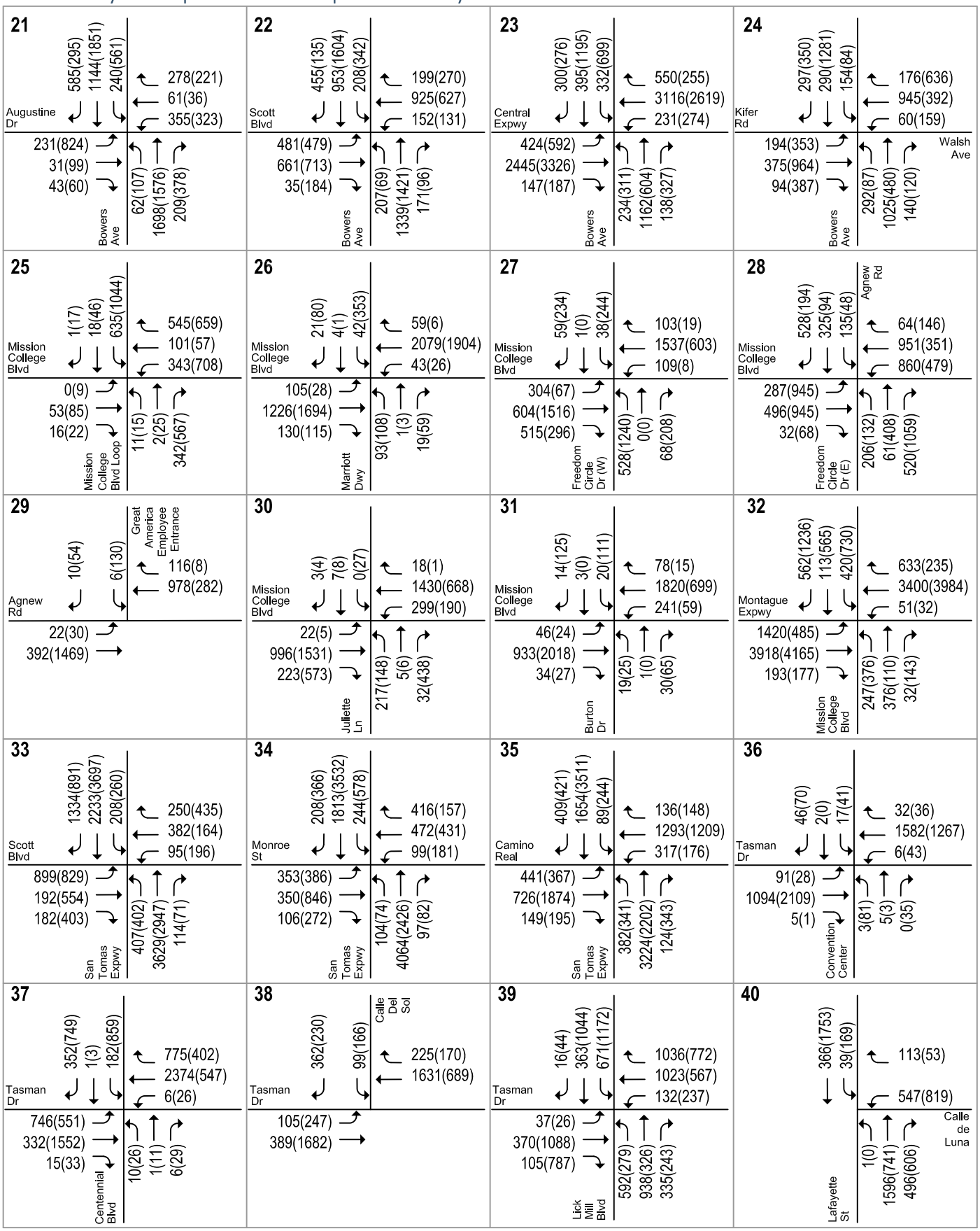
Figure 16
Cumulative Plus Project Traffic Volumes with Mission College Boulevard Connection - Option 1



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 17
Cumulative Plus Project Traffic Volumes
With Mission College Boulevard Connection - Option 2

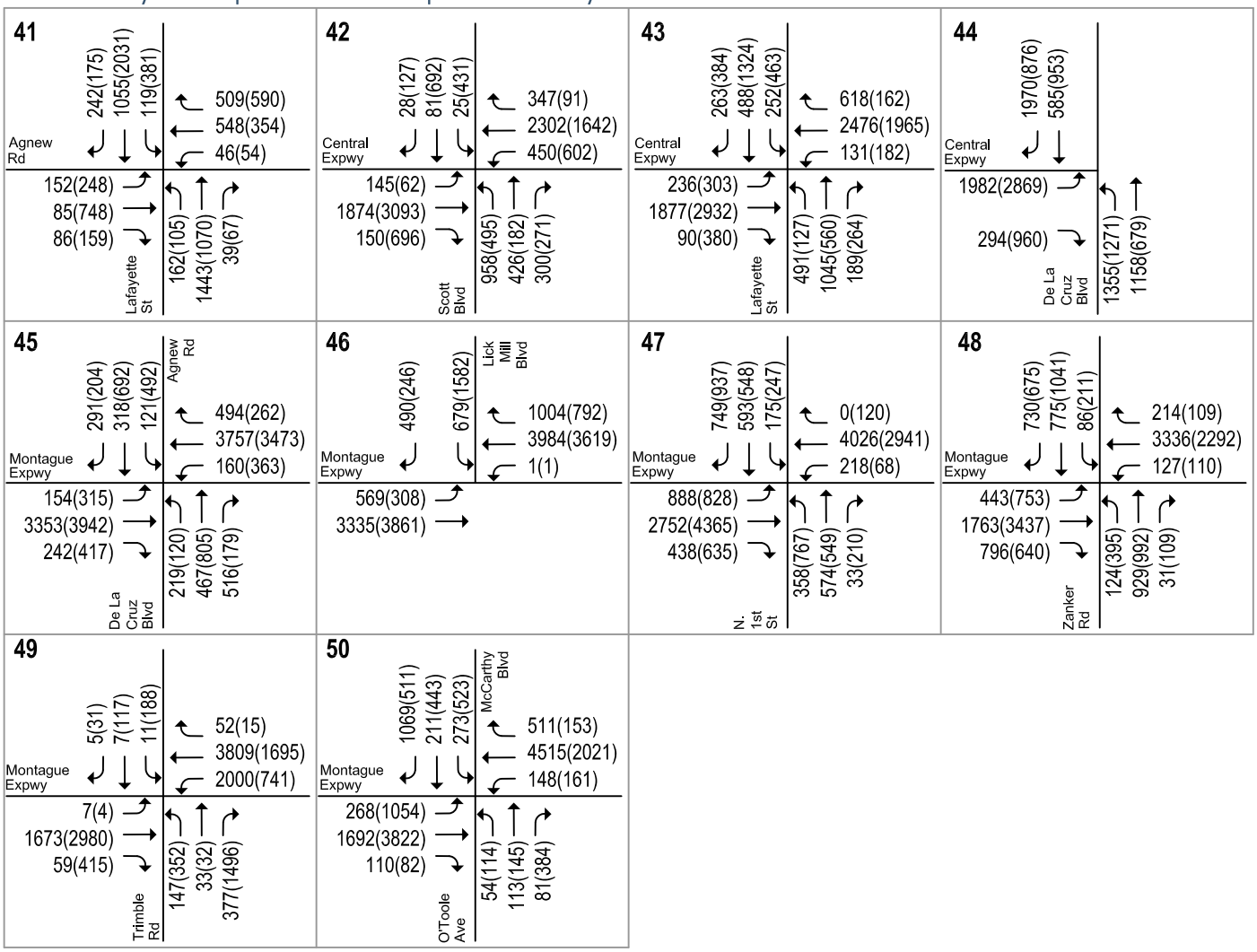


LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 17

Cumulative Plus Project Traffic Volumes With Mission College Boulevard Connection - Option 2



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 17
Cumulative Plus Project Traffic Volumes
With Mission College Boulevard Connection - Option 2

Cumulative No Project Intersection Levels of Service

The results of the intersection level of service analysis show that the following 25 study intersections would operate at an unacceptable level during at least one peak hour under cumulative no project conditions (see Table 17).

1. Lawrence Expressway and Tasman Drive (PM peak hour)
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive (AM and PM peak hours)
5. Lawrence Expressway and E. Arques Ave (PM peak hour)
8. Old Ironsides Drive and Old Glory Lane (AM and PM peak hours)
12. Great America Parkway and Great America Way (AM and PM peak hours)
16. Great America Parkway and Old Glory Lane (AM and PM peak hours)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)
18. Great America Parkway and Mission College Boulevard (AM and PM peak hours)
23. Bowers Avenue and Central Expressway (AM and PM peak hours)
27. Freedom Circle (W) and Mission College Boulevard (AM and PM peak hours)
28. Agnew Road/Freedom Circle (E) and Mission College Boulevard (PM peak hour)
32. Mission College Boulevard and Montague Expressway (AM and PM peak hours)
33. San Tomas Expressway and Scott Boulevard (AM peak hour)
35. San Tomas Expressway and El Camino Real (AM and PM peak hours)
37. Centennial Boulevard and Tasman Drive (AM peak hour)
39. Lick Mill Boulevard and Tasman Drive (AM and PM peak hours)
41. Lafayette Street and Agnew Road (AM and PM peak hour)
42. Scott Boulevard and Central Expressway (PM peak hour)
43. Lafayette Street and Central Expressway (PM peak hour)
44. De La Cruz Boulevard and Central Expressway (AM and PM peak hours)
45. Agnew Road/De La Cruz Boulevard and Montague Expressway (AM and PM peak hours)
46. Lick Mill Boulevard and Montague Expressway (PM peak hour)
47. N. 1st Street and Montague Expressway (AM and PM peak hours)
48. Zanker Road and Montague Expressway (AM and PM peak hours)
49. Trimble Road and Montague Expressway (PM peak hour)

All other study intersections would operate at acceptable levels during both the AM and PM peak hours of traffic. The intersection level of service calculation sheets are included in Appendix C.

Cumulative Plus Project Intersection Levels of Service with Mission College Boulevard Connection – Option 1

The results of the intersection level of service analysis under cumulative plus project conditions with the proposed new connection to Mission College Boulevard show that development of the PHDSP Area under Option 1 would cause adverse effects at the following 17 intersections (see Table 17):

1. Lawrence Expressway and Tasman Drive (PM peak hour)
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive (PM peak hour)
5. Lawrence Expressway and E. Arques Avenue (PM peak hour)
8. Old Ironsides Drive and Old Glory Lane (AM and PM peak hours)
9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
12. Great America Parkway and Great America Way (PM peak hour)
17. Great America Parkway and Patrick Henry Drive (PM peak hour)
18. Great America Parkway and Mission College Boulevard (PM peak hour)
23. Bowers Avenue and Central Expressway (AM and PM peak hours)

Table 17
Cumulative Intersection Levels of Service with Mission College Blvd. Connection – Option 1

			2040 Conditions							
					With Project					
			No Project		Option 1				Option 1 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Crit. Delay	Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	57.0	E	66.5	E	5.3	0.021		
	(CMP)	PM	**115.3**	**F**	**126.5**	**F**	**18.8**	**0.030**		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	**120.6**	**F**	**110.3**	**F**	**-11.8**	**-0.015**		
		PM	**OVFL**	**F**	**OVFL**	**F**	**214.7**	**0.234**		
3	Lawrence Expressway and US 101 NB Ramps	AM	11.8	B	11.9	B	-0.2	-0.020		
		PM	75.2	E	67.1	E	-10.1	0.011		
4	Lawrence Expressway and US 101 SB Ramps	AM	29.2	C	28.1	C	-1.7	-0.020		
		PM	69.7	E	72.0	E	-15.5	-0.016		
5	Lawrence Expressway and E. Arques Ave.	AM	50.4	D	50.3	D	-0.3	0.011	50.2	D
	(CMP)	PM	**122.7**	**F**	**124.1**	**F**	**4.3**	**0.018**	**123.7**	**F**
6	Patrick Henry Drive and Tasman Drive	AM	36.3	D	39.9	D	-0.5	0.009		
		PM	34.2	C	40.5	D	3.4	0.099		
7	Old Ironsides Drive and Tasman Drive	AM	18.9	B	38.2	D	36.2	0.192		
		PM	29.9	C	54.3	D	21.7	0.230		
8	Old Ironsides Drive and Old Glory Lane	AM	**OVFL**	**F**	**OVFL**	**F**	**--**	**--**	40.4	D
	(Unsignalized)	PM	**OVFL**	**F**	**OVFL**	**F**	**--**	--	**106.2**	**F**
9	Old Ironsides Drive and Patrick Henry Drive	AM	1.8	A	**OVFL**	**F**	**--**	**--**	17.5	B
	(Unsignalized)	PM	13.9	B	**OVFL**	**F**	**--**	--	21.1	C
10	Great America Parkway and SR 237 WB Ramps	AM	13.7	B	13.7	B	0.1	0.009		
	(CMP)	PM	21.7	C	21.9	C	0.3	0.014		
11	Great America Parkway and SR 237 EB Ramps	AM	10.2	B	9.2	A	-1.0	0.037		
	(CMP)	PM	12.8	B	12.6	B	0.0	0.000		
12	Great America Parkway and Great America Way	AM	**93.0**	**F**	**79.1**	**E**	**-26.5**	**-0.054**		
		PM	**71.0**	**E**	**88.8**	**F**	**24.6**	**0.048**		
13	Great America Pkwy and Old Mt View-Alviso Rd	AM	19.3	B	18.1	B	-0.7	-0.018		
		PM	41.7	D	42.2	D	-0.4	-0.001		
14	Great America Parkway and Bunker Hill Lane	AM	11.6	B	11.6	B	-0.2	0.022		
		PM	27.7	C	27.5	C	-0.8	0.006		
15	Great America Parkway and Tasman Drive	AM	47.0	D	48.7	D	6.6	0.026		
	(CMP)	PM	53.6	D	55.1	E	-1.9	-0.008		
16	Great America Parkway and Old Glory Lane	AM	**118.3**	**F**	**134.7**	**F**	**-50.9**	**-0.110**		
		PM	**296.1**	**F**	**284.0**	**F**	**-17.8**	**-0.042**		
17	Great America Parkway and Patrick Henry Drive	AM	**128.1**	**F**	**113.1**	**F**	**-46.9**	**-0.110**	54.3	D
		PM	**153.3**	**F**	**190.0**	**F**	**79.3**	**0.160**	**116.8**	**F**
18	Great America Pkwy and Mission College Blvd	AM	**89.2**	**F**	55.5	E	-59.2	-0.173		
	(CMP)	PM	**88.0**	**F**	**128.0**	**F**	**53.5**	**0.109**		
19	Great America Pkwy and US 101 NB Off Ramp	AM	9.6	A	9.6	A	-0.1	-0.012		
	(CMP)	PM	8.3	A	8.4	A	0.2	0.032		
20	Bowers Avenue and US 101 SB Off Ramp	AM	16.1	B	16.1	B	-0.1	-0.011		
	(CMP)	PM	10.9	B	11.6	B	0.6	0.003		
21	Bowers Avenue and Augustine Drive	AM	28.6	C	28.7	C	0.9	-0.015		
		PM	39.5	D	42.2	D	3.9	0.041		
22	Bowers Avenue and Scott Boulevard	AM	61.3	E	60.3	E	-6.6	-0.023		
	(CMP)	PM	45.8	D	53.3	D	13.1	0.065		
23	Bowers Avenue and Central Expressway	AM	**87.4**	**F**	**94.7**	**F**	**12.9**	**0.025**		
	(CMP)	PM	**131.4**	**F**	**133.7**	**F**	**-1.9**	**0.014**		
24	Bowers Avenue and Kifer Road/Walsh Avenue	AM	39.2	D	39.5	D	0.1	-0.005		
		PM	45.9	D	48.4	D	6.8	0.021		
25	Mission College Loop and Mission College Blvd	AM	12.4	B	25.8	C	9.1	0.262		
		PM	21.3	C	37.8	D	16.6	0.195		
26	Marriott Dwy and Mission College Blvd	AM	14.1	B	13.7	B	-0.7	-0.019		
		PM	22.9	C	23.9	C	0.7	0.013		

Table 17 (cont.)
Cumulative Intersection Levels of Service with Mission College Blvd Connection – Option 1

			2040 Conditions							
					With Project					
			No Project		Option 1				Option 1 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Crit. Delay	Crit. V/C	Avg Delay	LOS
27	Freedom Circle W and Mission College Blvd	AM	**72.4**	**E**	**66.1**	**E**	**-9.0**	**-0.026**	**55.8**	**E**
		PM	**158.3**	**F**	**175.4**	**F**	**21.8**	**0.045**	**85.5**	**F**
28	Agnew/Freedom Circle E & Mission College Blvd	AM	44.1	D	45.3	D	-1.6	-0.020	33.0	C
		PM	**205.0**	**F**	**215.1**	**F**	**10.6**	**0.027**	**82.1**	**F**
29	Great America employee entrance and Agnew Rd	AM	4.7	A	4.6	A	-0.1	-0.005		
		PM	33.9	C	36.2	D	1.7	0.008		
30	Juliette Lane and Mission College Boulevard	AM	27.7	C	27.3	C	-0.7	-0.021		
		PM	30.4	C	31.0	C	0.6	0.017		
31	Burton Drive and Mission College Boulevard	AM	26.4	C	25.5	C	-1.3	-0.018		
		PM	18.7	B	18.8	B	-0.1	-0.011		
32	Mission College Blvd and Montague Expwy	AM	**147.7**	**F**	**156.9**	**F**	**15.1**	**0.019**		
	(CMP)	PM	**120.0**	**F**	**137.2**	**F**	**31.4**	**0.096**		
33	San Tomas Expressway and Scott Boulevard	AM	**152.3**	**F**	**163.2**	**F**	24.8	-0.001		
	(CMP)	PM	68.0	E	69.7	E	3.6	0.012		
34	San Tomas Expressway and Monroe Street	AM	63.9	E	62.0	E	-1.9	0.000		
	(CMP)	PM	53.7	D	57.5	E	10.1	0.112		
35	San Tomas Expressway and El Camino Real	AM	**107.4**	**F**	**103.7**	**F**	**-5.4**	**-0.011**		
	(CMP)	PM	**120.4**	**F**	**123.5**	**F**	**3.6**	**0.008**		
36	Convention Center and Tasman Drive	AM	13.7	B	13.3	B	-0.1	-0.008		
		PM	15.2	B	14.7	B	-0.1	-0.002		
37	Centennial Boulevard and Tasman Drive	AM	**92.0**	**F**	**91.8**	**F**	**1.7**	**0.002**		
		PM	42.0	D	42.2	D	-8.8	0.012		
38	Calle Del Sol and Tasman Drive	AM	26.3	C	25.2	C	-0.4	-0.010		
		PM	20.4	C	20.2	C	1.2	0.036		
39	Lick Mill Boulevard and Tasman Drive	AM	**129.0**	**F**	**119.3**	**F**	**-17.4**	**-0.039**		
		PM	**90.4**	**F**	**96.3**	**F**	**7.5**	**-0.001**		
40	Lafayette Street and Calle De Luna	AM	22.6	C	22.4	C	-0.3	-0.012		
		PM	25.5	C	25.4	C	0.0	0.000		
41	Lafayette Street and Agnew Road	AM	**65.8**	**E**	**60.3**	**E**	**-11.0**	**-0.022**		
		PM	**124.0**	**F**	**117.5**	**F**	**-7.0**	**-0.014**		
42	Scott Boulevard and Central Expressway	AM	78.1	E	76.2	E	-5.0	0.003		
	(CMP)	PM	**111.5**	**F**	**118.7**	**F**	**8.0**	**0.018**		
43	Lafayette Street and Central Expressway	AM	58.5	E	57.2	E	-2.2	0.003		
	(CMP)	PM	**82.8**	**F**	**84.6**	**F**	**-2.0**	**0.009**		
44	De la Cruz Boulevard and Central Expressway	AM	**123.1**	**F**	**116.7**	**F**	**-7.7**	**-0.006**		
	(CMP)	PM	**221.3**	**F**	**242.8**	**F**	**24.8**	**0.034**		
45	Agnew Rd/De La Cruz Blvd and Montague Expwy	AM	**100.7**	**F**	**105.4**	**F**	**2.3**	**0.000**		
	(CMP)	PM	**135.8**	**F**	**143.6**	**F**	**8.8**	**0.011**		
46	Lick Mill Boulevard and Montague Expressway	AM	76.0	E	75.1	E	-1.7	-0.002		
		PM	**119.1**	**F**	**122.2**	**F**	**5.5**	**0.018**		
47	N. 1st Street and Montague Expressway	AM	**205.8**	**F**	**196.9**	**F**	**-12.1**	**-0.022**		
	(CMP)	PM	**147.4**	**F**	**149.4**	**F**	**-4.4**	**-0.016**		
48	Zanker Road and Montague Expressway	AM	**85.7**	**F**	**81.5**	**F**	**-6.3**	**-0.010**		
	(CMP)	PM	**62.2**	**E**	**70.6**	**E**	**16.8**	**0.060**		
49	Trimble Road and Montague Expressway	AM	42.5	D	41.5	D	-0.8	-0.007		
	(CMP)	PM	**151.8**	**F**	**162.7**	**F**	**13.0**	**0.021**		
50	McCarthy Blvd/O'Toole Av and Montague Expwy	AM	--	--	--	--	--	--		
	(CMP)	PM	--	--	--	--	--	--		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

27. Freedom Circle (W) and Mission College Boulevard (PM peak hour)
28. Agnew Road/Freedom Circle (E) and Mission College Boulevard (PM peak hour)
32. Mission College Boulevard and Montague Expressway (AM and PM peak hours)
42. Scott Boulevard and Central Expressway (PM peak hour)
44. De La Cruz Boulevard and Central Expressway (PM peak hour)
45. Agnew Road/De La Cruz Boulevard and Montague Expressway (PM peak hour)
46. Lick Mill Boulevard and Montague Expressway (PM peak hour)
48. Zanker Road and Montague Expressway (PM peak hour)
49. Trimble Road and Montague Expressway (PM peak hour)

The adverse effects and proposed improvements to alleviate the deficiencies are described below.

The following study intersections also would operate at unacceptable levels of service under cumulative plus project conditions.

16. Great America Parkway and Old Glory Lane (AM and PM peak hours)
33. San Tomas Expressway and Scott Boulevard (AM peak hour)
35. San Tomas Expressway and El Camino Real (AM and PM peak hours)
37. Centennial Boulevard and Tasman Drive (AM peak hour)
39. Lick Mill Boulevard and Tasman Drive (AM and PM peak hours)
41. Lafayette Street and Agnew Road (AM and PM peak hours)
43. Lafayette Street and Central Expressway (PM peak hour)
47. N. 1st Street and Montague Expressway (AM and PM peak hours)

However, since the development of the PHDSP Area under Option 1 would not cause the critical-movement delay at these intersections to increase by four or more seconds and the V/C to increase by one percent (0.01) or more compared to cumulative no project conditions, the project would not have an adverse effect on the operation of those intersections. The intersection level of service calculation sheets are included in Appendix C.

Adverse Effects and Recommended Improvements – Option 1

This section discusses the adverse effects identified under cumulative plus project conditions with the proposed new Mission College Boulevard connection and proposed improvements to address the deficiencies. It should be noted that adverse effects on intersection operations do not constitute significant impacts under CEQA.

The PHDSP will include TDM measures to achieve a 10 percent reduction in VMT per the City's Climate Action Plan. A sensitivity analysis was conducted to determine if a reduction in project vehicle trips due to TDM would avoid any of the adverse effects at any study intersections.

1. Lawrence Expressway and Tasman Drive

This CMP intersection in the City of Sunnyvale would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

As described in Chapter 4, improvements of the at-grade intersection are not feasible due to right of way constraints and impacts on adjacent properties. Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The County identified an improvement that would depress the light rail transit (LRT) line under this intersection as part of the 2040 Expressway Plan. Depressing the LRT would reduce delay for both trains and vehicle traffic. The PHDSP Area developments should provide fair-share funding towards this improvement.

2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive

This City of Sunnyvale intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by widening Lawrence Expressway to add a fifth through lane on the northbound and southbound approaches. However, this improvement is not feasible because it would require acquisition of additional right of way and negatively impact adjacent properties. Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The Long-Range Transportation Plan for Santa Clara County (VTP2040) lists a project (VTP ID# R39) that would realign Wildwood Avenue to connect directly with Lawrence Expressway, and create a new signalized intersection at Lawrence Expressway and Wildwood Avenue. This improvement would have a beneficial effect on traffic operations at the Lawrence/Sandia/Lakehaven intersection. The PHDSP Area developments should provide fair-share funding towards this improvement.

5. Lawrence Expressway and E. Arques Avenue

This CMP intersection in the City of Sunnyvale would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by 4.3 seconds and the critical v/c to increase by 0.018 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. A sensitivity analysis shows that the study intersection would continue to operate at LOS F with a 10 percent TDM trip reduction within the Plan Area. However, the TDM trip reduction would cause the average critical movement delay to increase by less than 4 seconds, thus TDM measures would be sufficient to avoid the adverse effect on intersection operations.

8. Old Ironsides Drive and Old Glory Lane

This unsignalized intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the AM and PM peak hours. Currently, the west leg at this intersection provides access to a parking lot that is used only for events at Levi's Stadium. The analysis presented in this report reflects typical conditions without an event at the stadium. The poor operations

forecast at this intersection under cumulative no project conditions are in large part due to the trips associated with the proposed Kylli mixed-use development, which would have access via the west leg at this intersection. The development of the PHDSP under Option 1 would exacerbate the deficiency at this intersection. Furthermore, the intersection is expected to satisfy the peak-hour signal warrant. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved to an acceptable LOS D during the AM peak hour by installing a traffic signal and applying a 10 percent TDM reduction. While the intersection would continue to operate at LOS F during the PM peak hour with signal control and a 10 percent TDM reduction, the delay would be less than under no project conditions. The PHDSP Area developments should provide fair-share funding for this new signal.

9. Old Ironsides Drive and Patrick Henry Drive

This unsignalized intersection in the City of Santa Clara would operate at an acceptable LOS A and LOS B under cumulative no project conditions during the AM and PM peak hours, respectively. The development of the PHDSP under Option 1 would cause the intersection to degrade to an unacceptable LOS F during both peak hours. Furthermore, the intersection is expected to satisfy the peak-hour signal warrant. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by installing a traffic signal, adding a second southbound left-turn lane, a westbound right-turn lane, and a westbound left-turn lane. With the recommended improvement and a 10 percent TDM reduction, the intersection would operate at an acceptable LOS C or better during the peak hours. These improvements should be fully funded by the PHDSP Area developments.

12. Great America Parkway and Great America Way

This City of Santa Clara intersection would operate at an unacceptable LOS E under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by 24.6 seconds and the critical v/c to increase by 0.048 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The adverse effect could be partially addressed by adding a northbound right-turn lane. This improvement is not considered feasible as it would require acquisition of additional right-of-way outside the PHDSP Area. Intersection operations could be improved by the construction of a Class IV separated bikeway on Great America Parkway. This multimodal improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would encourage residents and employees to leave their vehicles at home by adding a physical barrier between the existing bike lane and the vehicular travel lane, thereby increasing the comfort level for cyclists. The PHDSP Area development should provide fair-share funding towards this multimodal improvement.

17. Great America Parkway and Patrick Henry Drive

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by constructing a second northbound left-turn lane. With the recommended improvement and a 10 percent TDM reduction, the intersection would continue to operate at an unacceptable LOS F during the PM peak hour, however the delay would be less than under cumulative no project conditions. The cost of this improvement will be fully funded by PHDSP Area developments.

18. Great America Parkway and Mission College Boulevard

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by 53.5 seconds and the critical v/c to increase by 0.109 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a fourth southbound through lane and a second eastbound right-turn lane. These improvements are not feasible because they would require acquisition of additional right of way and negatively impact adjacent properties. Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Great America Parkway. This improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would encourage cycling by adding a physical barrier between the existing bike lane and the vehicular travel lane, thereby increasing the comfort level for cyclists. This intersection is also included in the City of Santa Clara *Multimodal Improvement Plan* (MIP). MIP Actions intended to address the LOS deficiency at this intersection include installation of transit signal priority, crosswalk motion sensors, upgraded safety lighting at intersections along Mission College Boulevard, and adaptive traffic signals along Great America Parkway. The PHDSP Area developments should provide fair-share funding towards the Class IV bikeway on Great America Parkway and MIP improvements.

23. Bowers Avenue and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the AM and PM peak hours. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the AM peak hour. During the PM peak hour, the project would cause the critical movement delay to decrease slightly and the critical v/c to increase by more than 0.01. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

27. Freedom Circle (W) and Mission College Boulevard

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the

critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a second northbound left-turn lane and an eastbound right-turn lane and restriping the southbound approach for one right-turn lane, one shared through/right-turn lane and one left-turn lane. The construction of these improvements along with the planned Class IV separated bike lanes on Mission College Boulevard would require widening Mission College Boulevard but would not require the dedication of additional right of way. The existing curb-to-curb width on Freedom Circle is sufficient to accommodate the recommended dual northbound left-turn lanes. Although restriping the southbound approach for dual right-turn lanes may improve vehicle operations, this improvement conflicts with bicycle and pedestrian policies within the City's *2010-2035 General Plan, 2018 Bicycle Master Plan*, and *2019 Pedestrian Master Plan*. As described in the previous chapter, intersection widening for dual right-turn lanes is not recommended. With the recommended improvements on the northbound and eastbound approaches and a 10 percent TDM reduction, the intersection is expected to continue to operate an unacceptable LOS F during the PM peak hour, however the delay would be less than under cumulative no project conditions. Thus, the recommended improvement would be sufficient to fully offset the adverse effect on intersection operations. Funding for these improvements should be shared between developments in both the PHDSP Area and the Freedom Circle Focus Area.

28. Agnew Road/Freedom Circle (E) and Mission College Boulevard

This City of Santa Clara intersection would operate at an unacceptable LOS F during the PM peak hour under cumulative no project conditions. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a second eastbound left-turn lane and widening the northbound approach to include one left-turn lane, one through lane, and two right-turn lanes. The addition of a second lane on the north leg (Agnew Road) to receive the dual eastbound left-turn lanes would require the dedication of additional right of way from adjacent properties within the Freedom Circle Focus Area and/or narrowing the sidewalk and thus is considered to be infeasible. Furthermore, as described above, dual right-turn lanes are not recommended as they would adversely affect cyclists and pedestrians and conflict with City of Santa Clara policies. Thus, only the addition of a single northbound right-turn lane is recommended. While the intersection is expected to continue to operate at LOS F with the recommended improvement and a 10 percent TDM reduction, it would reduce the intersection delay below that expected under cumulative no project conditions. Thus, the recommended improvement would be sufficient to fully offset the adverse effect on intersection operations. Funding for this improvement should be shared between developments in both the PHDSP Area and the Freedom Circle Focus Area.

32. Mission College Boulevard and Montague Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the AM and PM peak hours. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during both peak hours. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. A sensitivity analysis shows that a 10 percent TDM trip

reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. Intersection operations could be improved by constructing a partial grade separation with a flyover from eastbound Montague Expressway to northbound Mission College Boulevard. This improvement was identified as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

42. Scott Boulevard and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicles trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

44. De La Cruz Boulevard and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

The analysis of cumulative conditions at this intersection assumes the following planned improvements: a third southbound through lane and a second southbound right-turn lane; a second eastbound right-turn lane; a third northbound left-turn lane and removal of one northbound through lane. In addition, cumulative conditions include the planned conversion of the existing HOV lanes on Central Expressway to mixed-flow lanes. Further improvements are not considered feasible since it would require extensive widening to add additional through lanes on both roadways that would entail acquisition of additional right of way adversely affecting adjacent properties as well as reconstruction of the railroad bridge over Central Expressway just west of the intersection. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on De La Cruz Boulevard. This improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would provide an important link for cyclists between the southern and northern portions of Santa Clara and connect to buffered bike lanes on Trimble Road in San José. This intersection is also included in the City of Santa Clara *Multimodal Improvement Plan* (MIP). MIP Actions intended to address the LOS deficiency at this intersection include installation of crosswalk motion sensors, accessible pedestrian signals, upgraded safety lighting, travel time data collection systems, traffic monitoring cameras, and periodic retiming of signal coordination at intersections along De La Cruz Boulevard. The PHDSP Area developments should provide fair-share funding towards these multimodal improvements.

45. Agnew Road/De La Cruz Boulevard and Montague Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. This intersection is included in the City of Santa Clara *Multimodal Improvement Plan* (MIP). MIP Actions intended to address the LOS deficiency at this intersection include installation of crosswalk motion sensors, accessible pedestrian signals, upgraded safety lighting, travel time data collection systems, traffic monitoring cameras, and periodic retiming of signal coordination at intersections along Agnew Road/De La Cruz Boulevard. The PHDSP Area developments should provide fair-share funding towards these multimodal improvements.

46. Lick Mill Boulevard and Montague Expressway

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Cumulative no project conditions assume the addition of a third southbound left-turn lane. Implementation of TDM measures could reduce the vehicle trips associated with the PHDSP Option 1. However, a sensitivity analysis shows that a 10 percent TDM trip reduction would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Lick Mill Boulevard, which is identified in the City's *Bicycle Master Plan Update 2018*. This multimodal improvement would add to the bicycle network in northern Santa Clara encouraging commuters and residents to cycle instead of traveling by motor vehicle. The PHDSP Area developments should provide fair-share funding towards this multimodal improvement.

48. Zanker Road and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS E under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Further lane additions beyond the planned widening of Zanker Road that is assumed under cumulative no project conditions are not feasible. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the PHDSP Area would not be sufficient to avoid the adverse effect on intersection operations.

The North San José Deficiency Plan identifies HOV-type signal improvements on Montague Expressway that could support future Bus Rapid Transit facilities. This improvement would partially

offset the adverse effect at this intersection. The PHDSP Area developments should provide fair-share funding towards this improvement.

49. Trimble Road and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 1 would cause the intersection's average critical movement delay to increase by more than four seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

There are no feasible capacity improvements beyond the planned flyover from westbound Montague Expressway to southbound Trimble Road that is assumed under cumulative no project conditions. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the PHDSP Area would not be sufficient to avoid the adverse effect on intersection operations.

The North San José Deficiency Plan identifies HOV-type signal improvements on Montague Expressway that could support future Bus Rapid Transit facilities. This improvement would partially offset the adverse effect at this intersection. The PHDSP Area developments should provide fair-share funding towards this improvement.

Cumulative Plus Project Intersection Levels of Service with Mission College Boulevard Connection – Option 2

The results of the intersection level of service analysis under cumulative plus project conditions with the proposed new connection to Mission College Boulevard (see Table 18) show that development of the PHDSP Area under Option 2 would cause adverse effects at the following 25 intersections:

1. Lawrence Expressway and Tasman Drive (PM peak hour)
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive (AM and PM peak hours)
7. Old Ironsides Drive and Tasman Drive (PM peak hour)
8. Old Ironsides Drive and Old Glory Lane (AM and PM peak hours)
9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
12. Great America Parkway and Great America Way (PM peak hour)
17. Great America Parkway and Patrick Henry Drive (PM peak hour)
18. Great America Parkway and Mission College Boulevard (PM peak hour)
23. Bowers Avenue and Central Expressway (AM and PM peak hours)
27. Freedom Circle (W) and Mission College Boulevard (PM peak hour)
28. Agnew Road/Freedom Circle (E) and Mission College Boulevard (PM peak hour)
32. Mission College Boulevard and Montague Expressway (PM peak hour)
37. Centennial Boulevard and Tasman Drive (AM peak hour)
39. Lick Mill Boulevard and Tasman Drive (PM peak hour)
42. Scott Boulevard and Central Expressway (PM peak hour)
44. De La Cruz Boulevard and Central Expressway (PM peak hour)
46. Lick Mill Boulevard and Montague Expressway (PM peak hour)
48. Zanker Road and Montague Expressway (PM peak hour)

The adverse effects and proposed improvements to alleviate the deficiencies are described below.

Table 18
Cumulative Intersection Levels of Service with Mission College Blvd Connection – Option 2

			2040 Conditions							
					With Project					
			No Project		Option 2				Option 2 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	57.0	E	63.1	E	0.0	-0.017		
	(CMP)	PM	**115.3**	**F**	**125.1**	**F**	**18.9**	**0.028**		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	**120.6**	**F**	**116.4**	**F**	**9.6**	**0.013**		
		PM	**OVFL**	**F**	**OVFL**	**F**	**OVFL**	**0.288**		
3	Lawrence Expressway and US 101 NB Ramps	AM	11.8	B	11.9	B	-0.2	-0.014		
		PM	75.2	E	68.8	E	-7.2	0.013		
4	Lawrence Expressway and US 101 SB Ramps	AM	29.2	C	32.1	C	4.6	0.000		
		PM	69.7	E	70.9	E	-13.3	-0.008		
5	Lawrence Expressway and E. Arques Ave.	AM	50.4	D	50.2	D	-0.4	0.013		
	(CMP)	PM	**122.7**	**F**	**123.1**	**F**	**2.1**	**0.007**		
6	Patrick Henry Drive and Tasman Drive	AM	36.3	D	41.1	D	2.2	0.020		
		PM	34.2	C	40.3	D	3.1	0.099		
7	Old Ironsides Drive and Tasman Drive	AM	18.9	B	36.6	D	33.0	0.190		
		PM	29.9	C	**58.2**	**E**	**48.3**	**0.322**	54.3	D
8	Old Ironsides Drive and Old Glory Lane	AM	**OVFL**	**F**	**OVFL**	**F**	**--**	**--**	27.9	C
	(Unsignalized)	PM	**OVFL**	**F**	**OVFL**	**F**	**--**	--	**116.4**	**F**
9	Old Ironsides Drive and Patrick Henry Drive	AM	1.8	A	**OVFL**	**F**	**--**	**--**	14.1	B
	(Unsignalized)	PM	13.9	B	**OVFL**	**F**	**--**	--	21.2	C
10	Great America Parkway and SR 237 WB Ramps	AM	13.7	B	13.8	B	0.1	0.009		
	(CMP)	PM	21.7	C	22.0	C	0.5	0.017		
11	Great America Parkway and SR 237 EB Ramps	AM	10.2	B	9.3	A	-0.8	0.036		
	(CMP)	PM	12.8	B	12.8	B	0.2	0.009		
12	Great America Parkway and Great America Way	AM	**93.0**	**F**	**93.3**	**F**	**-9.6**	**-0.020**		
		PM	**71.0**	**E**	**91.5**	**F**	**27.4**	**0.053**		
13	Great America Pkwy and Old Mt View-Alviso Rd	AM	19.3	B	18.4	B	-0.3	-0.007		
		PM	41.7	D	42.1	D	0.2	0.012		
14	Great America Parkway and Bunker Hill Lane	AM	11.6	B	11.6	B	-0.3	0.008		
		PM	27.7	C	30.1	C	2.6	0.035		
15	Great America Parkway and Tasman Drive	AM	47.0	D	48.6	D	6.8	0.038		
	(CMP)	PM	53.6	D	54.0	D	-5.1	-0.017		
16	Great America Parkway and Old Glory Lane	AM	**118.3**	**F**	**122.2**	**F**	**-53.4**	**-0.120**		
		PM	**296.1**	**F**	**284.2**	**F**	**-16.6**	**-0.038**		
17	Great America Parkway and Patrick Henry Drive	AM	**128.1**	**F**	**131.5**	**F**	**-4.3**	**-0.015**	50.7	D
		PM	**153.3**	**F**	**191.2**	**F**	**75.1**	**0.152**	**123.7**	**F**
18	Great America Pkwy and Mission College Blvd	AM	**89.2**	**F**	56.0	E	-58.6	-0.168		
	(CMP)	PM	**88.0**	**F**	**136.4**	**F**	**72.6**	**0.153**		
19	Great America Pkwy and US 101 NB Off Ramp	AM	9.6	A	9.6	A	0.0	-0.001		
	(CMP)	PM	8.3	A	8.4	A	0.2	0.035		
20	Bowers Avenue and US 101 SB Off Ramp	AM	16.1	B	16.4	B	0.3	0.003		
	(CMP)	PM	10.9	B	10.1	B	-0.9	-0.012		
21	Bowers Avenue and Augustine Drive	AM	28.6	C	28.7	C	0.9	-0.007		
		PM	39.5	D	41.1	D	2.0	0.024		
22	Bowers Avenue and Scott Boulevard	AM	61.3	E	60.6	E	-5.0	-0.016		
	(CMP)	PM	45.8	D	49.3	D	6.2	0.037		
23	Bowers Avenue and Central Expressway	AM	**87.4**	**F**	**93.7**	**F**	**11.4**	**0.026**		
	(CMP)	PM	**131.4**	**F**	**129.7**	**F**	**-0.9**	**0.017**		
24	Bowers Avenue and Kifer Road/Walsh Avenue	AM	39.2	D	38.8	D	-0.8	-0.010		
		PM	45.9	D	48.7	D	6.2	0.024		
25	Mission College Loop and Mission College Blvd	AM	12.4	B	25.8	C	9.5	0.246		
		PM	21.3	C	36.8	D	15.3	0.178		
26	Marriott Dwy and Mission College Blvd	AM	14.1	B	14.2	B	0.1	0.003		
		PM	22.9	C	23.9	C	0.3	0.004		

Table 18 (cont.)
Cumulative Intersection Levels of Service with Mission College Blvd Connection – Option 2

			2040 Conditions							
					With Project					
			No Project		Option 2				Option 2 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
27	Freedom Circle W and Mission College Blvd	AM	**72.4**	**E**	**73.6**	**E**	**2.4**	**0.007**	**61.8**	**E**
		PM	**158.3**	**F**	**168.8**	**F**	**12.3**	**0.025**	**81.1**	**F**
28	Agnew/Freedom Circle E & Mission College Blvd	AM	44.1	D	45.1	D	-0.7	-0.010	33.2	C
		PM	**205.0**	**F**	**223.3**	**F**	**22.8**	**0.054**	**84.5**	**F**
29	Great America employee entrance and Agnew Rd	AM	4.7	A	4.7	A	0.1	0.005		
		PM	33.9	C	41.8	D	8.2	0.030		
30	Juliette Lane and Mission College Boulevard	AM	27.7	C	28.8	C	1.4	0.004		
		PM	30.4	C	31.1	C	0.7	0.022		
31	Burton Drive and Mission College Boulevard	AM	26.4	C	26.3	C	-0.1	-0.002		
		PM	18.7	B	18.9	B	-0.1	-0.007		
32	Mission College Blvd and Montague Expwy	AM	**147.7**	**F**	**149.5**	**F**	**2.6**	**0.006**		
	(CMP)	PM	**120.0**	**F**	**134.4**	**F**	**30.3**	**0.092**		
33	San Tomas Expressway and Scott Boulevard	AM	**152.3**	**F**	**156.3**	**F**	**13.8**	**0.005**		
	(CMP)	PM	68.0	E	69.8	E	3.7	0.011		
34	San Tomas Expressway and Monroe Street	AM	63.9	E	**62.2**	**E**	**-2.6**	**-0.012**		
	(CMP)	PM	53.7	D	54.8	D	0.6	0.003		
35	San Tomas Expressway and El Camino Real	AM	**107.4**	**F**	**102.4**	**F**	**-7.6**	**-0.014**		
	(CMP)	PM	**120.4**	**F**	**123.2**	**F**	**4.4**	**0.008**		
36	Convention Center and Tasman Drive	AM	13.7	B	13.4	B	0.0	0.000		
		PM	15.2	B	14.8	B	0.1	0.003		
37	Centennial Boulevard and Tasman Drive	AM	**92.0**	**F**	**96.2**	**F**	**6.7**	**0.012**		
		PM	42.0	D	42.1	D	-9.3	0.011		
38	Calle Del Sol and Tasman Drive	AM	26.3	C	24.6	C	-1.3	-0.010		
		PM	20.4	C	19.8	B	0.9	0.037		
39	Lick Mill Boulevard and Tasman Drive	AM	**129.0**	**F**	**124.4**	**F**	**-9.7**	**-0.023**		
		PM	**90.4**	**F**	**98.0**	**F**	**14.6**	**0.016**		
40	Lafayette Street and Calle De Luna	AM	22.6	C	22.3	C	-0.3	-0.007		
		PM	25.5	C	25.6	C	-7.8	0.000		
41	Lafayette Street and Agnew Road	AM	**65.8**	**E**	**63.7**	**E**	**-7.1**	**-0.016**		
		PM	**124.0**	**F**	**119.3**	**F**	**-3.7**	**-0.008**		
42	Scott Boulevard and Central Expressway	AM	78.1	E	79.7	E	2.0	0.009		
	(CMP)	PM	**111.5**	**F**	**116.4**	**F**	**5.7**	**0.014**		
43	Lafayette Street and Central Expressway	AM	58.5	E	57.7	E	-2.3	-0.001		
	(CMP)	PM	**82.8**	**F**	**82.9**	**F**	**-2.4**	**0.009**		
44	De la Cruz Boulevard and Central Expressway	AM	**123.1**	**F**	**117.0**	**F**	**-7.3**	**-0.006**		
	(CMP)	PM	**221.3**	**F**	**232.8**	**F**	**14.4**	**0.018**		
45	Agnew Rd/De La Cruz Blvd and Montague Expwy	AM	**100.7**	**F**	**99.9**	**F**	**-5.3**	**-0.010**		
	(CMP)	PM	**135.8**	**F**	**138.1**	**F**	**1.5**	**0.000**		
46	Lick Mill Boulevard and Montague Expressway	AM	76.0	E	74.3	E	-2.8	-0.014		
		PM	**119.1**	**F**	**131.7**	**F**	**22.5**	**0.014**		
47	N. 1st Street and Montague Expressway	AM	**205.8**	**F**	**197.9**	**F**	**-11.3**	**-0.015**		
	(CMP)	PM	**147.4**	**F**	**147.0**	**F**	**-3.7**	**-0.011**		
48	Zanker Road and Montague Expressway	AM	**85.7**	**F**	**80.7**	**F**	**-8.1**	**-0.008**		
	(CMP)	PM	**62.2**	**E**	**64.7**	**E**	**5.2**	**0.020**		
49	Trimble Road and Montague Expressway	AM	42.5	D	41.1	D	-1.2	-0.011		
	(CMP)	PM	**151.8**	**F**	**156.7**	**F**	**6.5**	**0.008**		
50	McCarthy Blvd/O'Toole Av and Montague Expwy	AM	--	--	--	--	--	--		
	(CMP)	PM	--	--	--	--	--	--		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

The following study intersections also would operate at unacceptable levels of service under cumulative plus project conditions.

5. Lawrence Expressway and E. Arques Avenue (PM peak hour)
16. Great America Parkway and Old Glory Lane (AM and PM peak hours)
33. Mission College Boulevard and Scott Boulevard (AM peak hour)
34. San Tomas Expressway and Monroe Street (AM peak hour)
35. San Tomas Expressway and El Camino Real (AM and PM peak hours)
41. Lafayette Street and Agnew Road (AM and PM peak hours)
43. Lafayette Street and Central Expressway (PM peak hour)
45. Agnew Road/De La Cruz Boulevard and Montague Expressway (AM and PM peak hours)
47. N. 1st Street and Montague Expressway (AM and PM peak hours)
49. Trimble Road and Montague Expressway (PM peak hour)

However, since the development of the PHDSP Area under Option 2 would not cause the critical-movement delay at these intersections to increase by four or more seconds and the V/C to increase by one percent (0.01) or more compared to cumulative no project conditions, the project would not have an adverse effect on the operation of those intersections. The intersection level of service calculation sheets are included in Appendix C.

Adverse Effects and Recommended Improvements – Option 2

This section discusses the adverse effects identified under cumulative plus project conditions with the proposed new Mission College Boulevard connection and proposed improvements to address the deficiencies. As noted above, adverse effects on intersection operations do not constitute significant impacts under CEQA.

The PHDSP will include TDM measures to achieve a 10 percent reduction in VMT per the City's Climate Action Plan. A sensitivity analysis was conducted to determine if a reduction in project vehicle trips due to TDM would avoid any of the adverse effects at any study intersections.

1. Lawrence Expressway and Tasman Drive

This CMP intersection in the City of Sunnyvale would operate at an unacceptable at LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01. This constitutes an adverse effect on intersection operations.

As described in Chapter 4, intersection improvements are not feasible due to right of way constraints and impacts on adjacent properties. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified an improvement that would depress the LRT line under this intersection as part of the 2040 Expressway Plan. Depressing the LRT would reduce delay for both trains and vehicle traffic. The PHDSP Area developments should provide fair-share funding towards this improvement.

2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive

This City of Sunnyvale intersection would operate at an acceptable LOS F under cumulative no project conditions during the AM and PM peak hours. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01. This constitutes an adverse effect on intersection operations.

As described above, intersection improvements are not feasible because it would require acquisition of additional right of way and negatively impact adjacent properties. Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The Long-Range Transportation Plan for Santa Clara County (VTP2040) lists a project (VTP ID# R39) that would realign Wildwood Avenue to connect directly with Lawrence Expressway, and create a new signalized intersection at Lawrence Expressway and Wildwood Avenue. This improvement would have a beneficial effect on traffic operations at the Lawrence/Sandia/Lakehaven intersection. The PHDSP Area developments should provide fair-share funding towards this improvement.

7. Old Ironsides Drive and Tasman Drive

This City of Santa Clara intersection would operate at an acceptable LOS C under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection to degrade to an unacceptable LOS E during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by installing a second westbound left-turn lane and a second northbound right-turn lane. The addition of a second westbound left-turn lane is considered to be infeasible as it would require the acquisition of additional right of way on the northeast quadrant of the intersection. Furthermore, as described above, dual northbound right-turn lanes are not recommended because they would adversely affect cyclists and pedestrians and conflict with City policies.

Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. A sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would reduce the average delay to 54.3 seconds per vehicle, which corresponds to an acceptable LOS D. Thus, TDM measures are expected to be sufficient to avoid the adverse effect without any physical improvements at this intersection.

8. Old Ironsides Drive and Old Glory Lane

This unsignalized intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the AM and PM peak hours. The poor level of service is due to the trips associated with the proposed Kylli mixed-use development, which would have access via the west leg at this intersection. The development of the PHDSP under Option 2 would exacerbate the deficiency at this intersection. Furthermore, the intersection is expected to satisfy the peak-hour signal warrant. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved to an acceptable LOS C during the AM peak hour by installing a traffic signal and applying a 10 percent TDM reduction While the intersection would continue to operate at LOS F during the PM peak hour with signal control and a 10 percent TDM reduction, the intersection would operate better than that expected under cumulative no project conditions. The PHDSP Area developments should provide fair-share funding for this new signal.

9. Old Ironsides Drive and Patrick Henry Drive

This unsignalized intersection in the City of Santa Clara would operate at an acceptable LOS A and LOS B under cumulative no project conditions during the AM and PM peak hours, respectively. The development of the PHDSP under Option 2 would cause the intersection to degrade to an unacceptable

LOS F during both peak hours. Furthermore, the intersection is expected to satisfy the peak-hour signal warrant. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by installing a traffic signal and adding a second southbound left-turn lane, a westbound right-turn lane, and a westbound left-turn lane. With the recommended improvements and a 10 percent TDM reduction, the intersection is expected to operate at an acceptable LOS C or better during both peak hours. These improvements should be fully funded by the PHDSP Area developments.

12. Great America Parkway and Great America Way

This City of Santa Clara intersection would operate at an unacceptable LOS E under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a northbound right-turn lane. This improvement is not considered feasible as it would require acquisition of additional right-of-way outside the PHDSP Area. Intersection operations could be improved by the construction of a Class IV separated bikeway on Great America Parkway. This multimodal improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would encourage residents and employees to leave their vehicles at home by adding a physical barrier between the existing bike lane and the vehicular travel lane, thereby increasing the comfort level for cyclists. The PHDSP Area developments should provide fair-share funding towards this multimodal improvement.

17. Great America Parkway and Patrick Henry Drive

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 is expected to cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by constructing a second northbound left-turn lane. With the recommended improvement and a 10 percent TDM reduction, the intersection would continue to operate at an unacceptable LOS F during the PM peak hour, however the delay would be less than under cumulative no project conditions. The cost of this improvement will be fully funded by PHDSP Area developments.

18. Great America Parkway and Mission College Boulevard

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

As described above, intersection improvements are not feasible because it would require acquisition of additional right of way and negatively impact adjacent properties. Implementation of travel demand management (TDM) measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Great America Parkway. This improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would encourage cycling by adding a physical barrier between the existing bike lane and the vehicular travel lane, thereby increasing the comfort level for cyclists. This intersection is also included in the City of Santa Clara *Multimodal Improvement Plan* (MIP). MIP Actions intended to address the LOS deficiency at this intersection include installation of transit signal priority, crosswalk motion sensors, upgraded safety lighting at intersections along Mission College Boulevard, and adaptive traffic signals along Great America Parkway. The PHDSP Area developments should provide fair-share funding towards the Class IV bikeway on Great America Parkway and MIP improvements.

23. Bowers Avenue and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the AM and PM peak hours. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the AM peak hour. During the PM peak hour, the project would cause the average critical movement delay to decrease while the critical v/c would increase by more than 0.01. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

27. Freedom Circle (W) and Mission College Boulevard

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a second northbound left-turn lane and an eastbound right-turn lane and restriping the southbound approach for one right-turn lane, one shared through/right-turn lane and one left-turn lane. The construction of these improvements along with the planned Class IV separated bike lanes on Mission College Boulevard would require widening Mission College Boulevard but would not require the dedication of additional right of way. The existing curb-to-curb width on Freedom Circle is sufficient to accommodate the recommended dual northbound left-turn lanes. Although restriping the southbound approach for dual right-turn lanes may improve vehicle operations, dual right-turn lanes are not recommended because it would adversely affect cyclists and pedestrians and conflict with City policies. With the recommended improvements on the northbound and eastbound approaches and a 10 percent TDM reduction, the intersection would continue to operate at an unacceptable LOS F during the PM peak hour , however the average delay would be less than that under cumulative no project conditions. Funding for these improvements should be shared between developments in both the PHDSP Area and the Freedom Circle Focus Area.

28. Agnew Road/Freedom Circle (E) and Mission College Boulevard

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a second eastbound left-turn lane and widening the northbound approach to include one left-turn lane, one through lane, and two right-turn lanes. The addition of a second lane on the north leg (Agnew Road) to receive the dual eastbound left-turn lanes would require the dedication of right of way from adjacent properties within the Freedom Circle Focus Area and/or narrowing the sidewalk and thus is considered to be infeasible. Furthermore, as described above, dual right-turn lanes are not recommended as they would adversely affect cyclists and pedestrians and conflict with City of Santa Clara policies. Thus, only the addition of a single northbound right-turn lane is recommended. With the recommended improvement on the northbound approach and a 10 percent TDM reduction, the intersection would continue to operate at LOS F during the PM peak hour, however the average delay would be less than that under cumulative no project conditions. Funding for this improvement should be shared between developments in both the PHDSP Area and the Freedom Circle Focus Area.

32. Mission College Boulevard and Montague Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more the 0.010 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that even a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. Intersection operations could be improved by constructing a partial grade separation with a flyover from eastbound Montague Expressway to northbound Mission College Boulevard. This improvement was identified as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

37. Centennial Boulevard and Tasman Drive

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the AM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the AM peak hour. This constitutes an adverse effect on intersection operations.

Improving the intersection's operations to an acceptable level of service would require widening Tasman Drive to add a third westbound through lane. However, the existing right-of-way is not sufficient to add a lane. Furthermore, the westbound approach is elevated due to its proximity to the overcrossing of the ACE rail line, which would further complicate efforts to widen Tasman Drive. Lastly, widening Tasman Drive would adversely affect pedestrian traffic at this intersection, which experiences heavy pedestrian flows before and after events at the adjacent Levi's Stadium. For all of these reasons, intersection capacity improvements are considered infeasible. Implementation of TDM measures could reduce the vehicle trips associated with the PHDSP Option 2 development. A sensitivity analysis shows

that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Lafayette Street. This multimodal improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would connect with the existing Class II bike lanes on Tasman Drive and the planned Class I shared-use path along the Hetch Hetchy right of way and encourage area residents and employees to use active transportation modes in place of driving. The PHDSP Area developments should provide fair-share funding towards the Lafayette Street bikeway.

39. Lick Mill Boulevard and Tasman Drive

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c would increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Planned improvements associated with City Place that are assumed under cumulative no project conditions include reconfiguring the northbound and southbound approaches to two left-turn lanes, one through lane, and one right-turn lane. In addition, the signal phasing would be changed from split phase to protected left-turns for the northbound and southbound approaches. Lastly, a second westbound left-turn lane is planned. Intersection operations could be further improved by converting the right-turn lane to a free right-turn lane. This improvement is not recommended because it would have an adverse effect on pedestrians and bicyclists. Implementation of TDM measures could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Lick Mill Boulevard, which is identified in the City's *Bicycle Master Plan Update 2018*. This multimodal improvement would add to the bicycle network in northern Santa Clara encouraging commuters and residents to cycle instead of traveling by motor vehicle. The PHDSP Area developments should provide fair-share funding towards this multimodal improvement.

42. Scott Boulevard and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Implementation of TDM measures within the PHDSP Area could reduce the vehicles trips associated with the PHDSP Option 1 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations. The County identified the need for a grade-separated interchange at this location as part of the 2040 Expressway Plan. The PHDSP Area developments should provide fair-share funding towards this improvement.

44. De La Cruz Boulevard and Central Expressway

This CMP intersection in the City of Santa Clara would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

The analysis of cumulative conditions at this intersection assumes the following planned improvements: a third southbound through lane and a second southbound right-turn lane; a second eastbound right-turn lane; a third northbound left-turn lane and removal of one northbound through lane. In addition, cumulative conditions include the planned conversion of the existing HOV lanes on Central Expressway to mixed-flow lanes. Further improvements are not considered feasible since it would require extensive widening to add additional through lanes on both roadways that would entail acquisition of additional right of way adversely affecting adjacent properties as well as reconstruction of the railroad bridge over Central Expressway just west of the intersection. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on De La Cruz Boulevard. This improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would provide an important link for cyclists between the southern and northern portions of Santa Clara and connect to buffered bike lanes on Trimble Road in San José. This intersection is also included in the City of Santa Clara *Multimodal Improvement Plan* (MIP). MIP Actions intended to address the LOS deficiency at this intersection include installation of crosswalk motion sensors, accessible pedestrian signals, upgraded safety lighting, travel time data collection systems, traffic monitoring cameras, and periodic retiming of signal coordination at intersections along De La Cruz Boulevard. The PHDSP Area developments should provide fair-share funding towards these multimodal improvements.

46. Lick Mill Boulevard and Montague Expressway

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the PM peak hour. The development of the PHDSP under Option 2 would cause the intersection's average critical delay to increase by more than 4.0 seconds and the critical v/c ratio to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Cumulative no project conditions assume the addition of a third southbound left-turn lane. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the PHDSP Area would not be sufficient to avoid the adverse effect on intersection operations. The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Lick Mill Boulevard, which is identified in the City's *Bicycle Master Plan Update 2018*. This multimodal improvement would add to the bicycle network in northern Santa Clara encouraging commuters and residents to cycle instead of traveling by motor vehicle. The PHDSP Area developments should provide fair-share funding towards this multimodal improvement.

48. Zanker Road and Montague Expressway

This CMP intersection in the City of San José would operate at an unacceptable LOS E under cumulative no project conditions during the PM peak hours. The development of the PHDSP under

Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations.

Further lane additions beyond the planned widening of Zanker Road that is assumed under cumulative no project conditions are not feasible. Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP Option 2 development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The North San José Deficiency Plan identifies HOV-type signal improvements on Montague Expressway that could support future Bus Rapid Transit facilities. This improvement would partially offset the adverse effect at this intersection. The PHDSP Area developments should provide fair-share funding towards this improvement.

Summary of Cumulative Plus Project Conditions with Mission College Boulevard Connection

A summary of the adverse effects associated with the project under cumulative conditions with the proposed new roadway connection to Mission College Boulevard, the recommended improvements, and funding responsibilities are provided in Table 19.

Table 19
Summary of Affected Intersections under Cumulative Plus Project Conditions with Mission College Boulevard Connection

#	Intersection	Jurisdiction	With Mission College Boulevard Connection Affected Scenarios		Recommended Improvements	Project Responsibility[1]
			Option 1	Option 2		
1	Lawrence Expressway and Tasman Drive *(CMP)*	SCC	**YES**	**YES**	Depress LRT under the intersection (2040 Expressway Plan)	% of Total Traffic
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	SCC	**YES**	**YES**	Realign Wildwood Avenue to connect with Lawrence Expressway and create a new signalized intersection (VTP 2040)	% of Total Traffic
5	Lawrence Expressway and E. Arques Ave. *(CMP)*	SCC	**YES**	NO	TDM Measures with 10% Trip Reduction	100%
7	Old Ironsides Drive and Tasman Drive	SC	NO	**YES**	TDM Measures with 10% Trip Reduction	100%
8	Old Ironsides Drive and Old Glory Lane *(Unsignalized)*	SC	**YES**	**YES**	Install a traffic signal	% of Total Traffic
9	Old Ironsides Drive and Patrick Henry Drive *(Unsignalized)*	SC	**YES**	**YES**	Install a traffic signal and add a 2nd SB left-turn lane, a WB RT lane, and a WB LT lane	100%
12	Great America Parkway and Great America Way	SC	**YES**	**YES**	Construct Class IV bikeway on Great America Pkwy	% of Total Traffic
17	Great America Parkway and Patrick Henry Drive	SC	**YES**	**YES**	Add a second northbound left-turn lane	100%
18	Great America Pkwy and Mission College Blvd *(CMP)*	SC	**YES**	**YES**	Construct Class IV bikeway on Great America Parkway (Bicycle Master Plan Update 2018) and Multimodal Improvement Plan measures	% of Total Traffic
23	Bowers Avenue and Central Expressway (CMP)	SCC	**YES**	**YES**	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
27	Freedom Circle W and Mission College Blvd	SC	**YES**	**YES**	Add a second northbound left-turn lane and an eastbound right-turn lane	% of Total Traffic
28	Agnew/Freedom Circle E & Mission College Blvd	SC	**YES**	**YES**	Add a northbound right-turn lane	% of Total Traffic
32	Mission College Blvd and Montague Expwy *(CMP)*	SCC	**YES**	**YES**	Construct partial grade separation (2040 Expressway Plan)	% of Total Traffic
37	Centennial Boulevard and Tasman Drive	SC	NO	**YES**	Construct Class IV separated bikeway on Lafayette Street (Bicycle Master Plan Update 2018)	% of Total Traffic

Table 19 (continued)
Summary of Affected Intersections under Cumulative Plus Project Conditions with Mission College Boulevard Connection

#	Intersection	Jurisdiction	With Mission College Boulevard Connection Affected Scenario		Recommended Improvements	Project Responsibility[1]
			Option 1	Option 2		
39	Lick Mill Boulevard and Tasman Drive	SC	NO	**YES**	Construct a Class IV separated bikeway on Lick Mill Boulevard (Bicycle Master Plan Update 2018)	% of Total Traffic
42	Scott Boulevard and Central Expressway *(CMP)*	SCC	**YES**	**YES**	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
44	De la Cruz Boulevard and Central Expressway *(CMP)*	SCC	**YES**	**YES**	Construct Class IV separated bikeway on De La Cruz Boulevard (Bicycle Master Plan Update 2018) and Multimodal Improvement Plan measures	% of Total Traffic
45	Agnew Rd/De La Cruz Blvd and Montague Expwy *(CMP)*	SCC	**YES**	NO	Implement measures identified in Multimodal Improvement Plan	% of Total Traffic
46	Lick Mill Boulevard and Montague Expressway	SCC	**YES**	**YES**	Construct Class IV separated bikeway on Lick Mill Boulevard (Bicycle Master Plan Update 2018)	% of Total Traffic
48	Zanker Road and Montague Expressway *(CMP)*	SCC	**YES**	**YES**	HOV-type signal improvements that could support future Bus Rapid Transit facilites (North San José Deficiency Plan)	Pay North San José fee or % of Total Traffic
49	Trimble Road and Montague Expressway *(CMP)*	SCC	**YES**	NO	HOV-type signal improvements that could support future Bus Rapid Transit facilites (North San José Deficiency Plan)	Pay North San José fee or % of Total Traffic

Notes:
SCC = Santa Clara County, SC = Santa Clara, SJ = San Jose, SV = Sunnyvale
1 "100%" = The cost and construction of the recommended improvement is the full responsibility of PHDSP area developements. These are discrete improvements that counter adverse effects caused by the project. "% of Total Traffic" = PHDSP area developements shall pay a fair-share contribution to the recommended improvement, which is typically a larger transportation improvement, such as an expressway interchange or bike lanes along a corridor, that has been identified in an adopted plan. "Pay North San José fee or % of Total Traffic" = PHDSP area developements can pay the North San José fee, or a fair-share contribution for the improvement, or a fair-share contribution for off-setting multimodal improvements based on the amount of Project's percent contribution of the traffic volume growth at the intersection.

Cumulative Plus Project Conditions without Mission College Boulevard Connection

Cumulative plus project traffic conditions also were analyzed without the proposed new roadway connecting Patrick Henry Drive with the Mission College Boulevard loop. This analysis reflects a worst-case scenario with all future developments anticipated in the area including the proposed development of both Patrick Henry Drive Specific Plan and Freedom Circle Focus Areas, the proposed Kylli mixed-use project, the approved City Place project, and approved Tasman East Specific Plan developments and the proposed Amendment to the Tasman East Specific Plan. As presented in the previous section, the analysis covers two development options within the PHDSP Area.

The elimination of this short roadway segment between Patrick Henry Drive and the Mission College Boulevard loop is not expected to have an appreciable effect on the mode split or project trip distribution. Thus, traffic forecasts were developed for the new cumulative scenarios by starting with the previous cumulative plus project forecasts and manually reassigning trips that had been forecast to use the new roadway connection to alternative routes. Note that under cumulative conditions, the new roadway connection would be used by trips generated by the Patrick Henry Drive Specific Plan as well as trips generated by the proposed Kylli mixed-use project immediately north of the PHDSP Area. The following roadway segments are expected to experience an increase in traffic without the new roadway connection:

- Lawrence Expressway between Lakewood Drive/Bridgewood Way and Tasman Drive
- Tasman Drive between Lawrence Expressway and Old Ironsides Drive
- Mission College Boulevard between Wildwood Avenue and Great America Parkway (south side of the Mission College Boulevard loop)
- Great America Parkway between Mission College Boulevard and Old Glory Lane

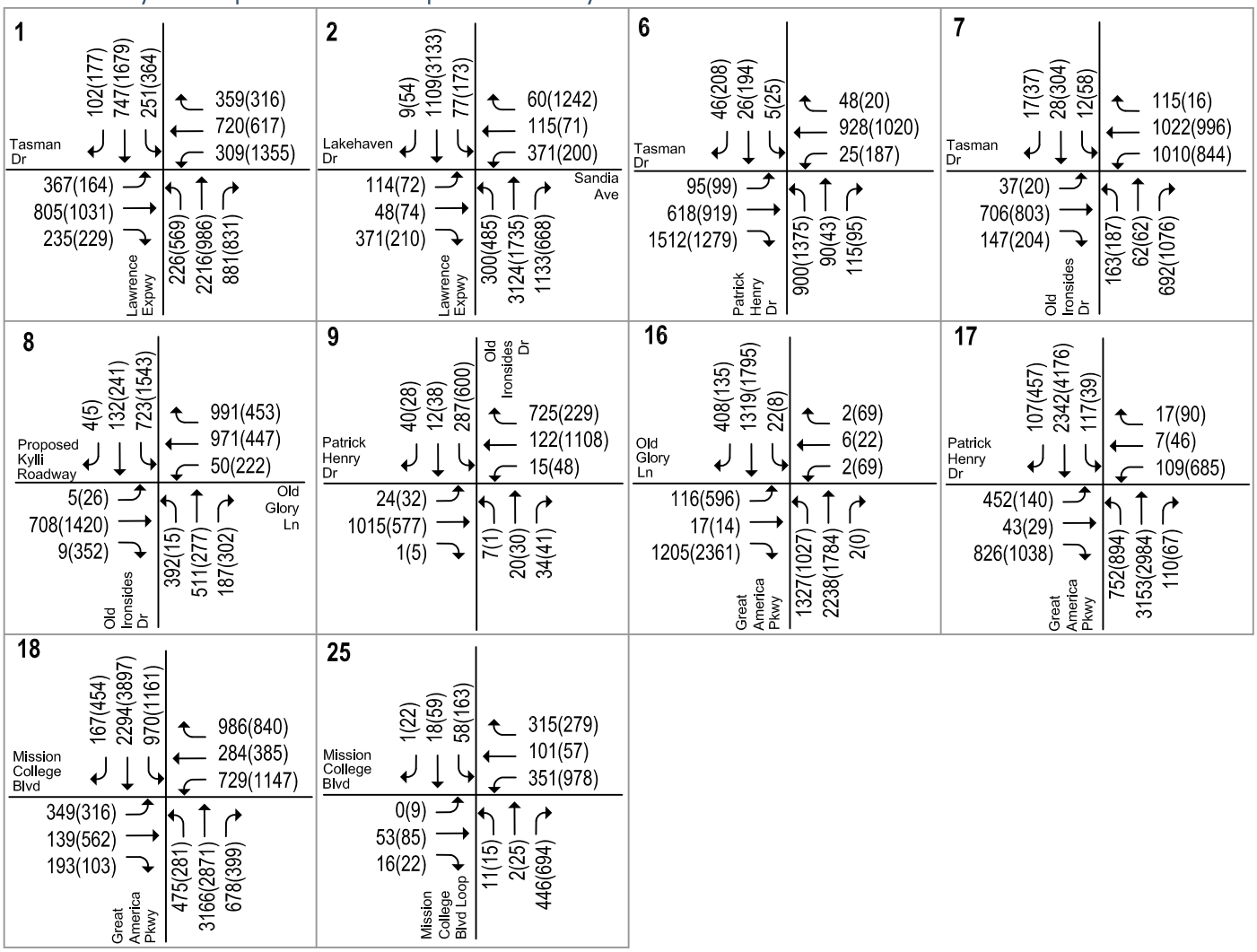
Thus, the analysis was limited to the following 10 key study intersections that would be substantially affected by the elimination of the proposed new roadway connection:

1. Lawrence Expressway and Tasman Drive
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive
6. Patrick Henry Drive and Tasman Drive
7. Old Ironsides Drive and Tasman Drive
8. Old Ironsides Drive and Old Glory Lane
9. Old Ironsides Drive and Patrick Henry Drive
16. Great America Parkway and Old Glory Lane
17. Great America Parkway and Patrick Henry Drive
18. Great America Parkway and Mission College Boulevard
25. Mission College Loop and Mission College Boulevard

The traffic volumes and level of service at the other 40 study intersections would be the same with or without the new roadway connection. The resulting cumulative plus project traffic volume forecasts without the new roadway connection to Mission College Boulevard under PHDSP Options 1 and 2 are presented in Figures 18 and 19, respectively.

Cumulative Plus Project Intersection Levels of Service without Mission College Boulevard Connection

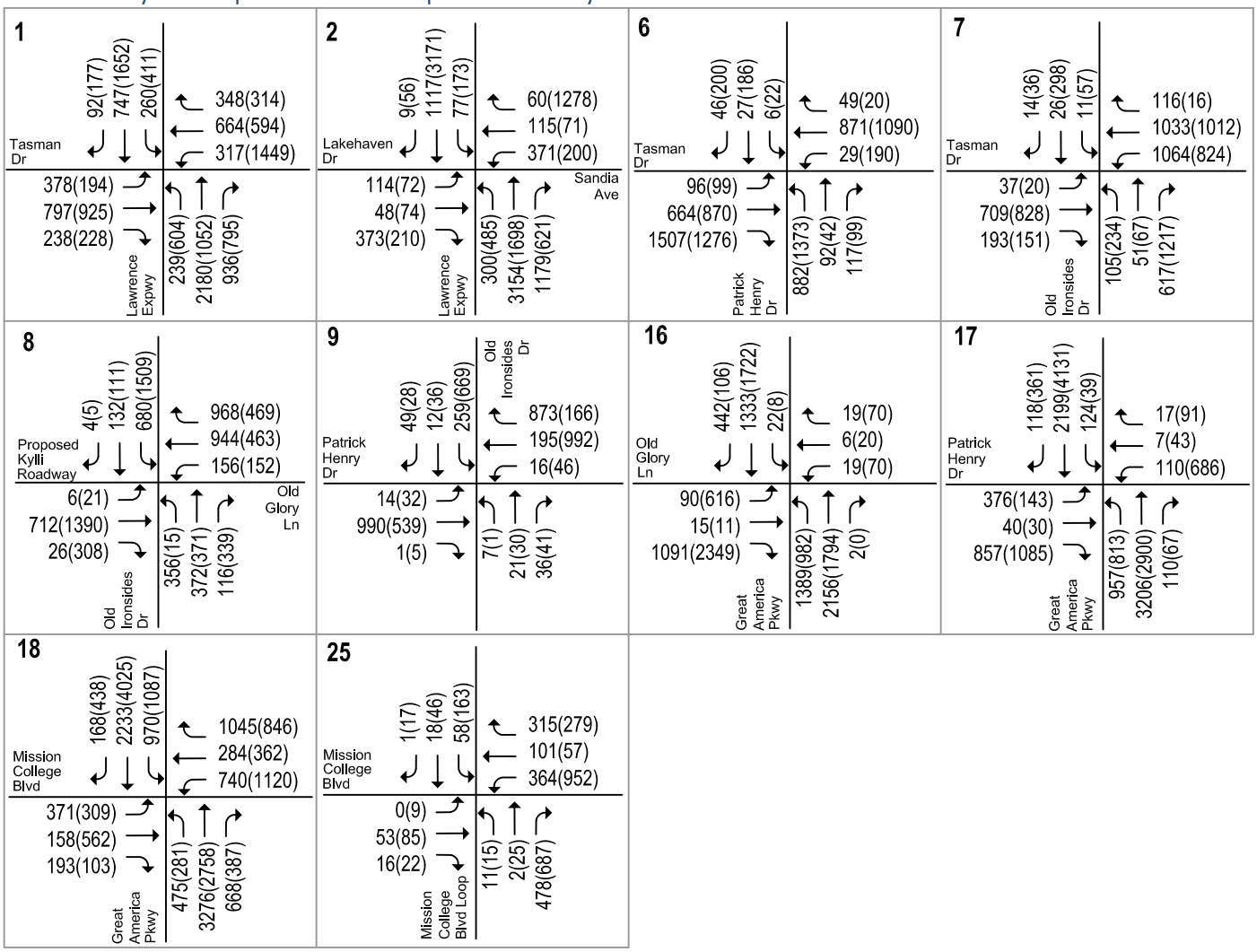
The results of the intersection level of service analysis without the new roadway connection to Mission College Boulevard under PHDSP Options 1 and 2 are presented in Tables 20 and 21, respectively. Compared to the results of similar cumulative plus project scenarios with the new roadway connection (see Tables 17 and 18), the elimination of the proposed new roadway connection would exacerbate



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 18
Cumulative Plus Project Traffic Volumes
Without Mission College Boulevard Connection - Option 1



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 19
Cumulative Plus Project Traffic Volumes
Without Mission College Boulevard Connection - Option 2

Table 20
Cumulative Intersection Levels of Service without Mission College Boulevard Connection – Option 1

					with Mission College Bouelvard Connection						without Mission College Bouelvard Connection					
			No Project		Option 1				Option 1 - With 10% TDM & Improvement		Option 1				Option 1 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	57.0	E	66.5	E	5.3	0.021			66.1	E	5.3	0.021		
	(CMP)	PM	**115.3**	**F**	**126.5**	**F**	**18.8**	**0.030**			**186.4**	**F**	**123.2**	**0.222**		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	**120.6**	**F**	**110.3**	**F**	**-11.8**	**-0.015**			**151.0**	**F**	**-11.1**	**-0.015**		
		PM	**663.7**	**F**	**OVFL**	**F**	**OVFL**	**0.234**			**OVFL**	**F**	**165.2**	**0.314**		
6	Patrick Henry Drive and Tasman Drive	AM	36.3	D	39.9	D	-0.5	0.009			**83.6**	**F**	**80.7**	**0.198**		
		PM	34.2	C	40.5	D	3.4	0.099			**70.1**	**E**	**45.6**	**0.279**		
7	Old Ironsides Drive and Tasman Drive	AM	18.9	B	38.2	D	36.2	0.192			46.4	D	49.9	0.238		
		PM	29.9	C	54.3	D	21.7	0.230			**62.8**	**E**	**32.0**	**0.267**		
8	Old Ironsides Drive and Old Glory Lane	AM	**OVFL**	**F**	**OVFL**	**F**	**--**	**--**	40.4	D	**OVFL**	**F**	**--**	**--**	**85.4**	**F**
	(Unsignalized)	PM	**OVFL**	**F**	**OVFL**	**F**	**--**	--	**106.2**	**F**	**OVFL**	**F**	**--**	--	**108.5**	**F**
9	Old Ironsides Drive and Patrick Henry Drive	AM	1.8	A	**OVFL**	**F**	**--**	**--**	17.5	B	**256.1**	**F**	**--**	**--**	17.3	B
	(Unsignalized)	PM	13.9	B	**OVFL**	**F**	**--**	--	21.1	C	**OVFL**	**F**	**--**	--	35.9	D
16	Great America Parkway and Old Glory Lane	AM	**118.3**	**F**	**134.7**	**F**	**-50.9**	**-0.110**			**OVFL**	**F**	**OVFL**	**0.595**	47.0	D
		PM	**296.1**	**F**	**284.0**	**F**	**-17.8**	**-0.042**			**OVFL**	**F**	**OVFL**	**0.620**	**192.7**	**F**
17	Great America Parkway and Patrick Henry Drive	AM	**128.1**	**F**	**113.1**	**F**	**-46.9**	**-0.110**	54.3	D	**203.6**	**F**	**115.6**	**0.254**	**85.9**	**F**
		PM	**153.3**	**F**	**190.0**	**F**	**79.3**	**0.160**	**116.8**	**F**	**OVFL**	**F**	**OVFL**	**1.001**	**257.1**	**F**
18	Great America Pkwy and Mission College Blvd	AM	89.2	**F**	55.5	E	-59.2	-0.173			**81.0**	**F**	-11.8	-0.024		
	(CMP)	PM	**88.0**	**F**	**128.0**	**F**	**53.5**	**0.109**			**162.1**	**F**	**79.7**	**0.182**		
25	Mission College Loop and Mission College Blvd	AM	12.4	B	25.8	C	9.1	0.262			12.5	B	-0.1	0.014		
		PM	21.3	C	37.8	D	16.6	0.195			21.7	C	-3.0	-0.068		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

Table 21
Cumulative Intersection Levels of Service without Mission College Boulevard Connection – Option 2

			No Project		with Mission College Boulevard Connection						without Mission College Boulevard Connection					
					Option 2				Option 2 - With 10% TDM & Improvement		Option 2				Option 2 - With 10% TDM & Improvement	
#	Intersection	Peak Hour	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS	Avg Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg Delay	LOS
1	Lawrence Expressway and Tasman Drive	AM	57.0	E	63.1	E	0.0	0.0			64.2	E	0.2	-0.011		
	(CMP)	PM	**115.3**	**F**	**125.1**	**F**	**18.9**	**0.028**			**196.1**	**F**	**142.7**	**0.231**		
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	AM	**120.6**	**F**	**116.4**	**F**	**9.6**	**0.013**			**158.0**	**F**	**10.6**	**0.013**		
		PM	**OVFL**	**F**	**OVFL**	**F**	**OVFL**	**0.288**			**OVFL**	**F**	**OVFL**	**0.374**		
6	Patrick Henry Drive and Tasman Drive	AM	36.3	D	41.1	D	2.2	0.020			**82.4**	**F**	**78.8**	**0.198**		
		PM	34.2	C	40.3	D	3.1	0.099			**70.5**	**E**	**43.7**	**0.274**		
7	Old Ironsides Drive and Tasman Drive	AM	18.9	B	36.6	D	33.0	0.190			48.1	D	52.0	0.251		
		PM	29.9	C	**58.2**	**E**	**48.3**	**0.322**	54.3	D	**64.6**	**E**	**58.6**	**0.349**		
8	Old Ironsides Drive and Old Glory Lane	AM	**OVFL**	**F**	**OVFL**	**F**	**--**	**--**	27.9	C	**OVFL**	**F**	**--**	**--**	**65.0**	**E**
	(Unsignalized)	PM	**OVFL**	**F**	**OVFL**	**F**	**--**	--	**116.4**	**F**	**OVFL**	**F**	**--**	--	**114.9**	**F**
9	Old Ironsides Drive and Patrick Henry Drive	AM	1.8	A	**OVFL**	**F**	**--**	**--**	14.1	B	**295.5**	**F**	**--**	**--**	15.4	B
	(Unsignalized)	PM	13.9	B	**OVFL**	**F**	**--**	--	21.2	C	**OVFL**	**F**	**--**	--	31.2	C
16	Great America Parkway and Old Glory Lane	AM	**118.3**	**F**	**122.2**	**F**	**-53.4**	**-0.120**			**OVFL**	**F**	**OVFL**	**0.584**	52.1	D
		PM	**296.1**	**F**	**284.2**	**F**	**-16.6**	**-0.038**			**OVFL**	**F**	**OVFL**	**0.569**	**276.7**	**F**
17	Great America Parkway and Patrick Henry Drive	AM	**128.1**	**F**	**131.5**	**F**	**-4.3**	**-0.015**	50.7	D	**234.4**	**F**	**176.6**	**0.386**	**81.6**	**F**
		PM	**153.3**	**F**	**191.2**	**F**	**75.1**	**0.152**	**123.7**	**F**	**OVFL**	**F**	**OVFL**	**0.970**	**265.3**	**F**
18	Great America Pkwy and Mission College Blvd	AM	89.2	**F**	56.0	E	-58.6	-0.168			**94.6**	**F**	**11.3**	**0.032**		
	(CMP)	PM	**88.0**	**F**	**136.4**	**F**	**72.6**	**0.153**			**155.8**	**F**	**86.0**	**0.198**		
25	Mission College Loop and Mission College Blvd	AM	12.4	B	25.8	C	9.5	0.246			12.4	B	-0.3	0.019		
		PM	21.3	C	36.8	D	15.3	0.178			21.5	C	-0.6	-0.064		

Notes:
Bold indicates a substandard level of service.
Bold indicates an adverse effect caused by the project.
OVFL indicates that the result is out of software calculation limits.

traffic operations at many intersections and result in adverse effects at additional intersections. The adverse effects identified in this analysis do not constitute significant impacts under the California Environmental Quality Act (CEQA). Of the 10 study intersections evaluated without the proposed new roadway connection, the following 9 intersections would be adversely affected by development of the PHDSP Area under Option 1:

1. Lawrence Expressway and Tasman Drive (PM peak hour)
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive (PM peak hour)
6. Patrick Henry Drive and Tasman Drive (AM and PM peak hours)
7. Old Ironsides Drive and Tasman Drive (PM peak hour)
8. Old Ironsides Drive and Old Glory Lane (AM and PM peak hours)
9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
16. Great America Parkway and Old Glory Lane (AM and PM peak hours)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)
18. Great America Parkway and Mission College Boulevard (PM peak hour)

The same study intersections would be adversely affected without the proposed new roadway connection under the development of the PHDSP Area under Option 2. However, the time periods differ slightly:

1. Lawrence Expressway and Tasman Drive (PM peak hour)
2. Lawrence Expressway and Sandia Avenue/Lakehaven Drive (AM and PM peak hours)
6. Patrick Henry Drive and Tasman Drive (AM and PM peak hours)
7. Old Ironsides Drive and Tasman Drive (PM peak hour)
8. Old Ironsides Drive and Old Glory Lane (AM and PM peak hours)
9. Old Ironsides Drive and Patrick Henry Drive (AM and PM peak hours)
16. Great America Parkway and Old Glory Lane (AM and PM peak hours)
17. Great America Parkway and Patrick Henry Drive (AM and PM peak hours)
18. Great America Parkway and Mission College Boulevard (AM and PM peak hours)

The intersection level of service calculation sheets are included in Appendix C.

Recommended Improvements Without Mission College Boulevard Connection

While the traffic volume forecasts would be higher without the new roadway connection to Mission College Boulevard exacerbating congestion at many study intersections, additional intersection improvements beyond those recommended in the previous chapters are not feasible at many locations. Thus, at most study intersections, the recommended improvements for adverse effects on intersection operations would be the same with or without the proposed new roadway connection (see Table 22). The following three intersections would require additional improvements without the roadway connection that were not identified in the previous section. The recommended improvements would be the same under PHDSP Option 1 and Option 2 unless stated otherwise.

6. Patrick Henry Drive and Tasman Drive

This City of Santa Clara intersection is expected to operate at an acceptable LOS D under cumulative plus project conditions with the proposed new roadway connection to Mission College Boulevard. However, without the roadway connection, the intersection would serve substantially higher traffic volumes causing the intersection to degrade to an unacceptable LOS F and LOS E during the AM and PM peak hours, respectively. This constitutes an adverse effect on intersection operations.

Vehicle delay at this intersection could be reduced by installing a second eastbound right-turn lane. However, as stated previously, dual right-turn lanes are not recommended because they would adversely affect cyclists and pedestrians and conflict with City policies.

Implementation of TDM measures within the PHDSP Area could reduce the vehicle trips associated with the PHDSP development. However, a sensitivity analysis shows that a 10 percent TDM trip reduction within the Plan Area would not be sufficient to avoid the adverse effect on intersection operations.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Patrick Henry Drive. This improvement, which is identified in the City's *Bicycle Master Plan Update 2018*, would provide direct access to the PHDSP Area. Within the Specific Plan area, the bikeway improvement will be constructed as part of the Plan. Outside the Specific Plan area, PHDSP area stakeholders will pay a fair share fee for future construction of the bikeway on the Patrick Henry Drive segment between the Plan area and Tasman Drive. PHDSP Area developments shall also pay a fair share to build the Calabazas Creek Trail, and certain properties within the PHDSP area may be required to dedicate right of way to implement the proposed trail connections. Appendix F presents the details of the preliminary trail alignment plan for the Calabazas Creek Trail.

7. Old Ironsides Drive and Tasman Drive

This City of Santa Clara intersection is expected to operate at an acceptable LOS D under cumulative plus project conditions with the proposed new roadway connection to Mission College Boulevard and a 10 percent TDM reduction. However, without the roadway connection, a 10 percent TDM reduction would not be sufficient to maintain an acceptable level of service and the intersection would degrade to an unacceptable LOS E during the PM peak hours. This constitutes an adverse effect on intersection operations.

Vehicle delay at this intersection could be reduced by installing a second westbound left-turn lane and a second northbound right-turn lane. However, as stated previously, dual right-turn lanes are not recommended because they would require acquisition of additional right of way, adversely affect cyclists and pedestrians, and conflict with City policies.

The adverse effect at this intersection could be lessened by the construction of a Class IV separated bikeway on Old Ironsides Drive. This improvement, which is identified in the City's Bicycle Master Plan Update 2018, would provide direct access to the PHDSP Area. Furthermore, the Bicycle Master Plan lists a spot improvement at this intersection that would tighten the curb radius on the northeast corner. Within the Specific Plan area, the bikeway improvement will be constructed as part of the Plan. Outside the Specific Plan area, PHDSP area stakeholders will pay a fair share fee for future construction of the bikeway on the Old Ironsides Drive segment between the Plan area and Tasman Drive. The PHDSP Area developments should provide fair-share funding towards these improvements. PHDSP Area developments shall also pay a fair share to build the Hetch Hetchy Trail, and certain properties within the PHDSP area may be required to dedicate right of way to implement the proposed trail connections. Appendix F presents the details of the preliminary trail alignment plan for the Hetch Hetchy Trail.

8. Old Ironsides Drive and Old Glory Lane

Signalization of this City of Santa Clara intersection is required to offset the adverse effect of the PHDSP developments under background plus project conditions both with and without the proposed new roadway connection to Mission College Boulevard. The cost of signalization will be fully funded by PHDSP Area developments. Signalization also would be sufficient offset the adverse effect of the project under cumulative plus project conditions with the proposed new roadway connection. However, the intersection would serve substantially more traffic under cumulative plus project conditions without the new roadway connection. Additional improvements recommended under this scenario include the addition of a second southbound left-turn lane, a second eastbound through lane, an exclusive northbound right-turn lane, an exclusive eastbound right-turn lane, and an exclusive westbound left-turn

lane. With the recommended improvements and a 10 percent TDM reduction, the intersection would continue to operate at an unacceptable LOS E or LOS F, however the delay would be less than that under cumulative no project conditions. The PHDSP Area developments should provide fair-share funding towards these improvements.

16. Great America Parkway and Old Glory Lane

While this City of Santa Clara intersection is expected to operate at an unacceptable LOS F under cumulative plus project conditions with the proposed new roadway connection, the development of the PHDSP under Option 1 or 2 would have a negligible effect on intersection operations. However, without the new roadway connection, the development of the PHDSP under both Option 1 and Option 2 would cause the intersection's average critical movement delay to increase by more than 4.0 seconds and the critical v/c to increase by more than 0.01 during both peak hours. This constitutes an adverse effect on intersection operations.

Intersection operations could be improved by adding a second northbound left-turn lane. With this improvement and a 10 percent TDM reduction, the intersection is expected to operate at an acceptable LOS D during the AM peak hour. During the PM peak hour, the intersection would continue to operate at LOS F, however the average delay would be less than that under cumulative no project conditions. The PHDSP Area developments should provide full funding towards this improvement.

17. Great America Parkway and Patrick Henry Drive

This City of Santa Clara intersection would operate at an unacceptable LOS F under cumulative no project conditions during the AM and PM peak hours. With the proposed new roadway connection, the development of the PHDSP under Option 1 or 2 would cause an adverse effect on this intersection during the PM peak hour. The PHDSP Area development would be required to fully fund the addition of a second northbound left-turn lane. However, without the new roadway connection, this roadway capacity improvement and a 10 percent TDM reduction would not be sufficient to fully offset the adverse effect of the project.

Developments within the PHDSP Area also will be responsible for construction of a Class IV separated bikeway on Patrick Henry Drive. This multimodal improvement, which is identified in the *City's Bicycle Master Plan Update 2018*, would encourage residents and employees to leave their vehicles at home by adding a physical barrier between the existing bike lane and the vehicular travel lane, thereby increasing the comfort level for cyclists. Within the Specific Plan area, the bikeway improvement will be constructed as part of the Plan. Outside the Specific Plan area, PHDSP area stakeholders will pay a fair share fee for future construction of the bikeway on the Patrick Henry Drive segment between the Plan area and Tasman Drive.

Table 22
Summary of Affected Intersections under Cumulative Plus Project Conditions without Mission College Blvd. Connection

#	Intersection	Jurisdiction	Without Mission College Boulevard Connection Affected Scenarios Option 1	Option 2	Recommended Improvements	Project Responsibility[1]
1	Lawrence Expressway and Tasman Drive *(CMP)*	SCC	**YES**	**YES**	Depress LRT under the intersection (2040 Expressway Plan)	% of Total Traffic
2	Lawrence Expwy and Sandia Av/Lakehaven Dr	SCC	**YES**	**YES**	Realign Wildwood Avenue to connect with Lawrence Expressway and create a new signalized intersection (VTP 2040)	% of Total Traffic
5	Lawrence Expressway and E. Arques Ave. *(CMP)*	SCC	**YES**	NO	TDM Measures with 10% Trip Reduction	100%
6	Patrick Henry Drive and Tasman Drive	SC	**YES**	**YES**	Construct Class IV bikeway on Patrick Henry Drive within Plan area and from Plan area to Tasman Dr. (Bicycle Master Plan Update 2018) and construct Calabazas Creek Trail (Creek Trail Network Expansion Master Plan)	100% within Plan area fair share outside Plan area % of Total Traffic
7	Old Ironsides Drive and Tasman Drive	SC	**YES**	**YES**	Construct Class IV bikeway on Old Ironsides Drive within Plan area and from Plan area to Tasman Dr., tighten curb radius on northeast corner (Bicycle Master Plan Update 2018), and construct Hetch Hetchy Trail (Creek Trail Network Expansion Master Plan)	100% within Plan area fair share outside Plan area % of Total Traffic
8	Old Ironsides Drive and Old Glory Lane *(Unsignalized)*	SC	**YES**	**YES**	Install a traffic signal Add a 2nd SB LT lane, a 2nd EB TH lane, a NB RT lane, an EB RT lane, and a WB LT lane	100% % of Total Traffic
9	Old Ironsides Drive and Patrick Henry Drive *(Unsignalized)*	SC	**YES**	**YES**	Install a traffic signal and add a 2nd SB left-turn lane, a WB RT lane, and a WB LT .	100%
12	Great America Parkway and Great America Way	SC	**YES**	**YES**	Construct Class IV bikeway on Great America Pkwy	% of Total Traffic
16	Great America Parkway and Old Glory Lane	SC	**YES**	**YES**	Add a second northbound left-turn lane and an eastbound right-turn lane	100%
17	Great America Parkway and Patrick Henry Drive	SC	**YES**	**YES**	Add a second northbound left-turn lane and Construct Class IV bikeway on Patrick Henry Drive within Plan area and from Plan area to Tasman Dr., (Bicycle Master Plan Update 2018)	100% 100% within Plan area fair share outside Plan area
18	Great America Pkwy and Mission College Blvd *(CMP)*	SC	**YES**	**YES**	Construct Class IV bikeway on Great America Parkway (Bicycle Master Plan Update 2018) and Multimodal Improvement Plan measures	% of Total Traffic
23	Bowers Avenue and Central Expressway (CMP)	SCC	**YES**	**YES**	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
27	Freedom Circle W and Mission College Blvd	SC	**YES**	**YES**	Add a second northbound left-turn lane and an eastbound right-turn lane	% of Total Traffic

Table 22 (continued)
Summary of Affected Intersections under Cumulative Plus Project Conditions without Mission College Blvd. Connection

		Without Mission College Boulevard Connection			
			Affected Scenarios		
		Jurisdiction	Option 1	Option 2	Recommended Improvements	Project Responsibility[1]
28	Agnew/Freedom Circle E & Mission College Blvd	SC	**YES**	**YES**	Add a northbound right-turn lane	% of Total Traffic
32	Mission College Blvd and Montague Expwy *(CMP)*	SCC	**YES**	**YES**	Construct partial grade separation (2040 Expressway Plan)	% of Total Traffic
37	Centennial Boulevard and Tasman Drive	SC	NO	**YES**	Construct Class IV separated bikeway on Lafayette Street (Bicycle Master Plan Update 2018)	% of Total Traffic
39	Lick Mill Boulevard and Tasman Drive	SC	NO	**YES**	Construct a Class IV separated bikeway on Lick Mill Boulevard (Bicycle Master Plan Update 2018)	% of Total Traffic
42	Scott Boulevard and Central Expressway *(CMP)*	SCC	**YES**	**YES**	Construct grade separated interchange (2040 Expressway Plan)	% of Total Traffic
44	De la Cruz Boulevard and Central Expressway *(CMP)*	SCC	**YES**	**YES**	Construct Class IV separated bikeway on De La Cruz Boulevard (Bicycle Master Plan Update 2018) and implement measures identified in Multimodal Improvement Plan	% of Total Traffic
45	Agnew Rd/De La Cruz Blvd and Montague Expwy *(CMP)*	SCC	**YES**	NO	Implement measures identified in Multimodal Improvement Plan	% of Total Traffic
46	Lick Mill Boulevard and Montague Expressway	SCC	**YES**	**YES**	Construct Class IV separated bikeway on Lick Mill Boulevard (Bicycle Master Plan Update 2018)	% of Total Traffic
48	Zanker Road and Montague Expressway *(CMP)*	SCC	**YES**	**YES**	HOV-type signal improvements that could support future Bus Rapid Transit facilites (North San José Deficiency Plan)	Pay North San José fee or % of Total Traffic
49	Trimble Road and Montague Expressway *(CMP)*	SCC	**YES**	NO	HOV-type signal improvements that could support future Bus Rapid Transit facilites (North San José Deficiency Plan)	Pay North San José fee or % of Total Traffic

Notes:
SCC = Santa Clara County, SC = Santa Clara, SJ = San Jose, SV = Sunnyvale
1 "100%" = The cost and construction of the recommended improvement is the full responsibility of PHDSP area developements. These are discrete improvements that counter adverse effects caused by the project. "% of Total Traffic" = PHDSP area developements shall pay a fair-share contribution to the recommended improvement, which is typically a larger transportation improvement, such as an expressway interchange or bike lanes along a corridor, that has been identified in an adopted plan. "Pay North San José fee or % of Total Traffic" = PHDSP area developements can pay the North San José fee, or a fair-share contribution for the improvement, or a fair-share contribution for off-setting multimodal improvements based on the amount of Project's percent contribution of the traffic volume growth at the intersection.

6. Other Transportation Issues

This chapter presents other transportation issues associated with the project, including:

- Freeway segment traffic operations
- Freeway ramp traffic operations
- Vehicle queuing analysis
- Signal warrant analysis at unsignalized study intersections
- Internal vehicular circulation within the PHDSP Area
- Hazards and emergency access
- Impacts on pedestrians, bicycles, and transit facilities

Unlike the level of service analysis, which is based on level of service standards adopted by the Cities of Santa Clara, Sunnyvale, and San José and the Valley Transportation Authority, many topics contained in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community. Although intersection level of service deficiencies identified in the previous chapters and operational issues described in this chapter are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the transportation environment with the proposed Patrick Henry Drive Specific Plan. In contrast, impacts on pedestrians, bicycle, and transit facilities were evaluated according to the CEQA checklist.

Freeway Segment Traffic Operations

Traffic volumes for the study freeway segments were obtained from the 2018 CMP Annual Monitoring Report. The results show that the following study freeway segments currently operate at LOS F in at least one direction during at least one peak hour:

- US 101, northbound between McKee Road and Oakland Road (AM Peak Hour)
- US 101, northbound between Oakland Road and I-880 (AM Peak Hour)
- US 101, northbound between I-880 and Old Bayshore Highway (AM Peak Hour)
- US 101, northbound between Old Bayshore Highway and N. First Street (AM Peak Hour)
- US 101, northbound between N. First Street and Guadalupe Parkway (AM Peak Hour)
- US 101, northbound between Guadalupe Parkway and De La Cruz Boulevard (AM Peak Hour)
- US 101, northbound between De La Cruz Boulevard and Montague Expressway/San Tomas Expressway (AM Peak Hour)
- US 101, northbound between Montague Expressway/San Tomas Expressway and Bowers Avenue/Great America Parkway (AM Peak Hour)

- US 101, northbound between Bowers Avenue/Great America Parkway and Lawrence Expressway (AM Peak Hour)
- US 101, northbound between Lawrence Expressway and N. Fair Oaks Avenue (AM Peak Hour)
- US 101, northbound between N. Fair Oaks Avenue and N. Mathilda Avenue (AM Peak Hour)
- US 101, northbound between SR 237 and Moffett Boulevard (AM Peak Hour)
- US 101, northbound between Moffett Boulevard and SR 85 (Both Peak Hours)
- US 101, northbound between SR 85 and to N. Shoreline Boulevard (Both Peak Hours)
- US 101, northbound between N. Shoreline Boulevard and Rengstorff Avenue (Both Peak Hours)
- US 101, northbound between Rengstorff Avenue and San Antonio Avenue (PM Peak Hour)
- US 101, northbound between San Antonio Avenue and Oregon Expressway (PM Peak Hour)
- US 101, northbound between Oregon Expressway and Embarcadero Road (Both Peak Hours)
- US 101, southbound between Embarcadero Road and Oregon Expressway (PM Peak Hour)
- US 101, southbound between Oregon Expressway and San Antonio Avenue (PM Peak Hour)
- US 101, southbound between San Antonio Avenue and Rengstorff Avenue (PM Peak Hour)
- US 101, southbound between Rengstorff Avenue and N. Shoreline Boulevard (PM Peak Hour)
- US 101, southbound between N. Shoreline Boulevard and SR 85 (PM Peak Hour)
- US 101, southbound between SR 85 and Moffett Boulevard (PM Peak Hour)
- US 101, southbound between Moffett Boulevard and SR 237 (PM Peak Hour)
- US 101, southbound between SR 237 and N. Mathilda Avenue (PM Peak Hour)
- US 101, southbound between N. Mathilda Avenue and N. Fair Oaks Avenue (PM Peak Hour)
- US 101, southbound between N. Fair Oaks Avenue and Lawrence Expressway (PM Peak Hour)
- US 101, southbound between Lawrence Expressway and Bowers Avenue/Great America Parkway (PM Peak Hour)
- US 101, southbound between Bowers Avenue/Great America Parkway and Montague Expressway/San Tomas Expressway (PM Peak Hour)
- US 101, southbound between Montague Expressway/San Tomas Expressway and De La Cruz Boulevard (PM Peak Hour)
- US 101, southbound between Guadalupe Parkway and N. First Street (PM Peak Hour)
- US 101, southbound between N. First Street and Old Bayshore Highway (PM Peak Hour)
- US101, southbound between Old Bayshore Highway and I-880 (PM Peak Hour)
- US 101, southbound between I-880 and Oakland Road (PM Peak Hour)
- SR 237, eastbound between SR 85 and Central Parkway (AM Peak Hour)
- SR 237, eastbound between Maude Avenue and US 101 (PM Peak Hour)
- SR 237, eastbound between US 101 and Mathilda Avenue (PM Peak Hour)
- SR 237, eastbound between Mathilda Avenue and N. Fair Oaks Avenue (PM Peak Hour)
- SR 237, eastbound between N. Fair Oaks Avenue and Lawrence Expressway (PM Peak Hour)
- SR 237, eastbound between Great America Parkway and N. First Street (PM Peak Hour)
- SR 237, eastbound between N. First Street and Zanker Road (PM Peak Hour)
- SR 237, westbound between I-880 and McCarthy Boulevard (AM Peak Hour)
- SR 237, westbound between McCarthy Boulevard and Zanker Road (AM Peak Hour)
- SR 237, westbound between Zanker Road and N. First Street (AM Peak Hour)
- SR 237, westbound between N. First Street and Great America Parkway (AM Peak Hour)
- SR 237, westbound between Great America Parkway and Lawrence Expressway (AM Peak Hour)
- SR 237, westbound between Lawrence Expressway and N. Fair Oaks Avenue (Both Peak Hours)
- SR 237, westbound between N. Fair Oaks Avenue and Mathilda Avenue (Both Peak Hours)
- SR 237, westbound between Mathilda Avenue and US 101 (PM Peak Hour)

- SR 237, westbound between US 101 and Maude Avenue (PM Peak Hour)
- SR 237, westbound between Maude Avenue and Central Parkway (PM Peak Hour)
- SR 237, westbound between Central Parkway and SR 85 (PM Peak Hour)
- SR 237, westbound between SR 85 and to El Camino Real (AM Peak Hour)
- SR 87, northbound between Julian Street and Coleman Avenue (AM Peak Hour)
- SR 87, northbound between Taylor Street and Skyport Drive (AM Peak Hour)
- SR 87, northbound between Skyport Drive and US 101 (AM Peak Hour)
- SR 87, southbound between US 101 and Skyport Drive (PM Peak Hour)
- SR 87, southbound between Skyport Drive and Taylor Street (PM Peak Hour)
- SR 87, southbound between Taylor Street and Coleman Street (PM Peak Hour)
- SR 87, southbound between Julian Street and I-280 (PM Peak Hour)

Per the CMP guidelines, the analysis of freeway segments with development of the Patrick Henry Drive Specific Plan Area was evaluated under existing (2018) plus project conditions. As described previously, Plan Area trips in the Year 2018 were estimated using ITE trip rates, a 25-percent pass-by trip reduction, and reductions for internalization and transit usage based on CSC model estimates. The gross project trips generated by the project option 1 and option 2 remain the same as described in Chapter 4.

After applying reductions for internal capture, transit use, and pass-by trips, the PHDSP Option 1 development is expected to generate 53,482 net daily vehicle trips, 3,403 (879 inbound and 2,524 outbound) net AM peak hour trips, and 4,650 (2,766 inbound and 1,884 outbound) net PM peak hour trips under existing conditions (See Table 23). The PHDSP option 2 is expected to generate 52,345 net daily vehicle trips, 3,543 (1,343 inbound and 2,200 outbound) net AM peak hour trips, and 4,746 (2,482 inbound and 2,264 outbound) net PM peak hour trips under existing conditions (See Table 24).

Table 23
PHDSP Trip Generation Estimates – Option 1 (Year 2018)

			Daily			AM Peak Hour					PM Peak Hour				
							Trips					Trips			
Land Use	Size		Rate	Trips	Mode Share	Rate	In	Out	Total	Mode Share	Rate	In	Out	Total	Mode Share
Multifamily Housing (Mid-Rise)	6,918	Dwelling Units	5.44	37,634		0.36	647	1,843	2,490		0.44	1,857	1,187	3,044	
Multifamily Housing (High-Rise)	5,083	Dwelling Units	4.45	22,619		0.31	378	1,198	1,576		0.36	1,116	714	1,830	
Total Residential Trips	*12,001*	*Dwelling Units*	*5.02*	*60,253*		*0.34*	*1,025*	*3,041*	*4,066*		*0.41*	*2,973*	*1,901*	*4,874*	
General Office Building	30,000	Square Feet	9.740	292		1.160	30	5	35		1.150	6	29	35	
Retail	180,000	Square Feet	37.75	6,795		0.94	105	64	169		3.81	329	357	686	
Library	45,000	Square Feet	72.05	3,242		1.00	32	13	45		8.16	176	191	367	
Community Center	25,000	Square Feet	28.82	721		1.76	29	15	44		2.31	27	31	58	
Total Employment Trips	*280,000*	*Square Feet*	*39.464*	*11,050*			*196*	*97*	*293*			*538*	*608*	*1,146*	
Total Proposed Project Trips				**71,303**	**100.0%**		**1,221**	**3,138**	**4,359**	**100.0%**		**3,511**	**2,509**	**6,020**	**100.0%**
Less Internal Trips				(8,824)	12.4%		(182)	(182)	(364)	8.4%		(310)	(310)	(620)	10.3%
Less External Public Transit Trips				(8,038)	11.3%		(151)	(427)	(578)	13.3%		(378)	(253)	(631)	10.5%
Less Retail Passby Trips				*(959)*	1.3%		*(9)*	*(5)*	*(14)*	0.3%		*(57)*	*(62)*	*(119)*	2.0%
External Vehicle Trips				**53,482**	**75.0%**		**879**	**2,524**	**3,403**	**78.1%**		**2,766**	**1,884**	**4,650**	**77.2%**

Source: Trip rates from ITE *Trip Generation Manual, 10th Edition,* 2017. Internal and transit trip reductions derived from CSC travel demand model.

Table 24
PHDSP Trip Generation Estimates – Option 2 (Year 2018)

Land Use	Size	Daily			AM Peak Hour					PM Peak Hour				
						Trips					Trips			
		Rate	Trips	Mode Share	Rate	In	Out	Total	Mode Share	Rate	In	Out	Total	Mode Share
Multifamily Housing (Mid-Rise)	5,218 Dwelling Units	5.44	28,386		0.36	488	1,390	1,878		0.44	1,401	895	2,296	
Multifamily Housing (High-Rise)	5,083 Dwelling Units	4.45	22,619		0.31	378	1,198	1,576		0.36	1,116	714	1,830	
Total Residential Trips	*10,301 Dwelling Units*	*4.95*	*51,005*		*0.34*	*866*	*2,588*	*3,454*		*0.40*	*2,517*	*1,609*	*4,126*	
General Office Building	815,000 Square Feet	9.740	7,938		1.160	813	132	945		1.150	150	787	937	
Retail	180,000 Square Feet	37.75	6,795		0.94	105	64	169		3.81	329	357	686	
Library	45,000 Square Feet	72.05	3,242		1.00	32	13	45		8.16	176	191	367	
Community Center	25,000 Square Feet	28.82	721		1.76	29	15	44		2.31	27	31	58	
Total Employment Trips	*1,065,000 Square Feet*	*17.555*	*18,696*			*979*	*224*	*1,203*			*682*	*1,366*	*2,048*	
Total Proposed Project Trips			**69,701**	**100.0%**		**1,845**	**2,812**	**4,657**	**100.0%**		**3,199**	**2,975**	**6,174**	**100.0%**
Less Internal Trips			(8,540)	12.3%		(214)	(214)	(428)	9.2%		(312)	(312)	(624)	10.1%
Less External Public Transit Trips			(7,699)	11.0%		(271)	(387)	(658)	14.1%		(345)	(334)	(679)	11.0%
Less Retail Passby Trips			*(1,117)*	1.6%		*(17)*	*(11)*	*(28)*	0.6%		*(60)*	*(65)*	*(125)*	2.0%
External Vehicle Trips			**52,345**	**75.1%**		**1,343**	**2,200**	**3,543**	**76.1%**		**2,482**	**2,264**	**4,746**	**76.9%**

Source: Trip rates from ITE *Trip Generation Manual, 10th Edition,* 2017. Internal and transit trip reductions derived from CSC travel demand model.

The freeway analysis results (see Tables 25 and 26) reflect the net increase in freeway trips above that generated by the existing Plan Area uses. Due to the existing freeway congestion in the vicinity of the PHDSP Area, the model shows that freeway traffic volumes would increase very little under existing plus project conditions compared to existing conditions. To ensure that the transportation analysis does not under report potential adverse effects on freeway segments, the freeway analysis was conducted based on the difference in the CSC model project trip assignment on each freeway segment for the proposed uses compared to the existing uses. The analysis shows a decrease in traffic volume on some freeway segments (e.g., northbound US 101 and westbound SR 237 in the AM) where the proposed predominantly residential uses would generate fewer vehicle trips than the existing employment uses. At the same time, the model forecasts on local roadways presented in previous chapters include traffic that is expected to divert from the freeway due to the addition of project-generated traffic. Thus, the transportation analysis reflects a conservative, worst-case evaluation of the project's effects on both freeways and local streets.

The mixed-flow lanes on the following freeway segments would be adversely affected under existing plus project conditions under both PHDSP Option 1 and Option 2:

- US 101, northbound between SR 237 and Moffett Boulevard (AM Peak Hour)
- US 101, northbound between Moffett Boulevard and SR 85 (AM Peak Hour)
- US 101, northbound between N. Shoreline Boulevard and Rengstorff Avenue (AM Peak Hour)
- US 101, northbound between San Antonio Avenue and Oregon Expressway (AM Peak Hour)
- US 101, northbound between Oregon Expressway and Embarcadero Road (AM Peak Hour)
- US 101, southbound between Rengstorff Avenue and Shoreline Boulevard (PM Peak Hour)
- US 101, southbound between N. Shoreline Boulevard and SR 85 (PM Peak Hour)
- US 101, southbound between SR 85 and Moffett Boulevard (PM Peak Hour)
- US 101, southbound between Moffett Boulevard and SR 237 (PM Peak Hour)
- US 101, southbound between Bowers Avenue/Great America Parkway and Montague Expressway/San Tomas Expressway (PM Peak Hour)
- US 101, southbound between Montague Expressway/San Tomas Expressway and De La Cruz Boulevard (PM Peak Hour)
- SR 237, eastbound between Maude Avenue and US 101 (PM Peak Hour)

Table 25
Freeway Segment Traffic Operations – Option 1

Freeway Segment	Dir	Peak Hour	Existing Conditions								PHDSP Option 1				PHDSP Option 1			
			Mixed-Flow				HOV Lane				Mixed-Flow				HOV Lane			
			# of Lanes[1]	Capacity[2]	Density	LOS[1]	# of Lanes[1]	Capacity[2]	Density	LOS[1]	Density	LOS	Project Trips	% of Capacity	Density	LOS	Project Trips	% of Capacity
US 101 McKee Rd to Oakland Rd	NB	AM	3	6,900	**112**	**F**	1	1,650	**87**	**F**	**112**	**F**	**-20**	**-0.3%**	**87**	**F**	**4**	**0.2%**
		PM	3	6,900	23	C	1	1,650	7	A	23	C	55	0.8%	7	A	18	**1.1%**
US 101 Oakland Rd to I-880	NB	AM	3	6,900	**107**	**F**	1	1,650	**100**	**F**	**107**	**F**	**-17**	**-0.2%**	**100**	**F**	**4**	**0.2%**
		PM	3	6,900	20	C	1	1,650	5	A	20	C	67	1.0%	5	A	18	**1.1%**
US 101 I-880 to Old Bayshore Hwy	NB	AM	3	6,900	**127**	**F**	1	1,650	**98**	**F**	**126**	**F**	**-19**	**-0.3%**	**98**	**F**	**4**	**0.2%**
		PM	3	6,900	16	B	1	1,650	12	B	16	B	104	1.5%	12	B	18	**1.1%**
US 101 Old Bayshore Hwy to N. First St	NB	AM	3	6,900	**122**	**F**	1	1,650	**108**	**F**	**121**	**F**	**-23**	**-0.3%**	**109**	**F**	**7**	**0.4%**
		PM	3	6,900	17	B	1	1,650	8	A	17	B	104	1.5%	8	A	33	**2.0%**
US 101 N. First St to Guadalupe Pkwy	NB	AM	3	6,900	**108**	**F**	1	1,650	**110**	**F**	**108**	**F**	**-9**	**-0.1%**	**111**	**F**	**15**	**0.9%**
		PM	3	6,900	14	B	1	1,650	9	A	15	B	153	2.2%	10	A	53	**3.2%**
US 101 Guadalupe Pkwy to De La Cruz Blvd	NB	AM	3	6,900	**127**	**F**	1	1,650	**107**	**F**	**127**	**F**	**1**	**0.0%**	**109**	**F**	**15**	**0.9%**
		PM	3	6,900	19	C	1	1,650	9	A	20	C	263	3.8%	10	A	53	**3.2%**
US 101 De La Cruz Blvd to Montague Expwy / San Tomas Expwy	NB	AM	3	6,900	**76**	**F**	1	1,650	**71**	**F**	**76**	**F**	**15**	**0.2%**	**72**	**F**	**15**	**0.9%**
		PM	3	6,900	24	C	1	1,650	11	A	26	C	379	5.5%	12	B	53	**3.2%**
US 101 Montague Expwy / San Tomas Expwy to Bowers Ave / Great America Pkwy	NB	AM	3	6,900	**97**	**F**	1	1,650	**86**	**F**	**97**	**F**	**16**	**0.2%**	**86**	**F**	**0**	**0.0%**
		PM	3	6,900	28	D	1	1,650	11	A	30	D	338	4.9%	11	B	0	0.0%
US 101 Bowers Ave / Great American Pkwy to Lawrence Expwy	NB	AM	3	6,900	**93**	**F**	1	1,650	**81**	**F**	**94**	**F**	**41**	**0.6%**	**81**	**F**	**0**	**0.0%**
		PM	3	6,900	29	D	1	1,650	16	B	30	D	134	1.9%	16	B	0	0.0%
US 101 Lawrence Expwy to N. Fair Oaks Ave	NB	AM	3	6,900	**84**	**F**	1	1,650	**73**	**F**	**84**	**F**	**0**	**0.0%**	**75**	**F**	**41**	**2.5%**
		PM	3	6,900	29	D	1	1,650	12	B	29	D	71	1.0%	13	B	46	**2.8%**
US 101 N. Fair Oaks Ave to N. Mathilda Ave	NB	AM	3	6,900	**60**	**F**	1	1,650	54	E	**60**	**F**	**0**	**0.0%**	55	E	41	**2.5%**
		PM	3	6,900	24	C	1	1,650	11	A	24	C	62	0.9%	12	B	46	**2.8%**
US 101 N. Mathilda Ave to SR 237	NB	AM	3	6,900	49	E	1	1,650	**71**	**F**	49	E	0	0.0%	**73**	**F**	**41**	**2.5%**
		PM	3	6,900	24	C	1	1,650	20	C	24	C	70	1.0%	21	C	41	**2.5%**
US 101 SR 237 to Moffett Blvd	NB	AM	3	6,900	**67**	**F**	1	1,650	**64**	**F**	**69**	**F**	**172**	**2.5%**	**65**	**F**	**41**	**2.5%**
		PM	3	6,900	53	E	1	1,650	33	D	54	E	70	1.0%	34	D	41	**2.5%**
US 101 Moffett Blvd to SR 85	NB	AM	3	6,900	**97**	**F**	1	1,650	**67**	**F**	**100**	**F**	**133**	**1.9%**	**68**	**F**	**22**	**1.3%**
		PM	3	6,900	**93**	**F**	1	1,650	36	D	**94**	**F**	**51**	**0.7%**	36	D	25	**1.5%**
US 101 SR 85 to N. Shoreline Blvd	NB	AM	4	9,200	**75**	**F**	1	1,650	34	D	**76**	**F**	**100**	**1.1%**	34	D	22	**1.3%**
		PM	4	9,200	**68**	**F**	1	1,650	34	D	**68**	**F**	**39**	**0.4%**	34	D	25	**1.5%**
US 101 N. Shoreline Blvd to Rengstorff Ave	NB	AM	3	6,900	**70**	**F**	2	3,300	34	D	**71**	**F**	**91**	**1.3%**	34	D	22	0.7%
		PM	3	6,900	**112**	**F**	2	3,300	18	B	**113**	**F**	**22**	**0.3%**	18	C	25	0.8%
US 101 Rengstorff Ave to San Antonio Ave	NB	AM	3	6,900	54	E	2	3,300	25	C	55	E	75	1.1%	25	C	22	0.7%
		PM	3	6,900	**91**	**F**	2	3,300	23	C	**92**	**F**	**17**	**0.2%**	23	C	25	0.8%
US 101 San Antonio Ave to Oregon Expwy	NB	AM	3	6,900	58	E	2	3,300	40	D	**59**	**F**	**76**	**1.1%**	32	D	16	0.5%
		PM	3	6,900	**77**	**F**	2	3,300	45	D	**77**	**F**	**24**	**0.3%**	36	D	14	0.4%
US 101 Oregon Expwy to Embarcadero Rd	NB	AM	3	6,900	**68**	**F**	1	1,650	**72**	**F**	**69**	**F**	**78**	**1.1%**	**73**	**F**	**16**	**1.0%**
		PM	3	6,900	**61**	**F**	1	1,650	**66**	**F**	**61**	**F**	**12**	**0.2%**	**66**	**F**	**14**	**0.8%**
US 101 Embarcadero Rd to Oregon Expwy	SB	AM	3	6,900	27	D	1	1,650	36	D	27	D	-8	-0.1%	36	D	3	0.2%
		PM	3	6,900	**100**	**F**	1	1,650	**86**	**F**	**102**	**F**	**80**	**1.2%**	**87**	**F**	**17**	**1.0%**
US 101 Oregon Expwy to San Antonio Ave	SB	AM	3	6,900	37	D	2	3,300	19	C	37	D	-4	-0.1%	15	B	9	0.3%
		PM	3	6,900	**95**	**F**	2	3,300	34	D	**97**	**F**	**77**	**1.1%**	27	D	23	0.7%
US 101 San Antonio Ave to Rengstorff Ave	SB	AM	3	6,900	50	E	2	3,300	19	C	50	E	-3	0.0%	19	C	9	0.3%
		PM	3	6,900	**92**	**F**	2	3,300	20	C	**94**	**F**	**79**	**1.1%**	20	C	23	0.7%
US 101 Rengstorff Ave to N. Shoreline Blvd	SB	AM	3	6,900	38	D	2	3,300	22	C	38	D	0	0.0%	22	C	9	0.3%
		PM	3	6,900	**66**	**F**	2	3,300	25	C	**67**	**F**	**104**	**1.5%**	25	C	23	0.7%
US 101 N. Shoreline Blvd to SR 85	SB	AM	3	6,900	38	D	1	1,650	37	D	38	D	2	0.0%	37	D	9	0.5%
		PM	3	6,900	**68**	**F**	1	1,650	51	E	**70**	**F**	**149**	**2.2%**	51	E	23	**1.4%**
US 101 SR 85 to Moffett Blvd	SB	AM	3	6,900	31	D	1	1,650	17	B	31	D	7	0.1%	17	B	17	**1.0%**
		PM	3	6,900	**95**	**F**	1	1,650	**84**	**F**	**99**	**F**	**167**	**2.4%**	**86**	**F**	**49**	**3.0%**
US 101 Moffett Blvd to SR 237	SB	AM	3	6,900	44	D	1	1,650	31	D	44	D	14	0.2%	31	D	17	**1.0%**
		PM	3	6,900	**76**	**F**	1	1,650	57	E	**79**	**F**	**184**	**2.7%**	**58**	**F**	**49**	**3.0%**

Table 25 (Continued)
Freeway Segment Traffic Operations – Option 1

Freeway	Segment	Dir	Peak Hour	Existing Conditions								PHDSP Option 1				PHDSP Option 1			
				Mixed-Flow				HOV Lane				Mixed-Flow				HOV Lane			
				# of Lanes[1]	Capacity[2]	Density	LOS[1]	# of Lanes[1]	Capacity[2]	Density	LOS[1]	Density	LOS	Project Trips	% of Capacity	Density	LOS	Project Trips	% of Capacity
US 101	SR 237 to N. Mathilda Ave	SB	AM	3	6,900	23	C	1	1,650	40	D	23	C	23	0.3%	40	D	19	**1.2%**
			PM	3	6,900	**87**	**F**	1	1,650	**60**	**F**	**87**	**F**	**0**	**0.0%**	**61**	**F**	**49**	**3.0%**
US 101	N. Mathilda Ave to N. Fair Oaks Ave	SB	AM	3	6,900	24	C	1	1,650	18	B	24	C	32	0.5%	18	C	19	**1.2%**
			PM	3	6,900	**72**	**F**	1	1,650	**68**	**F**	**72**	**F**	**0**	**0.0%**	**70**	**F**	**49**	**3.0%**
US 101	N. Fair Oaks Ave to Lawrence Expwy	SB	AM	3	6,900	28	D	1	1,650	17	B	28	D	68	1.0%	17	B	0	0.0%
			PM	3	6,900	**92**	**F**	1	1,650	**106**	**F**	**93**	**F**	**49**	**0.7%**	**106**	**F**	**0**	**0.0%**
US 101	Bowers Ave / Great American Pkwy to Montague Expwy / San Tomas Expwy	SB	AM	3	6,900	21	C	1	1,650	14	B	23	C	381	5.5%	14	B	0	0.0%
			PM	3	6,900	**108**	**F**	1	1,650	**109**	**F**	**112**	**F**	**147**	**2.1%**	**109**	**F**	**0**	**0.0%**
US 101	Montague Expwy / San Tomas Expwy to De La Cruz Blvd	SB	AM	3	6,900	25	C	1	1,650	11	A	27	D	356	5.2%	12	B	37	**2.2%**
			PM	3	6,900	**111**	**F**	1	1,650	**71**	**F**	**116**	**F**	**158**	**2.3%**	**73**	**F**	**55**	**3.3%**
US 101	De La Cruz Blvd to Guadalupe Pkwy	SB	AM	3	6,900	25	C	1	1,650	6	A	26	D	221	3.2%	7	A	37	**2.2%**
			PM	3	6,900	52	E	1	1,650	36	D	53	E	91	1.3%	37	D	55	**3.3%**
US 101	Guadalupe Pkwy to N. First St	SB	AM	3	6,900	16	B	1	1,650	3	A	17	B	153	2.2%	3	A	24	**1.5%**
			PM	3	6,900	**75**	**F**	1	1,650	**73**	**F**	**76**	**F**	**68**	**1.0%**	**74**	**F**	**32**	**1.9%**
US 101	N. First St to Old Bayshore Hwy	SB	AM	3	6,900	13	B	1	1,650	2	A	13	B	99	1.4%	2	A	24	**1.5%**
			PM	3	6,900	**160**	**F**	1	1,650	**108**	**F**	**161**	**F**	**25**	**0.4%**	**110**	**F**	**32**	**1.9%**
US 101	Old Bayshore Hwy to I-880	SB	AM	3	6,900	18	B	1	1,650	6	A	18	C	114	1.7%	6	A	8	0.5%
			PM	3	6,900	**136**	**F**	1	1,650	**90**	**F**	**138**	**F**	**34**	**0.5%**	**91**	**F**	**22**	**1.3%**
US 101	I-880 to Oakland Rd	SB	AM	3	6,900	18	B	1	1,650	7	A	18	C	56	0.8%	7	A	8	0.5%
			PM	3	6,900	**109**	**F**	1	1,650	**77**	**F**	**110**	**F**	**19**	**0.3%**	**78**	**F**	**22**	**1.3%**
US 101	Oakland Rd to McKee Rd	SB	AM	3	6,900	16	B	1	1,650	4	A	16	B	43	0.6%	4	A	5	0.3%
			PM	3	6,900	56	E	1	1,650	36	D	56	E	17	0.2%	36	D	17	**1.0%**
US 101	McKee Rd to Santa Clara St	SB	AM	3	6,900	19	C	1	1,650	10	A	19	C	29	0.4%	10	A	5	0.3%
			PM	3	6,900	52	E	1	1,650	46	D	52	E	10	0.1%	46	E	17	**1.0%**
SR 237	El Camino Real to SR 85	EB	AM	2	4,400	44	D	0	0	--	--	44	D	14	0.3%	--	--	--	--
			PM	2	4,400	19	C	0	0	--	--	20	C	128	2.9%	--	--	--	--
SR 237	SR 85 to Central Expy	EB	AM	2	4,400	**73**	**F**	0	0	--	--	**73**	**F**	**16**	**0.4%**	--	--	--	--
			PM	2	4,400	25	C	0	0	--	--	26	D	149	3.4%	--	--	--	--
SR 237	Central Expy to Maude Ave	EB	AM	2	4,400	51	E	0	0	--	--	51	E	19	0.4%	--	--	--	--
			PM	2	4,400	33	D	0	0	--	--	34	D	159	3.6%	--	--	--	--
SR 237	Maude Ave to US 101	EB	AM	2	4,400	23	C	0	0	--	--	23	C	19	0.4%	--	--	--	--
			PM	2	4,400	**99**	**F**	0	0	--	--	**105**	**F**	**163**	**3.7%**	--	--	--	--
SR 237	US 101 to Mathilda Ave	EB	AM	2	4,400	40	D	0	0	--	--	40	D	14	0.3%	--	--	--	--
			PM	2	4,400	**121**	**F**	0	0	--	--	**138**	**F**	**311**	**7.1%**	--	--	--	--
SR 237	Mathilda Ave to N. Fair Oaks Ave	EB	AM	2	4,400	33	D	1	1,650	12	B	33	D	6	96.3%	12	B	22	**1.3%**
			PM	2	4,400	**100**	**F**	1	1,650	**96**	**F**	**114**	**F**	**404**	**72.8%**	**98**	**F**	**47**	**2.8%**
SR 237	N. Fair Oaks Ave to Lawrence Expwy	EB	AM	2	4,400	33	D	1	1,650	19	C	33	D	6	0.1%	19	C	22	**1.3%**
			PM	2	4,400	**115**	**F**	1	1,650	**62**	**F**	**135**	**F**	**404**	**9.2%**	**63**	**F**	**47**	**2.8%**
SR 237	Great America Pkwy to N. First St	EB	AM	2	4,400	32	D	1	1,650	21	C	33	D	166	3.8%	21	C	0	0.0%
			PM	2	4,400	**106**	**F**	1	1,650	**64**	**F**	**108**	**F**	**50**	**1.1%**	**64**	**F**	**-3**	**-0.2%**
SR 237	N. First St to Zanker Rd	EB	AM	2	4,400	45	D	1	1,650	15	B	47	E	151	3.4%	15	B	15	0.9%
			PM	2	4,400	**72**	**F**	1	1,650	47	E	**73**	**F**	**32**	**0.7%**	47	E	15	0.9%
SR 237	Zanker Rd to McCarthy Blvd	EB	AM	2	4,400	28	D	1	1,650	15	B	29	D	105	2.4%	15	B	15	0.9%
			PM	2	4,400	42	D	1	1,650	28	D	42	D	23	0.5%	28	D	15	0.9%
SR 237	McCarthy Blvd to I-880	EB	AM	2	4,400	21	C	1	1,650	7	A	22	C	74	66.7%	7	A	15	0.9%
			PM	2	4,400	20	C	1	1,650	38	D	21	C	35	62.6%	38	D	15	0.9%
SR 237	I-880 to McCarthy Blvd	WB	AM	2	4,400	**113**	**F**	1	1,650	**65**	**F**	**112**	**F**	**-26**	**-0.6%**	**65**	**F**	**4**	**0.2%**
			PM	2	4,400	20	C	1	1,650	9	A	21	C	78	1.8%	9	A	15	0.9%
SR 237	McCarthy Blvd to Zanker Rd	WB	AM	2	4,400	**115**	**F**	1	1,650	**74**	**F**	**137**	**F**	**-27**	**-0.6%**	**74**	**F**	**4**	**0.2%**
			PM	2	4,400	32	D	1	1,650	17	B	40	D	149	3.4%	17	B	15	0.9%
SR 237	Zanker Rd to N. 1st St	WB	AM	2	4,400	**98**	**F**	1	1,650	**70**	**F**	**97**	**F**	**-26**	**-0.6%**	**70**	**F**	**4**	**0.2%**
			PM	2	4,400	45	D	1	1,650	11	A	47	E	168	3.8%	11	B	15	0.9%

Table 25 (Continued)
Freeway Segment Traffic Operations – Option 1

Freeway	Segment	Dir	Peak Hour	Existing Conditions: Mixed-Flow # of Lanes[1]	Capacity[2]	Density	LOS[1]	HOV Lane # of Lanes[1]	Capacity[2]	Density	LOS[1]	PHDSP Option 1: Mixed-Flow Density	LOS	Project Trips	% of Capacity	PHDSP Option 1: HOV Lane Density	LOS	Project Trips	% of Capacity
SR 237	N. 1st St to Great America Pkwy	WB	AM	2	4,400	**92**	**F**	1	1,650	**84**	**F**	**91**	**F**	**-26**	**-0.6%**	**84**	**F**	**4**	**0.2%**
			PM	2	4,400	38	D	1	1,650	14	B	39	D	168	3.8%	14	B	15	0.9%
SR 237	Great America Pkwy to Lawrence Expwy	WB	AM	2	4,400	**103**	**F**	1	1,650	**82**	**F**	**103**	**F**	**0**	**0.0%**	**84**	**F**	**37**	**2.2%**
			PM	2	4,400	27	D	1	1,650	15	B	27	D	0	0.0%	16	B	55	**3.3%**
SR 237	Lawrence Expwy to N. Fair Oaks Ave	WB	AM	2	4,400	**95**	**F**	1	1,650	**93**	**F**	**108**	**F**	**402**	**9.1%**	**95**	**F**	**32**	**1.9%**
			PM	2	4,400	**61**	**F**	1	1,650	38	D	**62**	**F**	**84**	**1.9%**	39	D	38	**2.3%**
SR 237	N. Fair Oaks Ave to Mathilda Ave	WB	AM	3	6,900	**89**	**F**	0	0	--	--	**97**	**F**	**402**	**5.8%**	--	--	--	--
			PM	3	6,900	**84**	**F**	0	0	--	--	**86**	**F**	**84**	**1.2%**	--	--	--	--
SR 237	Mathilda Ave to US 101	WB	AM	2	4,400	51	E	0	0	--	--	55	E	345	7.8%	--	--	--	--
			PM	2	4,400	**82**	**F**	0	0	--	--	**83**	**F**	**59**	**1.3%**	--	--	--	--
SR 237	US 101 to Maude Ave	WB	AM	2	4,400	36	D	0	0	--	--	38	D	195	4.4%	--	--	--	--
			PM	2	4,400	**95**	**F**	0	0	--	--	**98**	**F**	**82**	**1.9%**	--	--	--	--
SR 237	Maude Ave to Central Pkwy	WB	AM	2	4,400	39	D	0	0	--	--	40	D	156	3.5%	--	--	--	--
			PM	2	4,400	**77**	**F**	0	0	--	--	**79**	**F**	**67**	**1.5%**	--	--	--	--
SR 237	Central Pkwy to SR 85	WB	AM	2	4,400	28	D	0	0	--	--	29	D	100	2.3%	--	--	--	--
			PM	2	4,400	**64**	**F**	0	0	--	--	**65**	**F**	**45**	**1.0%**	--	--	--	--
SR 237	SR 85 to El Camino Real	WB	AM	2	4,400	**65**	**F**	0	0	--	--	**67**	**F**	**102**	**2.3%**	--	--	--	--
			PM	2	4,400	43	D	0	0	--	--	44	D	73	1.7%	--	--	--	--
SR 87	I-280 to Julian St	NB	AM	2	4,400	**93**	**F**	1	1,650	**72**	**F**	**93**	**F**	**-8**	**-0.2%**	**72**	**F**	**3**	**0.2%**
			PM	2	4,400	15	B	1	1,650	11	A	15	B	37	0.8%	11	B	12	0.7%
SR 87	Julian St to Coleman Ave	NB	AM	2	4,400	**102**	**F**	1	1,650	**63**	**F**	**102**	**F**	**-5**	**-0.1%**	**64**	**F**	**9**	**0.5%**
			PM	2	4,400	34	D	1	1,650	13	B	35	D	85	1.9%	13	B	24	**1.5%**
SR 87	Coleman St to Taylor St	NB	AM	2	4,400	51	E	1	1,650	46	D	51	E	-6	-0.1%	46	E	9	0.5%
			PM	2	4,400	21	C	1	1,650	7	A	22	C	85	1.9%	7	A	25	**1.5%**
SR 87	Taylor St to Skyport Dr	NB	AM	2	4,400	**62**	**F**	1	1,650	36	D	**62**	**F**	**-6**	**-0.1%**	36	D	11	0.7%
			PM	2	4,400	17	B	1	1,650	4	A	18	B	103	2.3%	4	A	27	**1.6%**
SR 87	Skyport Dr to US 101	NB	AM	2	4,400	**128**	**F**	1	1,650	**102**	**F**	**128**	**F**	**-4**	**-0.1%**	**103**	**F**	**11**	**0.7%**
			PM	2	4,400	25	C	1	1,650	8	A	26	C	122	2.8%	8	A	28	**1.7%**
SR 87	US 101 to Skyport Dr	SB	AM	2	4,400	21	C	1	1,650	8	A	22	C	100	2.3%	8	A	19	**1.2%**
			PM	2	4,400	**100**	**F**	1	1,650	36	D	**101**	**F**	**36**	**0.8%**	36	D	22	**1.3%**
SR 87	Skyport Dr to Taylor St	SB	AM	2	4,400	23	C	1	1,650	4	A	24	C	80	1.8%	4	A	16	1.0%
			PM	2	4,400	**100**	**F**	1	1,650	28	D	**101**	**F**	**25**	**0.6%**	28	D	22	**1.3%**
SR 87	Taylor St to Coleman St	SB	AM	2	4,400	23	C	1	1,650	6	A	24	C	66	1.5%	6	A	14	0.8%
			PM	2	4,400	**94**	**F**	1	1,650	36	D	**95**	**F**	**18**	**0.4%**	36	D	20	**1.2%**
SR 87	Coleman Ave to Julian St	SB	AM	2	4,400	30	D	1	1,650	7	A	31	D	66	1.5%	7	A	14	0.8%
			PM	2	4,400	55	E	1	1,650	28	D	55	E	20	0.5%	28	D	20	**1.2%**
SR 87	Julian St to I-280	SB	AM	2	4,400	14	B	1	1,650	6	A	14	B	47	1.1%	6	A	7	0.4%
			PM	2	4,400	**69**	**F**	1	1,650	36	D	**69**	**F**	**9**	**0.2%**	36	D	10	0.6%

Notes:
HOV = high-occupancy vehicle; LOS = level of service.
1. Number of lanes and level of service (LOS) on each segment are taken from VTA's *2018 Congestion Management Program Monitoring Report*.
2. Capacity is based on the capacities cited in VTA's *Transportation Impact Analysis Guidelines* (2014).
Bold indicates a substandard level of service.
Outline indicates an adverse effect associated with the PHDSP development.

Table 26
Freeway Segment Traffic Operations – Option 2

Freeway Segment	Dir	Peak Hour	Existing Conditions								PHDSP Option 2				PHDSP Option 2			
			Mixed-Flow				HOV Lane				Mixed-Flow				HOV Lane			
			# of Lanes[1]	Capacity[2]	Density	LOS[1]	# of Lanes[1]	Capacity[2]	Density	LOS[1]	Density	LOS	Project Trips	% of Capacity	Density	LOS	Project Trips	% of Capacity
US 101 McKee Rd to Oakland Rd	NB	AM	3	6,900	**112**	**F**	1	1,650	**87**	**F**	**113**	**F**	**24**	**0.3%**	**88**	**F**	**19**	**1.2%**
		PM	3	6,900	23	C	1	1,650	7	A	23	C	50	0.7%	7	A	17	**1.0%**
US 101 Oakland Rd to I-880	NB	AM	3	6,900	**107**	**F**	1	1,650	**100**	**F**	**108**	**F**	**29**	**0.4%**	**101**	**F**	**19**	**1.2%**
		PM	3	6,900	20	C	1	1,650	5	A	20	C	60	0.9%	5	A	17	**1.0%**
US 101 I-880 to Old Bayshore Hwy	NB	AM	3	6,900	**127**	**F**	1	1,650	**98**	**F**	**129**	**F**	**34**	**0.5%**	**99**	**F**	**19**	**1.2%**
		PM	3	6,900	16	B	1	1,650	12	B	16	B	96	1.4%	12	B	17	**1.0%**
US 101 Old Bayshore Hwy to N. First St	NB	AM	3	6,900	**122**	**F**	1	1,650	**108**	**F**	**123**	**F**	**34**	**0.5%**	**110**	**F**	**25**	**1.5%**
		PM	3	6,900	17	B	1	1,650	8	A	17	B	96	1.4%	8	A	30	**1.8%**
US 101 N. First St to Guadalupe Pkwy	NB	AM	3	6,900	**108**	**F**	1	1,650	**110**	**F**	**109**	**F**	**51**	**0.7%**	**113**	**F**	**33**	**2.0%**
		PM	3	6,900	14	B	1	1,650	9	A	15	B	138	2.0%	10	A	48	**2.9%**
US 101 Guadalupe Pkwy to De La Cruz Blvd	NB	AM	3	6,900	**127**	**F**	1	1,650	**107**	**F**	**130**	**F**	**78**	**1.1%**	**110**	**F**	**33**	**2.0%**
		PM	3	6,900	19	C	1	1,650	9	A	20	C	238	3.4%	10	A	48	**2.9%**
US 101 De La Cruz Blvd to Montague Expwy / San Tomas Expwy	NB	AM	3	6,900	**76**	**F**	1	1,650	**71**	**F**	**78**	**F**	**121**	**1.8%**	**71**	**F**	**0**	**0.0%**
		PM	3	6,900	24	C	1	1,650	11	A	26	C	342	5.0%	11	B	0	0.0%
US 101 Montague Expwy / San Tomas Expwy to Bowers Ave / Great America Pkwy	NB	AM	3	6,900	**97**	**F**	1	1,650	**86**	**F**	**99**	**F**	**103**	**1.5%**	**86**	**F**	**0**	**0.0%**
		PM	3	6,900	28	D	1	1,650	11	A	29	D	305	4.4%	11	B	0	0.0%
US 101 Bowers Ave / Great American Pkwy to Lawrence Expwy	NB	AM	3	6,900	**93**	**F**	1	1,650	**81**	**F**	**94**	**F**	**35**	**0.5%**	**81**	**F**	**0**	**0.0%**
		PM	3	6,900	29	D	1	1,650	16	B	30	D	160	2.3%	16	B	0	0.0%
US 101 Lawrence Expwy to N. Fair Oaks Ave	NB	AM	3	6,900	**84**	**F**	1	1,650	**73**	**F**	**84**	**F**	**0**	**0.0%**	**75**	**F**	**37**	**2.2%**
		PM	3	6,900	29	D	1	1,650	12	B	29	D	89	1.3%	13	B	50	**3.0%**
US 101 N. Fair Oaks Ave to N. Mathilda Ave	NB	AM	3	6,900	**60**	**F**	1	1,650	54	E	**60**	**F**	**1**	**0.0%**	55	E	37	**2.2%**
		PM	3	6,900	24	C	1	1,650	11	A	24	C	82	1.2%	12	B	50	**3.0%**
US 101 N. Mathilda Ave to SR 237	NB	AM	3	6,900	49	E	1	1,650	**71**	**F**	49	E	1	0.0%	**73**	**F**	**37**	**2.2%**
		PM	3	6,900	24	C	1	1,650	20	C	24	C	89	1.3%	21	C	50	**3.0%**
US 101 SR 237 to Moffett Blvd	NB	AM	3	6,900	**67**	**F**	1	1,650	**64**	**F**	**69**	**F**	**144**	**2.1%**	**65**	**F**	**37**	**2.2%**
		PM	3	6,900	53	E	1	1,650	33	D	54	E	82	1.2%	34	D	46	**2.8%**
US 101 Moffett Blvd to SR 85	NB	AM	3	6,900	**97**	**F**	1	1,650	**67**	**F**	**100**	**F**	**120**	**1.7%**	**68**	**F**	**20**	**1.2%**
		PM	3	6,900	**93**	**F**	1	1,650	36	D	**95**	**F**	**71**	**1.0%**	36	D	31	**1.9%**
US 101 SR 85 to N. Shoreline Blvd	NB	AM	4	9,200	**75**	**F**	1	1,650	34	D	**76**	**F**	**91**	**1.0%**	34	D	20	**1.2%**
		PM	4	9,200	**68**	**F**	1	1,650	34	D	**69**	**F**	**55**	**0.6%**	34	D	31	**1.9%**
US 101 N. Shoreline Blvd to Rengstorff Ave	NB	AM	3	6,900	**70**	**F**	2	3,300	34	D	**71**	**F**	**82**	**1.2%**	34	D	20	0.6%
		PM	3	6,900	**112**	**F**	2	3,300	18	B	**113**	**F**	**35**	**0.5%**	18	C	31	0.9%
US 101 Rengstorff Ave to San Antonio Ave	NB	AM	3	6,900	54	E	2	3,300	25	C	55	E	68	1.0%	25	C	20	0.6%
		PM	3	6,900	**91**	**F**	2	3,300	23	C	**92**	**F**	**31**	**0.4%**	23	C	31	0.9%
US 101 San Antonio Ave to Oregon Expwy	NB	AM	3	6,900	58	E	2	3,300	40	D	**59**	**F**	**69**	**1.0%**	32	D	14	0.4%
		PM	3	6,900	**77**	**F**	2	3,300	45	D	**78**	**F**	**37**	**0.5%**	36	D	20	0.6%
US 101 Oregon Expwy to Embarcadero Rd	NB	AM	3	6,900	**68**	**F**	1	1,650	**72**	**F**	**69**	**F**	**71**	**1.0%**	**73**	**F**	**14**	**0.8%**
		PM	3	6,900	**61**	**F**	1	1,650	**66**	**F**	**61**	**F**	**28**	**0.4%**	**67**	**F**	**20**	**1.2%**
US 101 Embarcadero Rd to Oregon Expwy	SB	AM	3	6,900	27	D	1	1,650	36	D	27	D	11	0.2%	36	D	10	0.6%
		PM	3	6,900	**100**	**F**	1	1,650	**86**	**F**	**102**	**F**	**68**	**1.0%**	**87**	**F**	**15**	**0.9%**
US 101 Oregon Expwy to San Antonio Ave	SB	AM	3	6,900	37	D	2	3,300	19	C	37	D	13	0.2%	15	B	16	0.5%
		PM	3	6,900	**95**	**F**	2	3,300	34	D	**97**	**F**	**65**	**0.9%**	27	D	21	0.6%
US 101 San Antonio Ave to Rengstorff Ave	SB	AM	3	6,900	50	E	2	3,300	19	C	50	E	14	0.2%	19	C	16	0.5%
		PM	3	6,900	**92**	**F**	2	3,300	20	C	**93**	**F**	**67**	**1.0%**	20	C	23	0.7%
US 101 Rengstorff Ave to N. Shoreline Blvd	SB	AM	3	6,900	38	D	2	3,300	22	C	38	D	18	0.3%	22	C	16	0.5%
		PM	3	6,900	**66**	**F**	2	3,300	25	C	**67**	**F**	**86**	**1.2%**	25	C	23	0.7%
US 101 N. Shoreline Blvd to SR 85	SB	AM	3	6,900	38	D	1	1,650	37	D	38	D	27	0.4%	37	D	16	1.0%
		PM	3	6,900	**68**	**F**	1	1,650	51	E	**70**	**F**	**126**	**1.8%**	51	E	21	**1.3%**
US 101 SR 85 to Moffett Blvd	SB	AM	3	6,900	31	D	1	1,650	17	B	31	D	33	0.5%	17	B	25	**1.5%**
		PM	3	6,900	**95**	**F**	1	1,650	**84**	**F**	**98**	**F**	**142**	**2.1%**	**86**	**F**	**43**	**2.6%**
US 101 Moffett Blvd to SR 237	SB	AM	3	6,900	44	D	1	1,650	31	D	44	D	42	0.6%	31	D	25	**1.5%**
		PM	3	6,900	**76**	**F**	1	1,650	57	E	**78**	**F**	**158**	**2.3%**	**58**	**F**	**43**	**2.6%**

Table 26 (Continued)
Freeway Segment Traffic Operations – Option 2

Freeway	Segment	Dir	Peak Hour	Existing Conditions Mixed-Flow # of Lanes[1]	Capacity[2]	Density	LOS[1]	Existing Conditions HOV Lane # of Lanes[1]	Capacity[2]	Density	LOS[1]	PHDSP Option 2 Mixed-Flow Density	LOS	Project Trips	% of Capacity	PHDSP Option 2 HOV Lane Density	LOS	Project Trips	% of Capacity
US 101	SR 237 to N. Mathilda Ave	SB	AM	3	6,900	23	C	1	1,650	40	D	23	C	49	0.7%	40	D	25	**1.5%**
			PM	3	6,900	**87**	**F**	1	1,650	**60**	**F**	**87**	**F**	**0**	**0.0%**	**61**	**F**	**43**	**2.6%**
US 101	N. Mathilda Ave to N. Fair Oaks Ave	SB	AM	3	6,900	24	C	1	1,650	18	B	24	C	64	0.9%	18	C	27	**1.6%**
			PM	3	6,900	**72**	**F**	1	1,650	**68**	**F**	**72**	**F**	**0**	**0.0%**	**69**	**F**	**43**	**2.6%**
US 101	N. Fair Oaks Ave to Lawrence Expwy	SB	AM	3	6,900	28	D	1	1,650	17	B	28	D	124	1.8%	17	B	0	0.0%
			PM	3	6,900	**92**	**F**	1	1,650	**106**	**F**	**93**	**F**	**43**	**0.6%**	**106**	**F**	**0**	**0.0%**
US 101	Bowers Ave / Great American Pkwy to Montague Expwy / San Tomas Expwy	SB	AM	3	6,900	21	C	1	1,650	14	B	23	C	355	5.1%	14	B	0	0.0%
			PM	3	6,900	**108**	**F**	1	1,650	**109**	**F**	**114**	**F**	**208**	**3.0%**	**109**	**F**	**0**	**0.0%**
US 101	Montague Expwy / San Tomas Expwy to De La Cruz Blvd	SB	AM	3	6,900	25	C	1	1,650	11	A	27	D	298	4.3%	12	B	39	**2.4%**
			PM	3	6,900	**111**	**F**	1	1,650	**71**	**F**	**116**	**F**	**165**	**2.4%**	**73**	**F**	**66**	**4.0%**
US 101	De La Cruz Blvd to Guadalupe Pkwy	SB	AM	3	6,900	25	C	1	1,650	6	A	26	D	206	3.0%	7	A	39	**2.4%**
			PM	3	6,900	52	E	1	1,650	36	D	53	E	146	2.1%	37	D	66	**4.0%**
US 101	Guadalupe Pkwy to N. First St	SB	AM	3	6,900	16	B	1	1,650	3	A	17	B	151	2.2%	4	A	25	**1.5%**
			PM	3	6,900	**75**	**F**	1	1,650	**73**	**F**	**77**	**F**	**108**	**1.6%**	**74**	**F**	**44**	**2.7%**
US 101	N. First St to Old Bayshore Hwy	SB	AM	3	6,900	13	B	1	1,650	2	A	13	B	101	1.5%	2	A	25	**1.5%**
			PM	3	6,900	**160**	**F**	1	1,650	**108**	**F**	**164**	**F**	**68**	**1.0%**	**110**	**F**	**44**	**2.7%**
US 101	Old Bayshore Hwy to I-880	SB	AM	3	6,900	18	B	1	1,650	6	A	18	C	115	1.7%	6	A	10	0.6%
			PM	3	6,900	**136**	**F**	1	1,650	**90**	**F**	**140**	**F**	**78**	**1.1%**	**92**	**F**	**34**	**2.1%**
US 101	I-880 to Oakland Rd	SB	AM	3	6,900	18	B	1	1,650	7	A	18	C	56	0.8%	8	A	56	**3.4%**
			PM	3	6,900	**109**	**F**	1	1,650	**77**	**F**	**111**	**F**	**59**	**0.9%**	**79**	**F**	**59**	**3.6%**
US 101	Oakland Rd to McKee Rd	SB	AM	3	6,900	16	B	1	1,650	4	A	16	B	47	0.7%	4	A	7	0.4%
			PM	3	6,900	56	E	1	1,650	36	D	57	E	57	0.8%	36	D	27	**1.6%**
US 101	McKee Rd to Santa Clara St	SB	AM	3	6,900	19	C	1	1,650	10	A	19	C	32	0.5%	10	A	7	0.4%
			PM	3	6,900	52	E	1	1,650	46	D	52	E	43	0.6%	47	E	27	**1.6%**
SR 237	El Camino Real to SR 85	EB	AM	2	4,400	44	D	0	0	--	--	44	D	32	0.7%	--	--	--	--
			PM	2	4,400	19	C	0	0	--	--	20	C	111	2.5%	--	--	--	--
SR 237	SR 85 to Central Expy	EB	AM	2	4,400	**73**	**F**	0	0	--	--	**74**	**F**	**37**	**0.8%**	--	--	--	--
			PM	2	4,400	25	C	0	0	--	--	26	C	130	3.0%	--	--	--	--
SR 237	Central Expy to Maude Ave	EB	AM	2	4,400	51	E	0	0	--	--	52	E	43	1.0%	--	--	--	--
			PM	2	4,400	33	D	0	0	--	--	34	D	139	3.2%	--	--	--	--
SR 237	Maude Ave to US 101	EB	AM	2	4,400	23	C	0	0	--	--	23	C	39	0.9%	--	--	--	--
			PM	2	4,400	**99**	**F**	0	0	--	--	**104**	**F**	**140**	**3.2%**	--	--	--	--
SR 237	US 101 to Mathilda Ave	EB	AM	2	4,400	40	D	0	0	--	--	40	D	34	0.8%	--	--	--	--
			PM	2	4,400	**121**	**F**	0	0	--	--	**136**	**F**	**269**	**6.1%**	--	--	--	--
SR 237	Mathilda Ave to N. Fair Oaks Ave	EB	AM	2	4,400	33	D	1	1,650	12	B	33	D	28	0.6%	12	B	23	**1.4%**
			PM	2	4,400	**100**	**F**	1	1,650	**96**	**F**	**112**	**F**	**349**	**7.9%**	**98**	**F**	**43**	**2.6%**
SR 237	N. Fair Oaks Ave to Lawrence Expwy	EB	AM	2	4,400	33	D	1	1,650	19	C	33	D	28	0.6%	19	C	23	**1.4%**
			PM	2	4,400	**115**	**F**	1	1,650	**62**	**F**	**132**	**F**	**349**	**7.9%**	**63**	**F**	**43**	**2.6%**
SR 237	Great America Pkwy to N. First St	EB	AM	2	4,400	32	D	1	1,650	21	C	33	D	156	3.5%	21	C	0	0.0%
			PM	2	4,400	**106**	**F**	1	1,650	**64**	**F**	**111**	**F**	**109**	**2.5%**	**64**	**F**	**-3**	**-0.2%**
SR 237	N. First St to Zanker Rd	EB	AM	2	4,400	45	D	1	1,650	15	B	46	E	142	3.2%	15	B	14	0.8%
			PM	2	4,400	**72**	**F**	1	1,650	47	E	**74**	**F**	**81**	**1.8%**	48	E	26	**1.6%**
SR 237	Zanker Rd to McCarthy Blvd	EB	AM	2	4,400	28	D	1	1,650	15	B	29	D	100	2.3%	15	B	14	0.8%
			PM	2	4,400	42	D	1	1,650	28	D	43	D	66	1.5%	28	D	26	**1.6%**
SR 237	McCarthy Blvd to I-880	EB	AM	2	4,400	21	C	1	1,650	7	A	22	C	71	1.6%	7	A	14	0.8%
			PM	2	4,400	20	C	1	1,650	38	D	21	C	41	0.9%	38	D	26	**1.6%**
SR 237	I-880 to McCarthy Blvd	WB	AM	2	4,400	**113**	**F**	1	1,650	**65**	**F**	**114**	**F**	**20**	**0.5%**	**66**	**F**	**18**	**1.1%**
			PM	2	4,400	20	C	1	1,650	9	A	21	C	68	1.5%	9	A	13	0.8%
SR 237	McCarthy Blvd to Zanker Rd	WB	AM	2	4,400	**115**	**F**	1	1,650	**74**	**F**	**140**	**F**	**36**	**0.8%**	**75**	**F**	**18**	**1.1%**
			PM	2	4,400	32	D	1	1,650	17	B	39	D	130	3.0%	17	B	13	0.8%
SR 237	Zanker Rd to N. 1st St	WB	AM	2	4,400	**98**	**F**	1	1,650	**70**	**F**	**99**	**F**	**37**	**0.8%**	**71**	**F**	**18**	**1.1%**
			PM	2	4,400	45	D	1	1,650	11	A	47	E	147	3.3%	11	B	13	0.8%

Table 26 (Continued)
Freeway Segment Traffic Operations – Option 2

Freeway Segment	Dir	Peak Hour	Existing Conditions: Mixed-Flow # of Lanes[1]	Capacity[2]	Density	LOS[1]	HOV Lane # of Lanes[1]	Capacity[2]	Density	LOS[1]	PHDSP Option 2: Mixed-Flow Density	LOS	Project Trips	% of Capacity	PHDSP Option 2: HOV Lane Density	LOS	Project Trips	% of Capacity
SR 237 N. 1st St to Great America Pkwy	WB	AM	2	4,400	**92**	**F**	1	1,650	**84**	**F**	**93**	**F**	**37**	**0.8%**	**85**	**F**	**18**	**1.1%**
		PM	2	4,400	38	D	1	1,650	14	B	39	D	147	3.3%	14	B	13	0.8%
SR 237 Great America Pkwy to Lawrence Expwy	WB	AM	2	4,400	**103**	**F**	1	1,650	**82**	**F**	**103**	**F**	**0**	**0.0%**	**84**	**F**	**49**	**3.0%**
		PM	2	4,400	27	D	1	1,650	15	B	27	D	0	0.0%	16	B	55	**3.3%**
SR 237 Lawrence Expwy to N. Fair Oaks Ave	WB	AM	2	4,400	**95**	**F**	1	1,650	**93**	**F**	**107**	**F**	**359**	**8.2%**	**95**	**F**	**29**	**1.8%**
		PM	2	4,400	**61**	**F**	1	1,650	38	D	**63**	**F**	**97**	**2.2%**	39	D	41	**2.5%**
SR 237 N. Fair Oaks Ave to Mathilda Ave	WB	AM	3	6,900	**89**	**F**	0	0	**--**	--	**96**	**F**	**359**	**5.2%**	--	--	--	--
		PM	3	6,900	**84**	**F**	0	0	**--**	--	**86**	**F**	**97**	**1.4%**	--	--	--	--
SR 237 Mathilda Ave to US 101	WB	AM	2	4,400	51	E	0	0	**--**	--	55	E	308	7.0%	--	--	--	--
		PM	2	4,400	**82**	**F**	0	0	**--**	--	**84**	**F**	**73**	**1.7%**	--	--	--	--
SR 237 US 101 to Maude Ave	WB	AM	2	4,400	36	D	0	0	**--**	--	37	D	174	4.0%	--	--	--	--
		PM	2	4,400	**95**	**F**	0	0	**--**	--	**98**	**F**	**97**	**2.2%**	--	--	--	--
SR 237 Maude Ave to Central Pkwy	WB	AM	2	4,400	39	D	0	0	**--**	--	40	D	140	3.2%	--	--	--	--
		PM	2	4,400	**77**	**F**	0	0	**--**	--	**79**	**F**	**82**	**1.9%**	--	--	--	--
SR 237 Central Pkwy to SR 85	WB	AM	2	4,400	28	D	0	0	**--**	--	28	D	89	2.0%	--	--	--	--
		PM	2	4,400	**64**	**F**	0	0	**--**	--	**65**	**F**	**57**	**1.3%**	--	--	--	--
SR 237 SR 85 to El Camino Real	WB	AM	2	4,400	**65**	**F**	0	0	**--**	--	**67**	**F**	**91**	**2.1%**	--	--	--	--
		PM	2	4,400	43	D	0	0	**--**	--	44	D	84	1.9%	--	--	--	--
SR 87 I-280 to Julian St	NB	AM	2	4,400	**93**	**F**	1	1,650	**72**	**F**	**94**	**F**	**12**	**0.3%**	**72**	**F**	**9**	**0.5%**
		PM	2	4,400	15	B	1	1,650	11	A	15	B	33	0.8%	11	B	10	0.6%
SR 87 Julian St to Coleman Ave	NB	AM	2	4,400	**102**	**F**	1	1,650	**63**	**F**	**103**	**F**	**15**	**0.3%**	**64**	**F**	**15**	**0.9%**
		PM	2	4,400	34	D	1	1,650	13	B	35	D	76	1.7%	13	B	21	**1.3%**
SR 87 Coleman St to Taylor St	NB	AM	2	4,400	51	E	1	1,650	46	D	51	E	13	0.3%	46	E	14	0.8%
		PM	2	4,400	21	C	1	1,650	7	A	22	C	75	1.7%	7	A	22	**1.3%**
SR 87 Taylor St to Skyport Dr	NB	AM	2	4,400	**62**	**F**	1	1,650	36	D	**62**	**F**	**19**	**0.4%**	36	D	17	**1.0%**
		PM	2	4,400	17	B	1	1,650	4	A	18	B	92	2.1%	4	A	25	**1.5%**
SR 87 Skyport Dr to US 101	NB	AM	2	4,400	**128**	**F**	1	1,650	**102**	**F**	**129**	**F**	**21**	**0.5%**	**104**	**F**	**17**	**1.0%**
		PM	2	4,400	25	C	1	1,650	8	A	26	C	109	2.5%	8	A	25	**1.5%**
SR 87 US 101 to Skyport Dr	SB	AM	2	4,400	21	C	1	1,650	8	A	22	C	91	2.1%	8	A	18	**1.1%**
		PM	2	4,400	**100**	**F**	1	1,650	36	D	**102**	**F**	**55**	**1.3%**	36	D	25	**1.5%**
SR 87 Skyport Dr to Taylor St	SB	AM	2	4,400	23	C	1	1,650	4	A	24	C	73	1.7%	4	A	15	0.9%
		PM	2	4,400	**100**	**F**	1	1,650	28	D	**102**	**F**	**44**	**1.0%**	28	D	26	**1.6%**
SR 87 Taylor St to Coleman St	SB	AM	2	4,400	23	C	1	1,650	6	A	23	C	61	1.4%	6	A	13	0.8%
		PM	2	4,400	**94**	**F**	1	1,650	36	D	**95**	**F**	**32**	**0.7%**	36	D	24	**1.5%**
SR 87 Coleman Ave to Julian St	SB	AM	2	4,400	30	D	1	1,650	7	A	30	D	61	1.4%	7	A	13	0.8%
		PM	2	4,400	55	E	1	1,650	28	D	55	E	33	0.8%	28	D	24	**1.5%**
SR 87 Julian St to I-280	SB	AM	2	4,400	14	B	1	1,650	6	A	14	B	45	1.0%	6	A	8	0.5%
		PM	2	4,400	**69**	**F**	1	1,650	36	D	**69**	**F**	**21**	**0.5%**	36	D	13	0.8%

Notes:
HOV = high-occupancy vehicle; LOS = level of service.
1. Number of lanes and level of service (LOS) on each segment are taken from VTA's *2018 Congestion Management Program Monitoring Report*.
2. Capacity is based on the capacities cited in VTA's *Transportation Impact Analysis Guidelines* (2014).
Bold indicates a substandard level of service.
Outline indicates an adverse effect associated with the PHDSP development.

- SR 237, eastbound between US 101 and Mathilda Avenue (PM Peak Hour)
- SR 237, eastbound between Mathilda Avenue and North Fair Oaks Avenue (PM Peak Hour)
- SR 237, eastbound between North Fair Oaks Avenue and Lawrence Expressway (PM Peak Hour)
- SR 237, eastbound between Great America Parkway and N. First Street (PM Peak Hour)
- SR 237, westbound between Lawrence Expressway and N. Fair Oaks Avenue (Both Peak Hours)
- SR 237, westbound between N. Fair Oaks Avenue and Mathilda Avenue (Both Peak Hours)
- SR 237, westbound between Mathilda Avenue and US 101 (PM Peak Hour)
- SR 237, westbound between US 101 and Maude Avenue (PM Peak Hour)
- SR 237, westbound between Maude Avenue and Central Parkway (PM Peak Hour)
- SR 237, westbound between Central Parkway (PM Peak Hour)
- SR 237, westbound between SR 85 and El Camino Real (AM Peak Hour)

The mixed-flow lanes on the following freeway segments would be adversely affected under existing plus project conditions only under PHDSP Option 1:

- US 101, northbound between SR 85 and N. Shoreline Boulevard (AM Peak Hour)
- US 101, southbound between Embarcadero Road and Oregon Expressway (PM Peak Hour)
- US 101, southbound between Oregon Expressway and San Antonio Avenue (PM Peak Hour)
- US 101, southbound between San Antonio Avenue and Rengstorff Avenue (PM Peak Hour)

In addition, the mixed-flow lanes on the following freeway segments would be adversely affected under existing plus project conditions under PHDSP Option 2:

- US 101, northbound between Guadalupe Parkway and De La Cruz Boulevard (AM Peak Hour)
- US 101, northbound between De La Cruz Boulevard and San Tomas Expressway (AM Peak Hour)
- US 101, northbound between San Tomas Expressway and Great America Parkway (AM Peak Hour)
- US 101, southbound between Guadalupe Parkway and N. First Street (PM Peak Hour)
- US 101, southbound between Old Bayshore Highway and I-880 (PM Peak Hour)
- SR 237, eastbound between N. First Street and Zanker Road (PM Peak Hour)
- SR 87, southbound between US 101 and Skyport Drive (PM Peak Hour)
- SR 87, southbound between Skyport Drive and Taylor Street (PM Peak Hour)

Furthermore, the development of the PHDSP Area also would adversely affect 17 HOV lane segments under Option 1 and 29 HOV lane segments under Option 2.

The VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction would increase the capacity of the freeway and help to address the deficiency in freeway operations to which the project would contribute. The Phase 3 portion of the Silicon Valley Express Lanes Project, which extends along US 101 from SR 237 to San Mateo County, is currently under construction and is anticipated to open in 2021. Phase 5, which will extend the US 101 express lanes south from SR 237 to I-880, is expected to be completed in 2025. The San Mateo 101 Express Lanes Project is currently under construction and is expected to be completed in 2022.

The Phase 2 portion of the Silicon Valley Express Lane Project, which extends along SR 237 from N. First Street to Mathilda Avenue, opened in November 2019. The level of service listed in the above table are taken from VTA's 2018 Congestion Management Program Monitoring Report, and thus do not

reflect the newly opened express lane. Additional freeway improvements such as the addition of mixed-flow lanes are generally not feasible due to right of way constraints and secondary impacts associated with induced travel.

While the SR 87 Corridor Study, dated October 2018, stated that there is no room to expand the freeway, it identified technology-based improvements and innovative solutions to maximize use of the existing infrastructure and lead to lower levels of solo driving and higher use of other available modes of travel along the corridor. Potential improvements identified in the study include converting the southbound ramp from US 101 southbound to SR 87 southbound from one to two lanes, use of shoulders as part-time lanes, converting HOV lanes to express lanes, technology-based improvements, and multimodal improvements. Implementation of TDM measures would reduce vehicle trips generated by the PHDSP Area, lessening the project's effect on nearby freeways. However, even with an aggressive TDM program, the project would have an adverse effect on many freeway segments.

Developments within the PHDSP area should be required to provide fair share funding for the above-listed freeway improvements as they come along if full funding is not secured by then.

Freeway Ramp Traffic Operations

A freeway ramp operations analysis was performed to verify that the freeway ramps have sufficient capacity to serve the projected traffic volumes with the development of the Patrick Henry Drive Specific Plan Area. This analysis consisted of a volume-to-capacity (v/c) ratio evaluation of the freeway ramps at the study interchanges. The ramp capacities were obtained from the *Highway Capacity Manual 2000*, and consider the free-flow speed, number of lanes on the ramp, and ramp metering. It should be noted that the evaluation of freeway ramps is not required based on the VTA's *Transportation Impact Analysis Guidelines*, nor are there adopted methodologies and impact criteria for the analysis of freeway ramps.

Freeway ramp traffic operations analysis was conducted for the ramps at the following interchanges:

- US 101/Great America Parkway
- SR 237/Great America Parkway
- US 101/Lawrence Expressway
- SR 237/Lawrence Expressway

Table 27 presents the existing freeway ramp parameters (ramp type, number of lanes, ramp meter locations, and peak-hour traffic volumes) as well as the existing v/c ratio. The existing traffic volume is well below the capacity on all study freeway ramps.

Table 28 presents an analysis of freeway ramps with the trips added by the Patrick Henry Drive Specific Plan under each of the two development options. Under existing plus project conditions with either development option, all study ramps are expected to have sufficient capacity (v/c < 1.0) during both peak hours.

Vehicle Queuing Analysis

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis for left-turn lanes at intersections where the project would add a substantial number of left turns. This analysis provides a basis for estimating future storage requirements at the intersections under existing and cumulative plus project conditions, which includes development of both the PHDSP Area and the Freedom Circle Focus Area along with other nearby planned and proposed developments including the Kylli project, City Place, and the Tasman East Specific Plan. Vehicle queues were estimated using a

Table 27
Existing Freeway Ramp Operations

Interchange	Ramp	Type	Peak Hour	Lanes			Existing Conditions		
				Mixed-Flow	HOV	Meter[1]	Capacity[2]	Peak Volume[3]	v/c
US 101/Montague Expressway	NB Off-Ramp to Eastbound Montague Expressway	Diagonal	AM	1	-	-	2,000		0.00
			PM				2,000		0.00
	SB On-Ramp from Westbound Montague Expressway	Diagonal	AM	1	-	-	2,000		0.00
			PM				2,000		0.00
US 101/Great America Parkway	NB On-Ramp from Southbound Great America Parkway	Diagonal	AM	1	-	Equipment Present	900	284	0.32
			PM				900	517	0.57
	SB On-Ramp from Southbound Great America Parkway	Loop	AM	1	1	Equipment Present	1,800	260	0.14
			PM				1,800	621	0.35
US 101/Great America Parkway	NB Off-Ramp to Great America Parkway	Diagonal	AM	1	-	-	2,000	1,543	0.77
			PM				2,000	940	0.47
	SB Off-Ramp to Great America Parkway	Diagonal	AM	1	-	-	2,000	1,054	0.53
			PM				2,000	449	0.22
SR 237/Great America Parkway	EB On-Ramp from Great America Parkway	Diagonal	AM	1	1	Equipment Present	1,800	361	0.20
			PM				1,800	823	0.46
	WB On-Ramp from Great America Parkway	Diagonal	AM	1	-	Equipment Present	900	565	0.63
			PM				900	693	0.77
SR 237/Great America Parkway	EB Off-Ramp to Great America Parkway	Diagonal	AM	1	-	-	2,000	605	0.30
			PM				2,000	546	0.27
	WB Off-Ramp to Great America Parkway	Diagonal	AM	1	-	-	2,000	978	0.49
			PM				2,000	1,269	0.63
US 101/Lawrence Expressway	NB On-Ramp from Southbound Lawrence Expressway	Diagonal	AM	1	1	Equipment Present	1,800	505	0.28
			PM				1,800	349	0.19
	SB On-Ramp from Southbound Lawrence Expressway	Loop	AM	1	1	Equipment Present	1,800	337	0.19
			PM				1,800	162	0.09
US 101/Lawrence Expressway	NB Off-Ramp to Lawrence Expressway	Diagonal	AM	2	-	-	3,800	1,136	0.30
			PM				3,800	1,309	0.34
	SB Off-Ramp to Lawrence Expressway	Diagonal	AM	2	-	-	3,800	811	0.21
			PM				3,800	1,754	0.46
SR 237/Lawrence Expressway	EB On-Ramp from Northbound Lawrence Expressway	Diagonal	AM	1	1	Equipment Present	1,800	1,181	0.66
			PM				1,800	649	0.36
	WB On-Ramp from Northbound Lawrence Expressway	Loop	AM	1	-	Equipment Present	900	282	0.31
			PM				900	191	0.21
SR 237/Lawrence Expressway	EB Off-Ramp to Southbound Lawrence Expressway	Diagonal	AM	1	-	-	2,000	79	0.04
			PM				2,000	620	0.31
	WB Off-Ramp to Southbound Lawrence Expressway	Loop	AM	1	-	-	1,800	1,198	0.67
			PM				1,800	1,100	0.61

Notes:
NB=northbound, SB=southbound, EB=eastbound, WB=westbound, v/c = volume-to-capacity ratio

[1] As a conservative approach, if an on-ramp has meter equipment present, the ramp is analyzed assuming it is metered.
[2] Ramp capacities were obtained from the Highway Capacity Manual, 2000 (pg 25-4), and considered the free-flow speed, the number of lanes on the ramp, and ramp metering.
[3] Peak-hour volumes are obtained through intersection counts or the Caltrans Performance Measurement System (PeMS) database.

Table 28
Freeway Ramp Operations under Existing Plus Project Conditions

Interchange	Ramp	Type	Peak Hour	Existing Conditions			Project Conditions - Option 1				Project Conditions - Option 2			
				Capacity[1]	Peak Volume[2]	v/c	Project Trips	Peak Volume	% of Capacity	v/c	Project Trips	Peak Volume	% of Capacity	v/c
US 101/Great America Parkway	NB On-Ramp from Southbound Great America Parkway	Diagonal	AM	900	284	0.32	41	325	4.6%	0.36	35	319	3.9%	0.35
			PM	900	517	0.57	134	651	14.9%	0.72	160	677	17.8%	0.75
	SB On-Ramp from Southbound Great America Parkway	Loop	AM	1,800	260	0.14	442	702	24.6%	0.39	415	675	23.1%	0.38
			PM	1,800	621	0.35	173	794	9.6%	0.44	242	863	13.4%	0.48
US 101/Great America Parkway	NB Off-Ramp to Great America Parkway	Diagonal	AM	2,000	1,543	0.77	18	1,561	0.9%	0.78	120	1,663	6.0%	0.83
			PM	2,000	940	0.47	391	1,331	19.6%	0.67	355	1,295	17.8%	0.65
	SB Off-Ramp to Great America Parkway	Diagonal	AM	2,000	1,054	0.53	-41	1,013	-2.1%	0.51	-41	1,013	-2.1%	0.51
			PM	2,000	449	0.22	-3	446	-0.2%	0.22	-3	446	-0.2%	0.22
SR 237/Great America Parkway	EB On-Ramp from Great America Parkway	Diagonal	AM	1,800	361	0.20	166	527	9.2%	0.29	156	517	8.7%	0.29
			PM	1,800	823	0.46	50	873	2.8%	0.49	109	932	6.1%	0.52
	WB On-Ramp from Great America Parkway	Diagonal	AM	900	565	0.63	33	598	3.7%	0.66	31	596	3.4%	0.66
			PM	900	693	0.77	39	732	4.3%	0.81	42	735	4.7%	0.82
SR 237/Great America Parkway	EB Off-Ramp to Great America Parkway	Diagonal	AM	2,000	605	0.30	-3	602	-0.2%	0.30	-3	602	-0.2%	0.30
			PM	2,000	546	0.27	0	546	0.0%	0.27	0	546	0.0%	0.27
	WB Off-Ramp to Great America Parkway	Diagonal	AM	2,000	978	0.49	-26	952	-1.3%	0.48	37	1,015	1.9%	0.51
			PM	2,000	1,269	0.63	168	1,437	8.4%	0.72	147	1,416	7.4%	0.71
US 101/Lawrence Expressway	NB On-Ramp from Southbound Lawrence Expressway	Diagonal	AM	1,800	505	0.28	0	505	0.0%	0.28	1	506	0.1%	0.28
			PM	1,800	349	0.19	-2	347	-0.1%	0.19	-2	347	-0.1%	0.19
	SB On-Ramp from Southbound Lawrence Expressway	Loop	AM	1,800	337	0.19	0	337	0.0%	0.19	0	337	0.0%	0.19
			PM	1,800	162	0.09	0	162	0.0%	0.09	0	162	0.0%	0.09
US 101/Lawrence Expressway	NB Off-Ramp to Lawrence Expressway	Diagonal	AM	3,800	1,136	0.30	0	1,136	0.0%	0.30	0	1,136	0.0%	0.30
			PM	3,800	1,309	0.34	15	1,324	0.4%	0.35	19	1,328	0.5%	0.35
	SB Off-Ramp to Lawrence Expressway	Diagonal	AM	3,800	811	0.21	105	916	2.8%	0.24	161	972	4.2%	0.26
			PM	3,800	1,754	0.46	51	1,805	1.3%	0.48	45	1,799	1.2%	0.47
SR 237/Lawrence Expressway	EB On-Ramp from Northbound Lawrence Expressway	Diagonal	AM	1,800	1,181	0.66	0	1,181	0.0%	0.66	0	1,181	0.0%	0.66
			PM	1,800	649	0.36	-3	646	-0.2%	0.36	-3	646	-0.2%	0.36
	WB On-Ramp from Northbound Lawrence Expressway	Loop	AM	900	282	0.31	400	682	44.4%	0.76	357	639	39.7%	0.71
			PM	900	191	0.21	83	274	9.2%	0.30	96	287	10.7%	0.32
SR 237/Lawrence Expressway	EB Off-Ramp to Southbound Lawrence Expressway	Diagonal	AM	2,000	79	0.04	28	107	1.4%	0.05	51	130	2.6%	0.07
			PM	2,000	620	0.31	451	1,071	22.6%	0.54	391	1,011	19.6%	0.51
	WB Off-Ramp to Southbound Lawrence Expressway	Diagonal	AM	1,800	1,198	0.67	0	1,198	0.0%	0.67	0	1,198	0.0%	0.67
			PM	1,800	1,100	0.61	0	1,100	0.0%	0.61	0	1,100	0.0%	0.61

Notes:
NB=northbound, SB=southbound, EB=eastbound, WB=westbound, v/c = volume-to-capacity ratio

[1] Ramp capacities were obtained from the Highway Capacity Manual, 2000 (pg 25-4), and considered the free-flow speed, the number of lanes on the ramp, and ramp metering.

[2] Peak-hour volumes are obtained through intersection counts or the Caltrans Performance Measurement System (PeMS) database.

[3] As a conservative approach, if an on-ramp has meter equipment present, the ramp is analyzed assuming it is metered.

Poisson probability distribution, described in Chapter 1. The following left-turn movements were selected for evaluation:

- Bowers Avenue and US 101 SB Off-Ramp – Eastbound left turn
- Great America Parkway and Mission College Boulevard – Northbound and southbound left turn
- Great America Parkway and Patrick Henry Drive – Northbound and eastbound left turn
- Great America Parkway and Old Glory Lane – Northbound and eastbound left turn
- Great America Parkway and Tasman Drive – Northbound, eastbound, and westbound left turn
- Tasman Drive and Patrick Henry Drive – Westbound and northbound left turn
- Tasman Drive and Old Ironsides Drive – Westbound and northbound left turn
- Great America Parkway and SR 237 Westbound Ramps – Northbound and westbound left turn

The queuing analysis was conducted both with and without the proposed new roadway connection to Mission College Boulevard (see Table 29 and 30, respectively). The traffic volumes at three of the intersections listed above are expected to be the same with and without the proposed new roadway connection; thus, those intersections are not repeated in Table 30. The results show that seven of the eight intersections studied are expected to have insufficient turn lane storage to accommodate the anticipated traffic volumes in the Year 2040 both with and without the new roadway connection. The feasibility of potential improvements to address the queue storage deficiencies is discussed below. It should be noted that this analysis is conservative since the queue storage requirements could be reduced somewhat (up to 10 percent) through the implementation of TDM measures.

Great America Parkway and Mission College Boulevard – Southbound Left Turn

The existing storage capacity for the southbound left-turn on Great America Parkway is approximately 200 feet in the inner lane and 600 feet in the outer left-turn lane for an average of 400 feet per lane. Under existing conditions, the available storage is sufficient to accommodate the 95th percentile queue. Under cumulative conditions, this movement is expected to exceed the available storage during both the AM and PM peak hours, with a maximum queue of 625 to 775 feet per lane with and without the new roadway connection, respectively. The turn lanes could be extended by modifying the existing landscaped median. However, there is not sufficient space to accommodate the 95th percentile queue for both the southbound left turn at the Great America/ Mission College intersection as well as the northbound left turn at the Great America/Patrick Henry intersection even if the turn pockets are extended so that they are end to end.

Great America Parkway and Patrick Henry Drive – Northbound and Eastbound Left Turn

Under existing conditions, the 95th percentile queue for the northbound left-turn exceeds the available storage (230 feet) by about 350 feet during the AM peak hour. The addition of a second northbound left-turn lane is recommended to address the adverse effect of PHDSP Area development. Even with the added lane, the 95th percentile queue is expected to exceed the available storage during one or both peak hours with a maximum queue of 575 to 700 feet per lane under cumulative conditions with and without the new roadway connection, respectively. The length of the turn lanes could be extended by modifying the existing landscaped median. However, as previously stated, it is not feasible to accommodate the 95th percentile queue for the northbound left-turn at the Great America/Patrick Henry intersection as well as the southbound left-turn at the Great America/Mission College intersection.

Table 29
Left-Turn Storage Queuing Analysis with Connection to Mission College Boulevard

	Bowers Av/US 101 SB Off Ramp		Great America Pkwy/Mission College Blvd				Great America Pkwy/Patrick Henry Dr			
	EBL		NBL		SBL		NBL		EBL	
Measurement	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing										
Cycle/Delay[1] (sec)	78	110	156	140	156	140	156	160	156	160
Volume (vph)	569	253	470	377	142	368	373	107	4	47
Lanes	2	2	2	2	2	2	1	1	1	1
Volume (vphpl)	285	127	235	189	71	184	373	107	4	47
Avg. Queue (veh)	6.2	3.9	10.2	7.3	3.1	7.2	16.2	4.8	0.2	2.1
Avg. Queue (ft.)	154	97	255	183	77	179	404	119	4	52
95th %. Queue (veh)	10	7	16	12	6	12	23	9	1	5
95th %. Queue (ft.)	250	175	400	300	150	300	575	225	25	125
Storage (ft/ln)	780	780	480	480	400	400	230	230	140	140
Adequate (Y/N)	Y	Y	Y	Y	Y	Y	**N**	Y	Y	Y
Cum + PH Opt 1										
Cycle/Delay[1] (sec)	78	110	156	140	156	140	156	160	156	160
Volume (vph)	954	463	554	424	803	819	546	400	452	140
Lanes	2	2	3	3	2	2	2	2	1	1
Volume (vphpl)	477	232	185	141	402	410	273	200	452	140
Avg. Queue (veh)	10.3	7.1	8.0	5.5	17.4	15.9	11.8	8.9	19.6	6.2
Avg. Queue (ft.)	258	177	200	137	435	398	296	222	490	156
95th %. Queue (veh)	16	12	13	10	25	23	18	14	27	11
95th %. Queue (ft.)	400	300	325	250	625	575	450	350	675	275
Storage (ft/ln)	780	780	480	480	400	400	230	230	140	140
Adequate (Y/N)	Y	Y	Y	Y	**N**	**N**	**N**	**N**	**N**	**N**
Cum + PH Opt 2										
Cycle/Delay[1] (sec)	78	110	156	140	156	140	156	160	156	160
Volume (vph)	977	404	567	418	818	825	726	358	376	143
Lanes	2	2	3	3	2	2	2	2	1	1
Volume (vphpl)	489	202	189	139	409	413	363	179	376	143
Avg. Queue (veh)	10.6	6.2	8.2	5.4	17.7	16.0	15.7	8.0	16.3	6.4
Avg. Queue (ft.)	265	154	205	135	443	401	393	199	407	159
95th %. Queue (veh)	16	11	13	9	25	23	23	13	23	11
95th %. Queue (ft.)	400	275	325	225	625	575	575	325	575	275
Storage (ft/ln)	780	780	480	480	400	400	230	230	140	140
Adequate (Y/N)	Y	Y	Y	Y	**N**	**N**	**N**	**N**	**N**	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections, and movement delay for unsignalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued

Table 29 (continued)
Left-Turn Storage Queuing Analysis with Connection to Mission College Boulevard

	Great America Pkwy/Old Glory Ln				Great America Pkwy/Tasman Dr						Tasman Dr/Patrick Henry Dr	
	NBLT		EBLT*		NBL		EBL		WBL		WBL	
Measurement	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing												
Cycle/Delay[1] (sec)	78	160	78	160	156	90	156	90	156	90	110	110
Volume (vph)	22	13	5	146	326	84	27	27	335	270	14	32
Lanes	1	1	1	1	2	2	2	2	2	2	1	1
Volume (vphpl)	22	13	5	146	163	42	14	14	168	135	14	32
Avg. Queue (veh)	0.5	0.6	0.1	6.5	7.1	1.1	0.6	0.3	7.3	3.4	0.4	1.0
Avg. Queue (ft.)	12	14	3	162	177	26	15	8	181	84	11	24
95th %. Queue (veh)	2	2	1	11	12	3	2	1	12	7	2	3
95th %. Queue (ft.)	50	50	25	275	300	75	50	25	300	175	50	75
Storage (ft/ln)	240	240	365	365	180	180	290	290	270	270	230	230
Adequate (Y/N)	Y	Y	Y	Y	**N**	Y	Y	Y	**N**	Y	Y	Y
Cum + PH Opt 1												
Cycle/Delay[1] (sec)	78	160	78	160	156	90	156	90	156	90	110	110
Volume (vph)	964	902	719	2057	326	93	829	1015	728	631	25	187
Lanes	1	1	1	1	2	2	2	2	3	3	1	1
Volume (vphpl)	964	902	719	2057	163	47	415	508	243	210	25	187
Avg. Queue (veh)	20.9	40.1	15.6	91.4	7.1	1.2	18.0	12.7	10.5	5.3	0.8	5.7
Avg. Queue (ft.)	522	1002	389	2286	177	29	449	317	263	131	19	143
95th %. Queue (veh)	29	51	22	107	12	3	25	19	16	9	2	10
95th %. Queue (ft.)	725	1275	550	2675	300	75	625	475	400	225	50	250
Storage (ft/ln)	240	240	365	365	180	180	290	290	270	270	230	230
Adequate (Y/N)	**N**	**N**	**N**	**N**	**N**	Y	**N**	**N**	**N**	Y	Y	**N**
Cum + PH Opt 2												
Cycle/Delay[1] (sec)	78	160	78	160	156	90	156	90	156	90	110	110
Volume (vph)	934	834	670	2171	326	88	808	1047	722	617	29	190
Lanes	1	1	1	1	2	2	2	2	3	3	1	1
Volume (vphpl)	934	834	670	2171	163	44	404	524	241	206	29	190
Avg. Queue (veh)	20.2	37.1	14.5	96.5	7.1	1.1	17.5	13.1	10.4	5.1	0.9	5.8
Avg. Queue (ft.)	506	927	363	2412	177	28	438	327	261	129	22	145
95th %. Queue (veh)	28	47	21	113	12	3	25	19	16	9	3	10
95th %. Queue (ft.)	700	1175	525	2825	300	75	625	475	400	225	75	250
Storage (ft/ln)	240	240	365	365	180	180	290	290	270	270	230	230
Adequate (Y/N)	**N**	**N**	**N**	**N**	**N**	Y	**N**	**N**	**N**	Y	Y	**N**

*Volume reflects total EB approach volume in the single shared-lane approach.

[1] Vehicle queue calculations based on cycle length for signalized intersections, and movement delay for unsignalized intersections.

[2] Assumes 25 Feet Per Vehicle Queued

Table 29 (continued)
Left-Turn Storage Queuing Analysis with Connection to Mission College Boulevard

	Tasman Dr/Patrick Henry Dr		Tasman Dr/Old Ironsides Dr				Great America Pkwy/SR 237 Westbound Ramps			
	NBL		NBL		WBL		NBL		WBL/T	
Measurement	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing										
Cycle/Delay[1] (sec)	110	110	110	110	110	110	52	72	52	72
Volume (vph)	38	58	12	11	11	11	141	343	901	944
Lanes	2	2	1	1	1	1	2	2	2	2
Volume (vphpl)	19	29	12	11	11	11	71	172	451	472
Avg. Queue (veh)	0.6	0.9	0.4	0.3	0.3	0.3	1.0	3.4	6.5	9.4
Avg. Queue (ft.)	15	22	9	8	8	8	25	86	163	236
95th %. Queue (veh)	2	3	2	1	1	1	3	7	11	15
95th %. Queue (ft.)	50	75	50	25	25	25	75	175	275	375
Storage (ft/ln)	140	140	100	100	150	150	210	210	480	480
Adequate (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cum + PH Opt 1										
Cycle/Delay[1] (sec)	110	110	110	110	110	110	52	72	52	72
Volume (vph)	894	986	159	11	1010	844	194	799	1159	1173
Lanes	2	2	1	1	1	1	2	2	3	3
Volume (vphpl)	447	493	159	11	1010	844	97	400	386	391
Avg. Queue (veh)	13.7	15.1	4.9	0.3	30.9	25.8	1.4	8.0	5.6	7.8
Avg. Queue (ft.)	341	377	121	8	772	645	35	200	140	196
95th %. Queue (veh)	20	22	9	1	40	34	4	13	10	13
95th %. Queue (ft.)	500	550	225	25	1000	850	100	325	250	325
Storage (ft/ln)	140	140	100	100	150	150	210	210	480	480
Adequate (Y/N)	**N**	**N**	**N**	Y	**N**	**N**	Y	**N**	Y	Y
Cum + PH Opt 2										
Cycle/Delay[1] (sec)	110	110	110	110	110	110	52	72	52	72
Volume (vph)	870	995	100	11	1064	824	186	809	1159	1162
Lanes	2	2	1	1	1	1	2	2	3	3
Volume (vphpl)	435	498	100	11	1064	824	93	405	386	387
Avg. Queue (veh)	13.3	15.2	3.1	0.3	32.5	25.2	1.3	8.1	5.6	7.7
Avg. Queue (ft.)	332	380	76	8	813	629	34	202	140	194
95th %. Queue (veh)	20	22	6	1	42	34	3	13	10	13
95th %. Queue (ft.)	500	550	150	25	1050	850	75	325	250	325
Storage (ft/ln)	140	140	100	100	150	150	210	210	480	480
Adequate (Y/N)	**N**	**N**	**N**	Y	**N**	**N**	Y	**N**	Y	Y

[1] Vehicle queue calculations based on cycle length for signalized intersections, and movement delay for unsignalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued

Table 30
Left-Turn Storage Queuing Analysis without Connection to Mission College Boulevard

	Great America Pkwy/Mission College Blvd				Great America Pkwy/Patrick Henry Dr			
	NBL		SBL		NBL		EBL	
Measurement	AM	PM	AM	PM	AM	PM	AM	PM
Existing								
Cycle/Delay[1] (sec)	156	140	156	140	156	160	156	160
Volume (vph)	470	377	142	368	373	107	4	47
Lanes	2	2	2	2	1	1	1	1
Volume (vphpl)	235	189	71	184	373	107	4	47
Avg. Queue (veh)	10.2	7.3	3.1	7.2	16.2	4.8	0.2	2.1
Avg. Queue (ft.)	255	183	77	179	404	119	4	52
95th %. Queue (veh)	16	12	6	12	23	9	1	5
95th %. Queue (ft.)	400	300	150	300	575	225	25	125
Storage (ft/ln)	480	480	400	400	230	230	140	140
Adequate (Y/N)	Y	Y	Y	Y	**N**	Y	Y	Y
Cum + PH Opt 1								
Cycle/Delay[1] (sec)	156	140	156	140	156	160	156	160
Volume (vph)	475	281	970	1161	752	894	452	140
Lanes	3	3	2	2	2	2	1	1
Volume (vphpl)	158	94	485	581	376	447	452	140
Avg. Queue (veh)	6.9	3.6	21.0	22.6	16.3	19.9	19.6	6.2
Avg. Queue (ft.)	172	91	525	564	407	497	490	156
95th %. Queue (veh)	11	7	29	31	23	27	27	11
95th %. Queue (ft.)	275	175	725	775	575	675	675	275
Storage (ft/ln)	480	480	400	400	230	230	140	140
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	**N**	**N**
Cum + PH Opt 2								
Cycle/Delay[1] (sec)	156	140	156	140	156	160	156	160
Volume (vph)	475	281	970	1087	957	813	376	143
Lanes	3	3	2	2	2	2	1	1
Volume (vphpl)	158	94	485	544	479	407	376	143
Avg. Queue (veh)	6.9	3.6	21.0	21.1	20.7	18.1	16.3	6.4
Avg. Queue (ft.)	172	91	525	528	518	452	407	159
95th %. Queue (veh)	11	7	29	29	28	25	23	11
95th %. Queue (ft.)	275	175	725	725	700	625	575	275
Storage (ft/ln)	480	480	400	400	230	230	140	140
Adequate (Y/N)	Y	Y	**N**	**N**	**N**	**N**	**N**	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections, and movement delay for unsignalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued

Table 30 (continued)
Left-Turn Storage Queuing Analysis without Connection to Mission College Boulevard

	Great America Pkwy/Old Glory Ln				Tasman Dr/Patrick Henry Dr	
	NBLT		EBLT*		WBL	
Measurement	AM	PM	AM	PM	AM	PM
Existing						
Cycle/Delay[1] (sec)	78	160	78	160	110	110
Volume (vph)	22	13	5	146	14	32
Lanes	1	1	1	1	1	1
Volume (vphpl)	22	13	5	146	14	32
Avg. Queue (veh)	0.5	0.6	0.1	6.5	0.4	1.0
Avg. Queue (ft.)	12	14	3	162	11	24
95th %. Queue (veh)	2	2	1	11	2	3
95th %. Queue (ft.)	50	50	25	275	50	75
Storage (ft/ln)	240	240	365	365	230	230
Adequate (Y/N)	Y	Y	Y	Y	Y	Y
Cum + PH Opt 1						
Cycle/Delay[1] (sec)	78	160	78	160	110	110
Volume (vph)	1327	1027	1338	2971	25	187
Lanes	2	2	1	1	1	1
Volume (vphpl)	664	514	1338	2971	25	187
Avg. Queue (veh)	14.4	22.8	29.0	132.0	0.8	5.7
Avg. Queue (ft.)	359	571	725	3301	19	143
95th %. Queue (veh)	21	31	38	>145	2	10
95th %. Queue (ft.)	525	775	950	>3625	50	250
Storage (ft/ln)	240	240	365	365	230	230
Adequate (Y/N)	**N**	**N**	**N**	**N**	Y	**N**
Cum + PH Opt 2						
Cycle/Delay[1] (sec)	78	160	78	160	110	110
Volume (vph)	1389	982	1196	2976	29	190
Lanes	2	2	1	1	1	1
Volume (vphpl)	695	491	1196	2976	29	190
Avg. Queue (veh)	15.0	21.8	25.9	132.3	0.9	5.8
Avg. Queue (ft.)	376	546	648	3307	22	145
95th %. Queue (veh)	22	30	35	>145	3	10
95th %. Queue (ft.)	550	750	875	>3625	75	250
Storage (ft/ln)	240	240	365	365	230	230
Adequate (Y/N)	**N**	**N**	**N**	**N**	Y	**N**

*Volume reflects total EB approach volume in the single shared-lane approach.
[1] Vehicle queue calculations based on cycle length for signalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued

Table 30 (continued)
Left-Turn Storage Queuing Analysis without Connection to Mission College Boulevard

	Tasman Dr/Patrick Henry Dr		Tasman Dr/Old Ironsides Dr			
	NBL		NBL		WBL	
Measurement	AM	PM	AM	PM	AM	PM
Existing						
Cycle/Delay[1] (sec)	110	110	110	110	110	110
Volume (vph)	38	58	12	11	11	11
Lanes	2	2	1	1	1	1
Volume (vphpl)	19	29	12	11	11	11
Avg. Queue (veh)	0.6	0.9	0.4	0.3	0.3	0.3
Avg. Queue (ft.)	15	22	9	8	8	8
95th %. Queue (veh)	2	3	2	1	1	1
95th %. Queue (ft.)	50	75	50	25	25	25
Storage (ft/ln)	140	140	100	100	150	150
Adequate (Y/N)	Y	Y	Y	Y	Y	Y
Cum + PH Opt 1						
Cycle/Delay[1] (sec)	110	110	110	110	110	110
Volume (vph)	900	1375	163	187	1010	844
Lanes	2	2	1	1	1	1
Volume (vphpl)	450	688	163	187	1010	844
Avg. Queue (veh)	13.8	21.0	5.0	5.7	30.9	25.8
Avg. Queue (ft.)	344	525	125	143	772	645
95th %. Queue (veh)	20	29	9	10	40	34
95th %. Queue (ft.)	500	725	225	250	1000	850
Storage (ft/ln)	140	140	100	100	150	150
Adequate (Y/N)	**N**	**N**	**N**	**N**	**N**	**N**
Cum + PH Opt 2						
Cycle/Delay[1] (sec)	110	110	110	110	110	110
Volume (vph)	882	1373	104	234	1064	824
Lanes	2	2	1	1	1	1
Volume (vphpl)	441	687	104	234	1064	824
Avg. Queue (veh)	13.5	21.0	3.2	7.2	32.5	25.2
Avg. Queue (ft.)	337	524	79	179	813	629
95th %. Queue (veh)	20	29	6	12	42	34
95th %. Queue (ft.)	500	725	150	300	1050	850
Storage (ft/ln)	140	140	100	100	150	150
Adequate (Y/N)	**N**	**N**	**N**	**N**	**N**	**N**

[1] Vehicle queue calculations based on cycle length for signalized intersections, and movement delay for unsignalized intersections.
[2] Assumes 25 Feet Per Vehicle Queued

The trips associated with the PHDSP Area development and other proposed projects such as the Kylli development are expected to cause the left-turn queue on eastbound Patrick Henry Drive to extend beyond the upstream intersection at Old Ironsides Drive during both the AM and PM peak hour. The queue length would be the same with or without the proposed new roadway connection to Mission College Boulevard. As described in Chapters 4 and 6, installation of a new traffic signal is recommended at the Old Ironsides/Patrick Henry intersection. The new signal should be closely coordinated with the existing signal at the Great America/Patrick Henry intersection to manage the vehicle queues.

Great America Parkway and Old Glory Lane – Northbound and Eastbound Left Turn

The existing storage capacity in the northbound left-turn lane (240 feet) is sufficient to accommodate the 95th percentile queue during the AM and PM peak hours. However, the addition of trips associated with the PHDSP Area development would cause the queue to overflow the existing turn lane storage during both development scenarios with and without the proposed new roadway connection to Mission College Boulevard. The addition of a second northbound left-turn lane is recommended at this intersection to offset the adverse effect of PHDSP Area development under cumulative plus project conditions without the proposed new roadway connection to Mission College Boulevard. Even with the added lane, the 95th percentile queue is expected to exceed the available storage during both peak hours with a maximum queue of 775 feet per lane under cumulative plus project conditions without the new roadway connection. The dual left-turn lanes could be extended to accommodate the 95th percentile queue by modifying the existing landscaped median. A second northbound left-turn lane is not required to address the projects effects on level of service under cumulative plus project conditions with the new roadway connection to Mission College Boulevard. Nevertheless, it is recommended under this scenario as well to prevent operational issues associated with queues overflowing the left-turn pocket and impeding traffic in the adjacent through lane.

Under existing conditions, the eastbound approach has only a single lane that is shared by all movements. Thus, the queuing analysis is based on the total eastbound approach volume including all turn movements. The trips associated with the PHDSP Area development are expected to cause the queue on eastbound Old Glory Lane to extend beyond the upstream intersection at Old Ironsides Drive both with and without the proposed new roadway connection to Mission College Boulevard. The addition of a separate eastbound right-turn lane is recommended to help alleviate the queueing issue on Old Glory Lane. Furthermore, as described in the previous chapters, installation of a new traffic signal is recommended at the Old Ironsides/Old Glory intersection. The new signal should be closely coordinated with the existing signal at the Great America/Old Glory intersection to avoid gridlock.

Great America Parkway and Tasman Drive – Northbound, Eastbound and Westbound Left Turn

The traffic volumes for all movements at this intersection are expected to be the same with or without the proposed new roadway connection to Mission College Boulevard. Thus, the queuing analysis results for this intersection presented in Table 29 would apply both with and without the roadway connection and are not repeated in Table 30.

While the 95th percentile queue at the northbound left-turn movement currently exceeds the available storage, the 2040 traffic volumes do not expect an increase in the traffic volume making this movement. The left-turn lanes could be extended to accommodate the existing queue length if the northbound left-turn queues cause operational issues.

The existing storage capacity for the eastbound dual left-turn lanes on Tasman Drive (290 feet per lane) is sufficient under existing conditions. The proposed development of the PHDSP Area and the

Kylli project are expected to cause maximum queues of up to 625 feet per lane. The turn lanes cannot be extended due to presence of light rail in the median and right-of-way constraints.

The westbound left-turn queue is expected to grow from 300 feet per lane in two lanes under existing conditions to as much as 400 feet per lane in three lanes in the Year 2040 during the AM peak hour. The left-turn pocket could be extended from the existing length of 270 feet to 425 feet by modifying the existing landscaped median.

Tasman Drive and Patrick Henry Drive – Westbound and Northbound Left Turn

Under existing conditions, the westbound left-turn queue can be accommodated within the existing turn pocket storage. However, in the Year 2040, the trips associated with the PHDSP Area and other nearby developments are expected to cause the left-turn queue on westbound Tasman Drive to extend up to 250 feet, which would exceed the existing turn pocket length by 20 feet, which is approximately one vehicle length. Thus, queuing issues at this location would occur only rarely and do not warrant the expense of extending the turn pocket. The queuing analysis results for this turning movement are the same with or without the proposed new roadway connection to Mission College Boulevard.

The northbound left-turn lanes are each only about 140 feet long, which is sufficient for the maximum queue of 75 feet under existing conditions. The projected 2040 traffic volumes are expected to result in 95th percentile queues of up to 550 feet with the new roadway connection and 725 feet without the connection. Extending the existing turn lanes may require right of way dedication when the Kylli site is developed. Furthermore, the Kylli development should avoid locating driveways or internal roadways in close proximity to the Tasman/Patrick Henry intersection to avoid issues with queue spillback.

Tasman Drive and Old Ironsides Drive – Northbound and Westbound Left Turn

Currently, there is only a single left-turn lane approximately 150 feet long on westbound Tasman Drive at Old Ironsides Drive. Over 1,000 vehicles are expected to make this left turn by the Year 2040 in the AM peak hour due to the development of the PHDSP Area and the Kylli project resulting in a 95th percentile queue over 1,000 feet in the AM peak hour both with or without the proposed new roadway connection to Mission College Boulevard. Adding a second westbound left-turn lane is not feasible because it would require the acquisition of additional right of way along the north side of Tasman Drive. However, the existing left-turn lane could be extended by modifying the landscaped median. Due to the proximity of the Great America/Tasman intersection, the westbound left-turn lane could not be extended to a length of more than 450 feet per lane.

In the Year 2040, the trips associated with the PHDSP Area and other nearby developments are expected to cause the left-turn queue on northbound Old Ironsides Drive to extend beyond the dedicated turn lane striping, which is only about 100 feet in length. Beyond this point, the median is striped as a two-way left-turn lane, and also serves southbound left-turn traffic turning into an adjacent parcel. With the proposed new roadway connection to Mission College Boulevard, the projected 95th percentile queue length is estimated to be 225 feet, which would not leave any space for southbound vehicles to queue in the median while waiting to turn into the nearby driveway. The driveway could be restricted to right turns only if significant operational issues develop. Without the proposed new roadway connection, the 95th percentile queue length would be even longer (approximately 300 feet), which would extend to the upstream driveway.

Great America Parkway and SR 237 Westbound Ramps – Northbound Left Turn

The traffic volumes for all movements at this intersection are expected to be the same with or without the proposed new roadway connection to Mission College Boulevard. Thus, the queuing analysis results for this intersection presented in Table 29 would apply both with and without the roadway connection and are not repeated in Table 30.

The existing storage capacity for the northbound left-turn lane on Great America Parkway is approximately 210 feet, or 8 vehicles per lane. The traffic growth expected by the Year 2040 is estimated to result in a 95th percentile queue length of 325 feet per lane. The left-turn storage cannot be increased because the turn lanes extend to the upstream intersection at the SR 237 Eastbound Ramps.

Signal Warrant Analysis

The study evaluated two unsignalized T-intersections: Old Ironsides Drive/Old Glory Lane and Old Ironsides Drive/Patrick Henry Drive. The Old Ironsides Drive/Old Glory Lane intersection is stop controlled for the westbound Old Glory Lane approach. The Old Ironsides Drive/Patrick Henry Drive intersection is stop controlled on the southbound Old Ironsides Drive approach. Under project conditions, the parcel on the south side of Patrick Henry Drive, opposite to Old Ironsides Drive, is assumed to redevelop and have a driveway that will create a new south leg so that the intersection will have four legs with the proposed project and only three legs without the project. It was assumed that the intersection would include a single shared approach lane on the south leg. The north leg will be re-striped with one left-turn lane and one shared through/right-turn lane.

The level of service analysis (see Chapters 2 to 5) shows that both intersections would operate at unacceptable levels (LOS E or F) during at least one peak hour with development of the PHDSP Area under both Options 1 and 2 in 2030 and in 2040. In the year 2030, the intersection of Old Ironsides Drive and Old Glory Lane would not meet the signal warrant with either PHDSP development option under the scenarios with the new roadway connection to Mission College Boulevard and would meet the signal warrant with either PHDSP development option under the scenarios without the new roadway connection to Mission College Boulevard. In the Year 2040, this intersection would satisfy the signal warrant under every scenario including the No Project scenario both with and without the proposed roadway connection to Mission College Boulevard. The intersection of Old Ironsides Drive and Patrick Henry Drive is expected to meet the peak hour signal warrant with development of the PHDSP Area under all project scenarios (under both Options 1 and 2, in the Year 2030 and 2040, with and without the new roadway connection). The signal warrant calculations are included in Appendix D. Ultimately, it is expected that signalization will be required at both intersections to accommodate the traffic associated with the Patrick Henry Drive Specific Plan Area and other nearby developments such as the Kylli project.

Internal Vehicular Circulation

A grid system of new streets will be implemented within the PHDSP Plan Area to provide vehicular connections between parking garages in the Plan Area and Patrick Henry Drive and Old Ironsides Drive. Three new street connections (A Street, B Street, and C Street) are planned on Patrick Henry Drive and two new street connections (A Street and E Street) are planned on Old Ironsides Drive as shown on Figure 18. A new street connection (F Street) is also proposed between Patrick Henry Drive and Mission College Boulevard.

Two potential alignments of F Street that coincide with existing parcel boundaries were considered. The western alignment would be located approximately 200 feet east of B Street and 400 feet west of C Street, while the eastern alignment would be roughly 100 feet east of C Street and 550 feet west of Old Ironsides Drive. The proximity between C Street and the eastern alignment of F Street would cause operational issues as the spacing is too close to allow the two intersections to operate independently, yet the offset would preclude simultaneous left turns on the north and south legs necessitating split-phase operation, which is generally less efficient. Furthermore, the traffic volumes on Patrick Henry Drive and on Mission College Boulevard increase as you move east resulting in a higher volume of

conflicting movements for intersections at the eastern alignment. Thus, the western alignment is preferable and was assumed in this analysis.

The new roadway connection would require the consent of Mission College as it would connect to a private roadway controlled by the College. Because it is uncertain if the College will consent to this new roadway connection, cumulative traffic conditions also were analyzed without this new roadway connection.

Intersection Operations with the Connection to Mission College Boulevard

Figure 20 presents the recommended lane configurations and traffic control for the new intersections with the proposed new roadway connection to Mission College Boulevard. With the exception of F Street, the new streets internal to the Plan Area would be used only by trips to and from PHDSP parcels. Thus, the traffic volumes on the new internal streets are anticipated to be low. Therefore, new intersections internal to the PHDSP Plan Area will be stop controlled and have one lane on each approach.

The new intersections on Patrick Henry Drive, Old Ironsides Drive, and Mission College Boulevard will have traffic associated with the PHDSP Plan Area and other nearby developments such as the Kylli project as described in the previous chapters. The analysis of traffic operations with the proposed new Mission College Boulevard Connection shows that the intersections of F Street and Patrick Henry Drive, F Street and Mission College Boulevard, Patrick Henry Drive and A Street, and Old Ironsides Drive and E Street would meet signal warrants under cumulative plus project conditions under both PHDSP Option 1 and Option 2. These intersections would operate at an unacceptable level of service as single lane roundabouts and are recommended to be signalized. Exclusive left-turn pockets are recommended on the collector street approaches (on Patrick Henry Drive and on Old Ironsides Drive) while shared turn lanes are recommended at most new local street approaches at these intersections. A separate left-turn lane is recommended at the westbound approach of Old Ironsides Drive and E Street. A dual westbound left turn is recommended at the intersection of F Street and Patrick Henry Drive for it to operate acceptably. This will require widening of a short segment of Patrick Henry Drive. Additionally, due to the proximity of B Street to F Street, it is recommended that turns to and from B Street at Patrick Henry Drive be limited to right turns only. This turn restriction is expected to divert traffic from southbound B Street to either the westbound left turn at the intersection of Patrick Henry Drive and A Street or the southbound right and left-turn movements at the intersection of C Street and Patrick Henry Drive.

The traffic volumes forecast under cumulative plus project conditions for PHDSP Option 1 and Option 2 are shown on Figures 21 and 22, respectively. The forecasts reflect the recommended turn restriction at B Street and the resulting traffic diversions. The forecasts show that in the Year 2040, the new street connection between Patrick Henry Drive and Mission College Boulevard would serve approximately 1,800-1,900 vehicles (60 percent northbound and 40 percent southbound) in the AM peak hour and 2,900-3,000 vehicles (35 percent northbound and 65 percent southbound) in the PM peak hour. The heavy traffic volume forecast on this new roadway reflects broad usage by trips to both the PHDSP Area and the proposed Kylli development as well as a diversion of cumulative no project traffic from other routes.

Table 31 presents the results of the level of service analysis for the proposed new intersections on Patrick Henry Drive, Old Ironsides Drive, and Mission College Boulevard. Unlike the level of service results in the previous chapter and the volumes shown on Figures 21 and 22, which do not reflect any trip reductions for TDM, the level of service analysis of internal intersections reflects a 10 percent reduction in trips due to TDM, as required by the City's Climate Action Plan. All of the proposed new internal intersections, both signalized and stop-controlled, would operate at an acceptable LOS D or better during both the AM and PM peak hours. While delays for some stop-controlled movements on

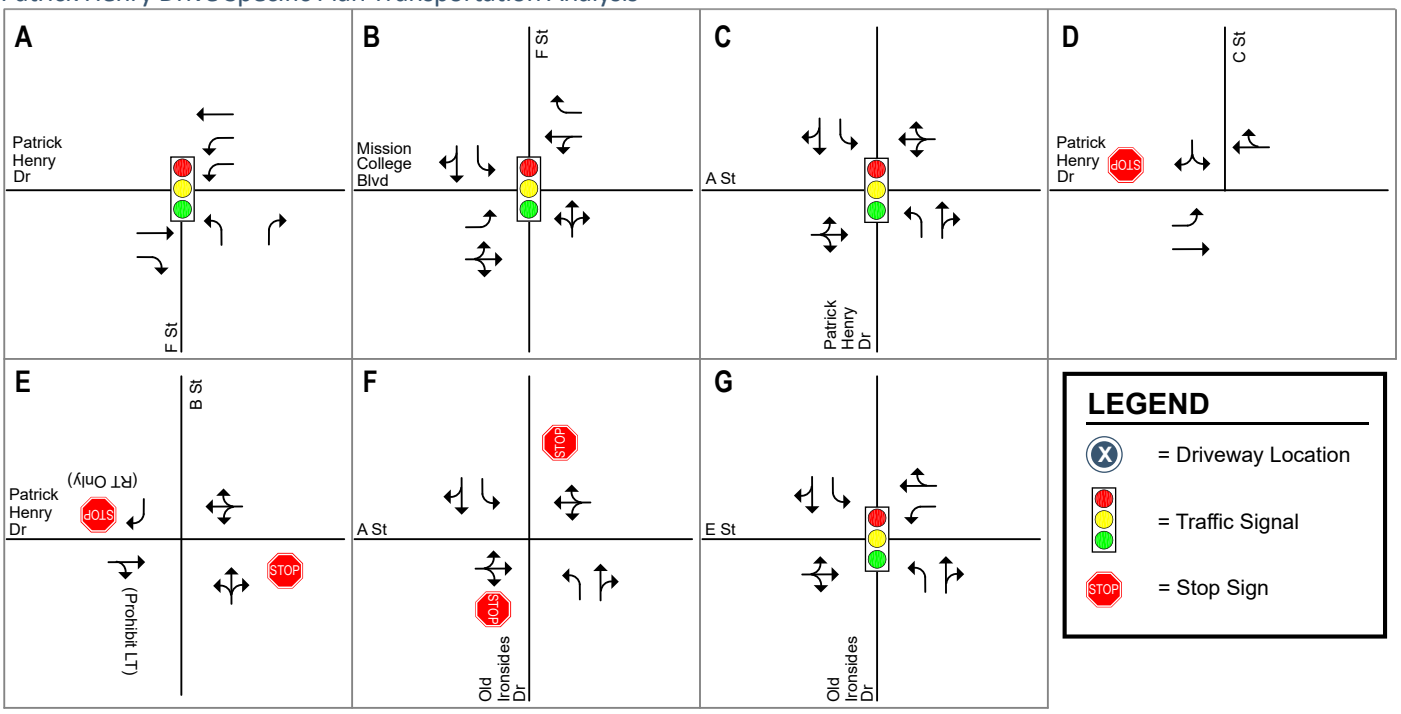
the minor street approaches would exceed 35 seconds, which is the LOS D/E threshold, the planned grid network would allow residents to use the internal street connections to travel to one of the signalized access points to avoid waiting at a stop-controlled approach during peak periods. Furthermore, the proposed new signals would create gaps in the traffic flow on Patrick Henry Drive and on Old Ironsides Drive facilitating turns to and from unsignalized driveways.

Signal warrant and level of service calculations are provided in Appendix E.

Table 31
Level of Service Analysis for New Street Connections

				With Mission College Blvd Connection				Without Mission College Blvd Connection			
				Option 1		Option 2		Option 1		Option 2	
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)*	LOS	Avg. Delay (sec)*	LOS	Avg. Delay (sec)*	LOS	Avg. Delay (sec)*	LOS
A	F Street and Patrick Henry Drive	AM	Signal	22.8	C	21.2	C	--	--	--	--
		PM		53.9	D	46.5	D	--	--	--	--
B	F Street and Mission College Boulevard	AM	Signal	43.8	D	42.2	D	--	--	--	--
		PM		55.0	D	46.0	D	--	--	--	--
C	Patrick Henry Drive and A Street	AM	Signal[1]	16.0	B	16.2	B	16.6	B	16.1	B
		PM		17.8	B	16.8	B	16.4	B	16.5	B
D	C Street and Patrick Henry Drive	AM	TWSC	2.6	A	2.5	A	0.4	A	0.4	A
		PM		8.4	A	13.7	B	0.1	A	0.1	A
E	B Street and Patrick Henry Drive	AM	TWSC	1.2	A	1.3	A	2.3	A	2.5	A
		PM		0.8	A	0.7	A	2.8	A	2.4	A
F	Old Ironsides Drive and A Street	AM	TWSC	1.6	A	0.9	A	1.4	A	2.1	A
		PM		1.2	A	1.9	A	1.9	A	2.5	A
G	Old Ironsides Drive and E Street	AM	Signal	28.6	C	38.7	D	29.2	C	45.4	D
		PM		41.9	D	38.8	D	38.9	D	48.0	D

Note:
TWSC = Two-Way Stop Control
[1] A single-lane roundabout may be constructed as an alternative to a signal under without Mission College Boulevard connection scenario.
Bold indicates a substandard level of service.



NOTE: New intersections within the PHDSP Area will be stop controlled and have one lane on each approach unless shown otherwise on this figure.

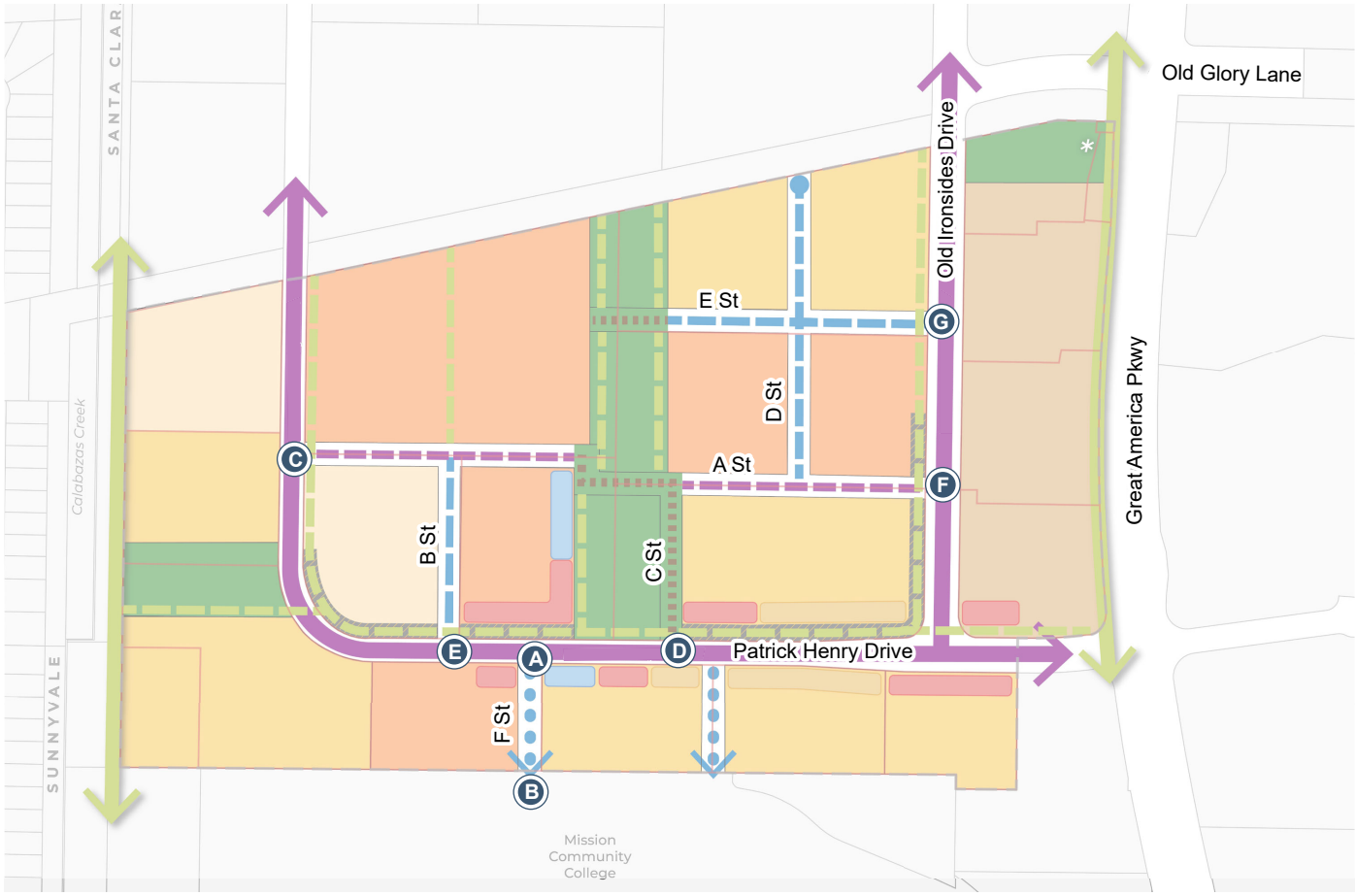
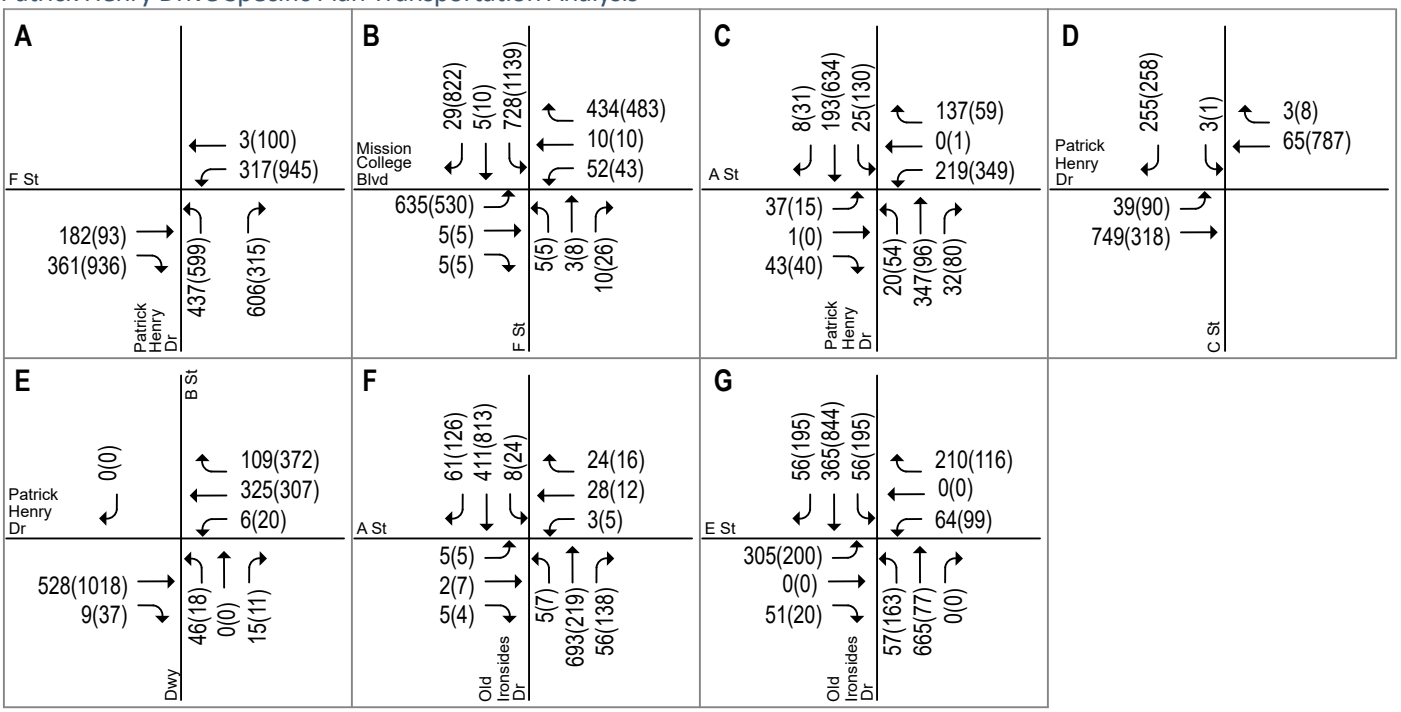
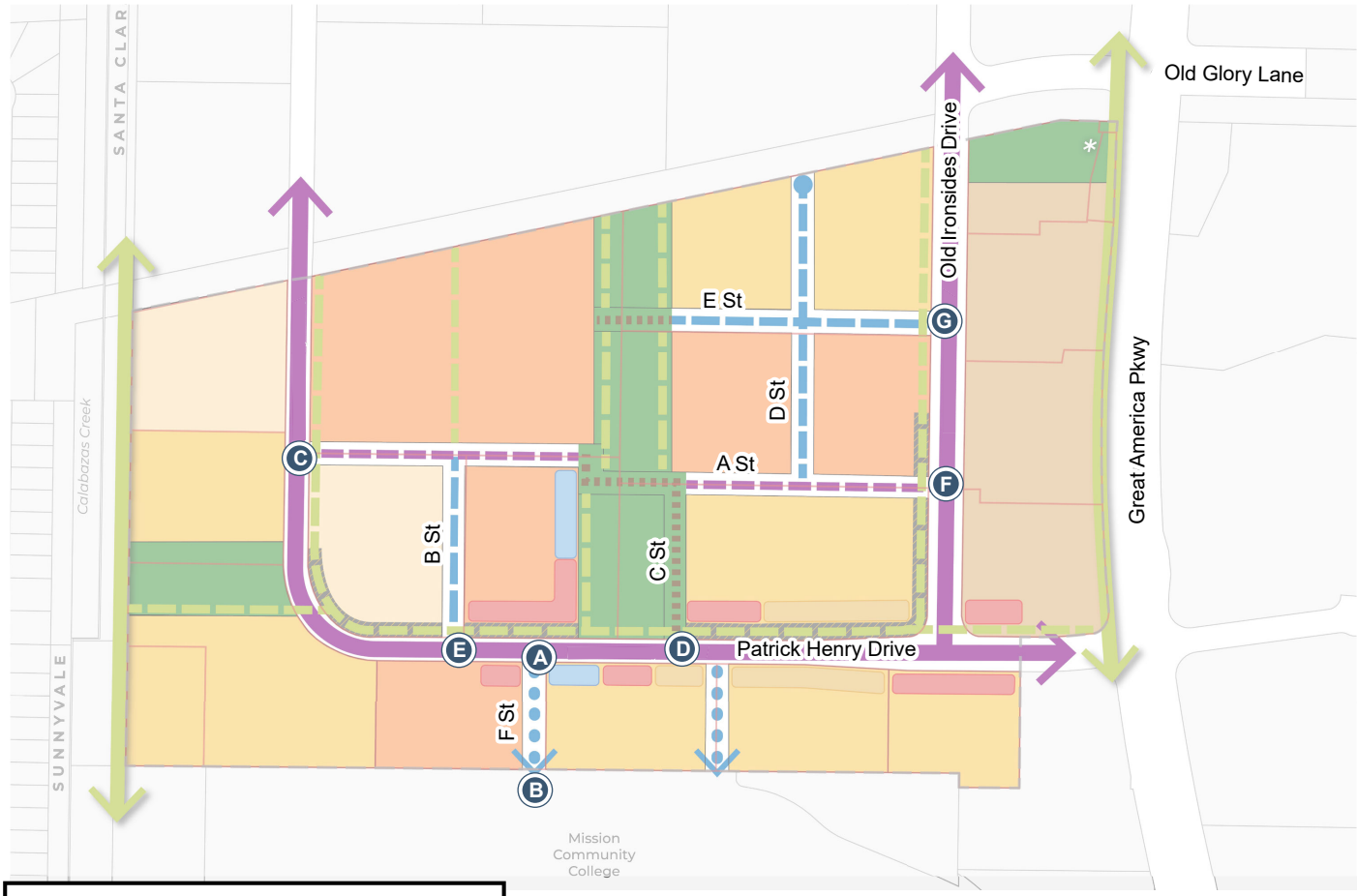


Figure 20
Recommended Lane Configurations at New Intersections within the PHDSP Area with Mission College Boulevard Connection





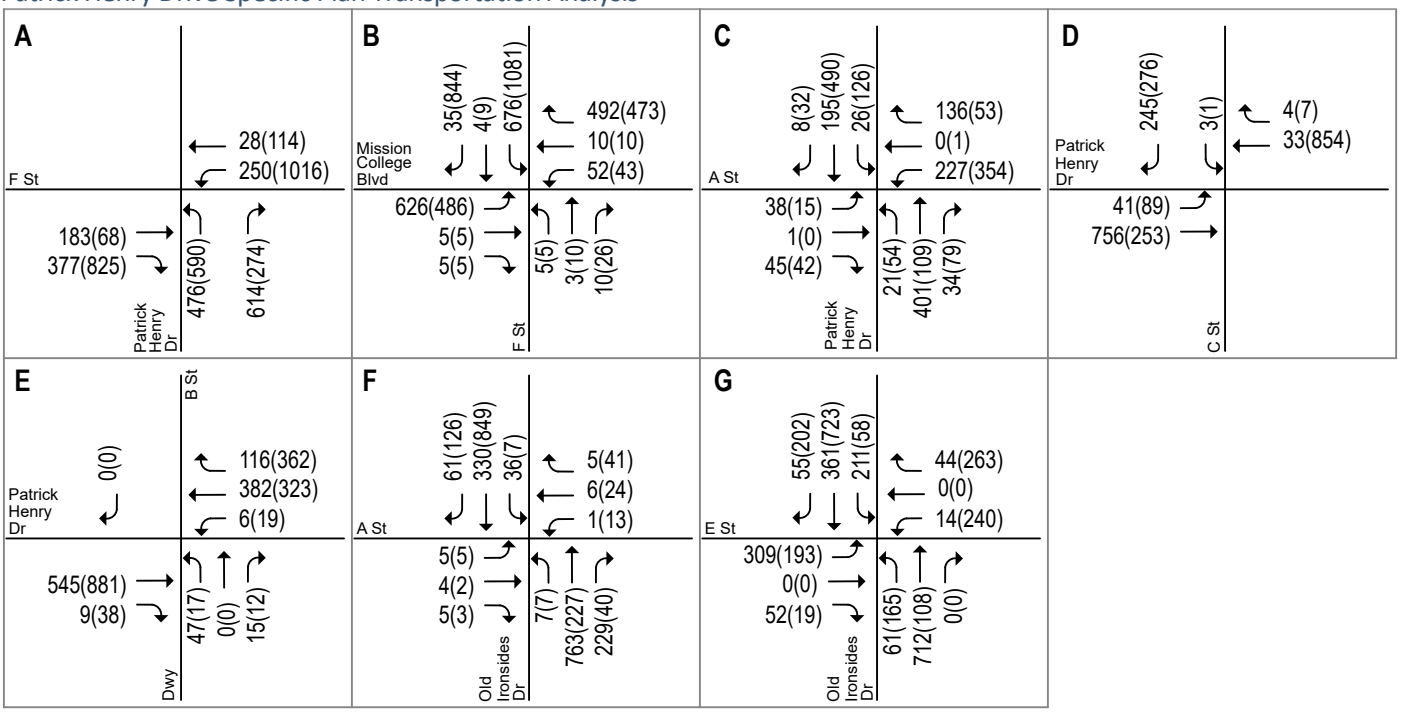
LEGEND

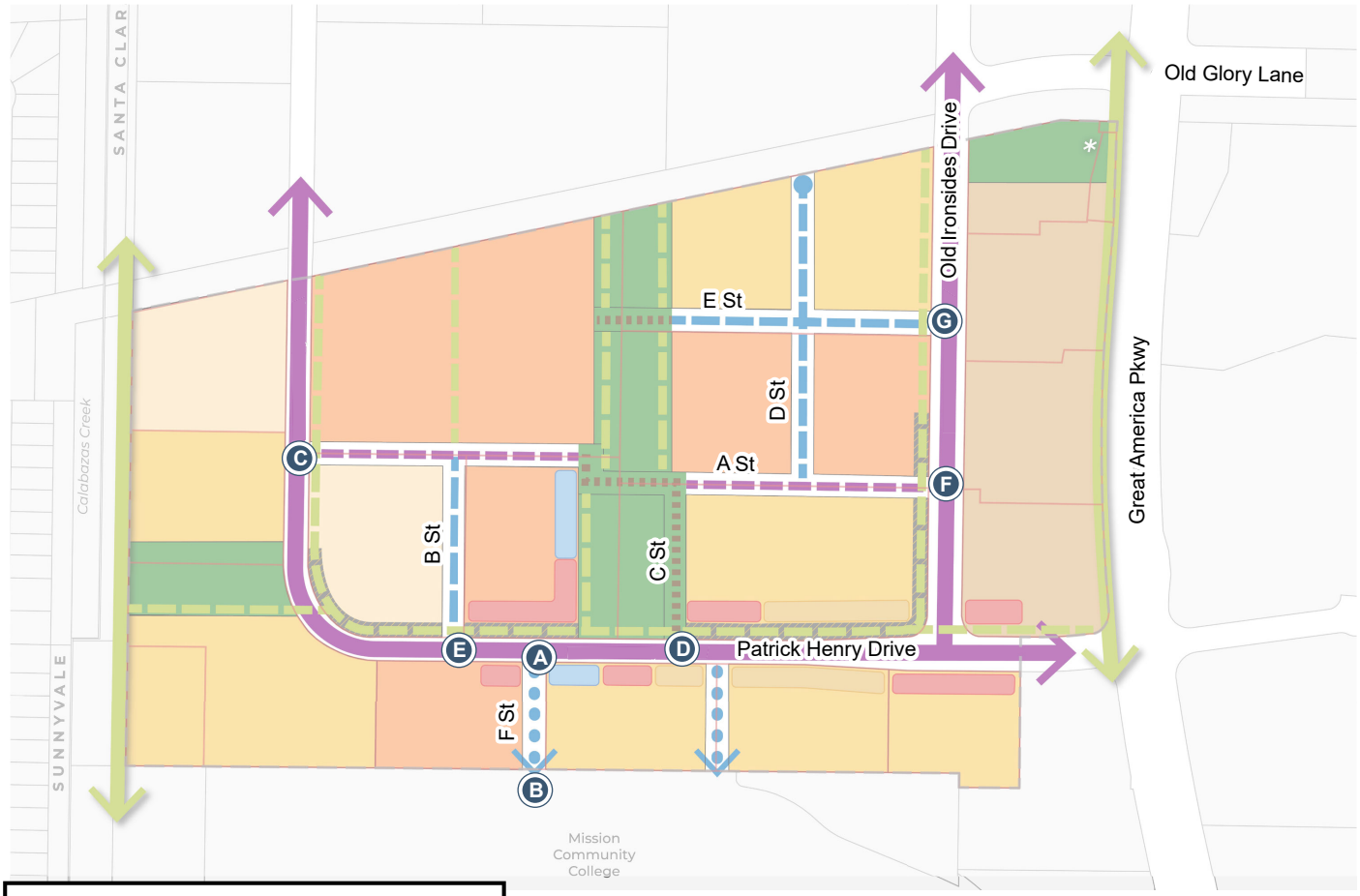
(X) = Driveway Location

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 21
Cumulative Plus Project Traffic Volumes
Option 1 with Mission College Boulevard Connection

NORTH
Not to Scale





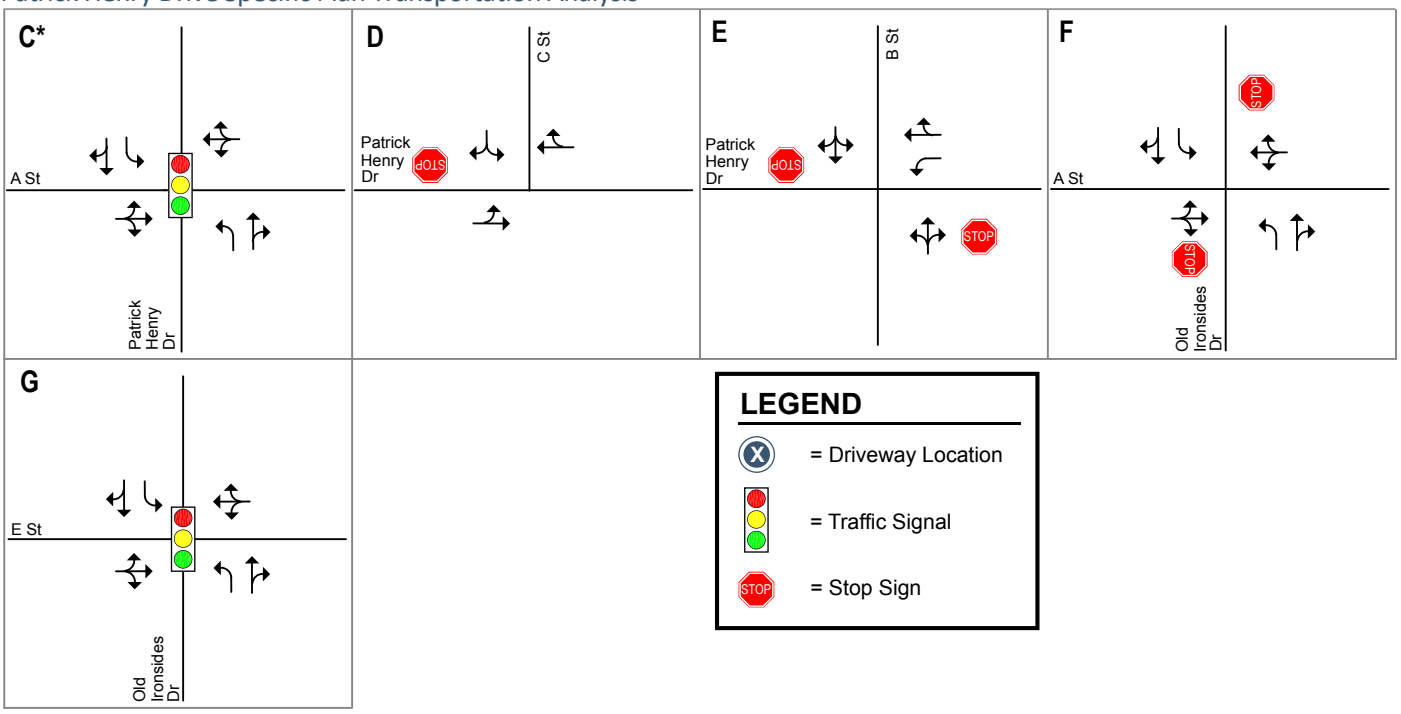
LEGEND

(X) = Driveway Location

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 22
Cumulative Plus Project Traffic Volumes
Option 2 with Mission College Boulevard Connection

NORTH
Not to Scale



NOTE: New intersections within the PHDSP Area will be stop controlled and have one lane on each approach unless shown otherwise on this figure.
*A single-lane roundabout may be constructed as an alternative to a signal.

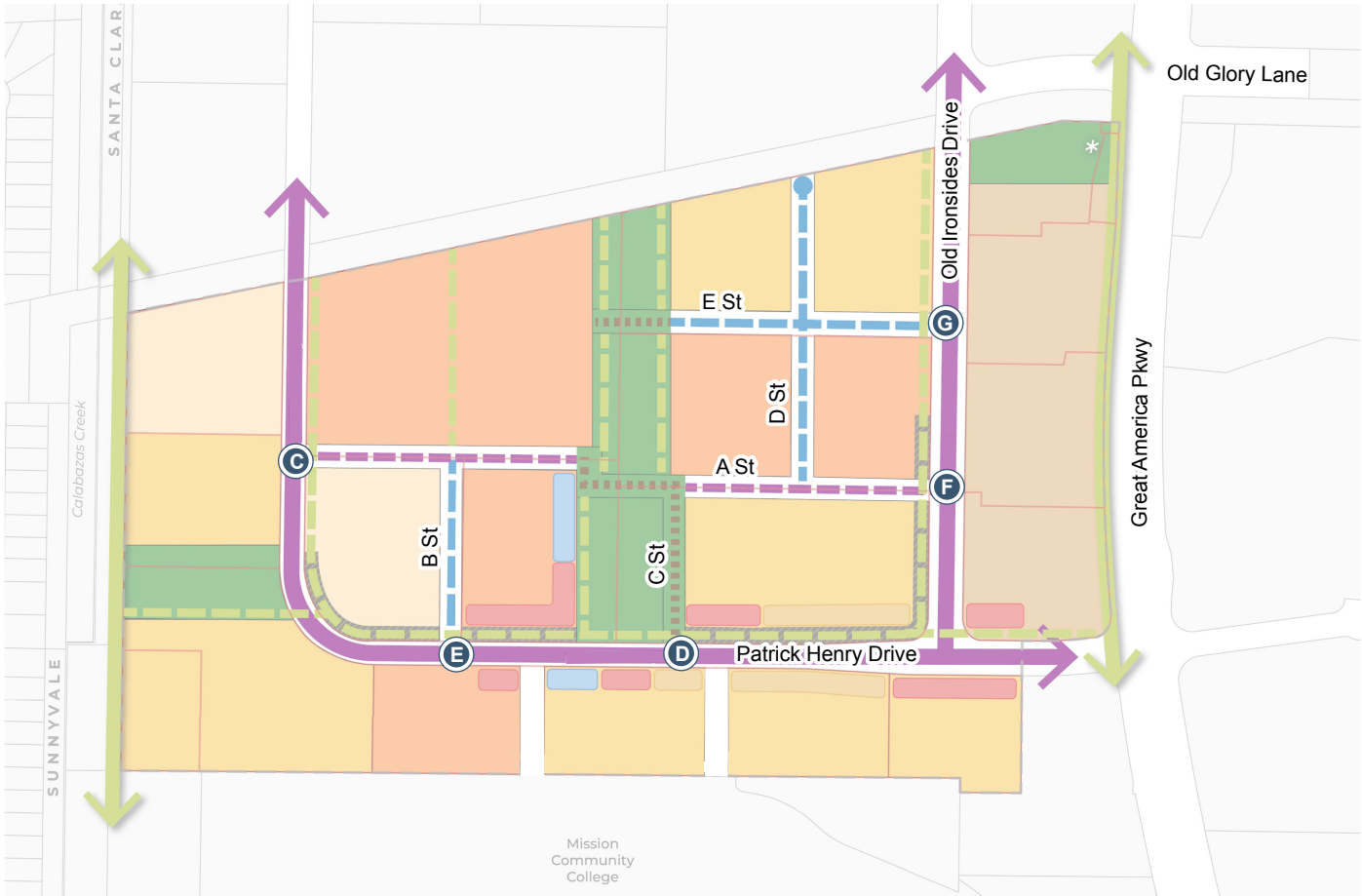
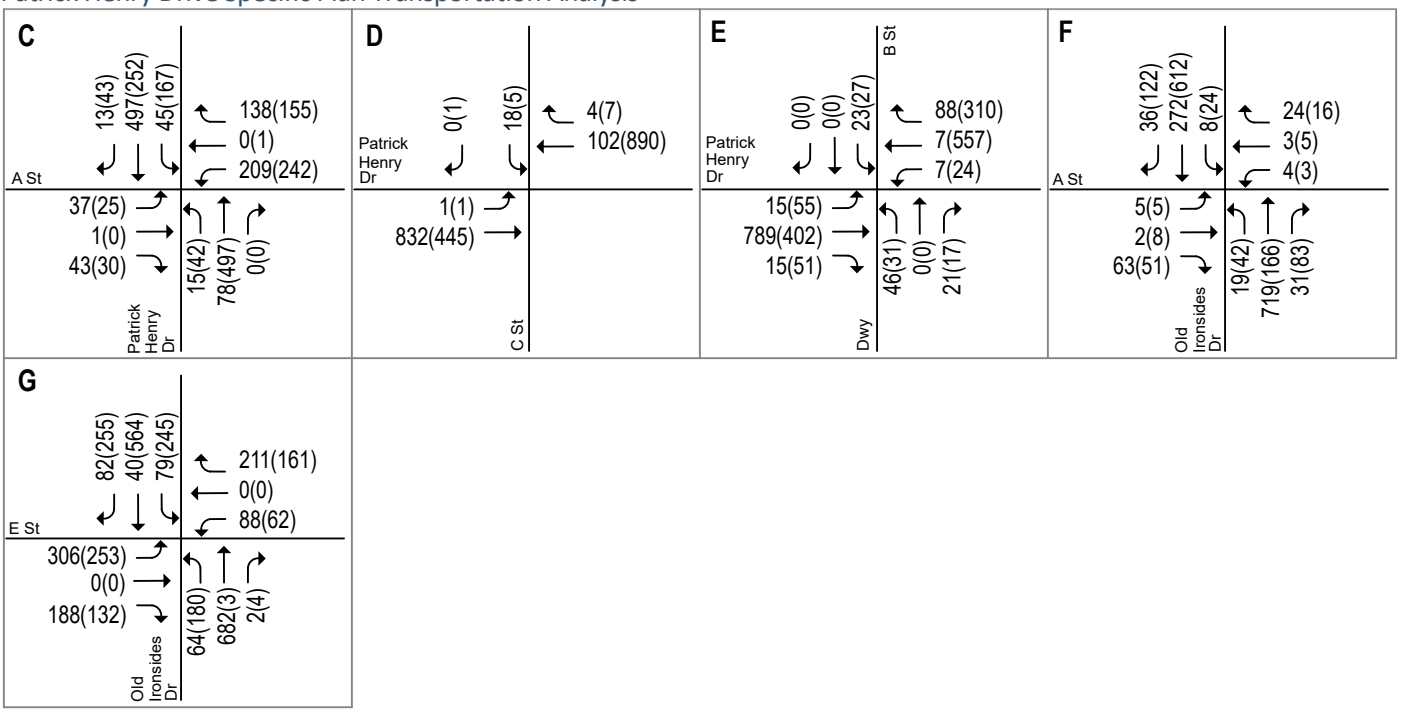
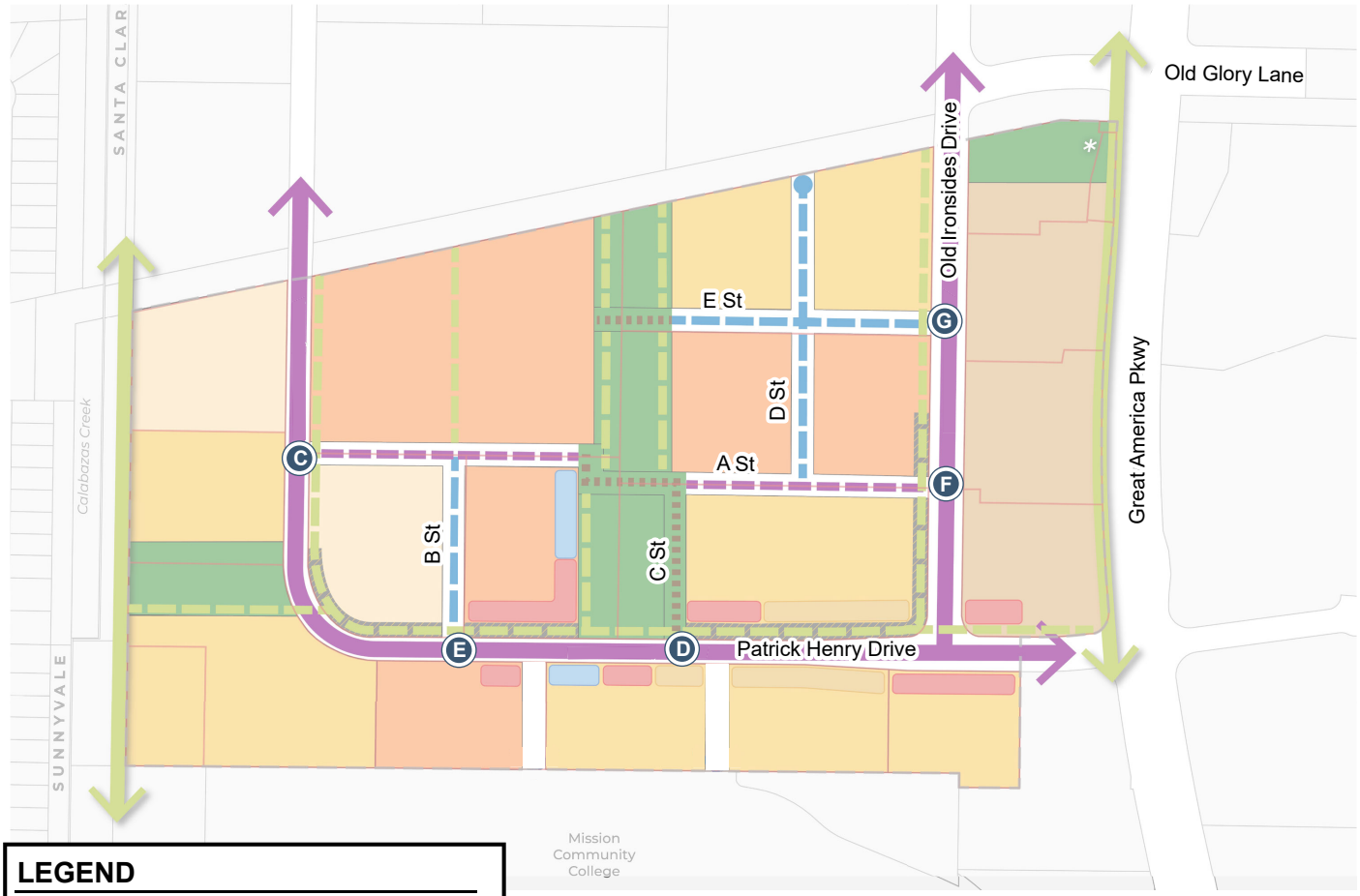


Figure 23
Recommended Lane Configuration at New Intersections within the PHDSP Area without Mission College Boulevard Connection



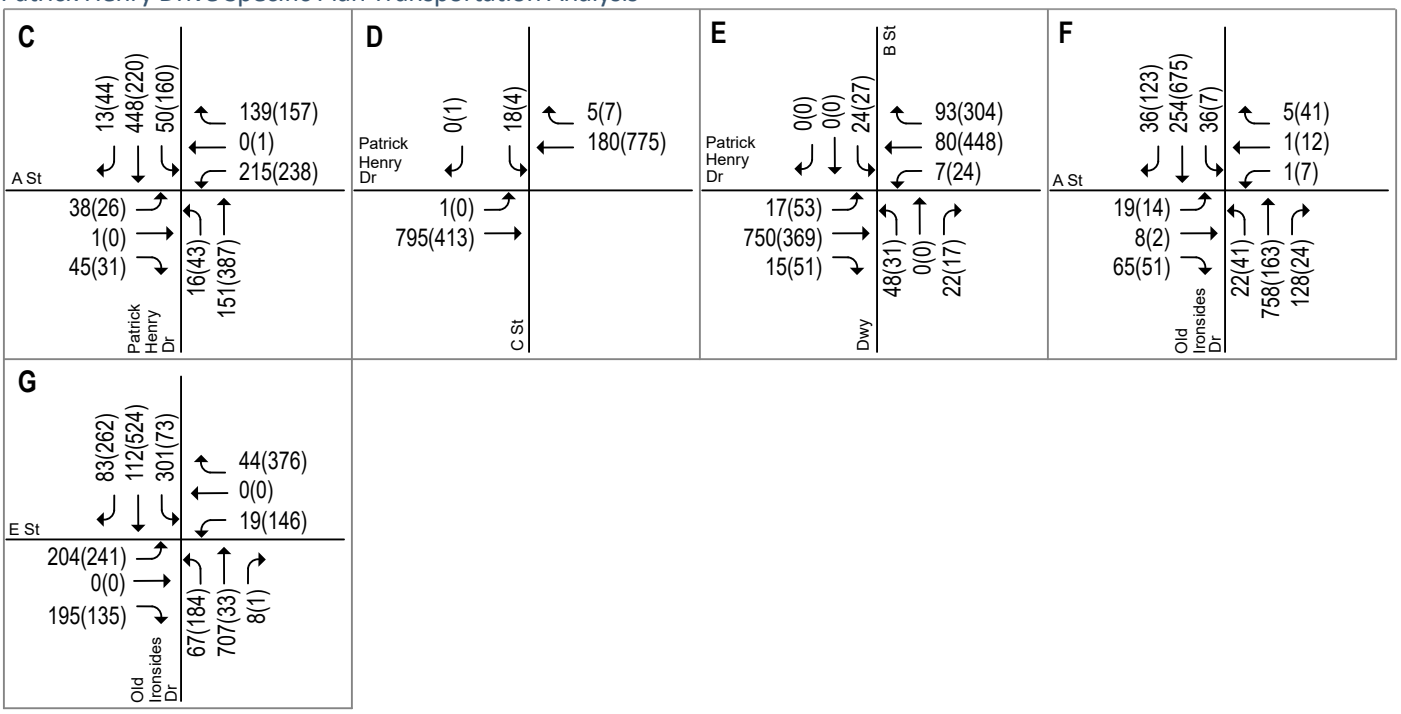


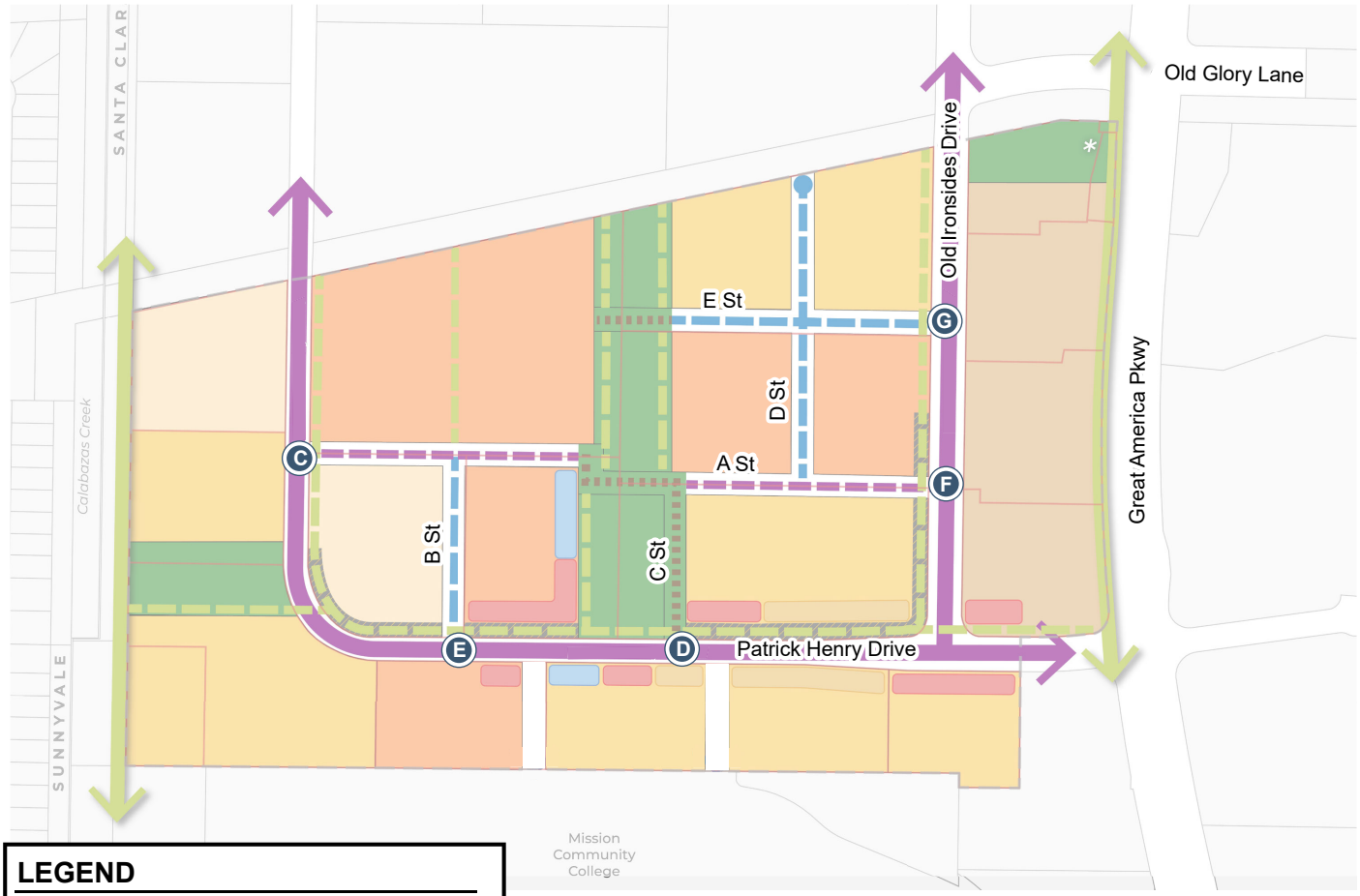
LEGEND

(X) = Driveway Location

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 24
Cumulative Plus Project Traffic Volumes Option 1 without Mission College Boulevard Connection





LEGEND

X = Driveway Location

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 25
Cumulative Plus Project Traffic Volumes Option 2 without Mission College Boulevard Connection

Hazards and Emergency Access

Detailed site plans are not yet available to allow for the review of design details to assess if any design features pose a hazard or affect emergency access. All internal streets, sidewalks, driveways, traffic control devices, and other transportation infrastructure should be designed to meet applicable standards for safety. All driveway and drive aisles on-site should comply with the City requirement for emergency vehicle access. Future development applications within the PHDSP area would be subject to the City of Santa Clara process for site plan review to ensure the adequacy of circulation patterns.

Effects on Pedestrians, Bicycles, and Transit Facilities

The following sections describe the potential impact of the project on pedestrian, bicycle, and transit facilities and services. Impacts are identified based on the significance criteria as described below.

Significance Criteria

Significant impacts to pedestrian or bicycle facilities would occur when a project or an element of the project:

1. Creates a hazardous condition that does not currently exist for pedestrians and bicyclists, or otherwise interferes with pedestrian accessibility to the site and adjoining areas; or
2. Conflicts with an existing or planned pedestrian or bicycle facility; or
3. Conflicts with policies related to bicycle and pedestrian activity adopted by the City of Santa Clara.

Significant impacts to transit service would occur if the project:

1. Disrupts existing transit services or facilities; or
2. Conflicts with an existing or planned transit facility; or
3. Conflicts with transit policies adopted by the City of Santa Clara or VTA.

Pedestrian Facilities

The project would result in a substantial improvement to pedestrian facilities. Currently portions of Patrick Henry Drive and Old Ironsides Drive lack sidewalks. Sidewalks would be added in these sections and would be improved at sections where they are currently present. The intersections of Old Ironsides Drive with Old Glory Lane and with Patrick Henry Drive lack current ADA compliant crosswalks. The same is true at the intersections of Old Glory Lane and Patrick Henry Drive with Great America Parkway. All of these intersections would be upgraded to current ADA standards as part of the project.

The Plan Area currently comprises very large parcels that make walking distances excessive between properties. The plan would implement a grid system of streets that would significantly shorten block lengths and walking distances. All new streets would be designed to comfortably accommodate pedestrians with new continuous sidewalk facilities and high visibility crosswalks at intersections. Some of the new streets would not allow motor vehicles and would be designed only for pedestrians and bicycles.

One of the planned new streets would provide a connection to Mission College, directly to the south of the project. Currently, the only connection to the College from the Plan Area is via Great America Parkway. Continuous sidewalk facilities will be provided along this new street providing easy walking access to the College. Consent will be required from Mission College to build the new connection, and thus, this roadway may not come to fruition.

The Calabazas Creek Trail, which runs directly adjacent to the western edge of the Plan Area also provides access to the College, however, the Plan Area currently does not have any direct connections to the trail. The City of Santa Clara is currently preparing the *Creek Trail Network Expansion Master Plan (Trail Master Plan),* which addresses Saratoga Creek, Hetch Hetchy and Calabazas Creek corridors. The *Trail Master Plan* has identified two locations to access the Calabazas Creek Trail. The first access point is located at the southwest corner of the Plan Area where Mission College Boulevard turns east away from the creek (see Figure 26). The second access point is located in the northwest corner of the Plan Area where the proposed Hetch Hetchy Trail intersects the Calabazas Creek Trail (see Figure 27). The Hetch Hetchy Connector Trail is an off-street east-west trail, which is proposed to run along the northern edge of the Plan Area and to connect north-south trails in Santa Clara County including the Calabazas Creek Trail, San Tomas Aquino Creek Trail, and Guadalupe River Trail. Trail access should be integrated into the Patrick Henry Specific Plans at both of these locations. PHDSP Area developments shall pay a fair share to build both the Hetch Hetchy Trail and Calabazas Creek Trail in order to offset the adverse effects associated with the project at adjacent study intersections as identified in the previous chapter. Furthermore, certain properties within the PHDSP area may be required to dedicate right of way to implement the proposed trail connections. Appendix F presents the details of the preliminary trail alignment plan for both the Hetch Hetchy and Calabazas Creek Trails.

The PHDSP includes a new greenway west of Patrick Henry Drive to connect the Plan Area to the Calabazas Creek Trail. Greenways are also planned along the entire length of Patrick Henry Drive, Old Ironsides Drive, and along the proposed park in the middle of the Plan Area. The north-south greenways and internal streets in the plan area will connect to the Hetch Hetchy Connector Trail along the northern edge of the Plan Area.

The typical destinations for pedestrians are schools, parks, shopping areas, and transit stops. The existing and planned pedestrian network would allow access to all nearby facilities. Parks are planned within the PHDSP area. Additional parks are planned within the Kylli development directly north of the PHDSP area. Retail stores and restaurants are included in the PHDSP and also in the planned Kylli project. The Mercado shopping center is located just over one-half mile south of the PHDSP area and includes movie theaters, restaurants, and some larger stores. Bus stops are currently located within the Plan Area on Patrick Henry Drive and Old Ironsides Drive. Additional bus stops are located on Great America Parkway and Mission College Boulevard. Light rail service is provided along Tasman Drive with the closest station being about ½ mile north of the Plan Area. Thus, most of the daily needs of future residents could be met within walking distance of the planned homes. School access is discussed below.

In summary, the project would have a beneficial impact on pedestrian facilities. It would build several new pedestrian connections, and it is located in an area that is near existing and planned services.

Bicycle Facilities

The area surrounding the PHDSP area has numerous bicycle facilities, including trails and bike lanes. There are north-south trails along Calabazas Creek, San Tomas Aquino Creek, and the Guadalupe River. These trails connect to the Bay Trail on the north edge of Santa Clara. There are east-west bike lanes on Tasman Drive, Mission College Boulevard, and several other streets. There is also a bike and pedestrian bridge over Calabazas Creek on the western edge of the PHSP area that connects to the John W. Christian trail in Sunnyvale.



Figure 26
Calabazas Creek Preliminary Trail Alignment Plan

NORTH
Not to Scale

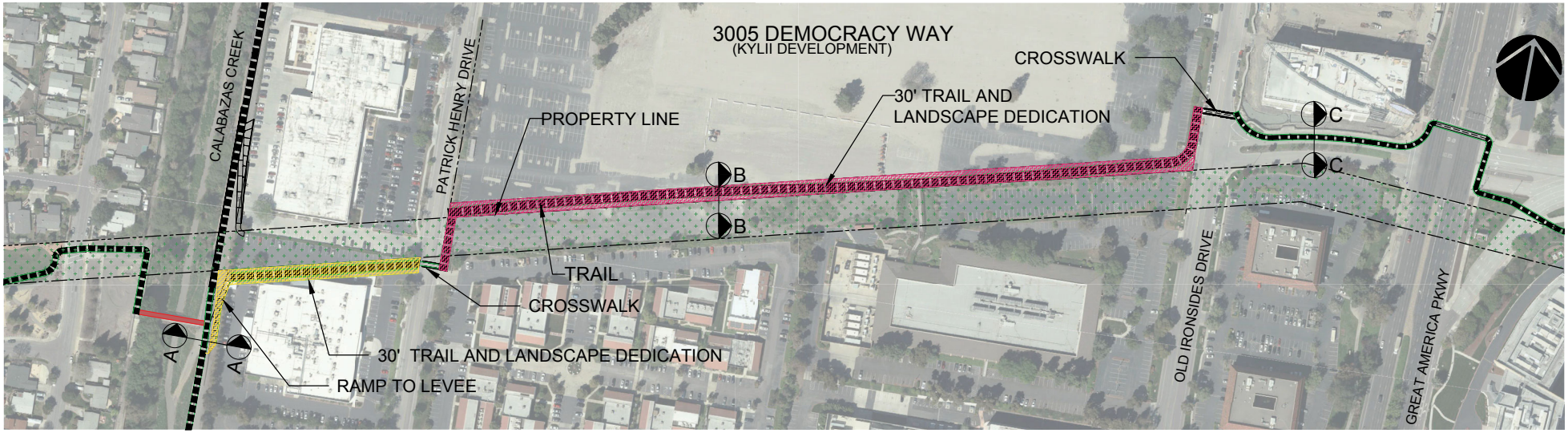


Figure 27
Hetch Hetchy ROW Preliminary Trail Alignment Plan

NORTH
Not to Scale

In addition to recreational riding, there would likely be many future residents of the PHDSP area who would ride to work. There are bike lane and bike trail connections to most surrounding employment areas. Existing employment zones to the north of the project could be reached via bike lanes on Great America Parkway or via the Calabazas Creek trail. Planned employment in the Kylli development is within walking distance. There also is a large amount of employment planned as part of the City Place development. This area could be reached via the bike lanes on Tasman Drive. The same bike lanes on Tasman Drive could be used to reach the employment area in North San José. The Guadalupe River trail could be used to reach downtown San José. Employment areas south of the project site could be reached via the San Tomas Aquino Creek trail or bike lanes on Great America Parkway/Bowers Avenue.

As described above, the PHDSP would add a grid system of streets to the Plan Area, which would enhance bicycle access as well as pedestrian access. Consistent with the City's *Bicycle Master Plan Update 2018*, Class IV protected bike lanes will be provided on Patrick Henry Drive and Old Ironsides Drive within the Plan Area. In addition, the internal streets within the plan area would be designated as Class III bike routes. In summary, the project would have a beneficial impact to bicycle facilities. Also, the PHDSP Area is well situated to take advantage of numerous existing bicycle facilities that provide connections to all likely destinations.

Access to Schools

The PHDSP project would generate an increase in school attendance. The Kylli development also would generate school students and is planning to build an elementary school as part of the project. This school would be within walking distance of the PHDSP residents, and various sidewalks and paths would be provided to get to the school.

The Santa Clara Unified School District does not provide any middle schools or high schools in the close proximity to the PHDSP Area. The nearest schools are several miles away. Given the distance of the schools, no middle school or high school students would be expected to walk, and few students would bicycle. Therefore, students would need to get to school by transit or car.

Transit Services

Existing bus services to the PHDSP Area include an ACE shuttle, which travels on Patrick Henry Drive and Old Ironsides Drive, and three VTA routes along Great America Parkway once regular services resumes. Service is currently limited due to COVID-19. The PHDSP Area is located about one-half mile south of the Old Ironsides light rail station on Tasman Drive, which is about a 10-minute walk. The Plan Area is not served by a Caltrain shuttle. However, VTA route 59 connects to the Santa Clara Caltrain station, and light rail connects to the Mountain View Caltrain station. Both connections are indirect.

The project would not interfere or conflict with existing or planned transit facilities. To the contrary, the project would contribute to grade separation projects at intersections with light rail in the median, HOV type signal improvements that could support future bus rapid transit facilities, and transit signal priority at signalized intersections. While VTA's New Transit Service Plan (2019) does not call for transit service within the PHDSP Area, the Specific Plan would include bus stops along Patrick Henry Drive and Old Ironsides Drive that would allow for shuttle or other micro transit services provided by VTA, a Transportation Management Agency (TMA), or private provider. Thus, the project is expected to have a positive effect on transit services.

Patrick Henry Drive Specific Plan TA

Technical Appendices

April 5, 2021

Appendix A

Land Use Assumptions by Parcels

Patrick Henry Drive Specific Plan Area - Land Use Data Summary by Parcels

Parcel	MF High-RiseDU (unit)	MF Mid-Rise ResDU (unit)	Office (s.f.)	Retail (s.f.)	Library (s.f.)	Community Center (s.f.)	Office Flex (s.f.)	Retail Flex (s.f.)
1		284	-	-	-	-		
2		416	-	-	-	-		
3		889	-	-	-	-		
4		376	-	-	-	-		
5	955		-	32,500	45,000	-		
6	630		-	8,000	-	-		
7		375	-	11,000	-	25,000	6,667	6,667
8		968	-	13,000	-	-	11,667	11,667
9		1,700	785,000	15,500	-	-		
10		375	-	-	-	-	11,667	11,667
11		296	-	20,000	-	-		
12	2,259		-	50,000	-	-		
13	1,239	1,239	-	-	-	-		
Total-Option1	**5,083**	**6,918**	**-**	**150,000**	**45,000**	**25,000**	**30,000**	**30,000**
Total-Option2	**5,083**	**5,218**	**785,000**	**150,000**	**45,000**	**25,000**	**30,000**	**30,000**

Patrick Henry Drive Specific Plan Area - Land Use Data Summary by Options

	OPTION 1 Total SF/DU	OPTION 2 Total SF/DU
MF High-RiseDU	5,083	5,083
MF Mid-RiseDU	6,918	5,218
Office	30,000	815,000
Retail	180,000	180,000
Library	45,000	45,000
Community Center	25,000	25,000
Flex Residential Amenity	30,000	30,000

Appendix B

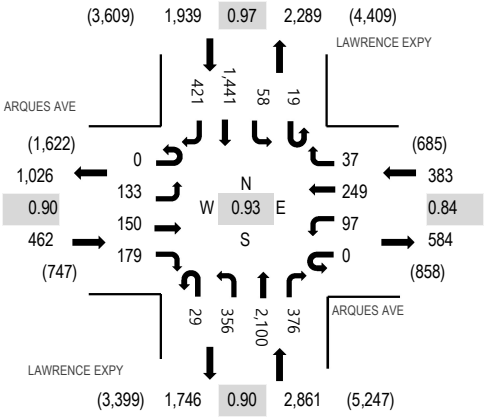
Traffic Counts

All Traffic Data Services Inc.

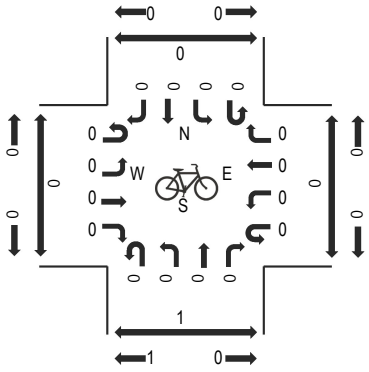
(303) 216-2439
www.alltrafficdata.net

Location: 1 LAWRENCE EXPY & ARQUES AVE AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

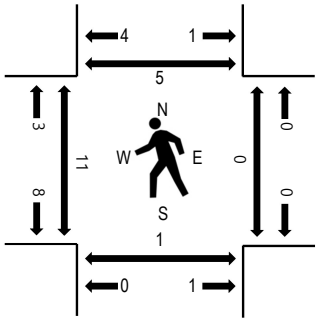
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	ARQUES AVE Eastbound				ARQUES AVE Westbound				LAWRENCE EXPY Northbound				LAWRENCE EXPY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	13	12	20	0	19	26	8	3	49	358	26	4	4	305	30	877	4,643	0	0	0	0
7:15 AM	0	40	18	26	0	25	38	5	1	53	426	36	8	8	366	34	1,084	5,090	1	0	0	0
7:30 AM	0	29	13	35	0	27	53	9	2	63	518	51	3	7	350	56	1,216	5,374	0	0	0	0
7:45 AM	0	30	19	30	0	21	60	11	7	72	651	70	7	10	416	62	1,466	5,595	0	0	0	0
8:00 AM	0	27	37	35	0	31	57	13	6	78	476	89	4	21	370	80	1,324	5,645	2	0	1	1
8:15 AM	0	33	44	36	0	21	57	9	7	90	501	103	8	10	348	101	1,368		5	0	0	3
8:30 AM	0	44	33	45	0	21	54	6	8	74	561	93	3	17	368	110	1,437		1	0	0	0
8:45 AM	0	29	36	63	0	24	81	9	8	114	562	91	4	10	355	130	1,516		3	0	0	1

Peak Rolling Hour Flow Rates

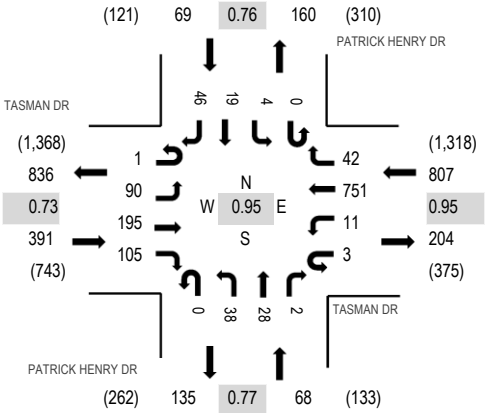
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	1	0	0	2	0	0	0	1	15	0	0	1	16	1	39
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	120	147	162	0	93	242	37	29	354	2,046	373	19	55	1,367	415	5,459
Mediums	0	11	2	17	0	2	7	0	0	1	39	3	0	2	58	5	147
Total	0	133	150	179	0	97	249	37	29	356	2,100	376	19	58	1,441	421	5,645

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

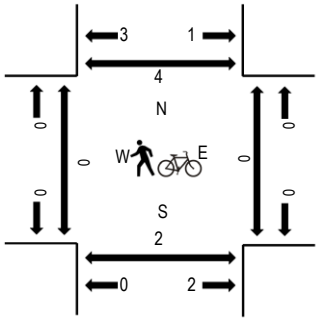
Location: 40 PATRICK HENRY DR & TASMAN DR AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				PATRICK HENRY DR Northbound				PATRICK HENRY DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	5	28	12	0	1	78	10	0	11	2	0	0	0	3	2	152	986	0	0	0	0
7:15 AM	0	15	31	14	1	5	109	14	0	17	6	0	0	1	1	7	221	1,124	0	0	1	0
7:30 AM	0	24	54	23	0	1	120	15	0	9	4	0	0	2	2	10	264	1,249	1	0	1	2
7:45 AM	0	21	53	34	0	1	194	7	0	16	6	0	0	1	4	12	349	1,335	0	0	2	2
8:00 AM	1	17	39	18	1	3	182	10	0	4	5	1	0	1	3	5	290	1,329	0	0	0	0
8:15 AM	0	23	50	27	0	4	183	10	0	12	12	0	0	0	5	20	346		0	0	0	0
8:30 AM	0	29	53	26	2	3	192	15	0	6	5	1	0	2	7	9	350		0	0	0	1
8:45 AM	0	39	50	57	3	6	140	8	0	8	8	0	0	1	2	21	343		1	0	1	2

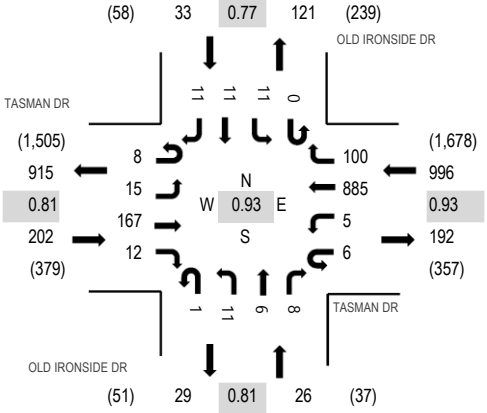
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	3
Lights	1	90	184	100	3	11	723	38	0	36	27	2	0	4	18	39	1,276
Mediums	0	0	11	5	0	0	26	4	0	2	1	0	0	0	1	6	56
Total	1	90	195	105	3	11	751	42	0	38	28	2	0	4	19	46	1,335

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

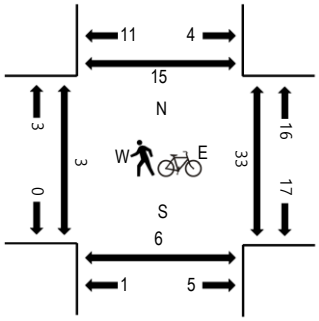
Location: 41 OLD IRONSIDE DR & TASMAN DR AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				OLD IRONSIDE DR Northbound				OLD IRONSIDE DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	2	1	22	2	0	0	106	12	0	0	2	1	0	2	2	0	152	947	0	0	0	1
7:15 AM	1	1	28	1	0	1	146	28	0	1	2	0	0	2	1	5	217	1,076	0	4	1	3
7:30 AM	3	0	50	0	3	3	150	22	0	0	0	1	0	2	2	5	241	1,163	3	6	1	6
7:45 AM	4	4	41	4	2	0	241	25	0	4	0	2	0	3	3	4	337	1,257	0	4	3	6
8:00 AM	0	1	35	2	1	1	203	18	0	4	0	3	0	3	4	6	281	1,205	3	9	2	3
8:15 AM	2	3	44	1	1	3	207	31	0	3	4	1	0	2	2	0	304		0	9	1	3
8:30 AM	2	7	47	5	2	1	234	26	1	0	2	2	0	3	2	1	335		0	11	0	2
8:45 AM	1	11	51	3	1	5	170	35	0	0	4	0	0	2	2	0	285		4	15	1	4

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Lights	8	12	159	11	6	4	855	98	1	11	6	5	0	6	10	10	1,202
Mediums	0	3	7	1	0	1	29	2	0	0	0	3	0	5	1	1	53
Total	8	15	167	12	6	5	885	100	1	11	6	8	0	11	11	11	1,257

All Traffic Data Services Inc.

(303) 216-2439
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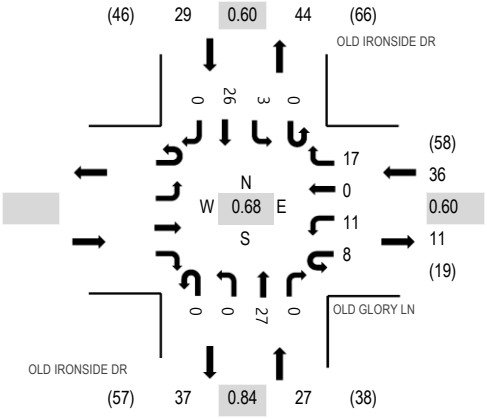
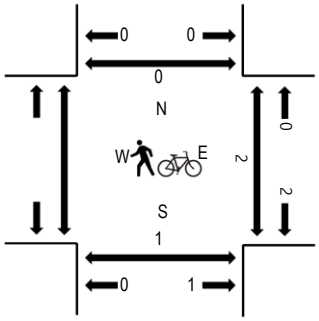
Location: 42 OLD IRONSIDE DR & OLD GLORY LN AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Eastbound				OLD GLORY LN Westbound				OLD IRONSIDE DR Northbound				OLD IRONSIDE DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM					1	3	0	4	0	0	2	0	0	1	2	0	13	50		0	0	0
7:15 AM					0	4	0	3	0	0	3	1	0	0	3	0	14	56		0	0	0
7:30 AM					1	0	0	0	0	0	4	0	0	2	2	0	9	61		0	2	0
7:45 AM					0	1	0	5	0	0	1	0	0	2	5	0	14	72		0	0	0
8:00 AM					2	2	0	3	0	0	7	0	0	0	5	0	19	92		0	0	0
8:15 AM					2	1	0	6	0	0	8	0	0	0	2	0	19			0	0	0
8:30 AM					2	2	0	1	0	0	5	0	0	1	9	0	20			1	0	0
8:45 AM					2	6	0	7	0	0	7	0	0	2	10	0	34			1	1	0

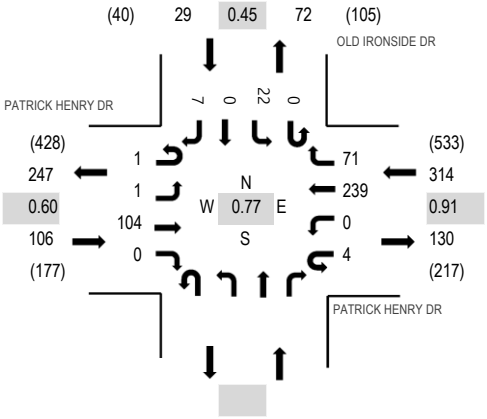
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	0	0	0	0	0	0	0	1	0	1
Lights					8	11	0	15	0	0	25	0	0	3	19	0	81
Mediums					0	0	0	2	0	0	2	0	0	0	6	0	10
Total					8	11	0	17	0	0	27	0	0	3	26	0	92

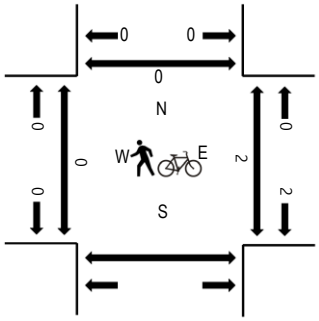
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 43 OLD IRONSIDE DR & PATRICK HENRY DR AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	PATRICK HENRY DR Eastbound				PATRICK HENRY DR Westbound				Northbound				OLD IRONSIDE DR Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	16	0	0	0	42	10					0	1	0	2	71	301	0	0		0
7:15 AM	0	0	13	0	2	0	39	8					0	2	0	1	65	325	0	0		0
7:30 AM	0	0	16	0	1	0	41	8					0	1	0	1	68	360	0	0		0
7:45 AM	0	0	26	0	7	0	54	7					0	2	0	1	97	400	0	0		0
8:00 AM	0	0	15	0	1	0	60	15					0	4	0	0	95	449	0	0		0
8:15 AM	0	0	21	0	2	0	63	11					0	3	0	0	100		0	0		0
8:30 AM	0	1	25	0	0	0	56	20					0	4	0	2	108		0	1		0
8:45 AM	1	0	43	0	1	0	60	25					0	11	0	5	146		0	1		0

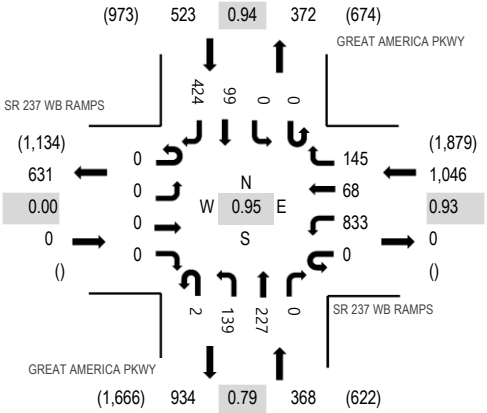
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0					0	0	0	0	1
Lights	1	1	84	0	4	0	234	65					0	17	0	4	410
Mediums	0	0	20	0	0	0	4	6					0	5	0	3	38
Total	1	1	104	0	4	0	239	71					0	22	0	7	449

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

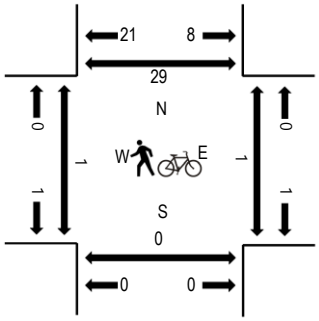
Location: 45 GREAT AMERICA PKWY & SR 237 WB RAMPS AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SR 237 WB RAMPS Eastbound				SR 237 WB RAMPS Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	123	2	38	0	15	27	0	0	0	11	60	276	1,537	1	0	0	0
7:15 AM	0	0	0	0	0	152	11	25	1	24	39	0	0	0	21	100	373	1,708	0	0	0	0
7:30 AM	0	0	0	0	0	158	34	29	2	19	44	0	0	0	18	94	398	1,830	1	0	0	0
7:45 AM	0	0	0	0	0	206	18	37	2	18	63	0	0	0	38	108	490	1,919	1	0	0	0
8:00 AM	0	0	0	0	0	174	26	37	0	27	49	0	0	0	33	101	447	1,937	0	0	0	1
8:15 AM	0	0	0	0	0	210	13	34	1	30	63	0	0	0	24	120	495		1	0	0	0
8:30 AM	0	0	0	0	0	229	15	38	1	39	41	0	0	0	21	103	487		0	1	0	2
8:45 AM	0	0	0	0	0	220	14	36	0	43	74	0	0	0	21	100	508		0	0	0	0

Peak Rolling Hour Flow Rates

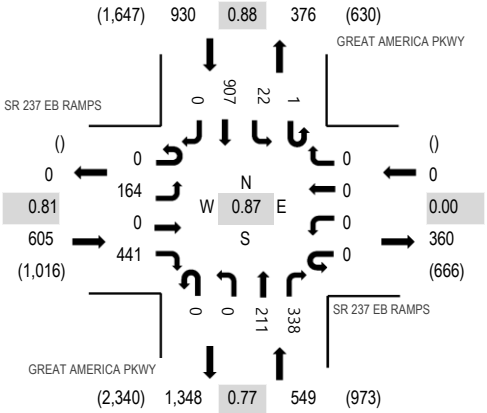
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	8	1	1	0	0	1	0	0	0	3	3	17
Lights	0	0	0	0	0	808	66	139	2	132	219	0	0	0	91	414	1,871
Mediums	0	0	0	0	0	17	1	5	0	7	7	0	0	0	5	7	49
Total	0	0	0	0	0	833	68	145	2	139	227	0	0	0	99	424	1,937

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

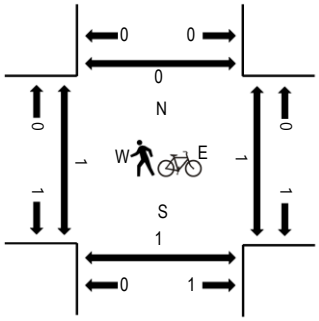
Location: 46 GREAT AMERICA PKWY & SR 237 EB RAMPS AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SR 237 EB RAMPS Eastbound				SR 237 EB RAMPS Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	24	0	52	0	0	0	0	0	0	23	59	0	1	127	0	286	1,552	1	0	0	0
7:15 AM	0	22	0	68	0	0	0	0	0	0	36	65	0	6	169	0	366	1,705	0	0	0	0
7:30 AM	0	28	1	82	0	0	0	0	0	0	38	88	0	5	163	0	405	1,852	1	0	0	0
7:45 AM	0	42	0	92	0	0	0	0	0	0	40	75	1	6	239	0	495	1,979	1	0	0	0
8:00 AM	0	43	0	92	0	0	0	0	0	0	38	63	1	8	194	0	439	2,084	0	0	0	0
8:15 AM	0	35	0	128	0	0	0	0	0	0	53	73	0	4	220	0	513		1	0	1	0
8:30 AM	0	27	0	94	0	0	0	0	0	0	54	90	0	5	262	0	532		0	1	0	0
8:45 AM	0	59	0	127	0	0	0	0	0	0	66	112	0	5	231	0	600		0	0	0	0

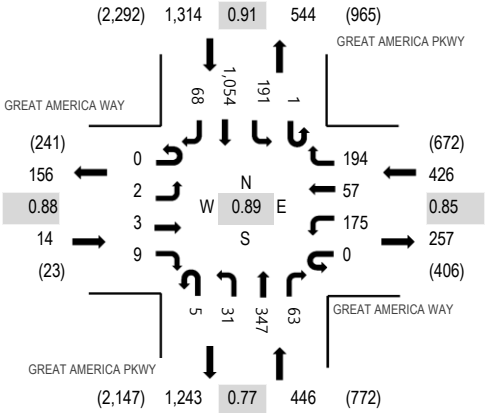
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	6	0	3	7	0	17
Lights	0	161	0	434	0	0	0	0	0	0	198	317	1	17	881	0	2,009
Mediums	0	3	0	7	0	0	0	0	0	0	12	15	0	2	19	0	58
Total	0	164	0	441	0	0	0	0	0	0	211	338	1	22	907	0	2,084

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

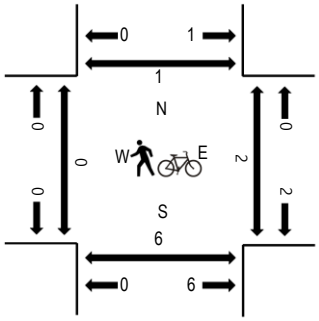
Location: 47 GREAT AMERICA PKWY & GREAT AMERICA WAY AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	GREAT AMERICA WAY Eastbound				GREAT AMERICA WAY Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	0	2	0	10	5	31	1	4	45	9	0	18	145	9	281	1,559	0	0	0	0
7:15 AM	0	0	0	0	0	17	2	42	1	4	61	4	0	30	196	13	370	1,734	0	0	0	0
7:30 AM	0	0	1	2	0	22	6	37	3	2	84	6	1	32	211	8	415	1,909	1	0	0	0
7:45 AM	0	0	0	2	0	29	8	37	1	5	81	15	0	34	262	19	493	2,072	0	0	1	0
8:00 AM	0	1	2	1	0	42	12	42	2	4	56	10	0	44	234	6	456	2,200	0	0	2	0
8:15 AM	0	0	1	3	0	48	12	53	1	8	75	25	0	47	261	11	545		0	1	0	0
8:30 AM	0	0	0	4	0	35	13	44	0	9	98	13	1	50	288	23	578		0	1	0	1
8:45 AM	0	1	0	1	0	50	20	55	2	10	118	15	0	50	271	28	621		0	0	4	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	7	0	0	0	9	0	16
Lights	0	2	2	9	0	172	57	190	5	30	318	59	1	189	1,020	68	2,122
Mediums	0	0	1	0	0	3	0	4	0	1	22	4	0	2	25	0	62
Total	0	2	3	9	0	175	57	194	5	31	347	63	1	191	1,054	68	2,200

All Traffic Data Services Inc.
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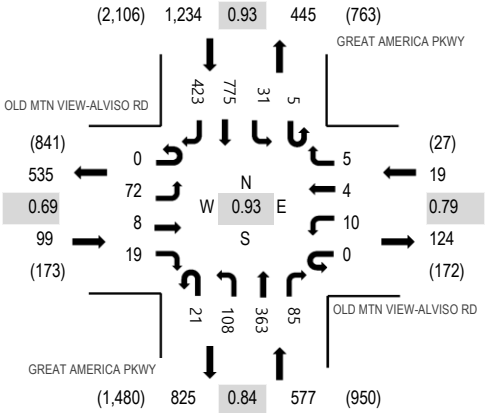
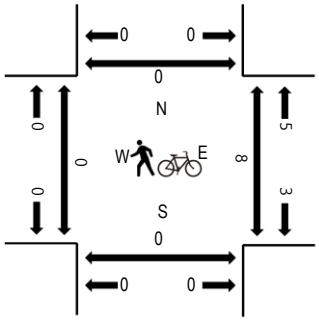
Location: 48 GREAT AMERICA PKWY & OLD MTN VIEW-ALVISO RD AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	OLD MTN VIEW-ALVISO RD Eastbound				OLD MTN VIEW-ALVISO RD Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	8	1	4	0	2	0	0	4	10	49	10	0	1	129	35	253	1,327	1	0	0	1
7:15 AM	0	9	1	4	0	2	0	0	3	13	61	4	0	0	145	58	300	1,489	1	3	0	0
7:30 AM	0	12	1	3	0	0	1	0	2	13	82	7	1	0	162	64	348	1,690	1	0	0	0
7:45 AM	0	19	0	12	1	1	1	0	5	15	75	20	2	2	177	96	426	1,835	2	3	0	1
8:00 AM	0	10	1	6	0	3	1	1	6	25	67	17	0	6	181	91	415	1,929	0	3	0	0
8:15 AM	0	13	1	5	0	3	1	1	5	24	93	23	2	11	204	115	501		0	1	0	0
8:30 AM	0	15	5	7	0	2	2	2	3	30	99	14	3	2	204	105	493		0	2	0	0
8:45 AM	0	34	1	1	0	2	0	1	7	29	104	31	0	12	186	112	520		0	2	0	0

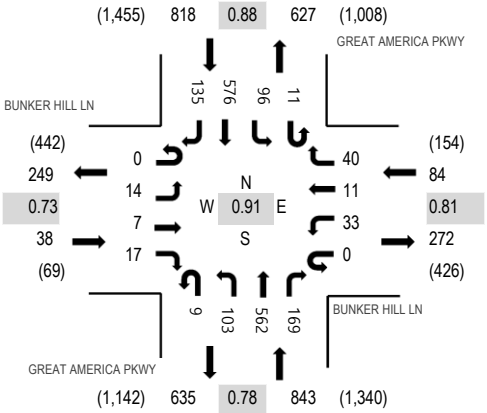
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	8	0	0	0	7	1	16
Lights	0	58	7	18	0	10	4	5	20	108	344	83	4	31	751	412	1,855
Mediums	0	14	1	1	0	0	0	0	1	0	11	2	1	0	17	10	58
Total	0	72	8	19	0	10	4	5	21	108	363	85	5	31	775	423	1,929

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

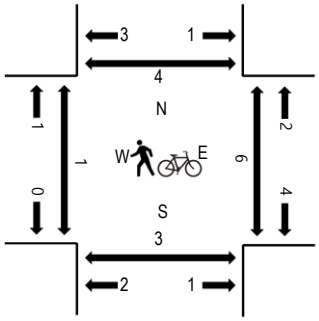
Location: 51 GREAT AMERICA PKWY & BUNKER HILL LN AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	BUNKER HILL LN Eastbound				BUNKER HILL LN Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	4	0	3	0	15	0	4	1	18	67	25	2	13	99	20	271	1,235	0	1	0	0
7:15 AM	0	2	1	0	0	6	3	7	0	14	78	25	0	11	105	27	279	1,335	0	2	0	0
7:30 AM	0	4	1	4	0	14	4	2	1	11	102	25	4	18	111	31	332	1,510	0	3	0	1
7:45 AM	0	6	1	5	0	11	1	3	1	16	93	20	3	14	131	48	353	1,644	2	4	0	0
8:00 AM	0	3	2	4	0	6	1	8	1	19	103	36	0	21	139	28	371	1,783	1	0	0	0
8:15 AM	0	3	3	2	0	12	6	7	2	25	144	45	3	23	142	37	454		0	2	2	1
8:30 AM	0	3	0	5	0	6	3	17	1	23	132	41	5	32	169	29	466		0	1	0	0
8:45 AM	0	5	2	6	0	9	1	8	5	36	183	47	3	20	126	41	492		0	3	1	3

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	7	1	0	0	7	0	15
Lights	0	14	7	16	0	32	11	40	9	103	539	167	11	95	555	133	1,732
Mediums	0	0	0	1	0	1	0	0	0	0	16	1	0	1	14	2	36
Total	0	14	7	17	0	33	11	40	9	103	562	169	11	96	576	135	1,783

All Traffic Data Services Inc.
(303) 216-2439
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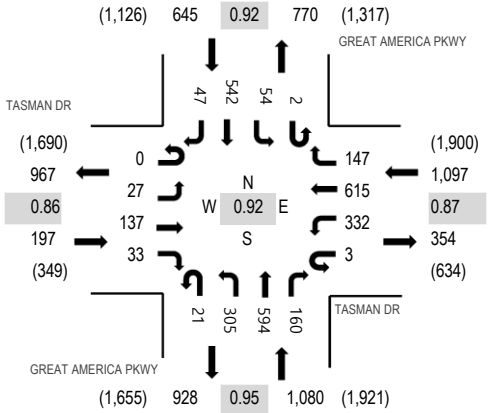
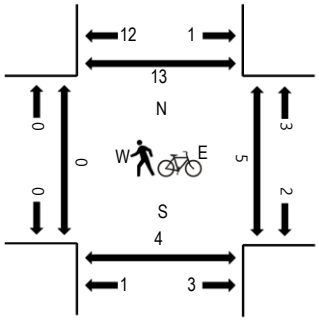
Location: 6 GREAT AMERICA PKWY & TASMAN DR AM
Date and Start Time: Wednesday, March 7, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	1	1	19	4	0	62	75	23	0	50	100	22	0	5	105	4	471	2,277	0	5	0	1
7:15 AM	0	2	22	5	1	39	95	17	8	59	104	17	0	13	96	4	482	2,508	0	1	0	0
7:30 AM	0	8	26	5	4	76	123	25	8	63	108	43	0	6	104	7	606	2,850	2	1	2	4
7:45 AM	0	16	34	9	5	85	162	11	7	73	132	47	0	16	114	7	718	2,976	2	0	0	4
8:00 AM	0	7	28	8	1	69	150	27	6	71	134	36	0	13	140	12	702	3,019	0	1	0	6
8:15 AM	0	7	41	6	2	107	166	40	7	83	147	42	2	15	141	18	824		0	1	0	3
8:30 AM	0	6	31	9	0	71	141	41	3	67	167	34	0	14	140	8	732		0	1	0	1
8:45 AM	0	7	37	10	0	85	158	39	5	84	146	48	0	12	121	9	761		0	1	1	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	1	2	0	0	0	1	0	0	0	3	0	8
Lights	0	26	129	27	3	317	588	140	21	295	570	148	2	43	526	45	2,880
Mediums	0	1	8	5	0	14	25	7	0	10	23	12	0	11	13	2	131
Total	0	27	137	33	3	332	615	147	21	305	594	160	2	54	542	47	3,019

All Traffic Data Services Inc.
(303) 216-2439
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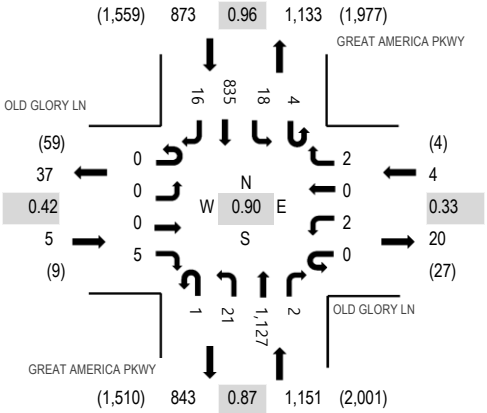
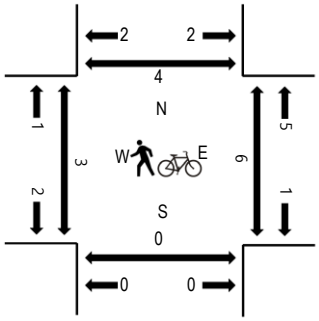
Location: 53 GREAT AMERICA PKWY & OLD GLORY LN AM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	OLD GLORY LN Eastbound				OLD GLORY LN Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	0	0	0	0	4	189	0	1	1	137	4	336	1,540	2	4	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	3	210	0	1	2	137	4	358	1,650	0	1	0	1
7:30 AM	0	0	0	2	0	0	0	0	1	1	204	0	2	2	191	1	404	1,803	0	1	0	0
7:45 AM	0	0	0	1	0	0	0	0	1	3	234	0	2	2	197	2	442	1,912	2	3	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	2	243	1	1	3	191	5	446	2,033	1	3	0	2
8:15 AM	0	0	0	1	0	0	0	0	0	7	282	1	0	6	210	4	511		0	2	0	1
8:30 AM	0	0	0	1	0	1	0	0	0	2	284	0	1	7	215	2	513		0	0	0	0
8:45 AM	0	0	0	3	0	1	0	2	1	10	318	0	2	2	219	5	563		1	1	0	1

Peak Rolling Hour Flow Rates

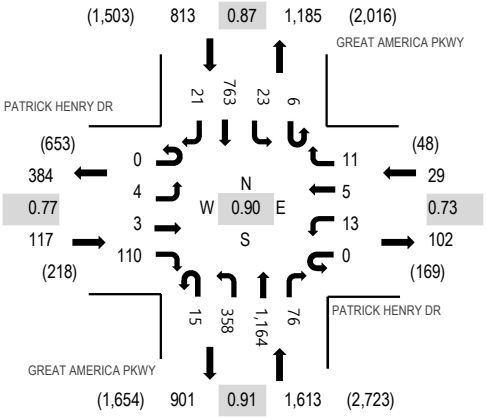
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	9	0	0	0	8	0	17
Lights	0	0	0	4	0	2	0	2	1	19	1,087	2	4	18	804	15	1,958
Mediums	0	0	0	1	0	0	0	0	0	2	31	0	0	0	23	1	58
Total	0	0	0	5	0	2	0	2	1	21	1,127	2	4	18	835	16	2,033

All Traffic Data Services Inc.

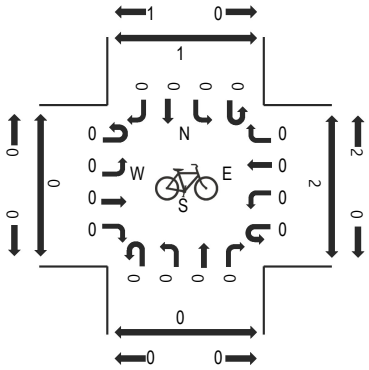
(303) 216-2439
www.alltrafficdata.net

Location: 2 GREAT AMERICA PKWY & PATRICK HENRY DR AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

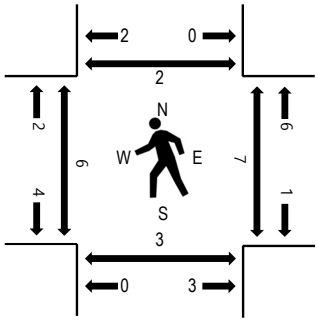
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	PATRICK HENRY DR Eastbound				PATRICK HENRY DR Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	9	0	4	0	3	1	61	179	8	1	1	90	3	360	1,920	0	0	0	0
7:15 AM	0	2	1	18	0	1	1	0	3	59	192	9	3	9	193	1	492	2,148	2	0	0	0
7:30 AM	0	2	3	36	0	3	0	1	2	47	212	16	2	4	180	8	516	2,263	1	3	0	0
7:45 AM	0	1	0	29	0	4	1	1	0	81	229	11	3	5	180	7	552	2,407	0	2	0	0
8:00 AM	0	1	2	24	0	5	1	4	3	76	269	11	1	8	175	8	588	2,572	4	0	0	0
8:15 AM	0	1	0	27	0	2	0	0	1	107	290	22	1	5	145	6	607		1	1	0	0
8:30 AM	0	2	0	28	0	3	2	3	5	94	269	23	1	5	219	6	660		1	4	1	1
8:45 AM	0	0	1	31	0	3	2	4	6	81	336	20	3	5	224	1	717		0	2	2	1

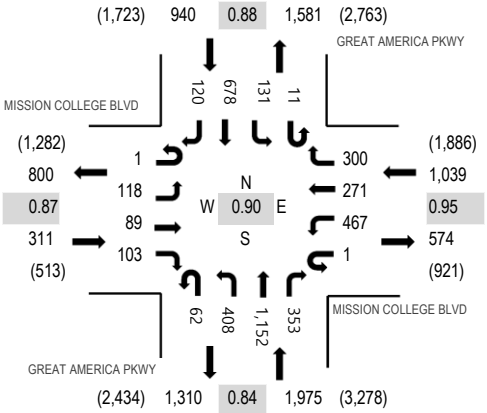
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	4	0	0	0	3	0	8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	4	3	89	0	10	5	9	15	352	1,130	73	6	20	732	21	2,469
Mediums	0	0	0	21	0	2	0	2	0	6	30	3	0	3	28	0	95
Total	0	4	3	110	0	13	5	11	15	358	1,164	76	6	23	763	21	2,572

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

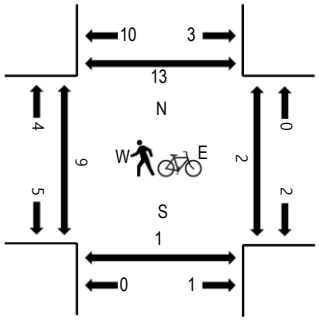
Location: 7 GREAT AMERICA PKWY & MISSION COLLEGE BLVD AM
Date and Start Time: Wednesday, March 7, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	13	14	15	0	73	14	48	5	32	183	32	0	26	147	15	617	3,135	2	3	0	3
7:15 AM	0	16	16	7	0	130	34	51	6	61	189	36	3	23	102	23	697	3,520	4	1	0	5
7:30 AM	0	28	11	11	0	108	45	57	9	81	222	52	4	20	140	27	815	3,840	3	3	0	4
7:45 AM	0	25	22	24	0	137	61	89	11	67	248	69	6	26	199	22	1,006	4,090	2	3	0	3
8:00 AM	0	35	21	26	0	98	66	80	18	91	264	68	4	34	169	28	1,002	4,265	2	0	0	1
8:15 AM	1	29	19	19	0	139	58	80	12	88	270	73	4	32	167	26	1,017		2	0	0	2
8:30 AM	0	23	26	23	0	129	73	77	14	91	300	100	2	29	152	26	1,065		2	1	0	5
8:45 AM	0	31	23	35	1	101	74	63	18	138	318	112	1	36	190	40	1,181		3	1	1	5

Peak Rolling Hour Flow Rates

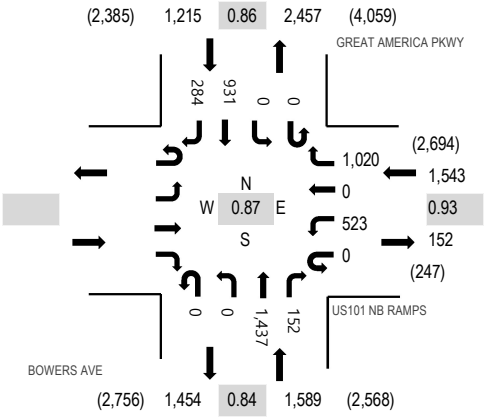
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	1	0	2	1	1	0	1	2	3	0	0	5	1	18
Lights	1	111	85	98	1	462	265	289	62	401	1,123	350	9	122	648	112	4,139
Mediums	0	7	3	4	0	3	5	10	0	6	27	0	2	9	25	7	108
Total	1	118	89	103	1	467	271	300	62	408	1,152	353	11	131	678	120	4,265

All Traffic Data Services Inc.

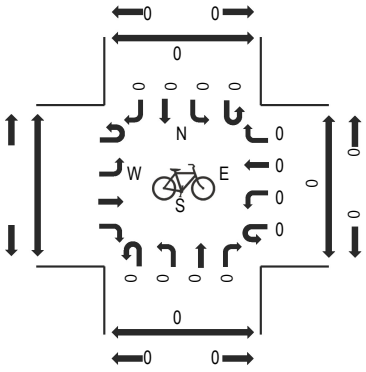
(303) 216-2439
www.alltrafficdata.net

Location: 3 BOWERS AVE & US101 NB RAMPS AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

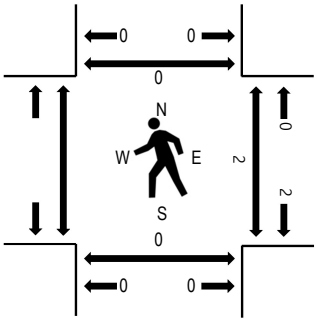
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	US101 NB RAMPS Eastbound				BOWERS AVE Westbound				GREAT AMERICA PKWY Northbound				Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM					0	93	0	155	0	0	162	25	0	0	179	70	684	3,300		0	0	0
7:15 AM					0	99	0	155	0	0	186	18	0	0	199	87	744	3,546		0	0	0
7:30 AM					0	94	0	168	0	0	269	25	0	0	242	81	879	3,856		0	0	0
7:45 AM					0	147	0	240	0	0	267	27	0	0	249	63	993	4,095		0	0	0
8:00 AM					0	94	0	227	0	0	297	32	0	0	232	48	930	4,347		1	0	0
8:15 AM					0	148	0	252	0	0	336	33	0	0	210	75	1,054			1	0	0
8:30 AM					0	141	0	264	0	0	377	41	0	0	220	75	1,118			0	0	0
8:45 AM					0	140	0	277	0	0	427	46	0	0	269	86	1,245			0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	3	0	3	0	0	8	0	0	0	4	2	20
Bicycles on Road					0	0	0	0	0	0	0	0	0	0	0	0	0
Lights					0	515	0	1,004	0	0	1,404	134	0	0	876	277	4,210
Mediums					0	5	0	13	0	0	25	18	0	0	51	5	117
Total					0	523	0	1,020	0	0	1,437	152	0	0	931	284	4,347

All Traffic Data Services Inc.

(303) 216-2439
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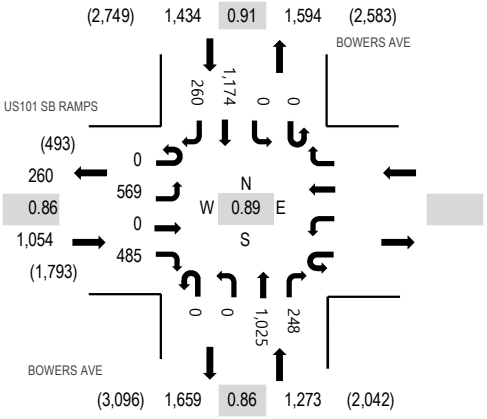
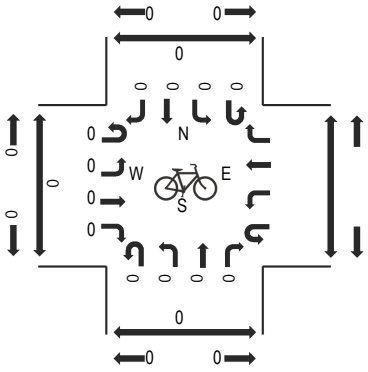
Location: 4 BOWERS AVE & US101 SB RAMPS AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

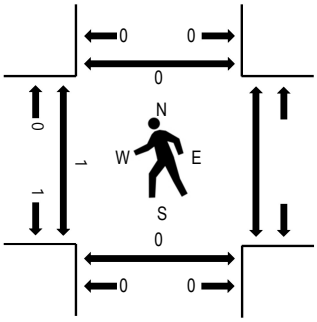
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	US101 SB RAMPS Eastbound				Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	75	0	71					0	0	111	34	0	0	215	60	566	2,823	0		0	0
7:15 AM	0	78	0	68					0	0	129	44	0	0	240	46	605	3,091	0		0	0
7:30 AM	0	107	0	116					0	0	189	43	0	0	286	66	807	3,399	0		0	0
7:45 AM	0	124	0	100					0	0	176	43	0	0	341	61	845	3,552	0		0	0
8:00 AM	0	125	0	117					0	0	206	56	0	0	268	62	834	3,761	0		0	0
8:15 AM	0	140	0	140					0	0	234	63	0	0	280	56	913		1		0	0
8:30 AM	0	123	0	103					0	0	290	54	0	0	326	64	960		0		0	0
8:45 AM	0	181	0	125					0	0	295	75	0	0	300	78	1,054		0		0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	0	2					0	0	6	11	0	0	4	2	27
Bicycles on Road	0	0	0	0					0	0	0	0	0	0	0	0	0
Lights	0	558	0	470					0	0	985	233	0	0	1,133	237	3,616
Mediums	0	9	0	13					0	0	34	4	0	0	37	21	118
Total	0	569	0	485					0	0	1,025	248	0	0	1,174	260	3,761

All Traffic Data Services Inc.
(303) 216-2439
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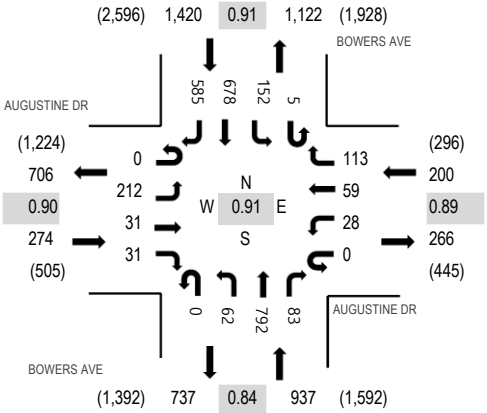
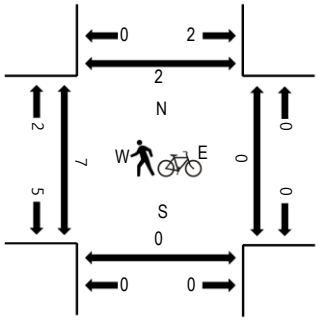
Location: 58 BOWERS AVE & AUGUSTINE DR AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	AUGUSTINE DR Eastbound				AUGUSTINE DR Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	44	9	3	0	4	6	6	0	13	94	5	2	26	135	92	439	2,158	0	0	0	1
7:15 AM	0	44	7	9	0	5	5	18	0	11	131	11	0	25	124	113	503	2,338	0	1	0	2
7:30 AM	0	44	7	8	0	2	2	18	0	12	177	9	1	29	187	113	609	2,549	0	2	0	4
7:45 AM	0	41	7	8	0	1	9	20	0	13	165	14	1	30	169	129	607	2,722	0	0	0	3
8:00 AM	0	56	6	5	0	8	15	25	0	15	138	23	0	50	149	129	619	2,831	0	0	0	1
8:15 AM	0	52	11	11	0	3	12	29	0	16	216	8	2	30	169	155	714		4	0	0	0
8:30 AM	0	48	2	7	0	7	12	37	0	21	231	26	2	39	195	155	782		1	0	0	1
8:45 AM	0	56	12	8	0	10	20	22	0	10	207	26	1	33	165	146	716		1	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	8
Lights	0	204	30	30	0	23	58	106	0	62	761	82	5	145	652	576	2,734
Mediums	0	7	1	1	0	5	1	7	0	0	24	1	0	7	26	9	89
Total	0	212	31	31	0	28	59	113	0	62	792	83	5	152	678	585	2,831

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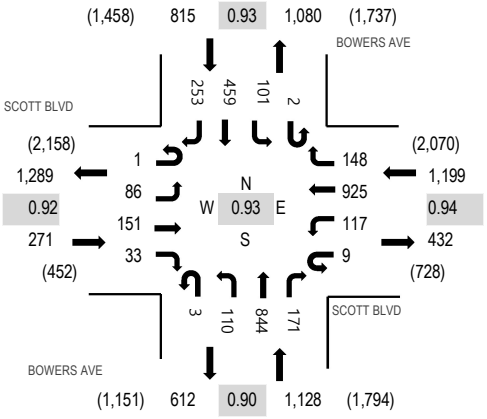
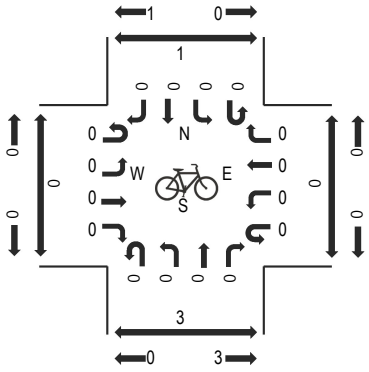
Location: 5 BOWERS AVE & SCOTT BLVD AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

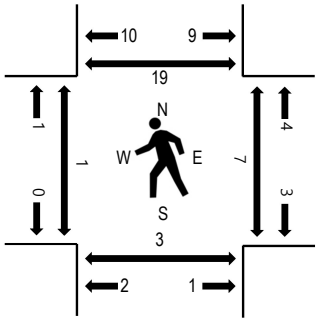
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	SCOTT BLVD Eastbound				SCOTT BLVD Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	10	13	4	1	28	82	12	0	7	83	16	1	15	50	24	346	2,361	0	2	0	1
7:15 AM	1	10	28	3	0	31	162	25	0	11	99	21	0	16	122	30	559	2,809	0	1	1	0
7:30 AM	0	14	34	2	0	31	163	29	0	21	166	27	2	26	120	40	675	3,079	0	3	3	1
7:45 AM	0	17	39	6	0	20	262	25	0	18	163	34	1	26	122	48	781	3,273	1	0	3	5
8:00 AM	0	21	28	7	3	32	219	34	1	20	186	34	1	25	125	58	794	3,413	1	1	0	4
8:15 AM	1	17	43	10	1	37	225	39	0	28	206	38	1	21	111	51	829		0	1	0	8
8:30 AM	0	29	38	7	1	30	223	36	1	21	237	42	0	24	112	68	869		0	5	2	0
8:45 AM	0	19	42	9	4	18	258	39	1	41	215	57	0	31	111	76	921		0	0	1	7

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	3	0	1	0	0	0	0	3	0	8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	1	84	147	30	9	113	913	141	3	107	828	164	2	97	440	245	3,324
Mediums	0	2	4	3	0	4	11	4	0	2	16	7	0	4	16	8	81
Total	1	86	151	33	9	117	925	148	3	110	844	171	2	101	459	253	3,413

All Traffic Data Services Inc.

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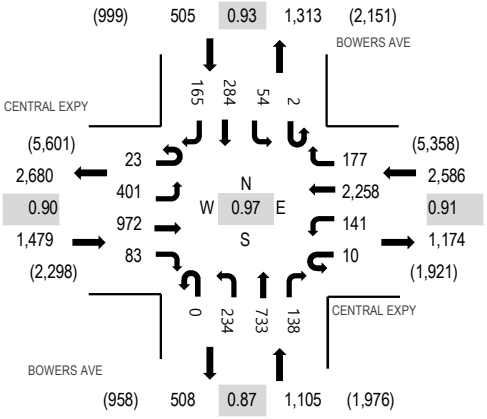
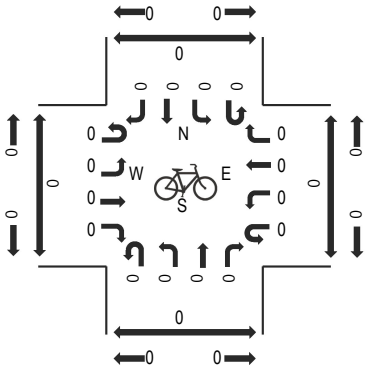
Location: 6 BOWERS AVE & CENTRAL EXPY AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

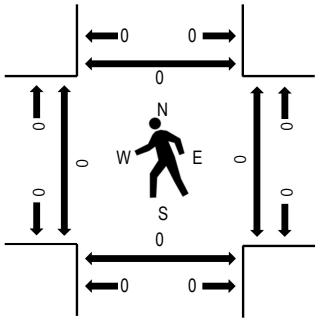
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	CENTRAL EXPY Eastbound				CENTRAL EXPY Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	1	27	104	10	3	43	672	40	0	32	62	20	0	5	48	37	1,104	4,956	0	0	0	0
7:15 AM	7	28	112	12	0	29	597	34	0	65	124	33	1	14	81	48	1,185	5,188	0	0	0	0
7:30 AM	8	46	146	13	2	21	656	27	0	68	150	32	0	11	57	55	1,292	5,456	1	0	0	1
7:45 AM	3	64	221	17	1	36	572	39	0	63	194	28	2	15	83	37	1,375	5,584	1	2	0	0
8:00 AM	7	86	215	15	2	30	561	42	0	56	159	33	0	12	75	43	1,336	5,675	0	0	0	0
8:15 AM	7	105	272	26	3	28	602	43	0	50	154	41	1	8	58	55	1,453		0	0	0	0
8:30 AM	2	88	249	21	1	34	576	41	0	66	194	35	1	19	56	37	1,420		0	0	0	0
8:45 AM	7	122	236	21	4	49	519	51	0	62	226	29	0	15	95	30	1,466		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	3	0	0	0	0	0	0	0	3	0	7
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	23	396	955	80	10	139	2,215	177	0	233	712	137	2	50	267	160	5,556
Mediums	0	5	16	3	0	2	40	0	0	1	21	1	0	4	14	5	112
Total	23	401	972	83	10	141	2,258	177	0	234	733	138	2	54	284	165	5,675

All Traffic Data Services Inc.

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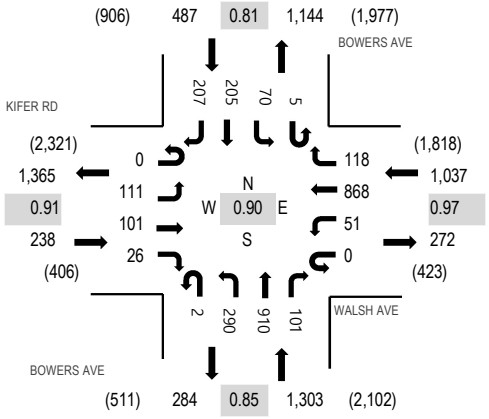
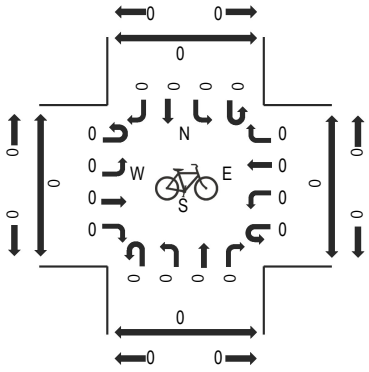
Location: 7 BOWERS AVE & WALSH AVE AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

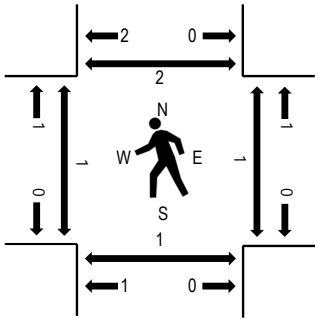
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	KIFER RD Eastbound				WALSH AVE Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	18	13	4	0	5	84	16	1	15	86	4	1	12	45	42	346	2,167	0	0	0	0
7:15 AM	0	13	17	3	0	7	133	26	1	24	185	5	0	8	53	45	520	2,529	0	0	0	1
7:30 AM	0	9	21	4	0	9	209	35	1	34	207	5	0	13	39	41	627	2,712	2	0	3	1
7:45 AM	0	37	26	3	0	7	225	25	2	44	173	12	2	15	43	60	674	2,888	0	0	0	0
8:00 AM	0	24	27	7	0	14	220	32	0	44	200	23	0	14	52	51	708	3,065	0	0	0	0
8:15 AM	0	35	28	6	0	16	203	20	1	66	197	19	1	18	48	45	703		0	1	0	1
8:30 AM	0	28	26	5	0	11	221	32	1	88	254	29	2	21	42	43	803		0	0	0	0
8:45 AM	0	24	20	8	0	10	224	34	0	92	259	30	2	17	63	68	851		1	0	1	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3	5
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	106	95	26	0	49	851	115	2	289	898	99	5	66	195	199	2,995
Mediums	0	5	6	0	0	2	16	3	0	1	12	2	0	4	9	5	65
Total	0	111	101	26	0	51	868	118	2	290	910	101	5	70	205	207	3,065

All Traffic Data Services Inc.

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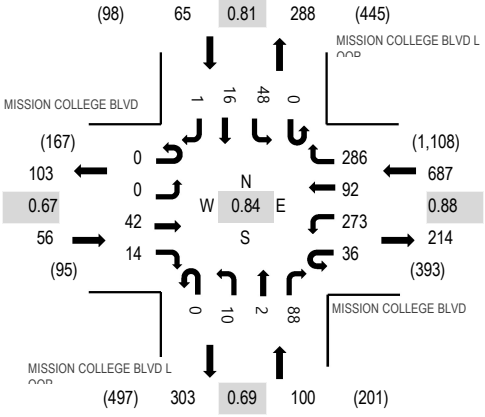
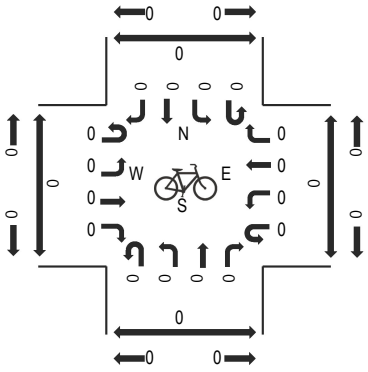
Location: 29 MISSION COLLEGE BLVD LOOP & MISSION COLLEGE BLVD AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

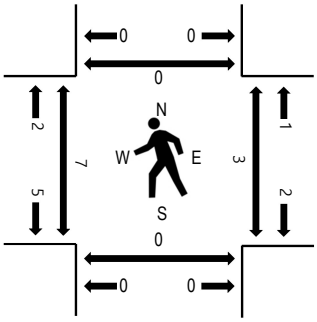
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				MISSION COLLEGE BLVD LOOP Northbound				MISSION COLLEGE BLVD LOOP Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	2	0	6	23	6	8	0	1	1	23	0	3	1	0	74	594	0	2	1	0
7:15 AM	0	0	8	0	7	38	17	27	0	1	2	15	0	1	1	0	117	726	3	2	0	0
7:30 AM	0	0	13	3	13	60	19	63	0	1	3	16	0	7	2	0	200	841	1	0	2	0
7:45 AM	0	0	12	1	4	61	18	51	0	1	2	35	0	14	4	0	203	841	0	0	2	0
8:00 AM	0	0	7	3	14	66	20	62	0	0	0	16	0	12	6	0	206	908	0	2	0	0
8:15 AM	0	0	9	3	10	81	28	58	0	2	0	24	0	14	3	0	232		1	0	0	0
8:30 AM	0	0	8	5	6	55	19	72	0	6	1	18	0	6	4	0	200		3	0	0	0
8:45 AM	0	0	18	3	6	71	25	94	0	2	1	30	0	16	3	1	270		3	1	0	0

Peak Rolling Hour Flow Rates

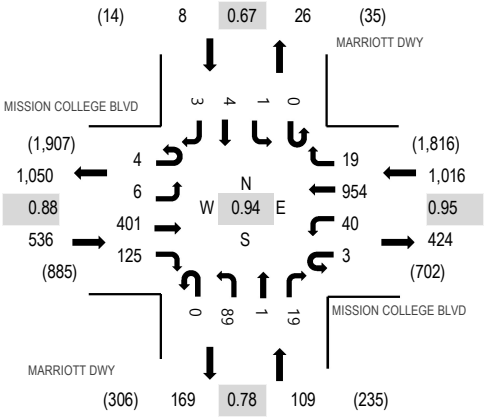
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	0	34	14	36	267	84	284	0	10	2	87	0	47	16	1	882
Mediums	0	0	7	0	0	6	7	2	0	0	0	1	0	1	0	0	24
Total	0	0	42	14	36	273	92	286	0	10	2	88	0	48	16	1	908

All Traffic Data Services Inc.

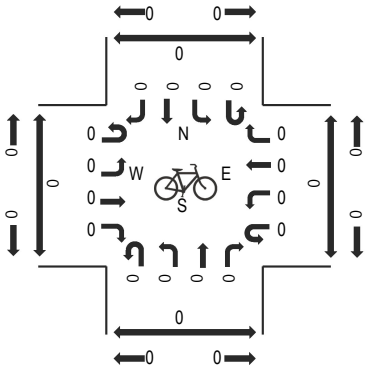
(303) 216-2439
www.alltrafficdata.net

Location: 30 MARRIOTT DWY & MISSION COLLEGE BLVD AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

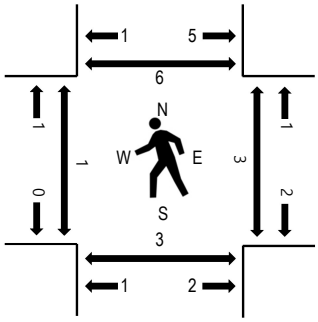
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				MARRIOTT DWY Northbound				MARRIOTT DWY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	42	14	0	4	150	3	0	12	0	3	0	0	2	1	231	1,281	0	0	0	0
7:15 AM	0	1	54	28	0	6	168	2	0	32	0	10	0	0	0	0	301	1,425	0	1	0	1
7:30 AM	0	0	61	22	0	15	208	2	0	32	0	2	0	0	1	2	345	1,550	0	0	0	1
7:45 AM	0	0	98	29	0	16	225	1	0	27	0	8	0	0	0	0	404	1,628	0	0	1	1
8:00 AM	0	2	89	27	0	8	223	5	0	18	0	2	0	0	1	0	375	1,669	0	0	2	1
8:15 AM	3	1	96	36	0	12	243	5	0	23	0	4	0	0	2	1	426		0	2	0	3
8:30 AM	0	2	95	33	1	13	236	4	0	28	1	7	0	1	1	1	423		1	0	1	1
8:45 AM	1	1	121	29	2	7	252	5	0	20	0	6	0	0	0	1	445		0	1	0	1

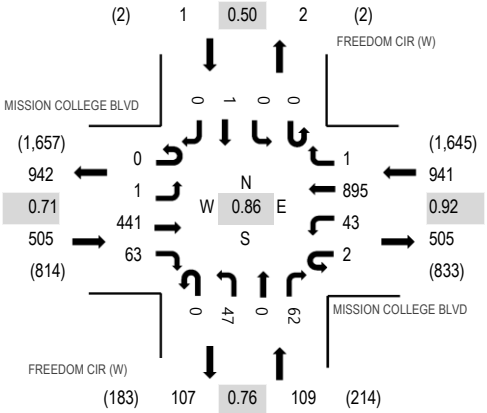
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	4	6	387	123	3	40	931	18	0	88	1	19	0	1	4	3	1,628
Mediums	0	0	10	2	0	0	21	1	0	1	0	0	0	0	0	0	35
Total	4	6	401	125	3	40	954	19	0	89	1	19	0	1	4	3	1,669

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

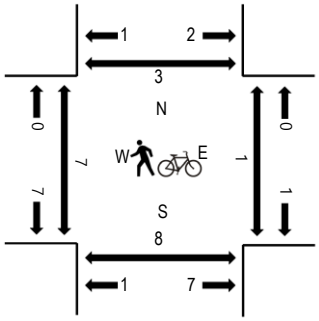
Location: 130 FREEDOM CIR (W) & MISSION COLLEGE BLVD AM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				FREEDOM CIR (W) Northbound				FREEDOM CIR (W) Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	49	7	0	9	128	0	0	6	0	11	0	0	0	0	210	1,119	0	0	3	1
7:15 AM	0	0	50	12	1	5	125	0	0	11	0	14	0	0	0	0	218	1,221	2	0	1	1
7:30 AM	0	0	70	13	0	11	193	0	0	16	0	14	0	0	0	0	317	1,394	1	0	1	2
7:45 AM	0	0	95	13	2	6	224	0	0	11	0	22	0	0	0	1	374	1,480	2	0	0	0
8:00 AM	0	1	77	16	1	10	186	0	0	8	0	13	0	0	0	0	312	1,556	0	1	3	1
8:15 AM	0	0	98	18	0	10	243	0	0	8	0	14	0	0	0	0	391		0	0	0	0
8:30 AM	0	0	107	10	0	10	244	1	0	16	0	14	0	0	1	0	403		5	0	0	2
8:45 AM	0	0	159	19	1	13	222	0	0	15	0	21	0	0	0	0	450		1	0	5	0

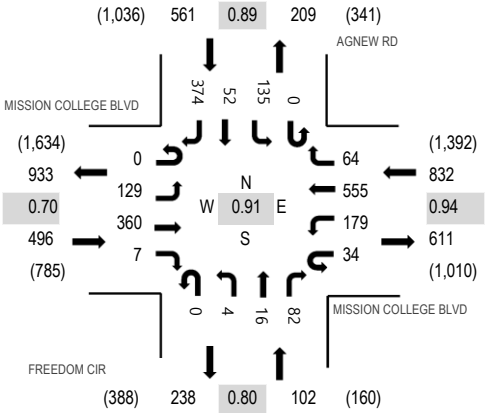
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Lights	0	1	424	60	2	43	877	1	0	41	0	61	0	0	1	0	1,511
Mediums	0	0	15	3	0	0	17	0	0	6	0	1	0	0	0	0	42
Total	0	1	441	63	2	43	895	1	0	47	0	62	0	0	1	0	1,556

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

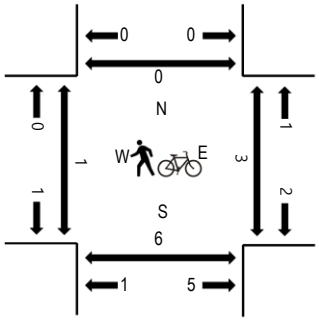
Location: 131 FREEDOM CIR & MISSION COLLEGE BLVD AM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				FREEDOM CIR Northbound				AGNEW RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	16	33	0	7	24	60	9	0	1	4	8	0	16	11	71	260	1,382	0	1	2	0
7:15 AM	0	13	45	2	7	24	58	8	0	0	0	12	0	24	8	73	274	1,571	0	3	1	0
7:30 AM	0	22	54	0	9	29	105	19	0	1	0	14	0	32	6	99	390	1,781	0	1	1	0
7:45 AM	0	22	81	1	8	38	136	19	0	1	0	17	0	32	7	96	458	1,899	0	0	2	0
8:00 AM	0	25	71	1	2	59	125	20	0	1	3	20	0	33	5	84	449	1,991	0	1	2	0
8:15 AM	0	35	70	2	12	35	157	18	0	2	3	13	0	35	9	93	484		0	0	1	0
8:30 AM	0	31	84	1	10	44	137	12	0	0	6	26	0	33	17	107	508		0	1	1	0
8:45 AM	0	38	135	3	10	41	136	14	0	1	4	23	0	34	21	90	550		0	1	1	0

Peak Rolling Hour Flow Rates

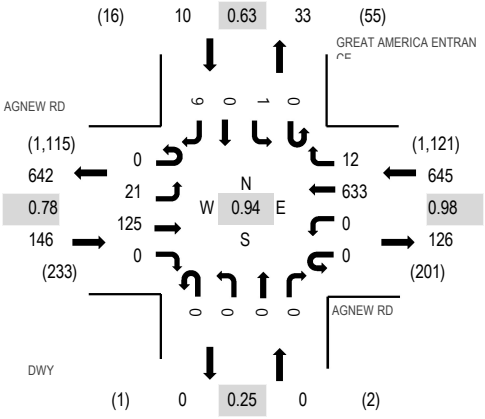
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	4
Lights	0	124	346	7	34	177	544	59	0	4	16	82	0	132	52	369	1,946
Mediums	0	5	13	0	0	1	10	5	0	0	0	0	0	3	0	4	41
Total	0	129	360	7	34	179	555	64	0	4	16	82	0	135	52	374	1,991

All Traffic Data Services Inc.

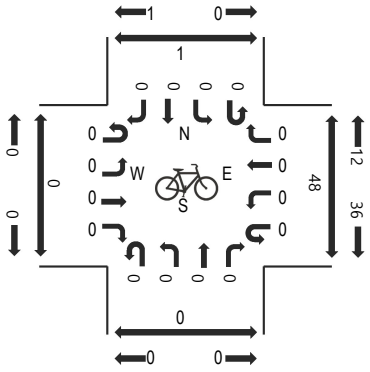
(303) 216-2439
www.alltrafficdata.net

Location: 31 DWY & AGNEW RD AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

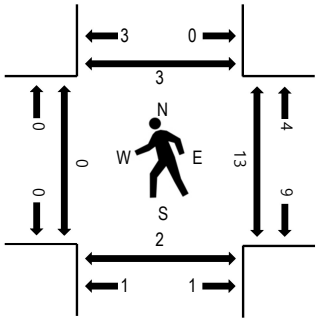
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	AGNEW RD Eastbound				AGNEW RD Westbound				DWY Northbound				GREAT AMERICA ENTRANCE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	14	0	0	0	92	2	0	0	0	0	0	0	0	0	110	571	0	7	0	1
7:15 AM	0	3	14	0	0	1	109	4	0	0	0	0	0	0	0	2	133	650	0	2	1	0
7:30 AM	0	3	24	0	0	0	128	3	0	0	0	0	0	0	0	3	161	722	0	5	0	2
7:45 AM	0	4	23	0	0	0	136	1	0	2	0	0	0	0	0	1	167	755	0	4	0	1
8:00 AM	0	4	20	0	0	0	162	1	0	0	0	0	0	0	0	2	189	801	0	6	1	0
8:15 AM	0	7	32	0	0	0	156	6	0	0	0	0	0	0	0	4	205		0	3	0	1
8:30 AM	0	5	31	0	0	0	151	4	0	0	0	0	0	1	0	2	194		0	1	1	1
8:45 AM	0	5	42	0	0	0	164	1	0	0	0	0	0	0	0	1	213		0	3	0	1

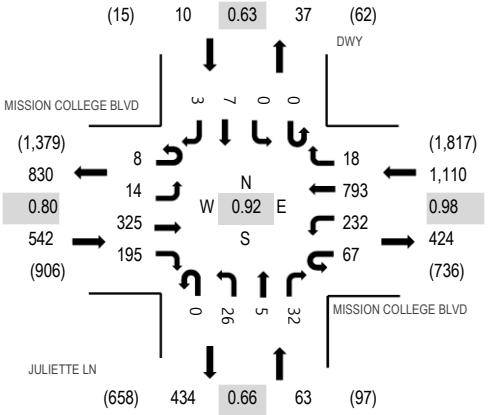
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	17	120	0	0	0	632	12	0	0	0	0	0	1	0	7	789
Mediums	0	4	4	0	0	0	1	0	0	0	0	0	0	0	0	2	11
Total	0	21	125	0	0	0	633	12	0	0	0	0	0	1	0	9	801

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

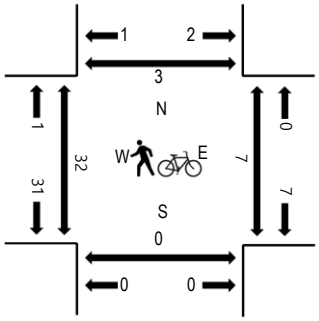
Location: 132 JULIETTE LN & MISSION COLLEGE BLVD AM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				JULIETTE LN Northbound				DWY Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	41	11	13	25	97	1	0	3	1	3	0	1	0	0	196	1,110	2	0	1	1
7:15 AM	0	2	56	22	7	25	96	3	0	0	0	2	0	0	0	0	213	1,322	1	1	0	1
7:30 AM	2	2	65	33	9	27	156	4	0	3	4	10	0	0	4	0	319	1,525	3	0	2	0
7:45 AM	1	2	85	42	13	35	190	6	0	1	0	7	0	0	0	0	382	1,636	5	0	0	2
8:00 AM	2	0	74	42	15	62	202	2	0	3	1	5	0	0	0	0	408	1,725	5	2	0	2
8:15 AM	0	3	78	33	17	48	204	5	0	14	2	8	0	0	3	1	416		4	2	0	0
8:30 AM	5	6	79	51	22	50	194	6	0	3	1	10	0	0	2	1	430		9	2	0	1
8:45 AM	1	5	94	69	13	72	193	5	0	6	1	9	0	0	2	1	471		14	1	0	0

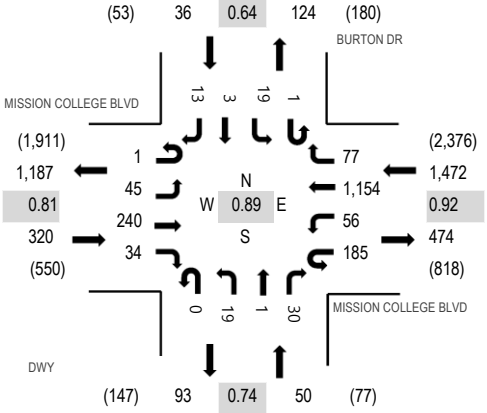
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	0	4
Lights	8	14	310	192	67	229	776	18	0	24	5	28	0	0	7	3	1,681
Mediums	0	0	15	2	0	3	16	0	0	1	0	3	0	0	0	0	40
Total	8	14	325	195	67	232	793	18	0	26	5	32	0	0	7	3	1,725

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

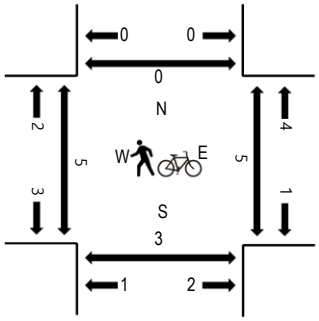
Location: 140 DWY & MISSION COLLEGE BLVD AM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				DWY Northbound				BURTON DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	33	5	24	6	136	11	0	0	1	3	0	4	0	1	226	1,178	0	0	0	0
7:15 AM	0	1	48	4	22	5	131	7	0	2	0	2	0	3	0	2	227	1,383	0	0	0	0
7:30 AM	0	3	51	7	31	9	204	15	0	3	0	5	0	3	0	1	332	1,609	0	0	0	0
7:45 AM	1	5	63	7	46	10	237	10	0	4	1	6	0	0	1	2	393	1,745	0	5	0	0
8:00 AM	0	8	57	7	40	10	286	8	0	6	0	5	0	2	0	2	431	1,878	0	2	0	0
8:15 AM	1	9	54	9	39	14	280	26	0	3	1	9	0	3	1	4	453		2	0	3	0
8:30 AM	0	12	60	4	54	17	278	20	0	7	0	2	1	8	1	4	468		3	3	0	0
8:45 AM	0	16	69	14	52	15	310	23	0	3	0	14	0	6	1	3	526		0	0	0	0

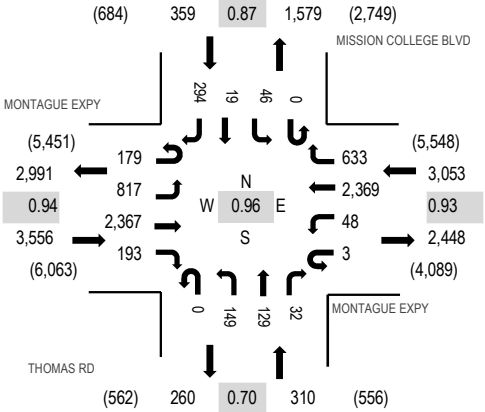
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4
Lights	1	44	225	32	185	55	1,133	76	0	19	1	28	1	18	2	12	1,832
Mediums	0	1	14	2	0	1	18	1	0	0	0	2	0	1	1	1	42
Total	1	45	240	34	185	56	1,154	77	0	19	1	30	1	19	3	13	1,878

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

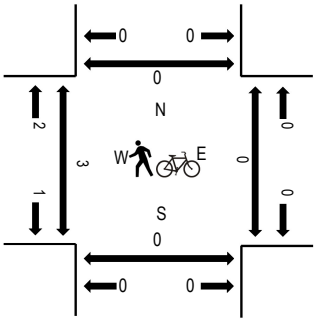
Location: 5 THOMAS RD & MONTAGUE EXPY AM
Date: Tuesday, April 9, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				THOMAS RD Northbound				MISSION COLLEGE BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	42	87	240	55	1	25	453	70	0	37	26	8	0	16	3	53	1,116	5,573	1	0	0	0
7:15 AM	26	143	358	57	0	19	441	106	0	25	19	15	0	13	6	68	1,296	6,185	1	0	0	0
7:30 AM	17	192	446	48	0	13	537	119	0	31	17	6	1	9	5	68	1,509	6,790	1	0	0	0
7:45 AM	26	205	517	48	0	20	535	156	0	31	28	3	1	9	3	70	1,652	7,074	0	3	0	0
8:00 AM	48	215	546	43	0	16	540	150	0	34	28	4	0	12	8	84	1,728	7,278	1	0	0	0
8:15 AM	50	220	631	42	1	6	638	180	0	27	15	8	0	10	3	70	1,901		0	0	0	0
8:30 AM	41	201	631	45	1	18	555	126	0	35	38	11	0	11	3	77	1,793		2	0	0	0
8:45 AM	40	181	559	63	1	8	636	177	0	53	48	9	0	13	5	63	1,856		0	0	0	0

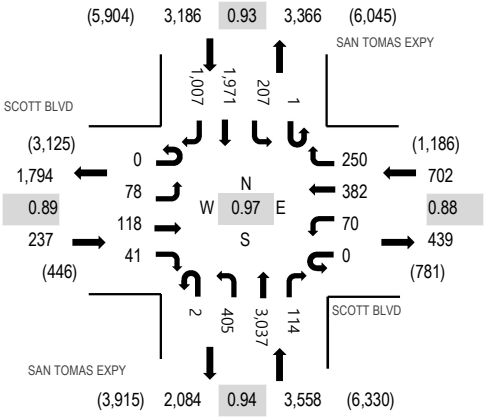
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	8	5	0	0	1	18	1	0	1	0	2	0	0	0	2	38
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	179	804	2,340	188	3	46	2,329	628	0	140	123	29	0	41	17	281	7,148
Mediums	0	5	22	5	0	1	22	4	0	8	6	1	0	5	2	11	92
Total	179	817	2,367	193	3	48	2,369	633	0	149	129	32	0	46	19	294	7,278

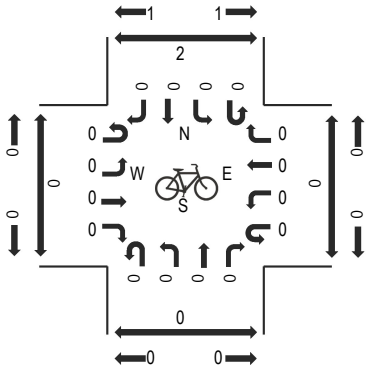
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 14 SAN TOMAS EXPY & SCOTT BLVD AM
Date: Thursday, May 16, 2019
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

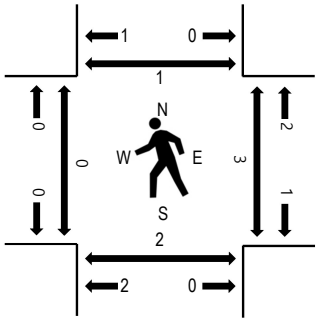
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	SCOTT BLVD Eastbound				SCOTT BLVD Westbound				SAN TOMAS EXPY Northbound				SAN TOMAS EXPY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	10	19	3	0	4	38	34	0	52	412	16	1	36	436	133	1,194	6,275	0	0	0	1
7:15 AM	0	14	16	5	0	4	54	45	0	58	568	14	0	61	451	199	1,489	7,052	0	0	0	0
7:30 AM	0	31	30	11	0	7	65	53	2	80	657	20	2	35	432	209	1,634	7,429	0	0	0	0
7:45 AM	0	22	37	8	0	22	94	57	1	100	728	52	0	61	508	268	1,958	7,683	0	0	0	0
8:00 AM	0	23	34	8	0	34	87	81	1	108	719	22	0	50	546	258	1,971	7,591	0	2	0	1
8:15 AM	0	17	22	13	0	7	97	51	0	84	771	19	1	48	484	252	1,866		0	1	2	0
8:30 AM	0	16	25	12	0	7	104	61	0	113	819	21	0	48	433	229	1,888		0	0	0	0
8:45 AM	0	29	31	10	0	15	116	49	1	96	774	22	0	42	450	231	1,866		0	0	1	1

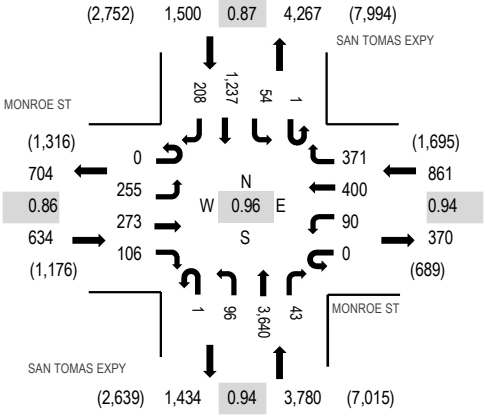
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	0	1	0	0	3	0	0	0	6	4	15
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	72	111	38	0	69	371	236	2	403	3,009	114	1	198	1,924	987	7,535
Mediums	0	5	7	3	0	1	11	13	0	2	25	0	0	9	41	16	133
Total	0	78	118	41	0	70	382	250	2	405	3,037	114	1	207	1,971	1,007	7,683

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

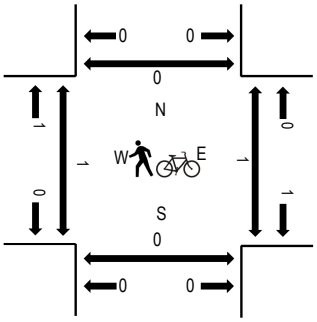
Location: 8 SAN TOMAS EXPY & MONROE ST AM
Date: Tuesday, April 9, 2019
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MONROE ST Eastbound				MONROE ST Westbound				SAN TOMAS EXPY Northbound				SAN TOMAS EXPY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	34	27	16	0	33	61	73	0	12	611	7	0	12	246	48	1,180	5,901	0	0	0	3
7:15 AM	0	49	56	17	0	21	105	87	0	25	691	17	1	10	245	72	1,396	6,474	0	0	0	1
7:30 AM	0	74	60	34	0	35	84	105	0	21	817	12	1	15	262	47	1,567	6,756	0	0	0	1
7:45 AM	0	70	69	27	0	32	104	93	0	22	924	9	0	10	330	68	1,758	6,775	1	1	0	0
8:00 AM	0	53	49	20	0	23	110	64	1	33	942	11	0	19	370	58	1,753	6,737	0	0	0	0
8:15 AM	0	62	72	26	0	22	97	93	0	26	887	15	1	15	308	54	1,678		0	0	0	0
8:30 AM	0	70	83	33	0	13	89	121	0	15	887	8	0	10	229	28	1,586		0	0	0	0
8:45 AM	0	64	89	22	0	19	78	133	1	25	987	9	0	5	254	34	1,720		0	0	0	0

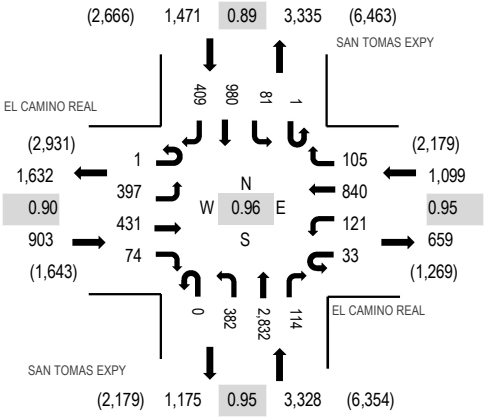
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	1	0	0	0	3	0	0	0	3	0	8
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	252	263	104	0	85	388	370	1	93	3,616	41	1	49	1,208	198	6,669
Mediums	0	2	10	2	0	5	11	1	0	3	21	2	0	5	26	10	98
Total	0	255	273	106	0	90	400	371	1	96	3,640	43	1	54	1,237	208	6,775

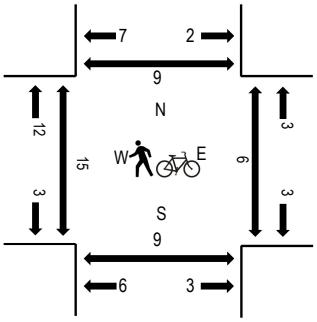
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 10 SAN TOMAS EXPY & EL CAMINO REAL AM
Date: Tuesday, April 9, 2019
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	EL CAMINO REAL Eastbound				EL CAMINO REAL Westbound				SAN TOMAS EXPY Northbound				SAN TOMAS EXPY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	39	57	10	3	41	169	32	0	49	483	21	0	15	192	66	1,177	6,067	3	0	0	2
7:15 AM	0	51	92	10	10	34	199	45	0	84	670	30	1	14	236	98	1,574	6,658	13	1	2	0
7:30 AM	1	95	90	18	8	24	223	24	0	114	718	26	0	13	217	93	1,664	6,801	5	2	0	3
7:45 AM	0	103	119	16	10	20	219	9	0	104	611	29	1	24	270	117	1,652	6,796	2	0	2	1
8:00 AM	0	109	125	21	11	47	209	29	0	89	715	27	0	19	246	121	1,768	6,775	3	1	4	0
8:15 AM	0	90	97	19	4	30	189	43	0	75	788	32	0	25	247	78	1,717		3	3	1	4
8:30 AM	0	119	129	22	11	26	170	53	0	54	763	33	0	35	189	55	1,659		0	0	1	0
8:45 AM	0	95	93	23	9	28	209	41	0	77	736	26	0	32	193	69	1,631		6	0	2	6

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	6	0	0	0	2	0	0	1	2	0	13
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	1	397	415	74	33	119	798	105	0	380	2,814	111	1	77	952	397	6,674
Mediums	0	0	14	0	0	2	36	0	0	2	16	3	0	3	26	12	114
Total	1	397	431	74	33	121	840	105	0	382	2,832	114	1	81	980	409	6,801

All Traffic Data Services Inc.

(303) 216-2439
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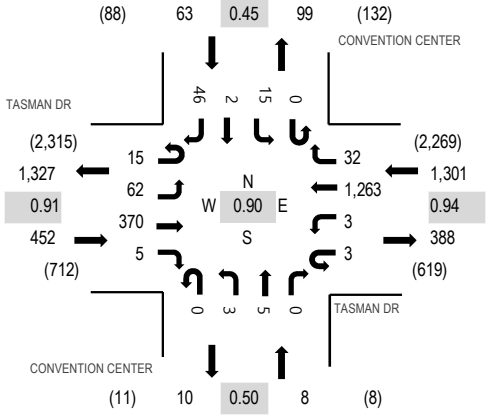
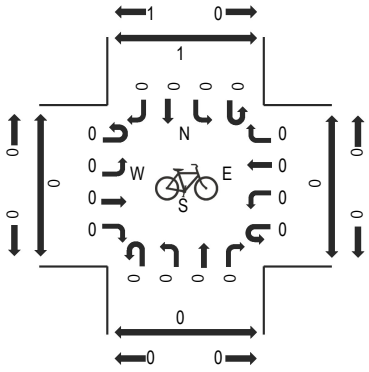
Location: 12 CONVENTION CENTER & TASMAN DR AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

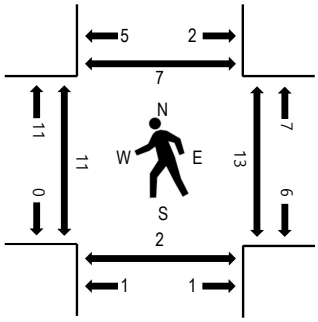
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				CONVENTION CENTER Northbound				CONVENTION CENTER Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	4	2	37	0	0	0	142	2	0	0	0	0	0	0	0	1	188	1,253	1	7	2	2
7:15 AM	2	9	54	0	1	0	213	4	0	0	0	0	0	1	0	6	290	1,527	3	7	1	0
7:30 AM	5	4	60	0	0	1	268	4	0	0	0	0	0	1	0	7	350	1,656	3	5	2	0
7:45 AM	6	5	72	0	2	0	328	3	0	0	0	0	0	3	0	6	425	1,743	3	4	2	3
8:00 AM	3	9	98	0	0	1	336	8	0	0	0	0	0	2	0	5	462	1,824	0	5	0	0
8:15 AM	5	12	88	1	0	0	295	4	0	2	0	0	0	4	1	7	419		4	6	0	2
8:30 AM	3	15	92	2	2	0	306	6	0	0	2	0	0	2	0	7	437		1	1	0	3
8:45 AM	4	26	92	2	1	2	326	14	0	1	3	0	0	7	1	27	506		6	1	2	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	14	62	344	5	3	3	1,212	32	0	3	5	0	0	15	2	46	1,746
Mediums	1	0	26	0	0	0	50	0	0	0	0	0	0	0	0	0	77
Total	15	62	370	5	3	3	1,263	32	0	3	5	0	0	15	2	46	1,824

All Traffic Data Services Inc.

(303) 216-2439
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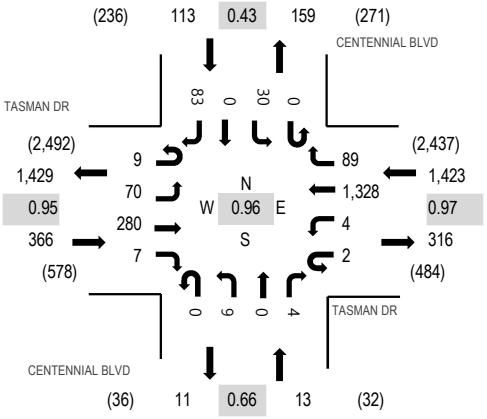
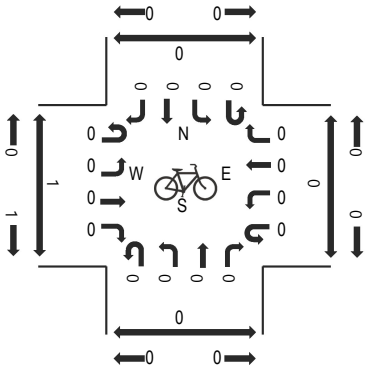
Location: 13 CENTENNIAL BLVD & TASMAN DR AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

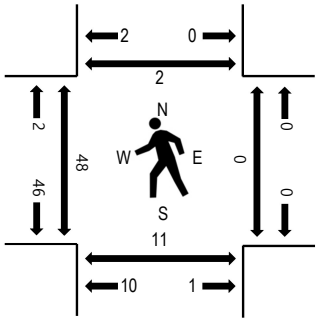
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				CENTENNIAL BLVD Northbound				CENTENNIAL BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	1	14	21	3	0	1	145	15	0	4	0	0	0	3	0	4	211	1,368	10	0	1	0
7:15 AM	1	18	26	3	0	0	200	18	0	4	0	0	0	6	0	17	293	1,611	3	0	2	0
7:30 AM	3	10	35	5	3	1	277	9	0	3	1	4	0	13	0	61	425	1,791	10	0	3	0
7:45 AM	4	12	49	7	1	5	324	15	0	2	0	1	0	6	0	13	439	1,864	15	0	2	0
8:00 AM	1	19	68	1	0	1	334	16	0	4	0	1	0	1	0	8	454	1,915	9	0	1	0
8:15 AM	4	25	64	3	0	1	318	28	0	2	0	3	0	8	0	17	473		9	0	3	0
8:30 AM	2	13	71	1	2	0	344	19	0	2	0	0	0	10	0	34	498		16	0	4	2
8:45 AM	2	13	77	2	0	2	332	26	0	1	0	0	0	11	0	24	490		14	0	3	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	9	57	269	7	2	4	1,302	72	0	9	0	4	0	25	0	62	1,822
Mediums	0	13	11	0	0	0	26	16	0	0	0	0	0	5	0	20	91
Total	9	70	280	7	2	4	1,328	89	0	9	0	4	0	30	0	83	1,915

All Traffic Data Services Inc.
(303) 216-2439
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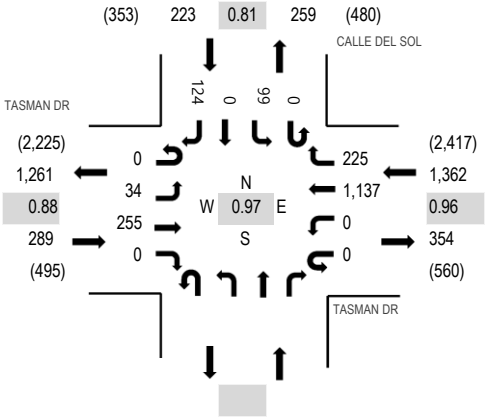
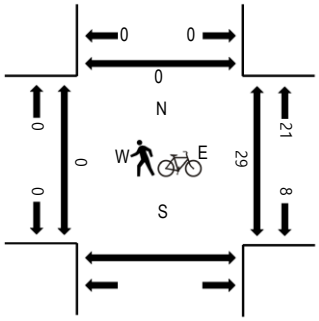
Location: 90 CALLE DEL SOL & TASMAN DR AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				Northbound				CALLE DEL SOL Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	4	19	0	0	0	166	23					0	6	0	12	230	1,391	0	8		0
7:15 AM	3	6	38	0	0	0	206	36					0	5	0	20	314	1,622	0	13		0
7:30 AM	1	11	69	0	0	0	268	60					0	10	0	29	448	1,763	0	14		0
7:45 AM	0	10	45	0	1	0	224	71					0	13	0	35	399	1,788	0	5		0
8:00 AM	0	7	55	0	0	0	276	78					0	26	0	19	461	1,874	0	6		0
8:15 AM	0	10	60	0	0	0	263	53					0	27	0	42	455		0	8		0
8:30 AM	0	10	65	0	0	0	296	43					0	24	0	35	473		0	10		0
8:45 AM	0	7	75	0	0	0	302	51					0	22	0	28	485		0	5		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	1	0	0	0	4	0					0	0	0	0	7
Lights	0	30	242	0	0	0	1,106	218					0	98	0	118	1,812
Mediums	0	2	12	0	0	0	27	7					0	1	0	6	55
Total	0	34	255	0	0	0	1,137	225					0	99	0	124	1,874

All Traffic Data Services Inc.
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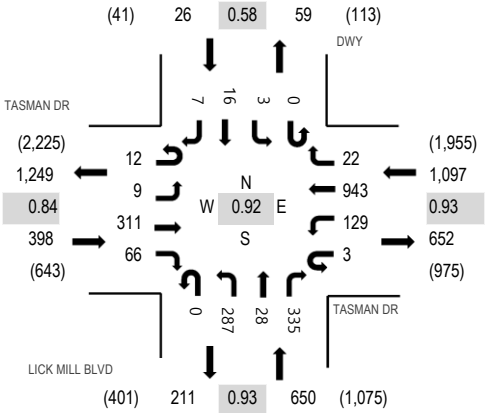
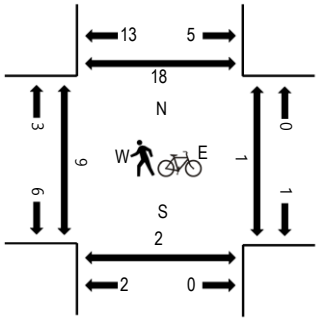
Location: 97 LICK MILL BLVD & TASMAN DR AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				LICK MILL BLVD Northbound				DWY Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	2	0	23	11	1	24	118	3	0	50	4	17	0	0	1	0	254	1,543	2	0	2	2
7:15 AM	4	0	26	13	0	26	161	3	0	50	10	34	0	0	1	1	329	1,843	0	2	2	3
7:30 AM	3	0	63	27	0	32	237	5	0	72	5	34	0	0	1	0	479	2,003	5	0	4	4
7:45 AM	3	1	57	12	0	31	201	16	0	74	7	68	0	0	11	0	481	2,062	5	0	0	6
8:00 AM	4	1	66	17	0	46	241	5	0	66	2	91	0	0	13	2	554	2,171	5	1	2	4
8:15 AM	0	4	78	6	2	23	209	8	0	74	6	74	0	1	0	4	489		1	0	0	0
8:30 AM	3	1	79	20	1	25	239	4	0	79	8	75	0	2	2	0	538		0	0	0	10
8:45 AM	5	3	88	23	0	35	254	5	0	68	12	95	0	0	1	1	590		0	0	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	6	0	0	0	0	1	0	0	0	0	8
Lights	12	9	299	65	3	128	908	22	0	279	28	333	0	3	16	7	2,112
Mediums	0	0	11	1	0	1	29	0	0	8	0	1	0	0	0	0	51
Total	12	9	311	66	3	129	943	22	0	287	28	335	0	3	16	7	2,171

All Traffic Data Services Inc.
(303) 216-2439
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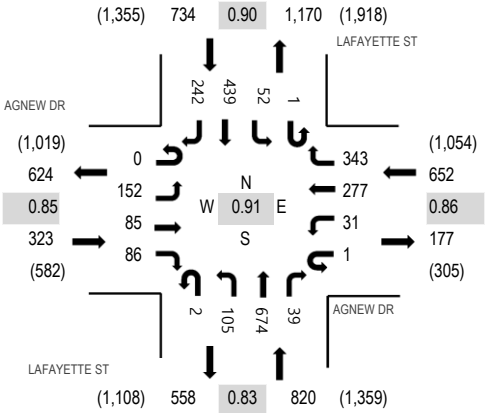
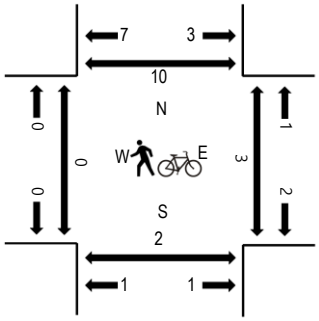
Location: 82 LAFAYETTE ST & AGNEW DR AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	AGNEW DR Eastbound				AGNEW DR Westbound				LAFAYETTE ST Northbound				LAFAYETTE ST Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	14	21	11	2	5	25	26	0	6	73	8	0	6	96	24	317	1,821	0	0	1	0
7:15 AM	0	25	11	21	1	8	46	43	0	12	108	6	0	5	83	37	406	2,150	0	0	0	0
7:30 AM	0	25	12	30	0	13	49	47	0	15	138	8	0	5	112	43	497	2,365	0	2	0	0
7:45 AM	0	40	20	29	3	14	56	64	0	14	145	6	0	14	128	68	601	2,437	0	0	1	0
8:00 AM	0	55	17	24	0	9	65	115	0	15	151	5	0	18	109	63	646	2,529	0	0	1	2
8:15 AM	0	28	21	19	0	5	67	71	0	18	167	11	0	15	129	70	621		0	0	0	3
8:30 AM	0	28	25	20	1	5	53	80	1	33	163	8	1	10	85	56	569		0	2	1	4
8:45 AM	0	41	22	23	0	12	92	77	1	39	193	15	0	9	116	53	693		0	1	0	1

Peak Rolling Hour Flow Rates

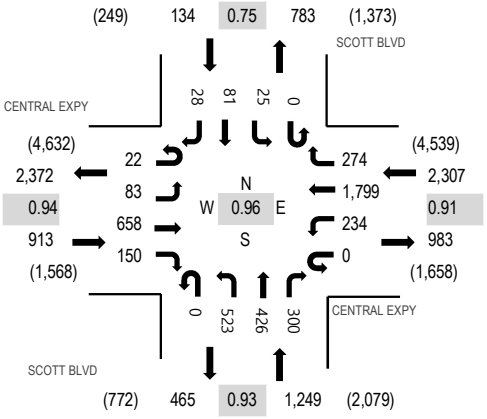
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	6	0	0	0	3	1	10
Lights	0	151	84	83	1	30	276	342	2	104	655	39	1	50	425	234	2,477
Mediums	0	1	1	3	0	1	1	1	0	1	13	0	0	2	11	7	42
Total	0	152	85	86	1	31	277	343	2	105	674	39	1	52	439	242	2,529

All Traffic Data Services Inc.

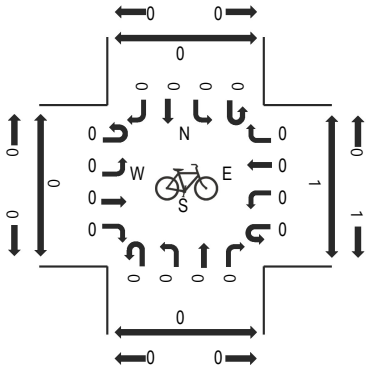
(303) 216-2439
www.alltrafficdata.net

Location: 20 SCOTT BLVD & CENTRAL EXPY AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

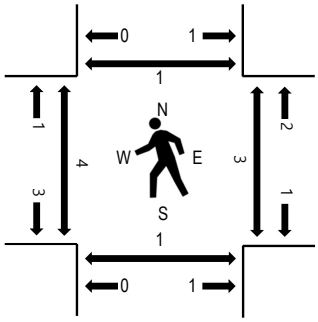
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	CENTRAL EXPY Eastbound				CENTRAL EXPY Westbound				SCOTT BLVD Northbound				SCOTT BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	2	11	78	13	0	28	437	40	0	99	48	30	0	5	13	6	810	3,832	0	0	1	0
7:15 AM	1	17	102	24	0	25	526	44	0	89	57	39	0	2	13	8	947	4,139	0	0	0	0
7:30 AM	2	19	117	23	0	40	489	56	0	79	84	60	0	8	26	4	1,007	4,324	0	0	0	0
7:45 AM	1	39	156	50	0	37	428	82	0	79	93	73	0	5	15	10	1,068	4,514	0	0	0	0
8:00 AM	6	20	153	39	0	57	462	47	0	135	84	65	0	7	32	10	1,117	4,603	2	0	0	0
8:15 AM	5	19	159	42	0	54	437	62	0	147	120	57	0	11	13	6	1,132		0	2	1	0
8:30 AM	5	19	182	31	0	68	475	88	0	110	104	92	0	4	15	4	1,197		2	0	0	0
8:45 AM	6	25	164	38	0	55	425	77	0	131	118	86	0	3	21	8	1,157		0	1	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	2	0	0	0	3	0	0	2	1	1	0	0	1	0	11
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	22	79	637	143	0	232	1,771	270	0	512	416	290	0	23	73	24	4,492
Mediums	0	3	19	7	0	2	25	4	0	9	9	9	0	2	7	4	100
Total	22	83	658	150	0	234	1,799	274	0	523	426	300	0	25	81	28	4,603

All Traffic Data Services Inc.
(303) 216-2439
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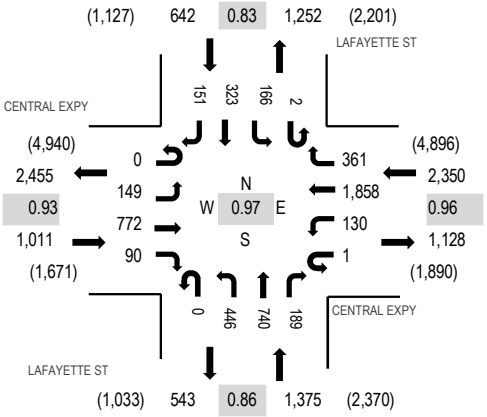
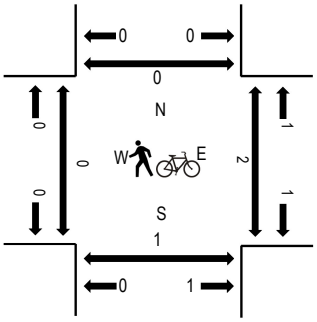
Location: 3 LAFAYETTE ST & CENTRAL EXPY AM
Date: Tuesday, April 9, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	CENTRAL EXPY Eastbound				CENTRAL EXPY Westbound				LAFAYETTE ST Northbound				LAFAYETTE ST Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	21	82	13	0	47	498	90	0	73	84	33	0	26	45	32	1,044	4,686	0	0	0	0
7:15 AM	0	31	89	12	0	40	495	74	0	86	88	32	0	30	48	32	1,057	4,923	0	0	0	0
7:30 AM	0	31	137	21	1	50	502	85	0	90	162	45	0	37	57	20	1,238	5,256	0	0	0	0
7:45 AM	0	26	176	21	0	42	533	89	0	90	168	44	0	30	94	34	1,347	5,346	0	1	0	0
8:00 AM	0	34	152	21	1	40	422	86	0	122	174	36	0	40	116	37	1,281	5,378	0	0	0	0
8:15 AM	0	40	209	24	0	26	505	74	0	116	182	48	1	45	75	45	1,390		0	1	1	0
8:30 AM	0	38	206	17	0	36	495	115	0	82	166	50	1	43	53	26	1,328		0	0	0	0
8:45 AM	0	37	205	28	0	28	436	86	0	126	218	55	0	38	79	43	1,379		0	0	0	0

Peak Rolling Hour Flow Rates

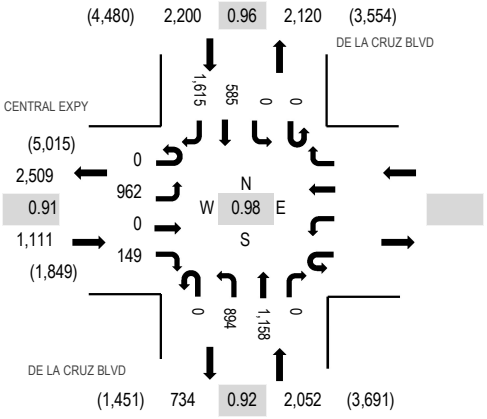
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	4	1	0	3	4	3	0	0	2	8	0	1	5	6	38
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	142	760	84	1	117	1,827	336	0	440	722	160	2	145	309	135	5,180
Mediums	0	6	8	5	0	10	27	22	0	6	16	21	0	20	9	10	160
Total	0	149	772	90	1	130	1,858	361	0	446	740	189	2	166	323	151	5,378

All Traffic Data Services Inc.

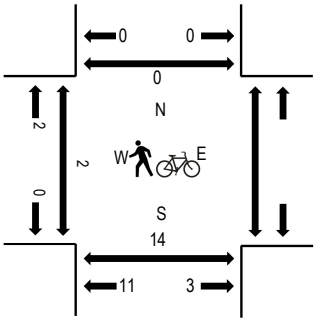
(303) 216-2439
www.alltrafficdata.net

Location: 4 DE LA CRUZ BLVD & CENTRAL EXPY AM
Date: Tuesday, April 9, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	CENTRAL EXPY Eastbound				CENTRAL EXPY Westbound				DE LA CRUZ BLVD Northbound				DE LA CRUZ BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	132	0	16					1	200	155	0	0	0	146	425	1,075	4,657	0		0	0
7:15 AM	0	126	0	31					1	236	177	0	0	0	126	417	1,114	4,889	0		0	0
7:30 AM	0	182	0	26					0	206	209	0	0	0	153	412	1,188	5,103	0		0	0
7:45 AM	0	195	0	30					0	196	258	0	0	0	187	414	1,280	5,283	0		1	0
8:00 AM	0	209	0	44					0	224	265	0	0	0	157	408	1,307	5,363	0		0	0
8:15 AM	0	232	0	39					0	223	250	0	0	0	175	409	1,328		0		0	0
8:30 AM	0	273	0	32					0	216	315	0	0	0	125	407	1,368		0		0	0
8:45 AM	0	248	0	34					0	231	328	0	0	0	128	391	1,360		0		1	0

Peak Rolling Hour Flow Rates

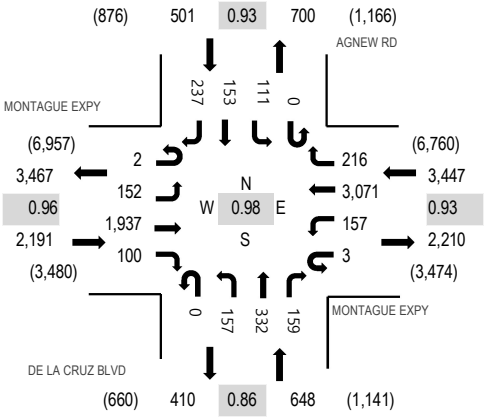
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	11	0	2					0	2	19	0	0	0	14	12	60
Bicycles on Road	0	0	0	0					0	0	0	0	0	0	0	0	0
Lights	0	905	0	139					0	883	1,091	0	0	0	550	1,554	5,122
Mediums	0	46	0	8					0	9	48	0	0	0	21	49	181
Total	0	962	0	149					0	894	1,158	0	0	0	585	1,615	5,363

All Traffic Data Services Inc.

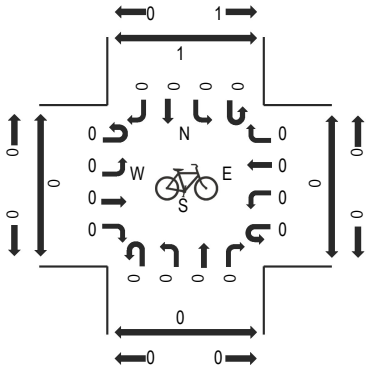
(303) 216-2439
www.alltrafficdata.net

Location: 27 DE LA CRUZ BLVD & MONTAGUE EXPY AM
Date: Thursday, May 16, 2019
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

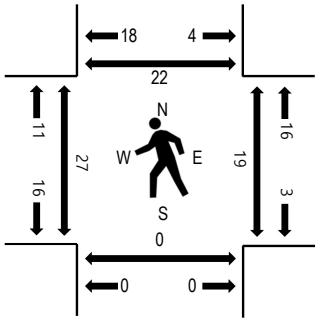
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				DE LA CRUZ BLVD Northbound				AGNEW RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	1	15	187	26	1	25	714	35	0	44	49	14	0	15	9	65	1,200	5,470	0	2	0	3
7:15 AM	2	28	242	29	0	25	690	34	0	39	39	20	0	11	5	51	1,215	5,949	1	1	0	1
7:30 AM	0	32	320	12	0	28	783	32	0	43	55	33	0	18	12	75	1,443	6,391	3	1	0	0
7:45 AM	0	27	341	27	0	33	868	45	0	49	75	33	0	29	19	66	1,612	6,670	2	4	1	4
8:00 AM	1	43	461	25	0	40	827	44	0	32	62	30	0	22	33	59	1,679	6,787	4	2	0	12
8:15 AM	1	39	470	22	3	53	699	59	0	41	84	51	0	25	50	60	1,657		12	5	0	7
8:30 AM	0	30	502	29	0	34	762	51	0	41	97	50	0	30	31	65	1,722		7	9	0	3
8:45 AM	0	40	504	24	0	30	783	62	0	43	89	28	0	34	39	53	1,729		4	3	0	0

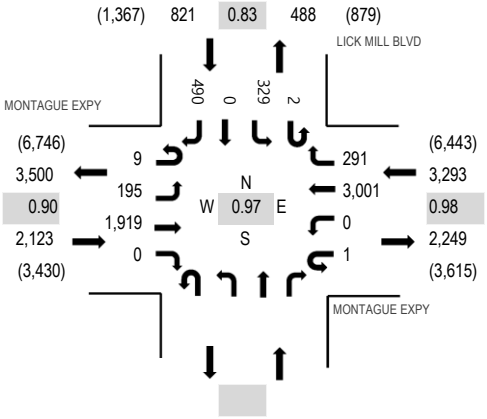
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	11	1	0	0	13	0	0	0	0	1	0	1	0	1	29
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	1	148	1,893	96	3	149	3,005	215	0	153	328	152	0	109	151	232	6,635
Mediums	1	3	33	3	0	8	53	1	0	4	4	6	0	1	2	4	123
Total	2	152	1,937	100	3	157	3,071	216	0	157	332	159	0	111	153	237	6,787

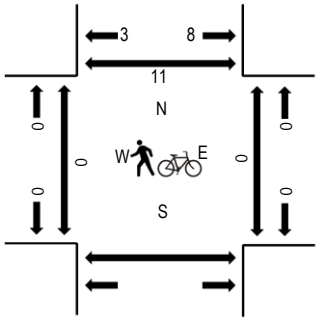
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 98 LICK MILL BLVD & MONTAGUE EXPY AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				Northbound				LICK MILL BLVD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	9	216	0	1	0	670	59					0	31	0	82	1,068	5,003	0	0		2
7:15 AM	3	37	274	0	0	0	649	67					0	44	0	74	1,148	5,450	0	0		3
7:30 AM	1	39	304	0	0	0	770	74					0	65	0	92	1,345	5,871	0	0		5
7:45 AM	1	39	384	0	0	0	793	67					0	47	0	111	1,442	6,137	0	0		1
8:00 AM	2	50	370	0	0	0	779	68					1	85	0	160	1,515	6,237	0	0		5
8:15 AM	1	46	511	0	1	0	734	68					0	85	0	123	1,569		0	0		3
8:30 AM	2	50	538	0	0	0	780	76					0	54	0	111	1,611		0	0		0
8:45 AM	4	49	500	0	0	0	708	79					1	105	0	96	1,542		0	0		2

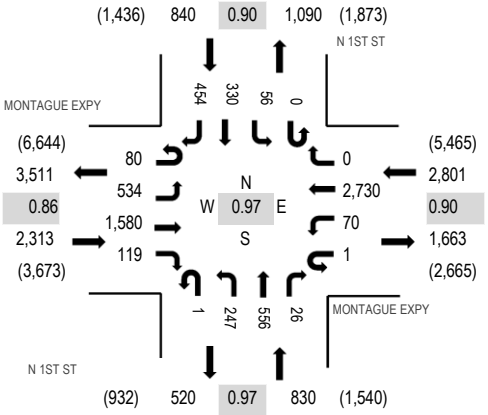
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	12	0	0	0	17	0					0	0	0	0	29
Lights	9	192	1,882	0	1	0	2,927	284					2	327	0	488	6,112
Mediums	0	3	25	0	0	0	57	7					0	2	0	2	96
Total	9	195	1,919	0	1	0	3,001	291					2	329	0	490	6,237

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

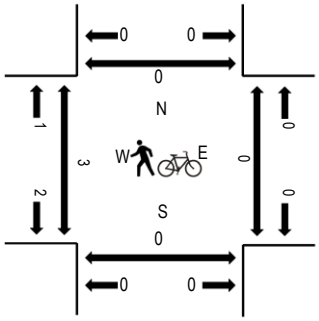
Location: 103 N 1ST ST & MONTAGUE EXPY AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				N 1ST ST Northbound				N 1ST ST Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	1	37	161	29	0	17	616	0	1	42	90	5	0	5	42	74	1,120	5,330	1	0	0	0
7:15 AM	6	81	211	19	0	15	584	0	0	43	129	7	0	6	54	57	1,212	5,835	0	0	0	0
7:30 AM	9	73	237	18	0	11	779	0	0	55	109	5	0	11	64	80	1,451	6,321	0	2	0	0
7:45 AM	12	106	329	31	0	20	622	0	0	59	158	7	0	18	91	94	1,547	6,590	0	0	0	0
8:00 AM	9	100	294	27	0	14	753	0	0	56	154	5	0	7	95	111	1,625	6,784	0	0	0	0
8:15 AM	21	158	421	34	0	19	621	0	0	76	131	11	0	17	64	125	1,698		2	0	0	0
8:30 AM	23	121	404	25	1	10	684	0	0	64	142	5	0	19	100	122	1,720		0	0	0	0
8:45 AM	27	155	461	33	0	27	672	0	1	51	129	5	0	13	71	96	1,741		0	0	0	0

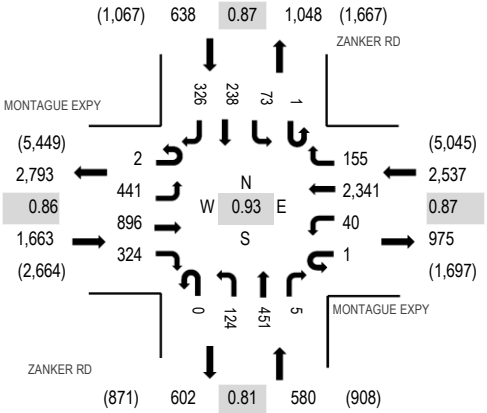
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	16	0	0	0	18	0	0	0	0	0	0	0	1	2	37
Lights	80	531	1,541	119	1	70	2,666	0	1	243	546	26	0	55	317	445	6,641
Mediums	0	3	23	0	0	0	46	0	0	4	10	0	0	1	12	7	106
Total	80	534	1,580	119	1	70	2,730	0	1	247	556	26	0	56	330	454	6,784

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

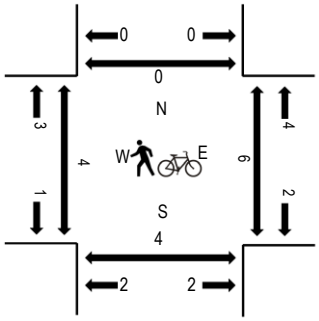
Location: 105 ZANKER RD & MONTAGUE EXPY AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				ZANKER RD Northbound				ZANKER RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	22	131	14	0	8	554	26	0	15	35	1	0	8	26	57	897	4,266	0	0	0	0
7:15 AM	0	53	140	30	0	4	536	38	0	20	58	1	0	10	22	40	952	4,626	0	0	1	0
7:30 AM	0	70	157	26	0	6	716	33	0	8	74	5	0	16	31	66	1,208	4,986	0	2	0	0
7:45 AM	0	87	223	48	0	8	540	39	0	24	84	3	0	27	46	80	1,209	5,177	0	0	0	0
8:00 AM	0	54	188	61	1	8	680	29	0	19	87	3	0	17	47	63	1,257	5,418	0	2	1	0
8:15 AM	0	101	257	90	0	10	527	44	0	34	104	0	0	15	52	78	1,312		1	1	0	0
8:30 AM	1	127	224	78	0	8	555	43	0	46	133	1	0	21	70	92	1,399		0	1	1	0
8:45 AM	1	159	227	95	0	14	579	39	0	25	127	1	1	20	69	93	1,450		1	0	1	0

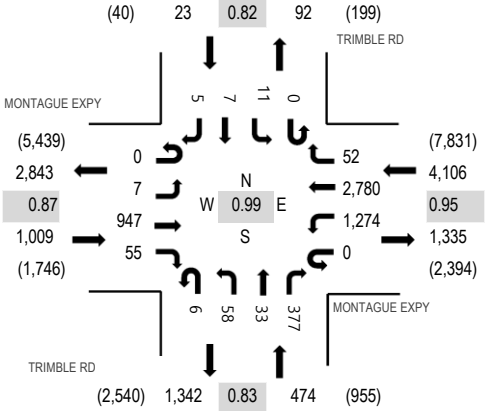
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	13	0	0	0	16	0	0	1	2	0	0	0	0	2	35
Lights	2	435	868	319	1	40	2,302	153	0	121	435	5	1	72	233	313	5,300
Mediums	0	5	15	5	0	0	23	2	0	2	14	0	0	1	5	11	83
Total	2	441	896	324	1	40	2,341	155	0	124	451	5	1	73	238	326	5,418

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

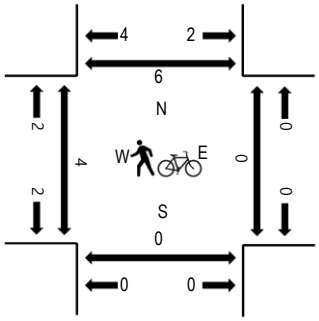
Location: 108 TRIMBLE RD & MONTAGUE EXPY AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				TRIMBLE RD Northbound				TRIMBLE RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	141	7	1	253	579	5	0	2	3	51	0	4	0	2	1,049	5,101	0	0	0	0
7:15 AM	0	1	122	1	0	286	739	15	0	8	5	75	0	2	0	1	1,255	5,445	0	0	0	0
7:30 AM	0	1	210	5	0	262	805	17	2	7	6	83	0	4	2	1	1,405	5,612	1	0	0	0
7:45 AM	0	1	278	21	0	318	642	11	1	18	9	87	0	3	2	1	1,392	5,542	3	0	0	0
8:00 AM	0	5	227	14	0	366	635	11	1	18	10	99	0	2	2	3	1,393	5,471	0	0	0	0
8:15 AM	0	0	232	15	0	328	698	13	2	15	8	108	0	2	1	0	1,422		0	0	0	0
8:30 AM	0	6	222	17	1	289	627	13	6	23	23	104	0	2	0	2	1,335		0	0	0	0
8:45 AM	1	2	205	11	0	322	586	9	5	26	24	126	0	3	1	0	1,321		3	0	0	1

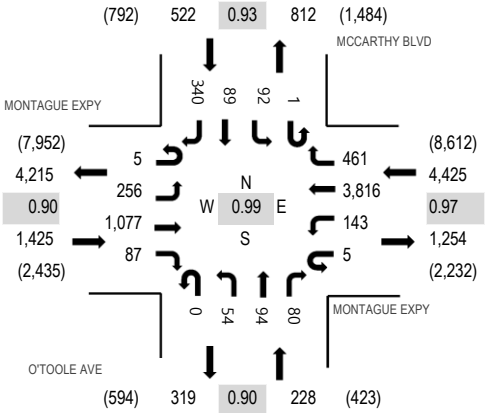
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	19	0	0	21	18	0	0	0	0	34	0	0	0	0	92
Lights	0	7	913	52	0	1,227	2,714	52	5	57	33	322	0	11	6	5	5,404
Mediums	0	0	15	3	0	26	48	0	1	1	0	21	0	0	1	0	116
Total	0	7	947	55	0	1,274	2,780	52	6	58	33	377	0	11	7	5	5,612

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

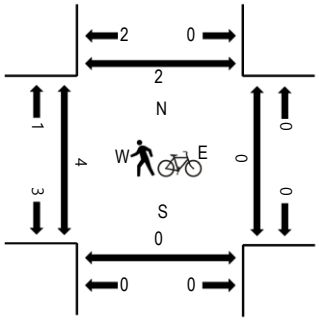
Location: 109 O'TOOLE AVE & MONTAGUE EXPY AM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				O'TOOLE AVE Northbound				MCCARTHY BLVD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	26	180	4	0	56	757	109	0	13	14	28	0	17	10	23	1,237	5,662	1	0	0	1
7:15 AM	0	24	180	6	0	29	931	126	1	12	15	22	0	12	15	26	1,399	6,027	0	0	0	0
7:30 AM	1	34	222	10	0	36	984	115	0	6	14	19	0	10	15	36	1,502	6,301	2	0	0	0
7:45 AM	1	59	245	18	0	47	872	125	0	12	11	28	0	15	28	63	1,524	6,462	1	0	0	0
8:00 AM	0	46	225	23	0	45	944	135	0	16	26	20	0	22	25	75	1,602	6,600	1	0	0	0
8:15 AM	1	61	266	30	1	28	1,001	111	0	14	21	11	1	19	18	90	1,673		1	0	0	1
8:30 AM	2	75	304	16	2	34	928	107	0	15	25	23	0	27	15	90	1,663		1	0	0	1
8:45 AM	2	74	282	18	2	36	943	108	0	9	22	26	0	24	31	85	1,662		1	0	0	0

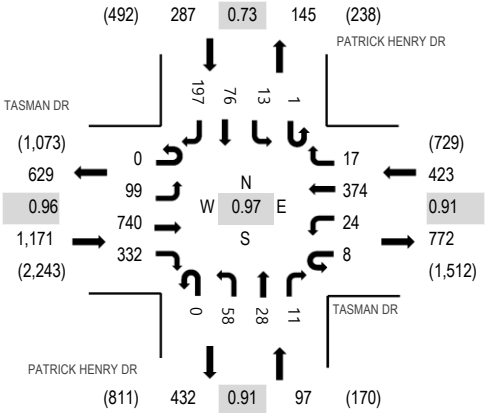
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	44	6	1	4	27	1	0	2	3	2	0	2	0	0	93
Lights	5	252	982	72	4	133	3,734	455	0	48	87	72	1	86	85	333	6,349
Mediums	0	3	51	9	0	6	55	5	0	4	4	6	0	4	4	7	158
Total	5	256	1,077	87	5	143	3,816	461	0	54	94	80	1	92	89	340	6,600

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

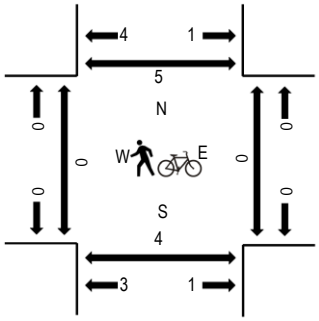
Location: 40 PATRICK HENRY DR & TASMAN DR PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				PATRICK HENRY DR Northbound				PATRICK HENRY DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	14	214	61	3	4	60	1	0	12	1	1	0	4	21	27	423	1,704	1	0	0	0
4:15 PM	0	12	189	60	0	3	69	3	0	12	2	6	0	5	8	26	395	1,791	0	0	0	0
4:30 PM	0	18	177	78	0	6	59	1	0	9	6	3	0	4	22	34	417	1,905	0	4	0	4
4:45 PM	0	23	230	52	4	7	75	4	0	16	1	3	1	4	13	36	469	1,978	0	0	1	2
5:00 PM	0	18	201	78	3	7	102	6	0	16	9	2	0	3	18	47	510	1,930	0	0	1	1
5:15 PM	0	22	158	99	1	4	98	5	0	14	9	1	0	4	30	64	509		0	0	1	0
5:30 PM	0	36	151	103	0	6	99	2	0	12	9	5	0	2	15	50	490		0	0	0	0
5:45 PM	0	25	131	93	0	4	90	3	0	13	7	1	0	2	19	33	421		0	0	0	0

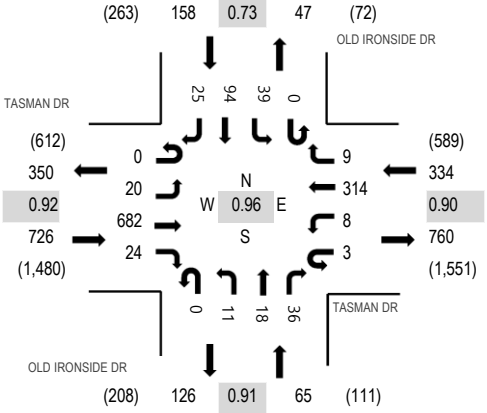
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Lights	0	97	721	324	8	23	361	14	0	53	27	10	1	13	75	193	1,920
Mediums	0	2	19	8	0	1	13	3	0	5	1	0	0	0	1	4	57
Total	0	99	740	332	8	24	374	17	0	58	28	11	1	13	76	197	1,978

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

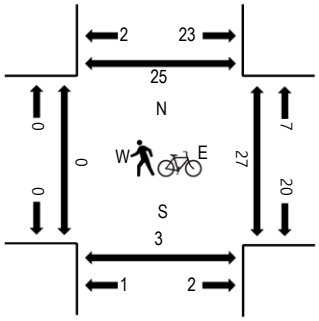
Location: 41 OLD IRONSIDE DR & TASMAN DR PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				OLD IRONSIDE DR Northbound				OLD IRONSIDE DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	3	3	200	3	2	1	46	3	0	1	2	7	0	9	16	6	302	1,233	0	15	2	16
4:15 PM	0	2	211	5	0	0	58	2	0	2	0	3	0	3	15	4	305	1,251	4	10	0	6
4:30 PM	0	0	183	7	1	3	54	3	0	2	2	8	0	12	14	2	291	1,270	0	19	8	9
4:45 PM	0	3	220	7	0	0	64	1	0	0	0	4	0	10	20	6	335	1,283	0	14	1	12
5:00 PM	0	4	157	6	0	1	75	1	0	5	6	11	0	13	33	8	320	1,210	0	3	0	4
5:15 PM	0	5	162	3	1	3	88	2	0	2	6	13	0	9	28	2	324		0	5	1	8
5:30 PM	0	8	143	8	2	4	87	5	0	4	6	8	0	7	13	9	304		0	5	1	1
5:45 PM	0	4	129	4	3	2	75	2	0	1	2	16	0	4	12	8	262		0	4	0	6

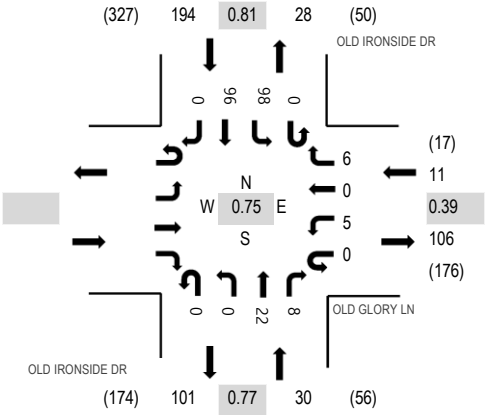
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	17	663	24	3	7	298	8	0	10	17	32	0	36	94	25	1,234
Mediums	0	3	18	0	0	1	16	1	0	1	1	4	0	3	0	0	48
Total	0	20	682	24	3	8	314	9	0	11	18	36	0	39	94	25	1,283

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

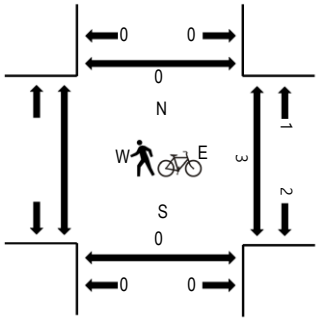
Location: 42 OLD IRONSIDE DR & OLD GLORY LN PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Eastbound				OLD GLORY LN Westbound				OLD IRONSIDE DR Northbound				OLD IRONSIDE DR Southbound					Rolling Hour	Pedestrain Crossings		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM					0	0	0	3	0	0	3	2	0	14	13	0	35	165		2	0	0
4:15 PM					0	1	0	1	0	0	5	0	0	14	16	0	37	208		6	0	0
4:30 PM					0	0	0	0	0	0	8	3	0	16	19	0	46	210		13	0	0
4:45 PM					0	1	0	0	0	0	2	3	0	18	23	0	47	232		1	0	0
5:00 PM					0	4	0	3	0	0	9	2	0	29	31	0	78	235		1	0	0
5:15 PM					0	0	0	0	0	0	3	4	0	9	23	0	39			1	0	0
5:30 PM					0	1	0	2	0	0	7	1	0	34	23	0	68			0	0	0
5:45 PM					0	0	0	1	0	0	3	1	0	26	19	0	50			1	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	0	0	0	0	0	0	1	0	0	1
Lights					0	5	0	5	0	0	19	8	0	97	94	0	228
Mediums					0	0	0	1	0	0	3	0	0	0	2	0	6
Total					0	5	0	6	0	0	22	8	0	98	96	0	235

All Traffic Data Services Inc.
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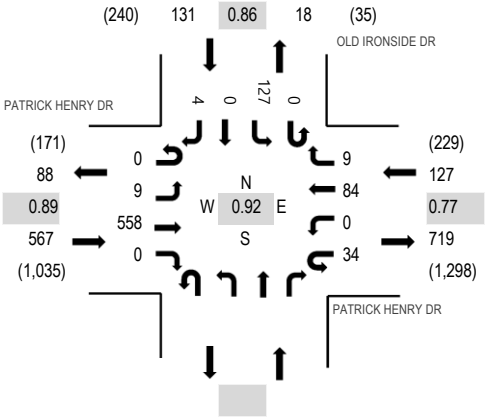
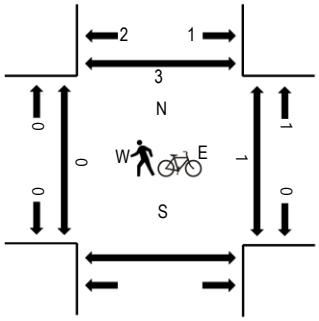
Location: 43 OLD IRONSIDE DR & PATRICK HENRY DR PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	PATRICK HENRY DR Eastbound				PATRICK HENRY DR Westbound				Northbound				OLD IRONSIDE DR Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	121	0	2	0	18	0					0	25	0	0	166	679	0	0		0
4:15 PM	0	3	92	0	2	0	19	4					0	19	0	4	143	725	0	4		0
4:30 PM	0	2	141	0	4	0	20	4					0	18	0	1	190	807	0	4		0
4:45 PM	0	1	108	0	6	0	20	3					0	41	0	1	180	814	0	0		0
5:00 PM	0	4	143	0	5	0	16	5					0	38	0	1	212	825	0	0		2
5:15 PM	0	1	159	0	9	0	23	1					0	30	0	2	225		0	1		1
5:30 PM	0	3	135	0	6	0	21	0					0	31	0	1	197		0	0		0
5:45 PM	0	1	121	0	14	0	24	3					0	28	0	0	191		0	0		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0					0	0	0	0	0
Lights	0	8	551	0	34	0	80	8					0	125	0	4	810
Mediums	0	1	7	0	0	0	4	1					0	2	0	0	15
Total	0	9	558	0	34	0	84	9					0	127	0	4	825

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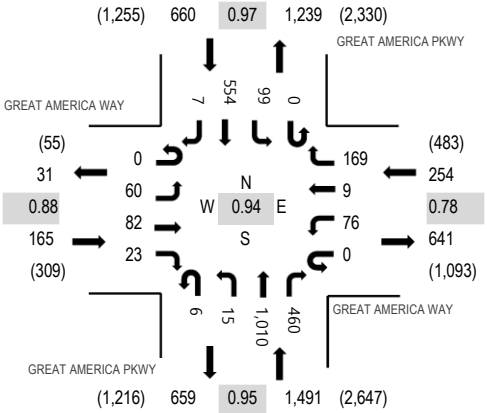
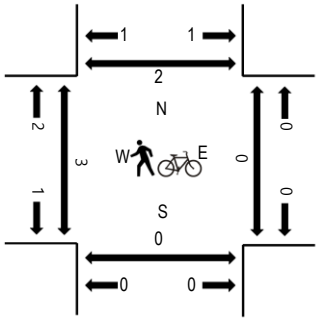
Location: 47 GREAT AMERICA PKWY & GREAT AMERICA WAY PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	GREAT AMERICA WAY Eastbound				GREAT AMERICA WAY Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	19	13	5	0	17	0	46	0	1	206	44	0	37	93	2	483	2,124	1	0	0	0
4:15 PM	0	10	12	6	0	18	1	44	0	4	216	59	0	29	117	1	517	2,322	3	0	1	0
4:30 PM	0	20	13	5	0	19	0	40	0	3	224	79	0	27	114	2	546	2,476	1	0	0	0
4:45 PM	0	19	17	5	0	10	5	29	3	4	218	95	0	27	145	1	578	2,567	6	0	5	0
5:00 PM	0	22	16	5	0	24	3	58	0	5	277	98	0	28	142	3	681	2,570	1	0	0	1
5:15 PM	0	14	31	4	0	17	5	54	2	4	260	126	0	20	132	2	671		0	0	0	0
5:30 PM	0	10	24	5	0	16	1	35	2	2	258	113	0	27	142	2	637		0	0	0	1
5:45 PM	0	14	11	9	0	19	0	22	2	4	215	123	0	24	138	0	581		1	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7
Lights	0	60	82	23	0	75	9	167	6	15	994	452	0	97	541	7	2,528
Mediums	0	0	0	0	0	1	0	2	0	0	13	8	0	2	9	0	35
Total	0	60	82	23	0	76	9	169	6	15	1,010	460	0	99	554	7	2,570

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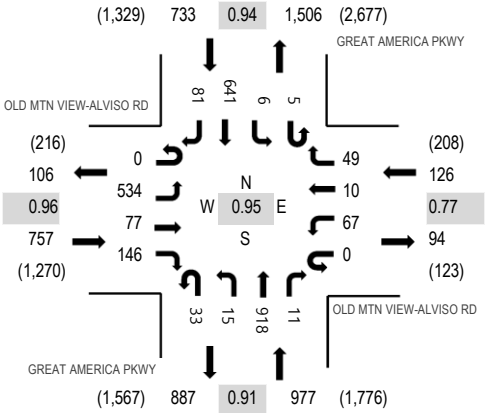
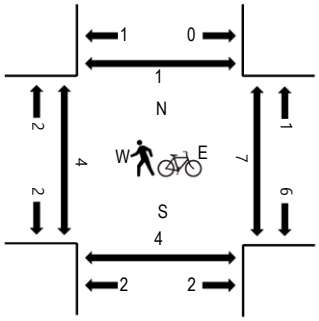
Location: 48 GREAT AMERICA PKWY & OLD MTN VIEW-ALVISO RD PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	OLD MTN VIEW-ALVISO RD Eastbound				OLD MTN VIEW-ALVISO RD Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	81	0	25	0	13	1	6	3	9	170	3	1	1	95	20	428	1,990	2	0	0	2
4:15 PM	0	89	2	25	0	15	0	6	10	4	170	4	1	0	118	28	472	2,204	3	3	2	4
4:30 PM	0	105	3	27	0	17	0	4	5	2	203	5	1	2	144	11	529	2,413	0	3	2	0
4:45 PM	0	126	6	24	0	11	1	8	5	7	197	2	3	1	143	27	561	2,529	1	1	2	0
5:00 PM	0	136	14	48	0	24	2	15	10	2	219	1	1	0	153	17	642	2,593	2	2	0	0
5:15 PM	0	135	21	33	0	10	4	15	10	4	253	1	2	4	166	23	681		1	4	1	1
5:30 PM	0	146	16	36	0	17	2	7	8	4	221	4	2	1	166	15	645		0	0	1	0
5:45 PM	0	117	26	29	0	16	2	12	5	5	225	5	0	1	156	26	625		1	1	2	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
Lights	0	525	77	143	0	67	10	49	33	15	906	11	5	6	639	69	2,555
Mediums	0	8	0	3	0	0	0	0	0	0	10	0	0	0	2	10	33
Total	0	534	77	146	0	67	10	49	33	15	918	11	5	6	641	81	2,593

All Traffic Data Services Inc.
(303) 216-2439
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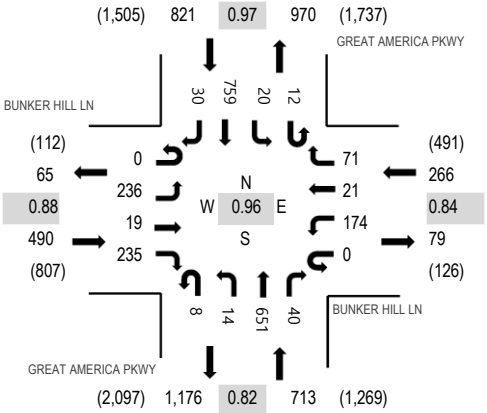
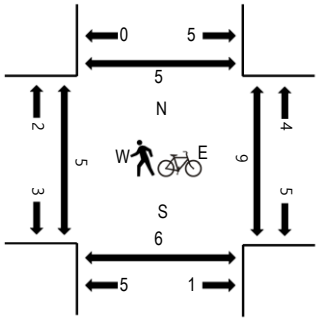
Location: 51 GREAT AMERICA PKWY & BUNKER HILL LN PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	BUNKER HILL LN Eastbound				BUNKER HILL LN Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	41	5	42	0	34	2	25	0	5	127	9	1	5	128	10	434	1,782	3	0	1	1
4:15 PM	0	33	0	30	0	37	2	20	0	3	110	1	3	5	158	5	407	1,896	0	2	1	2
4:30 PM	0	42	1	47	0	27	1	21	1	2	150	7	3	4	166	7	479	2,085	1	0	0	1
4:45 PM	0	35	2	39	0	37	0	19	0	2	134	5	3	3	175	8	462	2,195	4	4	0	1
5:00 PM	0	72	6	51	0	37	4	18	1	2	146	7	3	5	191	5	548	2,290	2	1	0	0
5:15 PM	0	62	2	66	0	42	6	26	2	4	168	8	4	5	194	7	596		0	3	2	1
5:30 PM	0	67	6	67	0	57	8	15	2	5	140	10	3	6	195	8	589		1	1	1	3
5:45 PM	0	35	5	51	0	38	3	12	3	3	197	15	2	4	179	10	557		2	1	3	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Lights	0	236	19	229	0	172	19	71	8	14	638	40	12	19	758	30	2,265
Mediums	0	0	0	6	0	2	2	0	0	0	11	0	0	1	1	0	23
Total	0	236	19	235	0	174	21	71	8	14	651	40	12	20	759	30	2,290

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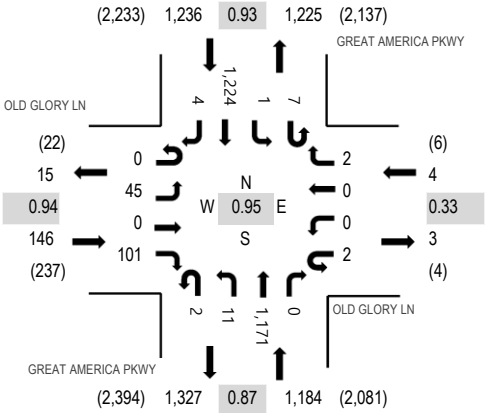
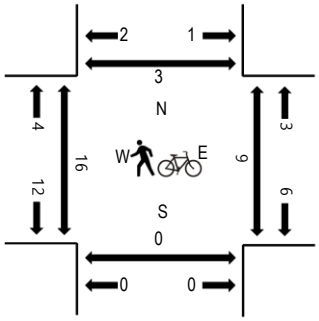
Location: 53 GREAT AMERICA PKWY & OLD GLORY LN PM
Date and Start Time: Wednesday, May 9, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	OLD GLORY LN Eastbound				OLD GLORY LN Westbound				GREAT AMERICA PKWY Northbound				GREAT AMERICA PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	4	0	16	0	0	0	0	1	2	203	0	1	0	208	1	436	1,987	0	0	0	0
4:15 PM	0	5	0	12	0	0	0	2	1	2	216	0	1	1	238	0	478	2,104	0	3	0	1
4:30 PM	0	6	0	20	0	0	0	0	2	0	234	0	1	0	259	0	522	2,296	1	4	0	1
4:45 PM	0	2	0	26	0	0	0	0	0	1	235	0	2	0	284	1	551	2,453	2	1	0	1
5:00 PM	0	8	0	30	0	0	0	1	0	6	204	0	1	0	302	1	553	2,570	3	6	0	3
5:15 PM	0	10	0	25	0	0	0	0	0	3	338	0	1	0	292	1	670		0	1	0	0
5:30 PM	0	15	0	24	0	0	0	0	0	1	305	0	5	1	326	2	679		7	2	0	0
5:45 PM	0	12	0	22	2	0	0	1	2	1	324	0	0	0	304	0	668		6	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	3
Lights	0	45	0	100	2	0	0	2	2	10	1,144	0	7	1	1,209	4	2,526
Mediums	0	0	0	0	0	0	0	0	0	1	25	0	0	0	15	0	41
Total	0	45	0	101	2	0	0	2	2	11	1,171	0	7	1	1,224	4	2,570

All Traffic Data Services Inc.
(303) 216-2439
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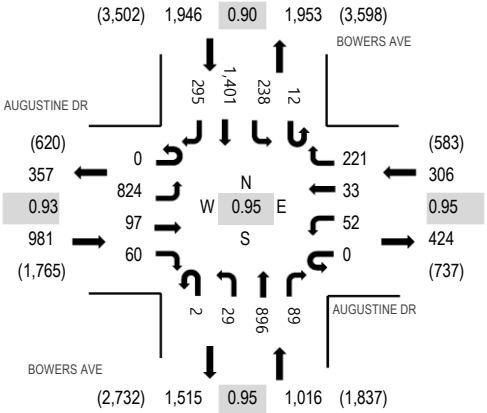
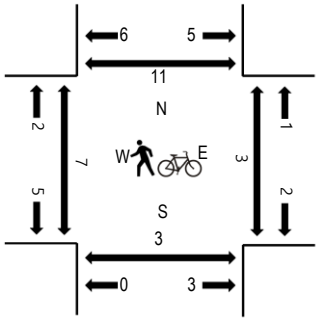
Location: 58 BOWERS AVE & AUGUSTINE DR PM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	AUGUSTINE DR Eastbound				AUGUSTINE DR Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	154	16	14	0	10	4	42	3	4	166	17	8	30	220	44	732	3,438	0	0	0	1
4:15 PM	0	148	13	9	1	10	3	60	3	11	176	10	7	57	240	51	799	3,766	1	0	0	0
4:30 PM	0	207	16	10	1	15	4	51	0	5	178	13	10	46	310	56	922	4,084	3	0	0	0
4:45 PM	0	167	18	12	0	16	6	54	0	4	211	20	6	55	345	71	985	4,217	0	2	0	2
5:00 PM	0	204	29	15	0	15	8	62	0	7	202	26	3	53	373	63	1,060	4,249	2	1	0	2
5:15 PM	0	182	16	20	0	17	6	62	0	3	245	20	4	56	404	82	1,117		3	0	0	2
5:30 PM	0	223	29	12	0	9	11	58	2	7	224	25	2	69	317	67	1,055		1	2	3	2
5:45 PM	0	215	23	13	0	11	8	39	0	12	225	18	3	60	307	83	1,017		1	0	0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	819	96	60	0	51	33	219	2	29	880	89	12	237	1,391	294	4,212
Mediums	0	5	1	0	0	1	0	2	0	0	16	0	0	1	10	1	37
Total	0	824	97	60	0	52	33	221	2	29	896	89	12	238	1,401	295	4,249

All Traffic Data Services Inc.

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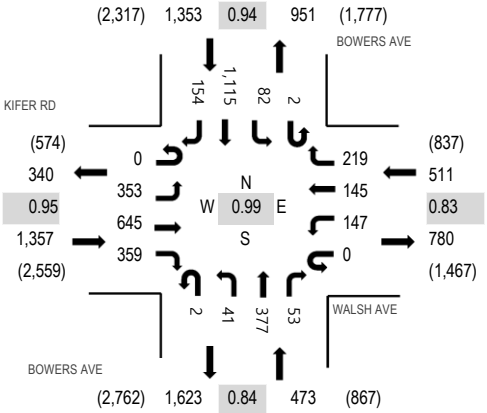
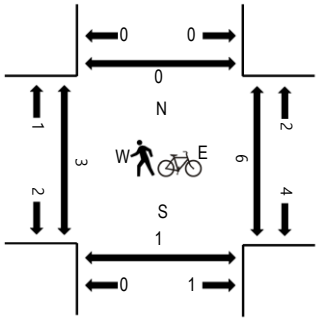
Location: 8 BOWERS AVE & WALSH AVE PM
Date and Start Time: Wednesday, March 7, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	KIFER RD Eastbound				WALSH AVE Westbound				BOWERS AVE Northbound				BOWERS AVE Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	97	123	57	0	17	25	24	2	4	85	11	1	9	150	14	619	2,886	0	0	1	1
4:15 PM	0	97	124	46	0	18	30	22	1	8	85	8	2	14	199	18	672	3,190	1	0	1	0
4:30 PM	0	89	169	71	3	12	30	45	1	11	72	6	0	21	198	21	749	3,443	0	0	1	0
4:45 PM	0	97	153	79	1	26	37	36	1	11	74	14	0	31	261	25	846	3,626	0	1	0	1
5:00 PM	0	92	176	77	0	36	41	76	1	9	87	17	0	17	260	34	923	3,694	0	2	0	0
5:15 PM	0	96	169	96	0	43	49	49	1	14	71	10	1	24	273	29	925		1	1	0	0
5:30 PM	0	78	171	88	0	30	28	41	0	10	116	15	1	20	292	42	932		0	2	1	0
5:45 PM	0	87	129	98	0	38	27	53	0	8	103	11	0	21	290	49	914		2	0	0	0

Peak Rolling Hour Flow Rates

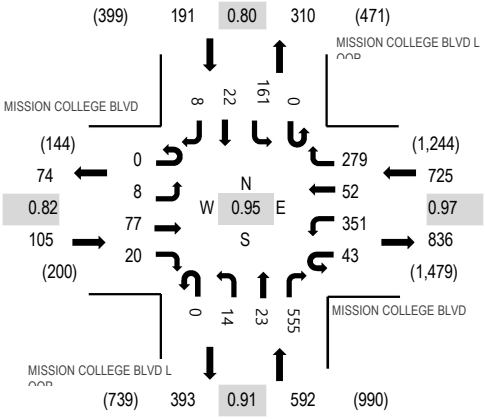
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	349	643	359	0	145	143	218	2	41	370	52	2	81	1,111	151	3,667
Mediums	0	3	2	0	0	2	2	1	0	0	7	1	0	1	4	3	26
Total	0	353	645	359	0	147	145	219	2	41	377	53	2	82	1,115	154	3,694

All Traffic Data Services Inc.

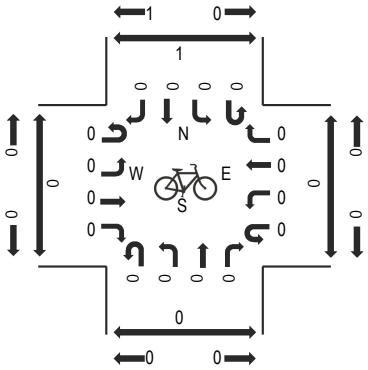
(303) 216-2439
www.alltrafficdata.net

Location: 29 MISSION COLLEGE BLVD LOOP & MISSION COLLEGE BLVD PM
Date: Thursday, May 16, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

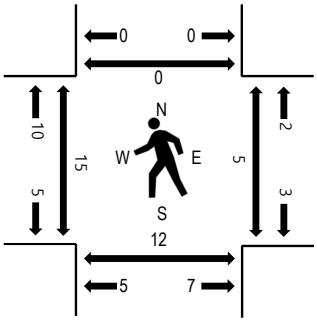
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				MISSION COLLEGE BLVD LOOP Northbound				MISSION COLLEGE BLVD LOOP Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	3	20	7	5	76	13	31	0	1	1	97	0	43	8	6	311	1,220	2	2	3	0
4:15 PM	0	1	24	3	4	79	13	31	0	4	2	84	0	59	5	1	310	1,332	3	0	3	0
4:30 PM	0	1	18	0	3	72	8	38	0	3	1	85	0	41	6	1	277	1,406	6	1	1	1
4:45 PM	1	0	9	8	6	74	15	51	1	3	1	115	0	30	7	1	322	1,529	6	1	3	1
5:00 PM	0	3	27	2	9	94	12	64	0	2	5	155	0	45	3	2	423	1,613	3	1	3	0
5:15 PM	0	1	17	9	11	87	11	67	0	3	7	134	0	33	4	0	384		1	0	2	0
5:30 PM	0	2	14	6	10	81	17	75	0	5	4	136	0	39	11	0	400		6	3	3	0
5:45 PM	0	2	19	3	13	89	12	73	0	4	7	130	0	44	4	6	406		5	1	4	0

Peak Rolling Hour Flow Rates

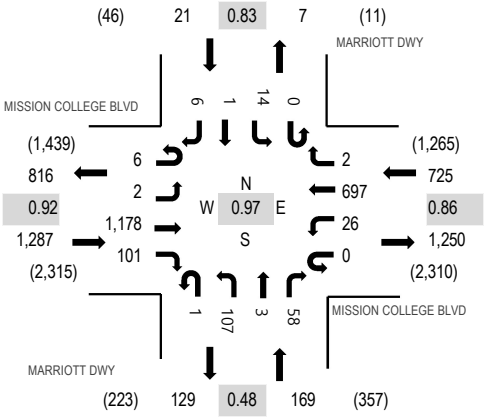
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	8	68	20	43	350	44	279	0	14	23	551	0	160	22	8	1,590
Mediums	0	0	9	0	0	0	8	0	0	0	0	3	0	1	0	0	21
Total	0	8	77	20	43	351	52	279	0	14	23	555	0	161	22	8	1,613

All Traffic Data Services Inc.

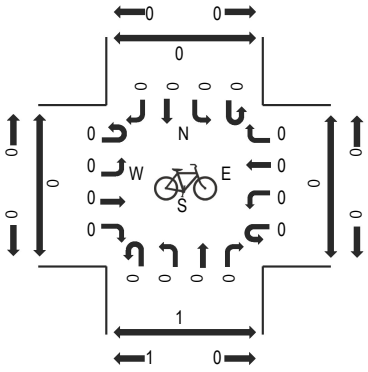
(303) 216-2439
www.alltrafficdata.net

Location: 30 MARRIOTT DWY & MISSION COLLEGE BLVD PM
Date: Thursday, May 16, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

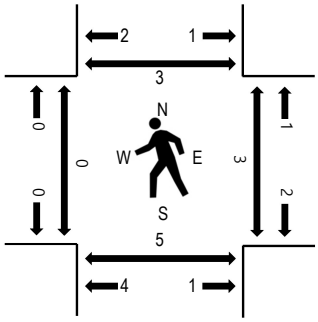
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				MARRIOTT DWY Northbound				MARRIOTT DWY Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	0	228	13	0	6	138	0	0	7	0	6	0	1	0	2	402	1,781	1	0	8	2
4:15 PM	0	1	237	18	0	6	115	0	0	11	0	10	0	1	0	3	402	1,948	2	0	0	1
4:30 PM	0	0	228	23	1	3	141	1	0	18	0	16	0	7	0	2	440	2,082	1	0	0	1
4:45 PM	1	1	258	19	0	4	125	0	0	57	1	62	0	5	2	2	537	2,174	1	0	1	1
5:00 PM	5	0	291	30	0	7	181	0	0	27	1	23	0	2	0	2	569	2,202	0	1	1	1
5:15 PM	0	0	278	17	0	3	207	0	1	19	0	3	0	6	0	2	536		0	1	2	0
5:30 PM	0	0	291	25	0	7	171	0	0	21	0	16	0	1	0	0	532		0	1	1	2
5:45 PM	1	2	318	29	0	9	138	2	0	40	2	16	0	5	1	2	565		0	0	1	0

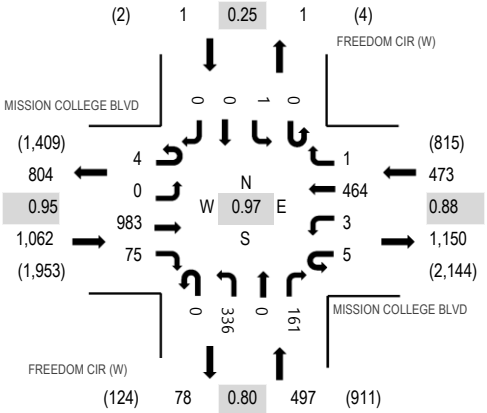
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	6	2	1,161	99	0	26	689	2	1	105	3	58	0	14	1	6	2,173
Mediums	0	0	16	2	0	0	8	0	0	2	0	0	0	0	0	0	28
Total	6	2	1,178	101	0	26	697	2	1	107	3	58	0	14	1	6	2,202

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

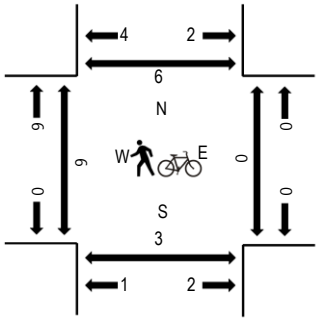
Location: 130 FREEDOM CIR (W) & MISSION COLLEGE BLVD PM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				FREEDOM CIR (W) Northbound				FREEDOM CIR (W) Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	216	7	1	0	62	0	0	49	0	29	0	0	0	0	364	1,648	1	0	0	1
4:15 PM	0	1	191	8	0	0	88	0	0	81	0	26	0	0	0	0	395	1,777	7	0	0	0
4:30 PM	0	1	218	5	0	1	90	0	0	67	0	51	0	0	0	0	433	1,903	2	0	0	1
4:45 PM	2	0	221	21	0	3	97	0	0	69	1	41	0	0	1	0	456	1,966	1	0	1	0
5:00 PM	1	0	226	15	1	0	90	0	0	106	0	54	0	0	0	0	493	2,033	0	0	0	1
5:15 PM	1	0	236	29	1	1	132	0	0	92	0	29	0	0	0	0	521		5	0	2	4
5:30 PM	2	0	261	12	1	1	116	0	0	63	0	40	0	0	0	0	496		0	0	1	0
5:45 PM	0	0	260	19	2	1	126	1	0	75	0	38	0	1	0	0	523		1	0	0	1

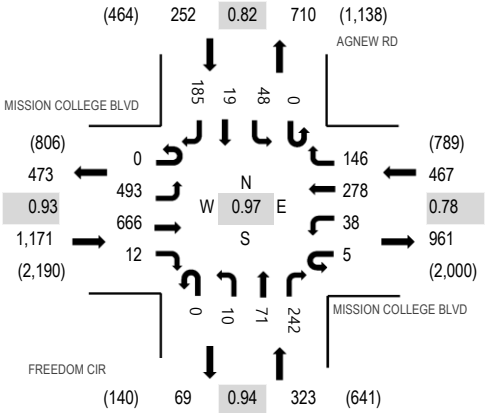
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
Lights	4	0	970	72	5	3	453	1	0	334	0	159	0	1	0	0	2,002
Mediums	0	0	13	2	0	0	9	0	0	2	0	2	0	0	0	0	28
Total	4	0	983	75	5	3	464	1	0	336	0	161	0	1	0	0	2,033

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

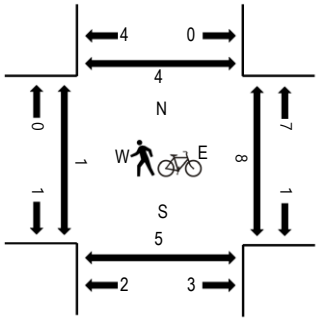
Location: 131 FREEDOM CIR & MISSION COLLEGE BLVD PM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				FREEDOM CIR Northbound				AGNEW RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	79	173	1	0	3	25	22	0	9	14	65	0	13	5	25	434	1,871	0	1	2	0
4:15 PM	0	54	167	3	0	14	57	17	0	2	5	52	0	15	2	31	419	1,960	0	2	0	3
4:30 PM	0	82	191	0	1	12	33	31	0	6	14	74	0	17	3	47	511	2,107	0	1	1	0
4:45 PM	0	75	188	6	5	22	49	31	0	8	4	65	0	13	0	41	507	2,166	0	0	1	0
5:00 PM	0	103	172	5	1	10	54	33	0	3	12	78	0	14	9	29	523	2,213	0	2	0	2
5:15 PM	0	122	150	1	2	12	93	43	0	1	24	64	0	8	1	45	566		0	2	3	1
5:30 PM	0	140	172	3	0	6	60	35	0	3	18	56	0	17	4	56	570		0	1	1	0
5:45 PM	0	128	172	3	2	10	71	35	0	3	17	44	0	9	5	55	554		0	0	0	0

Peak Rolling Hour Flow Rates

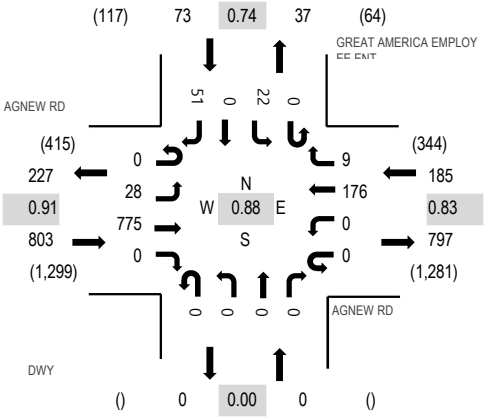
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	490	654	12	5	38	269	145	0	10	70	241	0	48	19	182	2,183
Mediums	0	3	12	0	0	0	9	1	0	0	1	1	0	0	0	3	30
Total	0	493	666	12	5	38	278	146	0	10	71	242	0	48	19	185	2,213

All Traffic Data Services Inc.

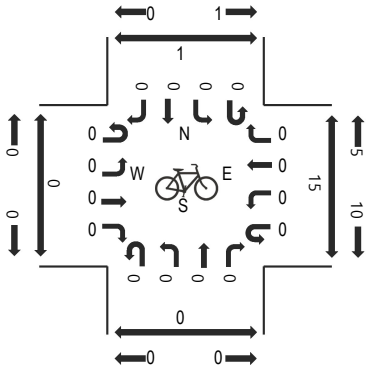
(303) 216-2439
www.alltrafficdata.net

Location: 31 DWY & AGNEW RD PM
Date: Thursday, May 16, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

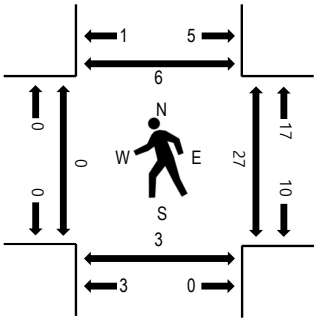
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	AGNEW RD Eastbound				AGNEW RD Westbound				DWY Northbound				GREAT AMERICA EMPLOYEE ENT Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	4	99	0	0	0	40	0	0	0	0	0	0	3	0	9	155	699	0	7	0	1
4:15 PM	0	6	86	0	0	0	35	2	0	0	0	0	0	2	0	5	136	808	0	8	0	3
4:30 PM	0	4	124	0	0	0	43	3	0	0	0	0	0	1	0	13	188	973	0	6	0	1
4:45 PM	0	5	168	0	0	0	33	3	0	0	0	0	0	1	0	10	220	1,020	0	2	0	0
5:00 PM	0	11	188	0	0	0	40	2	0	0	0	0	0	10	0	13	264	1,061	0	7	0	0
5:15 PM	0	8	212	0	0	0	51	5	0	0	0	0	0	5	0	20	301		0	7	0	2
5:30 PM	0	7	175	0	0	0	36	2	0	0	0	0	0	4	0	11	235		0	4	0	2
5:45 PM	0	2	200	0	0	0	49	0	0	0	0	0	0	3	0	7	261		0	9	3	2

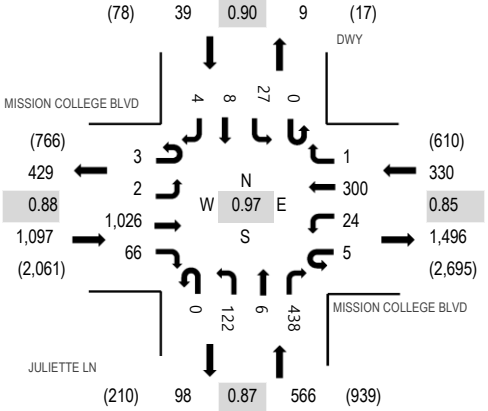
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	28	773	0	0	0	175	9	0	0	0	0	0	22	0	51	1,058
Mediums	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Total	0	28	775	0	0	0	176	9	0	0	0	0	0	22	0	51	1,061

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

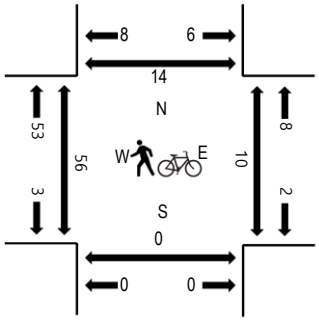
Location: 132 JULIETTE LN & MISSION COLLEGE BLVD PM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				JULIETTE LN Northbound				DWY Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	1	205	20	0	3	42	0	0	9	2	69	0	5	2	0	359	1,766	9	1	0	0
4:15 PM	1	0	235	11	5	4	63	1	0	16	1	73	0	6	3	0	419	1,929	12	4	1	2
4:30 PM	1	0	297	14	0	2	61	0	0	21	2	115	0	7	2	0	522	2,032	11	0	0	0
4:45 PM	0	0	237	18	1	5	71	0	0	25	1	102	0	5	1	0	466	1,947	15	2	0	2
5:00 PM	0	1	266	18	4	9	74	0	0	28	1	108	0	11	2	0	522	1,922	12	3	0	4
5:15 PM	2	1	226	16	0	8	94	1	0	48	2	113	0	4	3	4	522		18	5	0	6
5:30 PM	1	0	226	23	0	8	67	0	0	27	1	72	1	5	5	1	437		12	2	0	2
5:45 PM	4	0	213	23	2	8	77	0	0	28	1	74	0	9	2	0	441		10	3	0	4

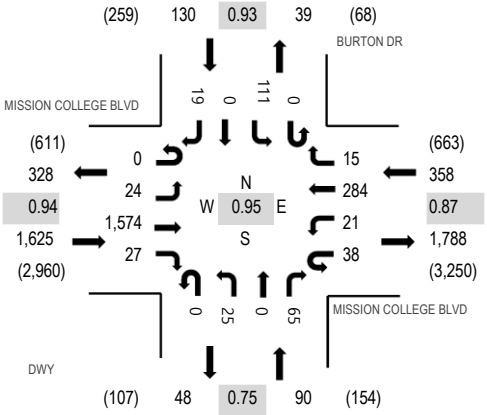
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	3	2	1,014	65	5	24	292	1	0	122	6	435	0	27	8	4	2,008
Mediums	0	0	12	1	0	0	8	0	0	0	0	3	0	0	0	0	24
Total	3	2	1,026	66	5	24	300	1	0	122	6	438	0	27	8	4	2,032

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

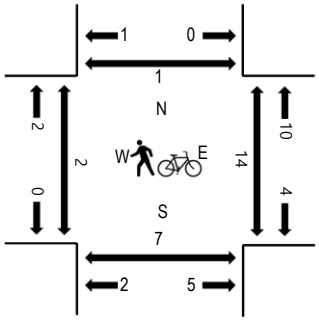
Location: 140 DWY & MISSION COLLEGE BLVD PM
Date and Start Time: Thursday, May 24, 2018
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MISSION COLLEGE BLVD Eastbound				MISSION COLLEGE BLVD Westbound				DWY Northbound				BURTON DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	3	310	9	5	6	41	6	0	4	0	8	0	27	1	2	422	1,937	0	0	2	0
4:15 PM	0	1	337	9	8	4	64	2	0	3	0	13	0	16	0	3	460	2,092	1	2	0	0
4:30 PM	0	9	416	6	5	5	55	3	0	6	0	17	0	19	0	1	542	2,203	0	2	1	0
4:45 PM	0	2	368	7	10	5	65	6	0	5	0	11	0	27	0	7	513	2,133	0	1	3	0
5:00 PM	0	3	396	9	12	9	74	2	0	8	0	22	0	39	0	3	577	2,099	2	7	1	0
5:15 PM	0	10	394	5	11	2	90	4	0	6	0	15	0	26	0	8	571		0	4	2	1
5:30 PM	3	6	316	7	7	8	61	1	0	5	1	15	0	33	1	8	472		1	0	0	2
5:45 PM	1	4	322	7	7	7	73	5	0	8	0	7	0	31	0	7	479		1	0	1	1

Peak Rolling Hour Flow Rates

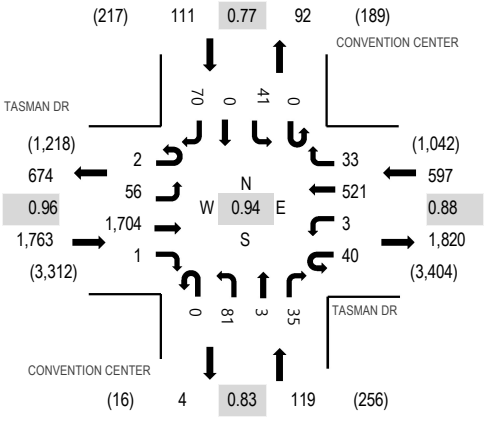
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	22	1,563	25	38	21	276	14	0	24	0	63	0	109	0	19	2,174
Mediums	0	2	11	2	0	0	8	1	0	1	0	2	0	2	0	0	29
Total	0	24	1,574	27	38	21	284	15	0	25	0	65	0	111	0	19	2,203

All Traffic Data Services Inc.

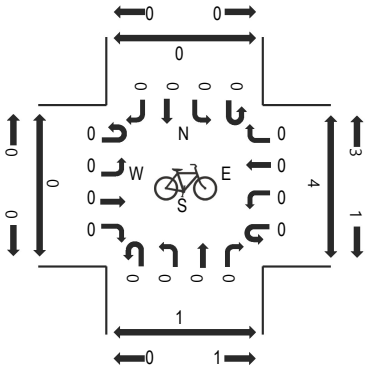
(303) 216-2439
www.alltrafficdata.net

Location: 12 CONVENTION CENTER & TASMAN DR PM
Date: Thursday, May 16, 2019
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

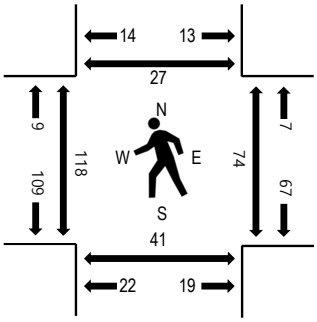
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				CONVENTION CENTER Northbound				CONVENTION CENTER Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	12	363	3	3	0	70	7	0	28	2	10	0	4	1	12	516	2,258	33	16	10	9
4:15 PM	4	16	377	3	7	0	89	13	0	19	0	10	0	10	2	17	567	2,363	33	14	6	11
4:30 PM	1	5	362	1	9	0	114	8	0	25	2	9	0	3	1	14	554	2,456	39	15	6	2
4:45 PM	0	11	415	1	9	3	123	8	0	20	0	7	0	7	0	17	621	2,590	37	13	11	6
5:00 PM	0	13	417	0	13	0	112	7	0	21	1	11	0	11	0	15	621	2,569	25	26	13	12
5:15 PM	1	16	428	0	10	0	132	10	0	24	0	9	0	12	0	18	660		31	20	14	6
5:30 PM	1	16	444	0	8	0	154	8	0	16	2	8	0	11	0	20	688		25	15	3	3
5:45 PM	0	18	382	1	11	0	102	12	0	20	2	10	0	14	0	28	600		34	23	9	3

Peak Rolling Hour Flow Rates

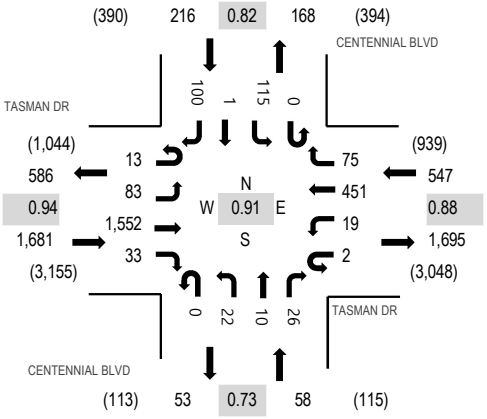
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	2	56	1,672	1	40	3	498	33	0	81	3	35	0	41	0	70	2,535
Mediums	0	0	32	0	0	0	23	0	0	0	0	0	0	0	0	0	55
Total	2	56	1,704	1	40	3	521	33	0	81	3	35	0	41	0	70	2,590

All Traffic Data Services Inc.

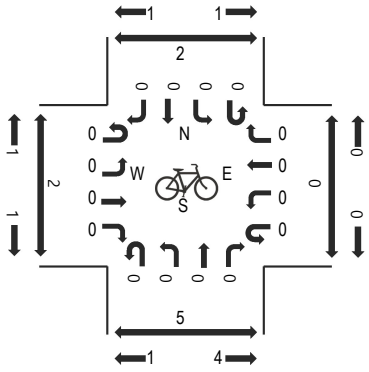
(303) 216-2439
www.alltrafficdata.net

Location: 13 CENTENNIAL BLVD & TASMAN DR PM
Date: Thursday, May 16, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

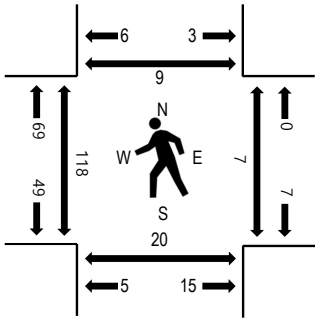
Peak Hour - All Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				CENTENNIAL BLVD Northbound				CENTENNIAL BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	3	22	328	13	0	2	65	13	0	2	1	7	0	6	0	16	478	2,097	12	0	7	1
4:15 PM	3	51	289	15	0	0	77	25	0	1	1	2	0	24	0	38	526	2,236	16	0	8	2
4:30 PM	5	51	265	14	3	2	82	27	0	12	7	5	0	23	0	38	534	2,335	15	0	5	3
4:45 PM	5	17	381	12	0	2	89	5	0	6	6	7	0	13	0	16	559	2,492	17	0	10	2
5:00 PM	5	5	401	4	0	4	125	14	0	4	2	6	0	27	0	20	617	2,502	38	0	2	4
5:15 PM	3	26	386	9	0	6	100	25	0	7	0	8	0	29	1	25	625		25	0	1	2
5:30 PM	1	36	402	13	1	4	129	22	0	7	4	6	0	30	0	36	691		26	4	7	1
5:45 PM	4	16	363	7	1	5	97	14	0	4	4	6	0	29	0	19	569		29	3	10	2

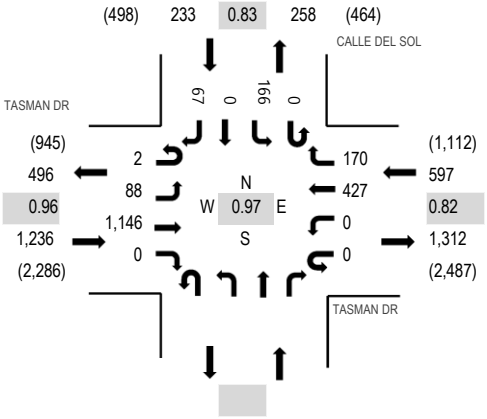
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	13	68	1,542	33	2	19	436	70	0	22	10	26	0	103	1	92	2,437
Mediums	0	15	10	0	0	0	15	5	0	0	0	0	0	12	0	8	65
Total	13	83	1,552	33	2	19	451	75	0	22	10	26	0	115	1	100	2,502

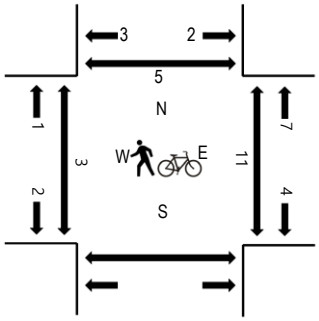
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 90 CALLE DEL SOL & TASMAN DR PM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				Northbound				CALLE DEL SOL Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	25	257	0	0	0	82	28					0	44	0	5	442	1,912	0	4		0
4:15 PM	2	19	269	0	0	0	83	28					0	45	0	13	459	2,001	0	9		0
4:30 PM	1	19	307	0	0	0	88	35					0	42	0	17	509	2,066	1	2		3
4:45 PM	1	26	294	0	0	0	87	45					0	32	0	17	502	2,026	1	1		1
5:00 PM	0	23	291	0	0	0	113	35					0	48	0	21	531	1,984	0	2		0
5:15 PM	0	20	254	0	0	0	139	55					0	44	0	12	524		0	3		1
5:30 PM	2	17	233	0	0	0	112	32					0	55	0	18	469		0	7		1
5:45 PM	2	21	202	0	0	0	114	36					0	70	0	15	460		0	3		0

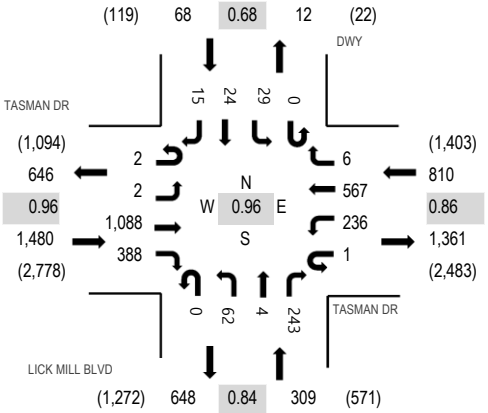
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0					0	0	0	0	1
Lights	2	85	1,129	0	0	0	410	168					0	165	0	64	2,023
Mediums	0	3	16	0	0	0	17	2					0	1	0	3	42
Total	2	88	1,146	0	0	0	427	170					0	166	0	67	2,066

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

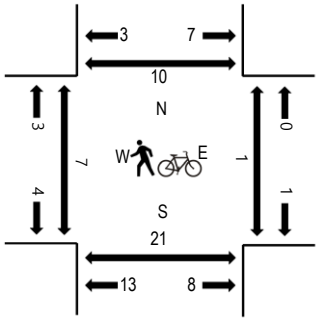
Location: 97 LICK MILL BLVD & TASMAN DR PM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	TASMAN DR Eastbound				TASMAN DR Westbound				LICK MILL BLVD Northbound				DWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	195	92	1	38	87	2	0	17	0	58	0	3	7	1	502	2,204	2	0	0	2
4:15 PM	0	0	218	97	0	58	91	2	0	13	0	52	0	3	8	2	544	2,358	4	0	2	1
4:30 PM	0	0	244	106	1	45	100	2	0	14	1	43	0	7	9	1	573	2,510	2	0	5	5
4:45 PM	0	1	251	93	1	66	98	1	0	20	0	44	0	1	5	4	585	2,596	4	0	1	5
5:00 PM	0	0	259	126	0	62	128	2	0	12	2	40	0	10	7	8	656	2,667	1	1	2	3
5:15 PM	0	0	270	105	1	62	170	2	0	12	0	62	0	3	5	4	696		3	0	4	0
5:30 PM	2	1	278	87	0	57	131	1	0	19	1	72	0	5	3	2	659		2	0	6	3
5:45 PM	0	1	281	70	0	55	138	1	0	19	1	69	0	11	9	1	656		0	0	4	3

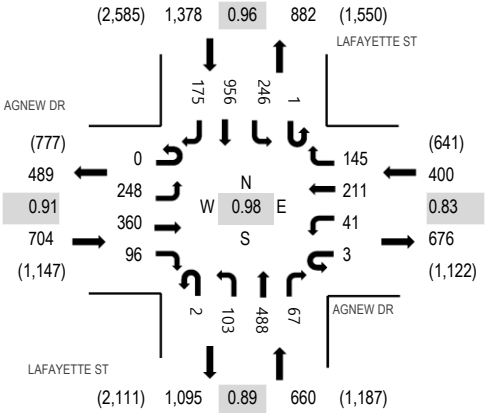
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	2	2	1,074	385	1	235	555	6	0	56	3	242	0	29	24	15	2,629
Mediums	0	0	14	3	0	1	12	0	0	6	1	1	0	0	0	0	38
Total	2	2	1,088	388	1	236	567	6	0	62	4	243	0	29	24	15	2,667

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

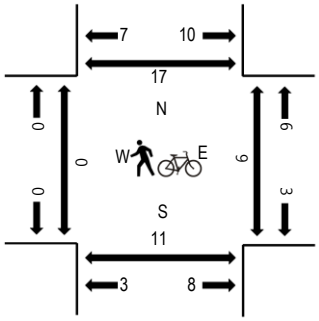
Location: 82 LAFAYETTE ST & AGNEW DR PM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	AGNEW DR Eastbound				AGNEW DR Westbound				LAFAYETTE ST Northbound				LAFAYETTE ST Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	42	44	18	0	5	31	30	0	13	93	18	0	43	187	23	547	2,418	0	1	1	0
4:15 PM	0	39	41	17	0	9	28	24	0	18	99	14	0	48	198	31	566	2,631	0	3	0	0
4:30 PM	0	44	48	26	0	9	21	24	0	15	96	13	0	54	211	29	590	2,861	0	1	1	0
4:45 PM	0	39	57	28	0	8	25	27	2	19	111	16	0	50	298	35	715	3,069	0	1	2	0
5:00 PM	0	55	79	31	1	8	49	25	1	23	111	12	0	68	260	37	760	3,142	0	1	0	1
5:15 PM	0	67	93	22	2	16	45	36	1	24	112	11	0	55	262	50	796		0	2	3	1
5:30 PM	0	53	86	25	0	11	53	34	0	30	132	24	1	63	243	43	798		0	2	1	7
5:45 PM	0	73	102	18	0	6	64	50	0	26	133	20	0	60	191	45	788		0	2	4	7

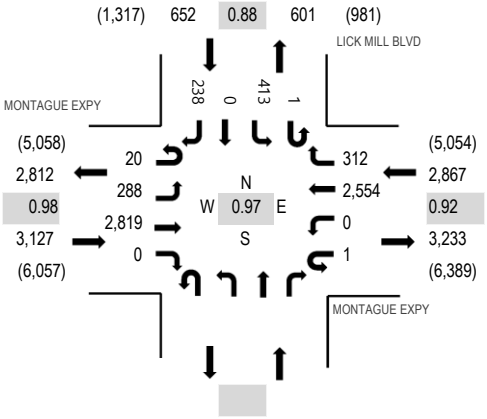
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	1	7	0	0	0	6	0	14
Lights	0	246	356	96	3	41	209	142	2	102	476	67	1	246	935	175	3,097
Mediums	0	2	4	0	0	0	2	3	0	0	5	0	0	0	15	0	31
Total	0	248	360	96	3	41	211	145	2	103	488	67	1	246	956	175	3,142

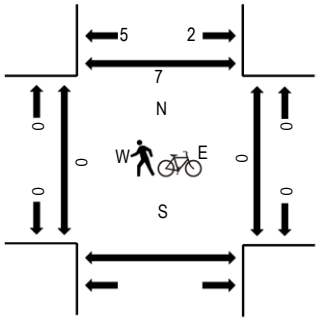
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 98 LICK MILL BLVD & MONTAGUE EXPY PM
Date and Start Time: Thursday, May 10, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MONTAGUE EXPY Eastbound				MONTAGUE EXPY Westbound				Northbound				LICK MILL BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	2	58	673	0	2	0	406	37					0	121	0	31	1,330	5,782	0	0		1
4:15 PM	4	46	625	0	0	0	484	35					0	131	0	70	1,395	6,128	0	0		2
4:30 PM	4	48	729	0	0	0	561	47					0	83	0	51	1,523	6,437	0	0		2
4:45 PM	3	59	679	0	3	0	562	50					0	110	0	68	1,534	6,627	0	0		2
5:00 PM	10	56	713	0	0	0	642	57					0	118	0	80	1,676	6,646	0	0		3
5:15 PM	3	53	728	0	0	0	662	84					0	118	0	56	1,704		0	0		1
5:30 PM	2	73	726	0	1	0	679	96					1	77	0	58	1,713		0	0		3
5:45 PM	5	106	652	0	0	0	571	75					0	100	0	44	1,553		0	0		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	10	0	0	0	5	0					0	0	0	0	15
Lights	20	288	2,779	0	1	0	2,536	308					1	410	0	238	6,581
Mediums	0	0	30	0	0	0	13	4					0	3	0	0	50
Total	20	288	2,819	0	1	0	2,554	312					1	413	0	238	6,646

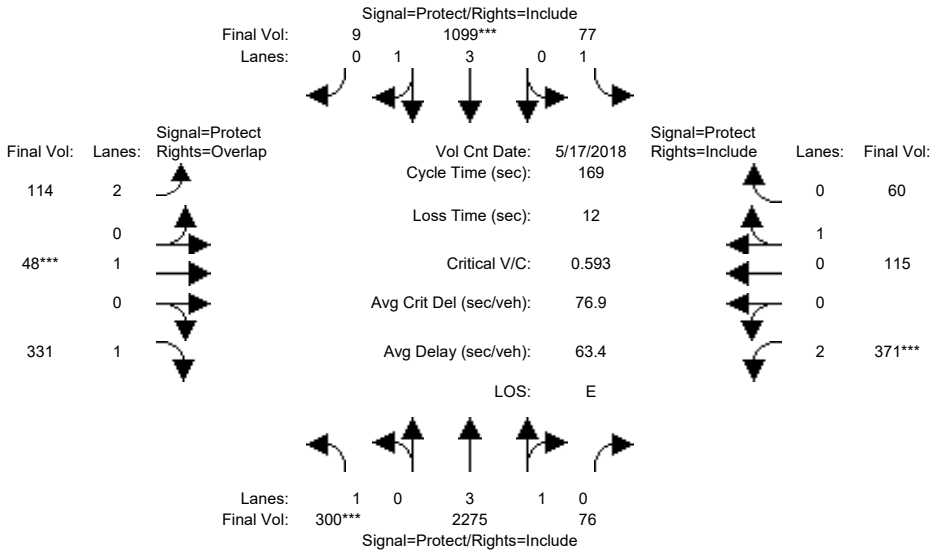
Appendix C

Level of Service Calculations

Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	300	2275	76	77	1099	9	114	48	331	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2275	76	77	1099	9	114	48	331	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2275	76	77	1099	9	114	48	331	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2275	76	77	1099	9	114	48	331	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2275	76	77	1099	9	114	48	331	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2275	76	77	1099	9	114	48	331	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.87	0.13	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	7257	242	1750	7439	61	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.31	0.31	0.04	0.15	0.15	0.07	0.06	0.27	0.17	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	33.1	71.4	71.4	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	0.74	0.74	0.64	0.50	0.50	1.06	0.29	0.65	1.08	0.80	0.80
Delay/Veh:	87.6	48.5	48.5	87.2	52.7	52.7	184.1	56.3	43.0	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	48.5	48.5	87.2	52.7	52.7	184.1	56.3	43.0	143.4	72.2	72.2
LOS by Move:	F	D	D	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	45	45	9	22	22	12	5	27	29	20	20

Note: Queue reported is the number of cars per lane.

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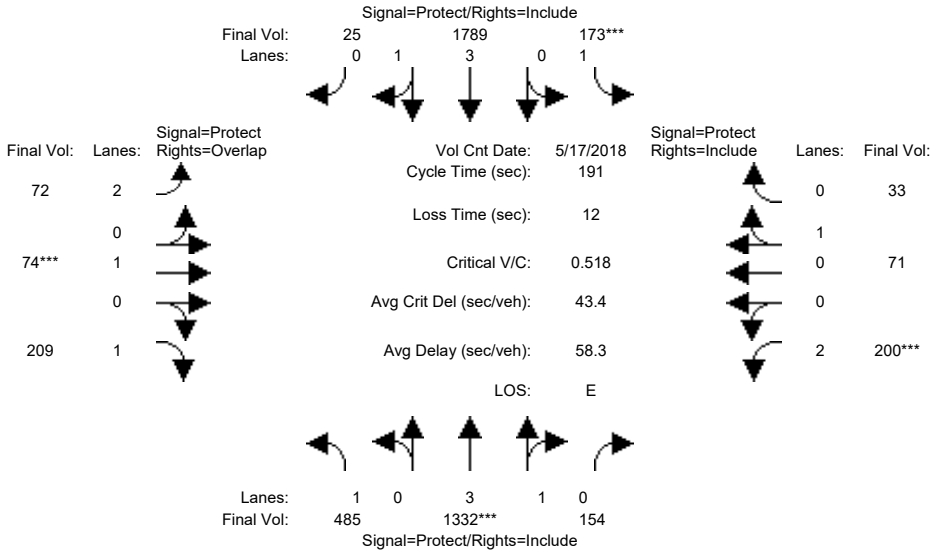
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	485	1332	154	173	1789	25	72	74	209	200	71	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	154	173	1789	25	72	74	209	200	71	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	154	173	1789	25	72	74	209	200	71	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	154	173	1789	25	72	74	209	200	71	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	154	173	1789	25	72	74	209	200	71	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	154	173	1789	25	72	74	209	200	71	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.57	0.43	1.00	3.94	0.06	2.00	1.00	1.00	2.00	0.68	0.32
Final Sat.:	1750	6721	777	1750	7396	103	1575	760	1225	2205	492	228
Capacity Analysis Module:												
Vol/Sat:	0.28	0.20	0.20	0.10	0.24	0.24	0.05	0.10	0.17	0.09	0.14	0.14
Crit Moves:		****		****				****		****		
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.42	0.42	0.68	0.80	0.80	0.68	0.61	0.37	0.86	0.73	0.73
Delay/Veh:	80.8	27.7	27.7	84.9	67.5	67.5	103.1	84.0	33.3	109.6	89.9	89.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	27.7	27.7	84.9	67.5	67.5	103.1	84.0	33.3	109.6	89.9	89.9
LOS by Move:	F	C	C	F	E	E	F	F	C	F	F	F
HCM2k95thQ:	49	20	20	19	41	41	7	10	16	17	14	14

Note: Queue reported is the number of cars per lane.

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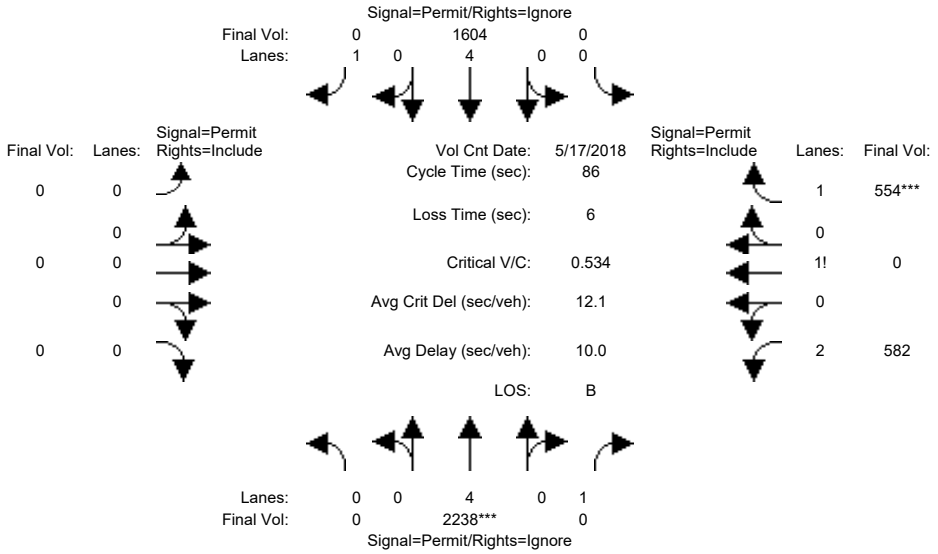
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	0	2238	0	0	1604	505	0	0	0	582	0	554
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2238	0	0	1604	505	0	0	0	582	0	554
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2238	0	0	1604	505	0	0	0	582	0	554
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2238	0	0	1604	0	0	0	0	582	0	554
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2238	0	0	1604	0	0	0	0	582	0	554
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2238	0	0	1604	0	0	0	0	582	0	554
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.44	0.00	1.56
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	3848	0	2735
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.15	0.00	0.20
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.49	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.57	0.00	0.62
Delay/Veh:	0.0	5.4	0.0	0.0	4.8	0.0	0.0	0.0	0.0	27.6	0.0	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	5.4	0.0	0.0	4.8	0.0	0.0	0.0	0.0	27.6	0.0	25.3
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	9	0	0	6	0	0	0	0	14	0	17

Note: Queue reported is the number of cars per lane.

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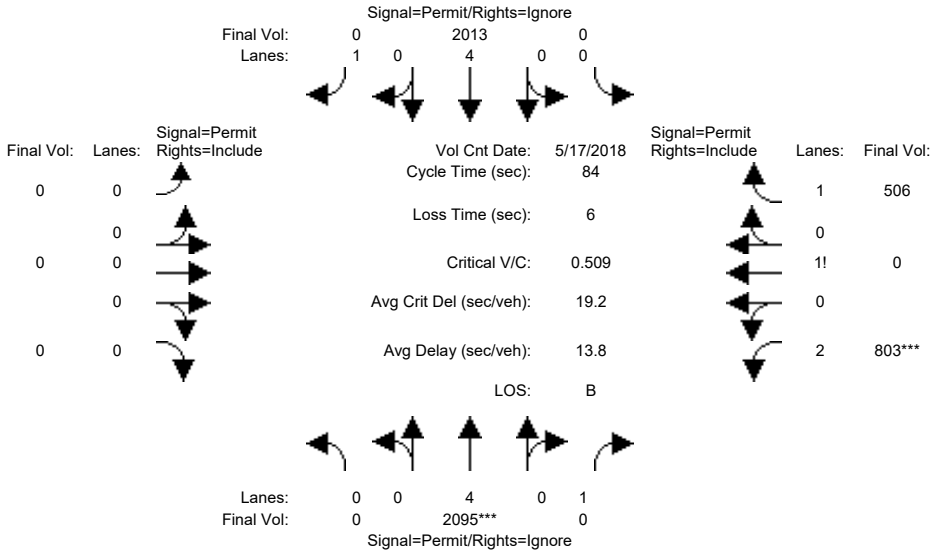
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	0	2095	0	0	2013	349	0	0	0	803	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2095	0	0	2013	349	0	0	0	803	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2095	0	0	2013	349	0	0	0	803	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2095	0	0	2013	0	0	0	0	803	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2095	0	0	2013	0	0	0	0	803	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2095	0	0	2013	0	0	0	0	803	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.85	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.54	0.00	1.46
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4075	0	2563
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.20	0.00	0.20
Crit Moves:		****								****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.45	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.75	0.00	0.75
Delay/Veh:	0.0	12.2	0.0	0.0	4.5	0.0	0.0	0.0	0.0	30.4	0.0	30.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.2	0.0	0.0	4.5	0.0	0.0	0.0	0.0	30.4	0.0	30.4
LOS by Move:	A	B	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	17	0	0	7	0	0	0	0	19	0	20

Note: Queue reported is the number of cars per lane.

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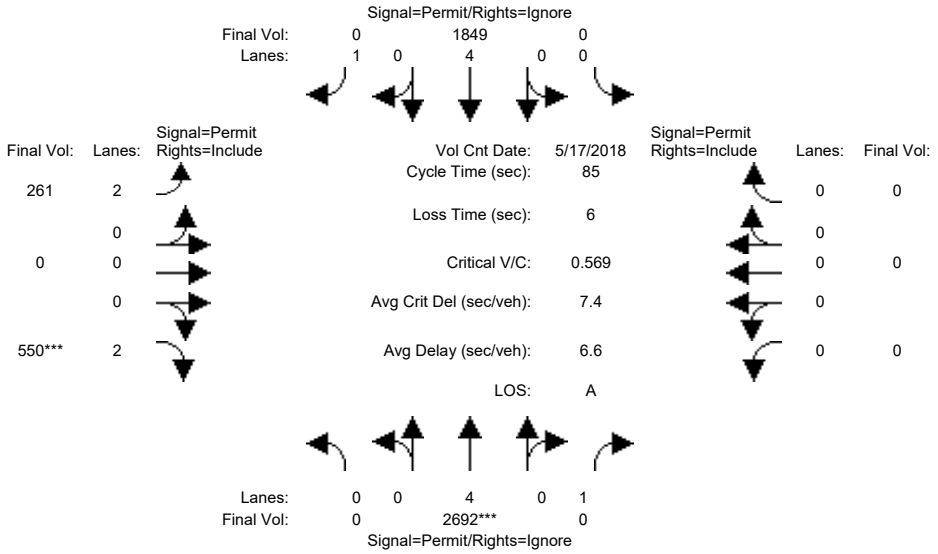
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	0	2692	709	0	1849	0	261	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2692	709	0	1849	0	261	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2692	709	0	1849	0	261	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2692	0	0	1849	0	261	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2692	0	0	1849	0	261	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2692	0	0	1849	0	261	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.00	0.00	0.24	0.00	0.08	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****							****			
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	18.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.50	0.00	0.00	0.35	0.00	0.52	0.00	0.79	0.00	0.00	0.00
Delay/Veh:	0.0	1.3	0.0	0.0	1.2	0.0	33.8	0.0	37.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	1.3	0.0	0.0	1.2	0.0	33.8	0.0	37.3	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	C	A	D	A	A	A
HCM2k95thQ:	0	4	0	0	3	0	9	0	19	0	0	0

Note: Queue reported is the number of cars per lane.

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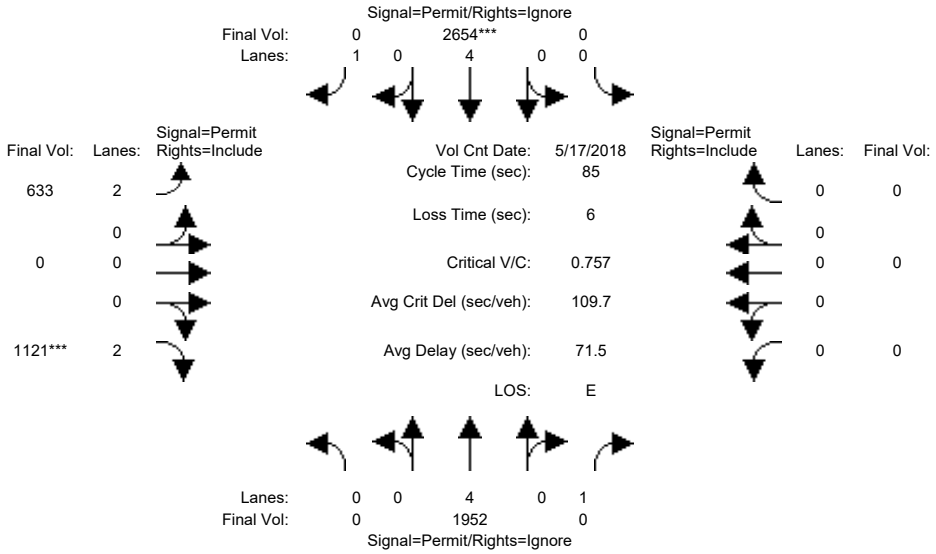
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	0	1952	262	0	2654	0	633	0	1121	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1952	262	0	2654	0	633	0	1121	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1952	262	0	2654	0	633	0	1121	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1952	0	0	2654	0	633	0	1121	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1952	0	0	2654	0	633	0	1121	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1952	0	0	2654	0	633	0	1121	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.35	0.00	0.20	0.00	0.36	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.34	0.00	0.00	0.47	0.00	0.98	0.00	1.73	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	64.0	0.0	369.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	64.0	0.0	369.2	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	E	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	1	0	27	0	83	0	0	0

Note: Queue reported is the number of cars per lane.

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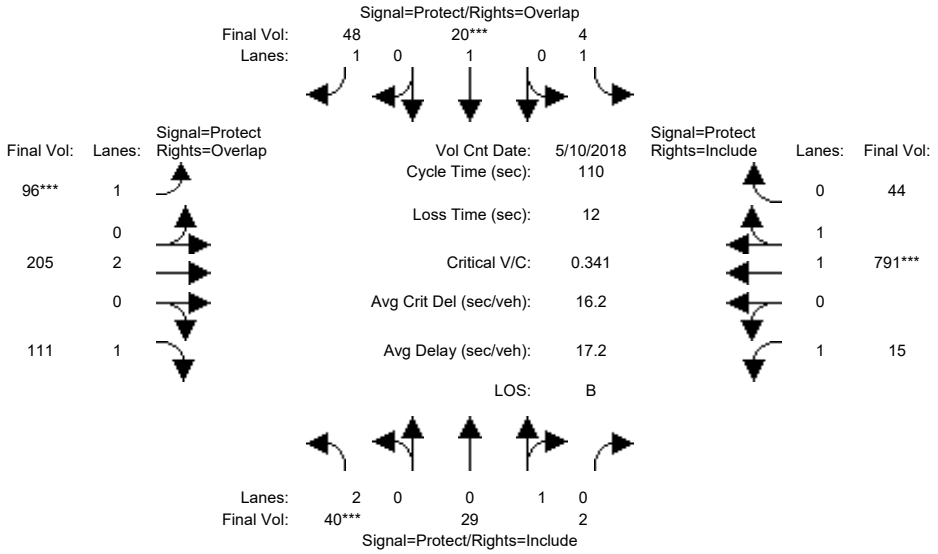
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	38	28	2	4	19	46	91	195	105	14	751	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	28	2	4	19	46	91	195	105	14	751	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	28	2	4	19	46	91	195	105	14	751	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	40	29	2	4	20	48	96	205	111	15	791	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	29	2	4	20	48	96	205	111	15	791	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	29	2	4	20	48	96	205	111	15	791	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.93	0.07	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.89	0.11
Final Sat.:	3150	1680	120	1750	1900	1750	1750	3800	1750	1750	3504	196
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.02	0.00	0.01	0.03	0.05	0.05	0.06	0.01	0.23	0.23
Crit Moves:	****				****		****				****	
Green Time:	6.0	8.0	8.0	6.0	8.0	24.4	16.4	54.8	60.8	29.2	67.6	67.6
Volume/Cap:	0.23	0.24	0.24	0.04	0.14	0.12	0.37	0.11	0.11	0.03	0.37	0.37
Delay/Veh:	50.5	49.1	49.1	49.5	48.3	34.4	43.0	14.7	11.8	29.9	10.7	10.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.5	49.1	49.1	49.5	48.3	34.4	43.0	14.7	11.8	29.9	10.7	10.7
LOS by Move:	D	D	D	D	D	C	D	B	B	C	B	B
HCM2k95thQ:	2	3	3	0	2	3	6	4	4	1	13	13

Note: Queue reported is the number of cars per lane.

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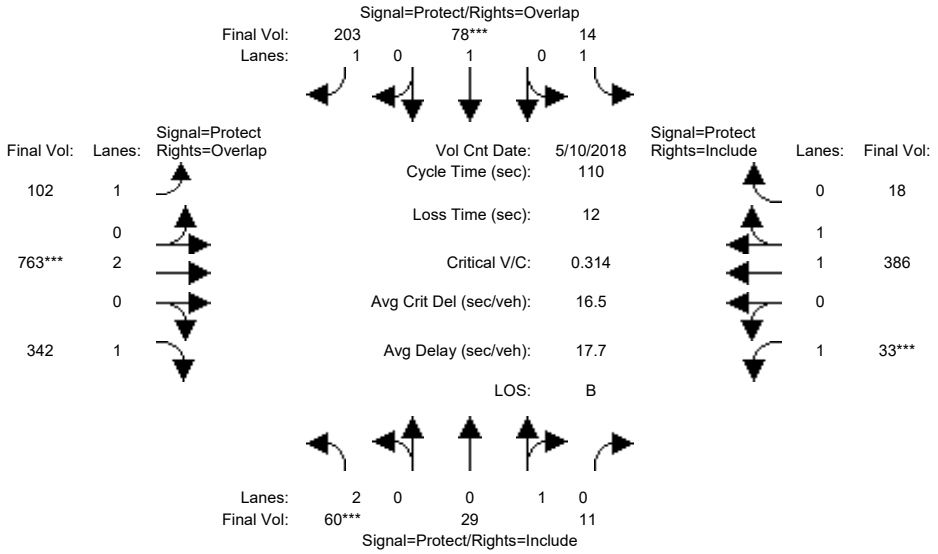
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	58	28	11	14	76	197	99	740	332	32	374	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	28	11	14	76	197	99	740	332	32	374	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	28	11	14	76	197	99	740	332	32	374	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	60	29	11	14	78	203	102	763	342	33	386	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	29	11	14	78	203	102	763	342	33	386	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	29	11	14	78	203	102	763	342	33	386	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.72	0.28	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.91	0.09
Final Sat.:	3150	1292	508	1750	1900	1750	1750	3800	1750	1750	3539	161
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.01	0.04	0.12	0.06	0.20	0.20	0.02	0.11	0.11
Crit Moves:	****				****			****			****	
Green Time:	6.5	11.9	11.9	8.9	14.2	45.1	30.9	69.2	75.8	8.0	46.3	46.3
Volume/Cap:	0.32	0.21	0.21	0.10	0.32	0.28	0.21	0.32	0.28	0.26	0.26	0.26
Delay/Veh:	50.6	45.3	45.3	47.2	44.2	21.9	30.4	9.5	6.7	49.3	20.8	20.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	45.3	45.3	47.2	44.2	21.9	30.4	9.5	6.7	49.3	20.8	20.8
LOS by Move:	D	D	D	D	D	C	C	A	A	D	C	C
HCM2k95thQ:	3	3	3	1	5	10	5	11	9	2	9	9

Note: Queue reported is the number of cars per lane.

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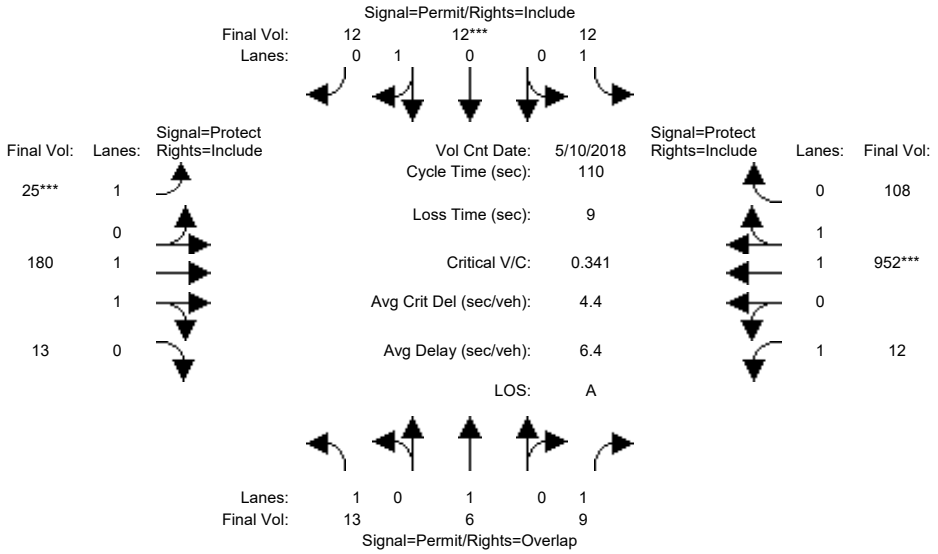
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	12	6	8	11	11	11	23	167	12	11	885	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	6	8	11	11	11	23	167	12	11	885	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	6	8	11	11	11	23	167	12	11	885	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	13	6	9	12	12	12	25	180	13	12	952	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	6	9	12	12	12	25	180	13	12	952	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	6	9	12	12	12	25	180	13	12	952	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.50	0.50	1.00	1.86	0.14	1.00	1.79	0.21
Final Sat.:	1750	1900	1750	1750	900	900	1750	3452	248	1750	3324	376
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.05	0.05	0.01	0.29	0.29
Crit Moves:					****		****				****	
Green Time:	4.2	4.2	31.9	4.2	4.2	4.2	5.0	69.1	69.1	27.7	91.8	91.8
Volume/Cap:	0.19	0.09	0.02	0.18	0.34	0.34	0.31	0.08	0.08	0.03	0.34	0.34
Delay/Veh:	52.6	51.6	27.9	52.5	54.5	54.5	53.1	8.0	8.0	31.1	2.2	2.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.6	51.6	27.9	52.5	54.5	54.5	53.1	8.0	8.0	31.1	2.2	2.2
LOS by Move:	D	D	C	D	D	D	D	A	A	C	A	A
HCM2k95thQ:	1	1	0	1	3	3	2	3	3	1	9	9

Note: Queue reported is the number of cars per lane.

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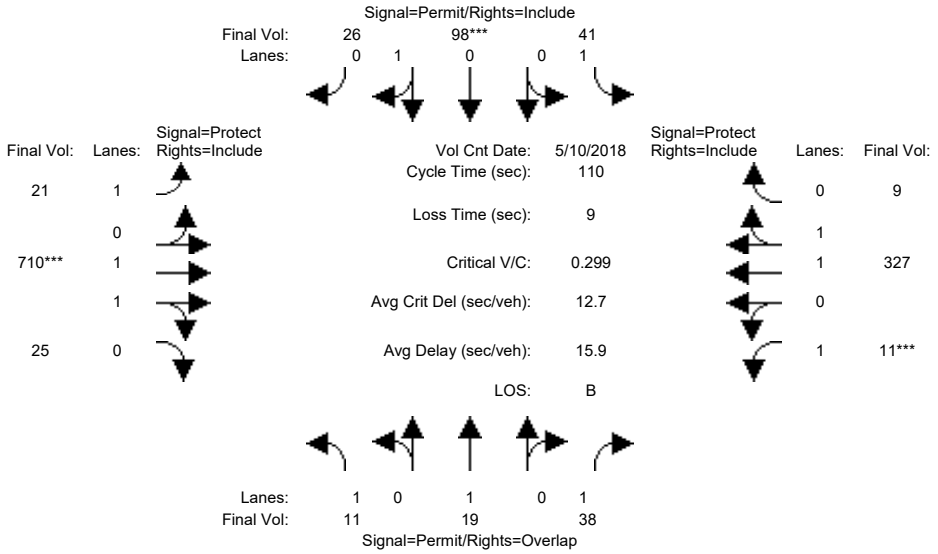
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	11	18	36	39	94	25	20	682	24	11	314	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	18	36	39	94	25	20	682	24	11	314	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	18	36	39	94	25	20	682	24	11	314	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	11	19	38	41	98	26	21	710	25	11	327	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	19	38	41	98	26	21	710	25	11	327	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	19	38	41	98	26	21	710	25	11	327	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.79	0.21	1.00	1.93	0.07	1.00	1.94	0.06
Final Sat.:	1750	1900	1750	1750	1422	378	1750	3574	126	1750	3597	103
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.02	0.07	0.07	0.01	0.20	0.20	0.01	0.09	0.09
Crit Moves:					****			****		****		
Green Time:	25.0	25.0	29.0	25.0	25.0	25.0	25.3	72.0	72.0	4.0	50.7	50.7
Volume/Cap:	0.03	0.04	0.08	0.10	0.30	0.30	0.05	0.30	0.30	0.18	0.20	0.20
Delay/Veh:	33.1	33.2	30.6	33.8	35.7	35.7	33.0	8.2	8.2	52.8	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.1	33.2	30.6	33.8	35.7	35.7	33.0	8.2	8.2	52.8	17.6	17.6
LOS by Move:	C	C	C	C	D	D	C	A	A	D	B	B
HCM2k95thQ:	1	1	2	2	7	7	1	10	10	1	7	7

Note: Queue reported is the number of cars per lane.

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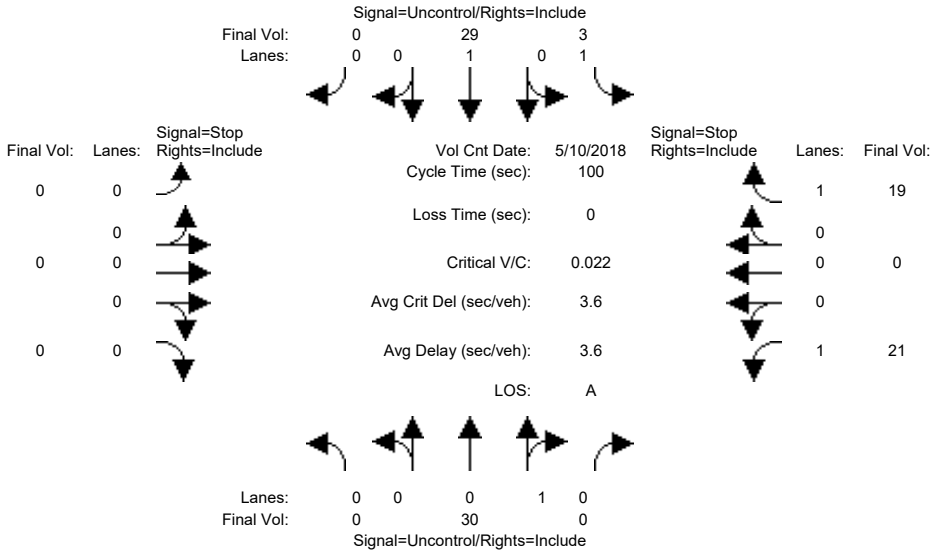
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing (AM)

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	27	0	3	26	0	0	0	0	19	0	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	27	0	3	26	0	0	0	0	19	0	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	27	0	3	26	0	0	0	0	19	0	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	30	0	3	29	0	0	0	0	21	0	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	30	0	3	29	0	0	0	0	21	0	19
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	30	xxxx	xxxxx	xxxx	xxxx	xxxxx	66	xxxx	30
Potent Cap.:	xxxx	xxxx	xxxxx	1596	xxxx	xxxxx	xxxx	xxxx	xxxxx	945	xxxx	1050
Move Cap.:	xxxx	xxxx	xxxxx	1596	xxxx	xxxxx	xxxx	xxxx	xxxxx	943	xxxx	1050
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.9	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	A	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.7		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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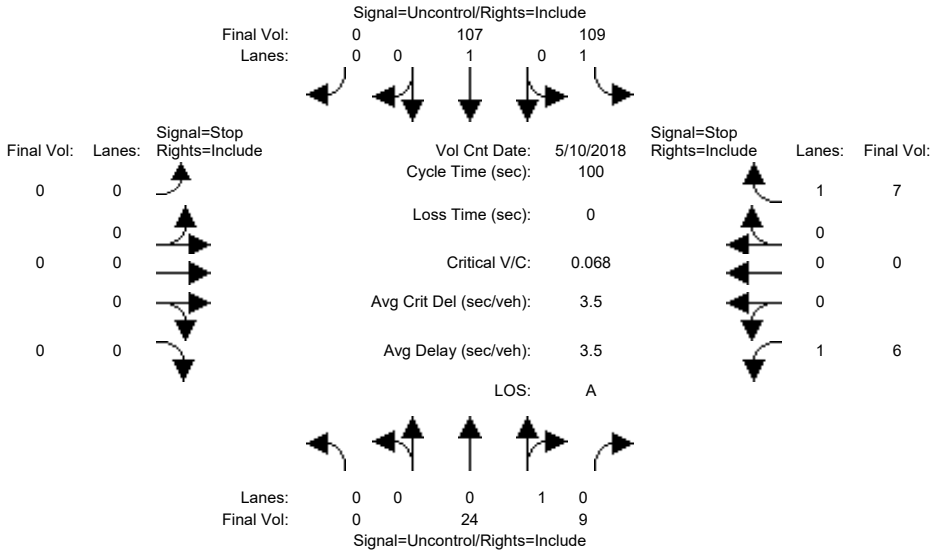
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing (PM)

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	22	8	98	96	0	0	0	0	5	0	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	22	8	98	96	0	0	0	0	5	0	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	22	8	98	96	0	0	0	0	5	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	24	9	109	107	0	0	0	0	6	0	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	24	9	109	107	0	0	0	0	6	0	7
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	33	xxxx	xxxxx	xxxx	xxxx	xxxxx	353	xxxx	29
Potent Cap.:	xxxx	xxxx	xxxxx	1592	xxxx	xxxxx	xxxx	xxxx	xxxxx	648	xxxx	1052
Move Cap.:	xxxx	xxxx	xxxxx	1592	xxxx	xxxxx	xxxx	xxxx	xxxxx	615	xxxx	1052
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.9	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.6		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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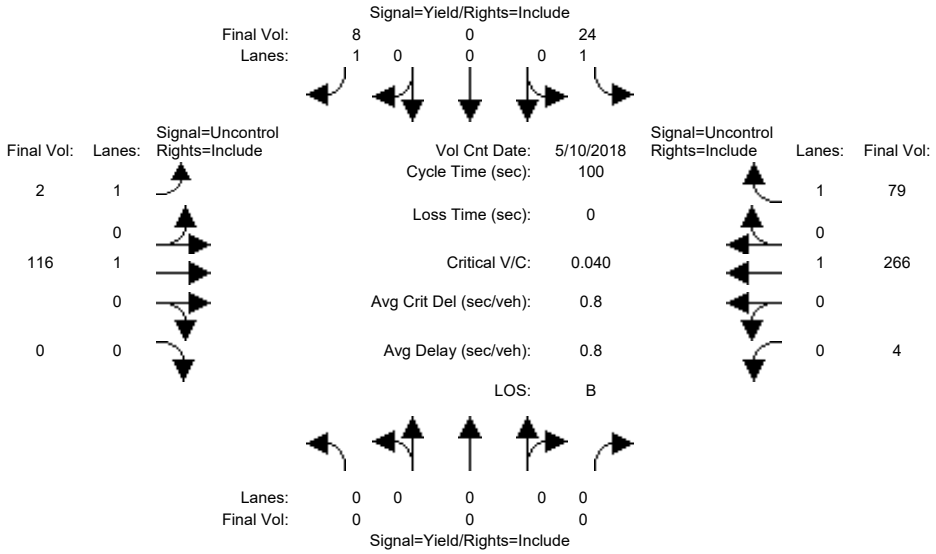
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing (AM)

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	0	0	22	0	7	2	104	0	4	239	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	22	0	7	2	104	0	4	239	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	22	0	7	2	104	0	4	239	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	24	0	8	2	116	0	4	266	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	24	0	8	2	116	0	4	266	79
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	394	xxxx	266	344	xxxx	xxxxx	116	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	614	xxxx	778	1226	xxxx	xxxxx	1486	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	612	xxxx	778	1226	xxxx	xxxxx	1486	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	0.01	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	0.0	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	11.1	xxxx	9.7	7.9	xxxx	xxxxx	7.4	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			10.8			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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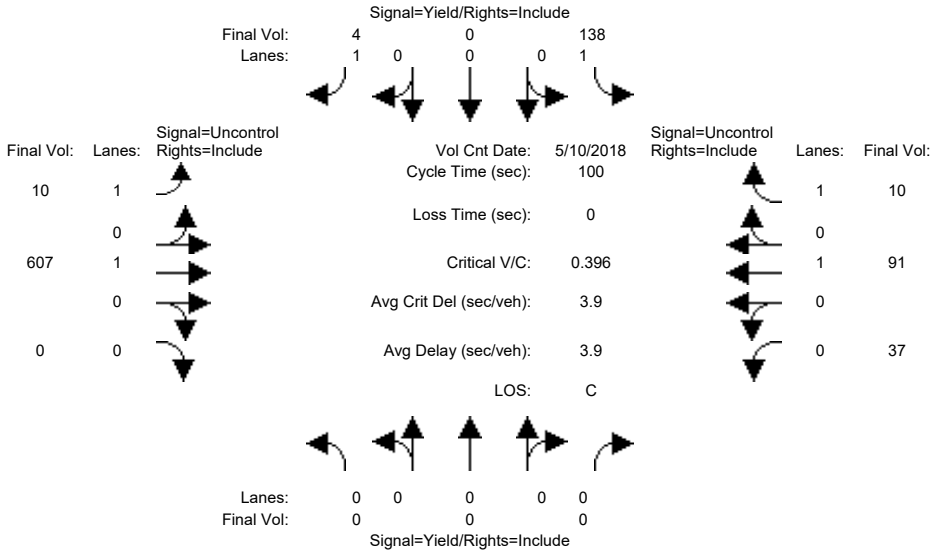
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing (PM)

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	0	0	127	0	4	9	558	0	34	84	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	127	0	4	9	558	0	34	84	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	127	0	4	9	558	0	34	84	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	138	0	4	10	607	0	37	91	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	138	0	4	10	607	0	37	91	10
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	791	xxxx	91	101	xxxx	xxxxx	607	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	361	xxxx	972	1504	xxxx	xxxxx	981	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	349	xxxx	972	1504	xxxx	xxxxx	981	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.40	xxxx	0.00	0.01	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.8	xxxx	0.0	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	21.9	xxxx	8.7	7.4	xxxx	xxxxx	8.8	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	A	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.8	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			21.5			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

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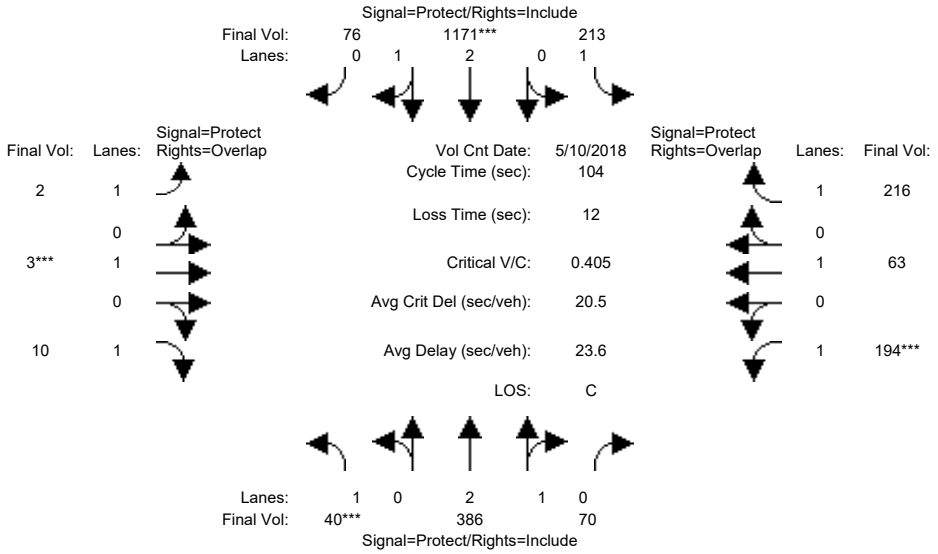
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	36	347	63	192	1054	68	2	3	9	175	57	194
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	347	63	192	1054	68	2	3	9	175	57	194
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	347	63	192	1054	68	2	3	9	175	57	194
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	386	70	213	1171	76	2	3	10	194	63	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	386	70	213	1171	76	2	3	10	194	63	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	386	70	213	1171	76	2	3	10	194	63	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.52	0.48	1.00	2.81	0.19	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4738	860	1750	5260	339	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.12	0.22	0.22	0.00	0.00	0.01	0.11	0.03	0.12
Crit Moves:	****				****			****			****	
Green Time:	5.3	24.9	24.9	31.6	51.2	51.2	15.8	10.0	15.3	25.5	19.7	51.3
Volume/Cap:	0.45	0.34	0.34	0.40	0.45	0.45	0.01	0.02	0.04	0.45	0.18	0.25
Delay/Veh:	51.6	32.9	32.9	29.2	17.4	17.4	37.5	42.6	38.1	34.0	35.5	15.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.6	32.9	32.9	29.2	17.4	17.4	37.5	42.6	38.1	34.0	35.5	15.4
LOS by Move:	D	C	C	C	B	B	D	D	D	C	D	B
HCM2k95thQ:	3	8	8	11	16	16	0	0	1	12	4	8

Note: Queue reported is the number of cars per lane.

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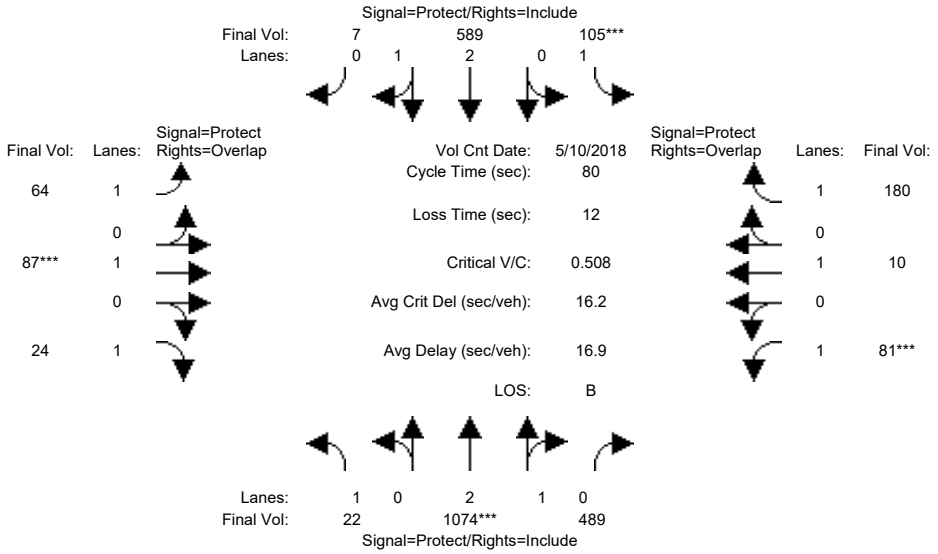
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	21	1010	460	99	554	7	60	82	23	76	9	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	1010	460	99	554	7	60	82	23	76	9	169
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	1010	460	99	554	7	60	82	23	76	9	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	1074	489	105	589	7	64	87	24	81	10	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1074	489	105	589	7	64	87	24	81	10	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	1074	489	105	589	7	64	87	24	81	10	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.03	0.97	1.00	2.96	0.04	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3845	1751	1750	5530	70	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.28	0.28	0.06	0.11	0.11	0.04	0.05	0.01	0.05	0.01	0.10
Crit Moves:		****		****				****		****		
Green Time:	14.6	42.0	42.0	9.0	36.5	36.5	7.5	10.0	24.6	6.9	9.4	18.5
Volume/Cap:	0.07	0.53	0.53	0.53	0.23	0.23	0.39	0.37	0.05	0.53	0.04	0.45
Delay/Veh:	27.2	12.7	12.7	36.3	13.3	13.3	35.6	33.1	19.5	38.6	31.4	27.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.2	12.7	12.7	36.3	13.3	13.3	35.6	33.1	19.5	38.6	31.4	27.2
LOS by Move:	C	B	B	D	B	B	D	C	B	D	C	C
HCM2k95thQ:	1	16	16	5	6	6	4	5	1	6	0	9

Note: Queue reported is the number of cars per lane.

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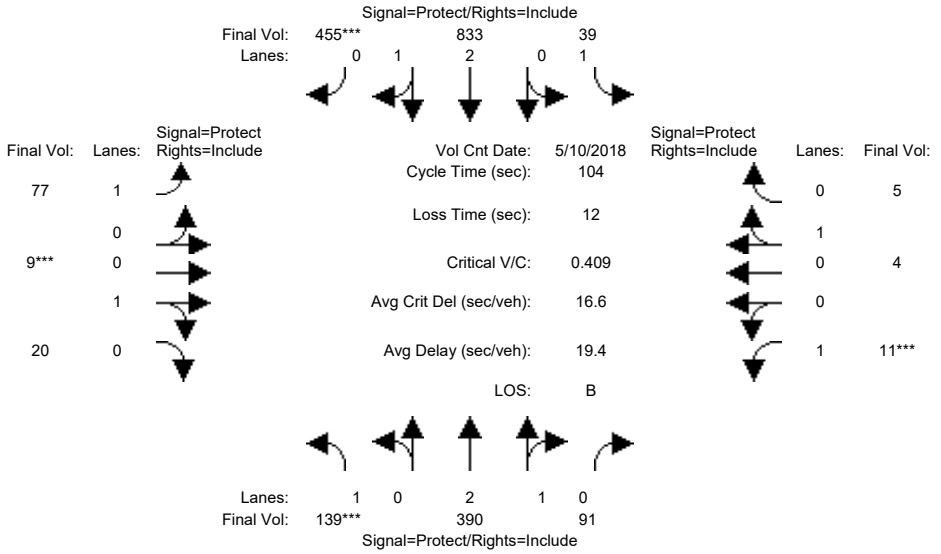
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	129	363	85	36	775	423	72	8	19	10	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	363	85	36	775	423	72	8	19	10	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	363	85	36	775	423	72	8	19	10	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	139	390	91	39	833	455	77	9	20	11	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	390	91	39	833	455	77	9	20	11	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	390	91	39	833	455	77	9	20	11	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.41	0.59	1.00	2.00	1.00	1.00	0.30	0.70	1.00	0.44	0.56
Final Sat.:	1750	4536	1062	1750	3800	1750	1750	533	1267	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.02	0.22	0.26	0.04	0.02	0.02	0.01	0.01	0.01
Crit Moves:	****					****		****		****		
Green Time:	18.0	51.3	51.3	25.7	59.0	59.0	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.46	0.17	0.17	0.09	0.39	0.46	0.86	0.17	0.17	0.13	0.06	0.06
Delay/Veh:	39.7	14.6	14.6	30.3	12.5	13.3	100.7	43.6	43.6	48.1	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.7	14.6	14.6	30.3	12.5	13.3	100.7	43.6	43.6	48.1	43.2	43.2
LOS by Move:	D	B	B	C	B	B	F	D	D	D	D	D
HCM2k95thQ:	8	6	6	2	14	17	10	2	2	1	1	1

Note: Queue reported is the number of cars per lane.

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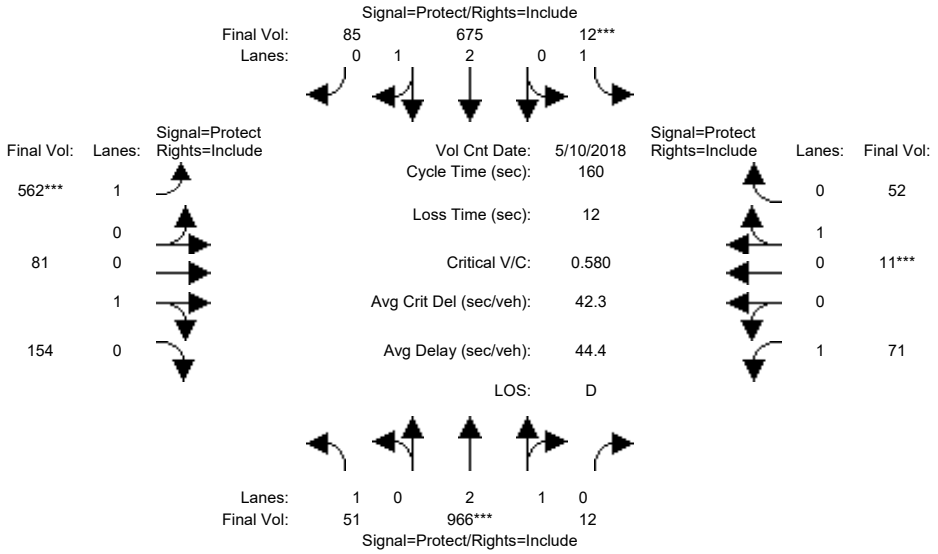
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	48	918	11	11	641	81	534	77	146	67	10	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	918	11	11	641	81	534	77	146	67	10	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	48	918	11	11	641	81	534	77	146	67	10	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	51	966	12	12	675	85	562	81	154	71	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	966	12	12	675	85	562	81	154	71	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	966	12	12	675	85	562	81	154	71	11	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.96	0.04	1.00	2.65	0.35	1.00	0.35	0.65	1.00	0.17	0.83
Final Sat.:	1750	5534	66	1750	4971	628	1750	622	1178	1750	305	1495
Capacity Analysis Module:												
Vol/Sat:	0.03	0.17	0.17	0.01	0.14	0.14	0.32	0.13	0.13	0.04	0.03	0.03
Crit Moves:		****			****			****			****	
Green Time:	9.7	47.1	47.1	5.0	42.3	42.3	86.6	73.3	73.3	22.6	9.3	9.3
Volume/Cap:	0.47	0.59	0.59	0.21	0.51	0.51	0.59	0.28	0.28	0.28	0.59	0.59
Delay/Veh:	75.9	48.9	48.9	77.5	50.4	50.4	25.8	27.2	27.2	62.1	82.3	82.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.9	48.9	48.9	77.5	50.4	50.4	25.8	27.2	27.2	62.1	82.3	82.3
LOS by Move:	E	D	D	E	D	D	C	C	C	E	F	F
HCM2k95thQ:	5	24	24	1	19	19	34	14	14	7	8	8

Note: Queue reported is the number of cars per lane.

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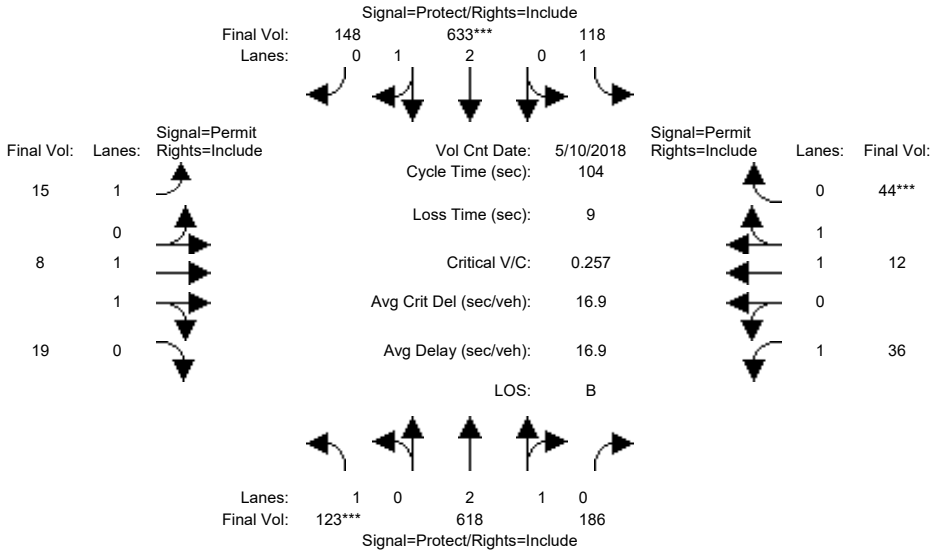
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	112	562	169	107	576	135	14	7	17	33	11	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	562	169	107	576	135	14	7	17	33	11	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	562	169	107	576	135	14	7	17	33	11	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	618	186	118	633	148	15	8	19	36	12	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	618	186	118	633	148	15	8	19	36	12	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	618	186	118	633	148	15	8	19	36	12	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.28	0.72	1.00	2.41	0.59	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4304	1294	1750	4535	1063	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.14	0.14	0.07	0.14	0.14	0.01	0.00	0.01	0.02	0.01	0.03
Crit Moves:	****				****							****
Green Time:	28.1	57.2	57.2	26.8	55.9	55.9	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.04	0.10	0.20	0.06	0.24
Delay/Veh:	30.0	12.3	12.3	31.0	13.0	13.0	42.1	41.8	42.2	43.0	41.9	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.0	12.3	12.3	31.0	13.0	13.0	42.1	41.8	42.2	43.0	41.9	43.2
LOS by Move:	C	B	B	C	B	B	D	D	D	D	D	D
HCM2k95thQ:	6	9	9	6	9	9	1	1	1	3	1	3

Note: Queue reported is the number of cars per lane.

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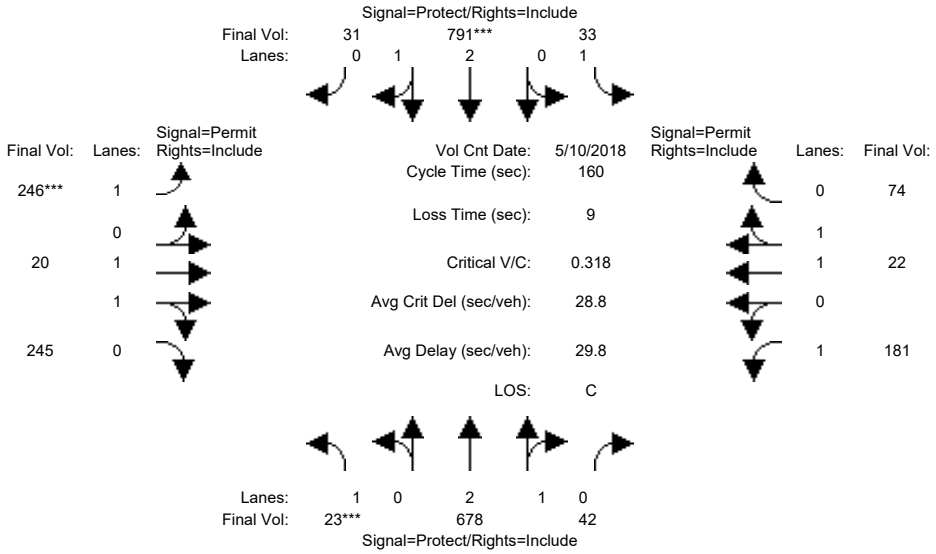
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	22	651	40	32	759	30	236	19	235	174	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	651	40	32	759	30	236	19	235	174	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	651	40	32	759	30	236	19	235	174	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	678	42	33	791	31	246	20	245	181	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	678	42	33	791	31	246	20	245	181	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	678	42	33	791	31	246	20	245	181	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.82	0.18	1.00	2.88	0.12	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5275	324	1750	5387	213	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.13	0.13	0.02	0.15	0.15	0.14	0.01	0.14	0.10	0.01	0.04
Crit Moves:	****				****		****					
Green Time:	6.6	67.3	67.3	13.1	73.8	73.8	70.6	70.6	70.6	70.6	70.6	70.6
Volume/Cap:	0.32	0.31	0.31	0.23	0.32	0.32	0.32	0.02	0.32	0.23	0.03	0.10
Delay/Veh:	77.1	30.9	30.9	69.6	27.3	27.3	29.3	25.2	29.2	28.0	25.3	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.1	30.9	30.9	69.6	27.3	27.3	29.3	25.2	29.2	28.0	25.3	26.1
LOS by Move:	E	C	C	E	C	C	C	C	C	C	C	C
HCM2k95thQ:	2	14	14	3	15	15	15	1	15	11	1	4

Note: Queue reported is the number of cars per lane.

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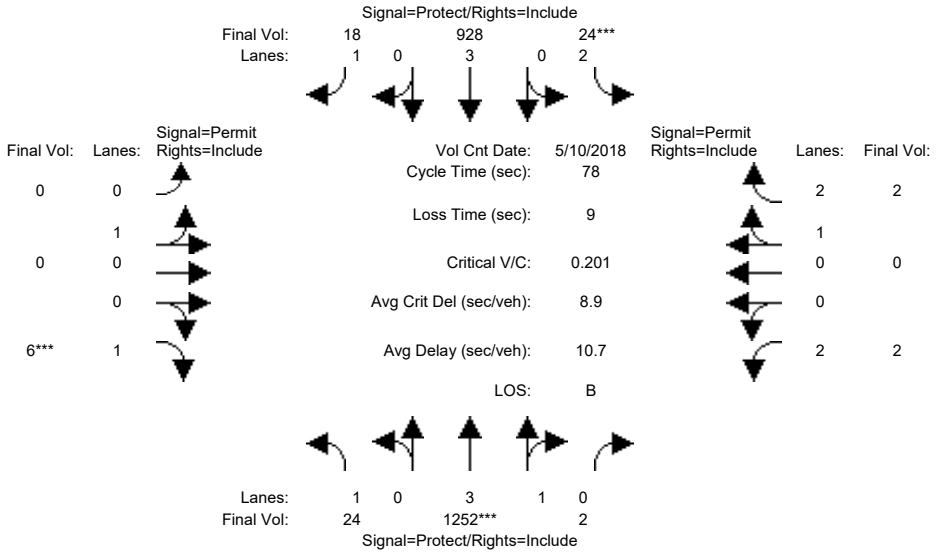
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	22	1127	2	22	835	16	0	0	5	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1127	2	22	835	16	0	0	5	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1127	2	22	835	16	0	0	5	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	24	1252	2	24	928	18	0	0	6	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	1252	2	24	928	18	0	0	6	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	1252	2	24	928	18	0	0	6	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	0.00	1.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7487	13	3150	5700	1750	0	1800	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.01	0.17	0.17	0.01	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green Time:	17.7	45.0	45.0	10.0	37.3	37.3	0.0	0.0	14.0	14.0	0.0	14.0
Volume/Cap:	0.06	0.29	0.29	0.06	0.34	0.02	0.00	0.00	0.02	0.00	0.00	0.00
Delay/Veh:	23.7	8.4	8.4	29.9	12.7	10.7	0.0	0.0	26.4	26.3	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	8.4	8.4	29.9	12.7	10.7	0.0	0.0	26.4	26.3	0.0	26.3
LOS by Move:	C	A	A	C	B	B	A	A	C	C	A	C
HCM2k95thQ:	1	7	7	1	9	0	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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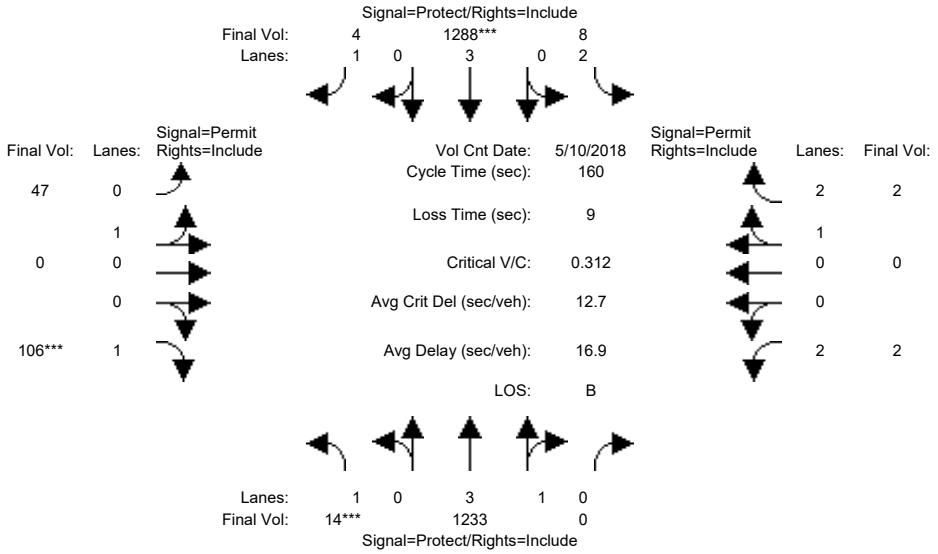
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	13	1171	0	8	1224	4	45	0	101	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	1171	0	8	1224	4	45	0	101	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	1171	0	8	1224	4	45	0	101	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	14	1233	0	8	1288	4	47	0	106	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1233	0	8	1288	4	47	0	106	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	1233	0	8	1288	4	47	0	106	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.01	0.16	0.00	0.00	0.23	0.00	0.03	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	6.0	87.1	0.0	33.1	114	114.3	30.7	0.0	30.7	30.7	0.0	30.7
Volume/Cap:	0.21	0.30	0.00	0.01	0.32	0.00	0.14	0.00	0.32	0.00	0.00	0.00
Delay/Veh:	76.3	19.9	0.0	50.4	8.5	6.5	53.8	0.0	56.2	52.3	0.0	52.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.3	19.9	0.0	50.4	8.5	6.5	53.8	0.0	56.2	52.3	0.0	52.3
LOS by Move:	E	B	A	D	A	A	D	A	E	D	A	D
HCM2k95thQ:	1	15	0	0	14	0	4	0	10	0	0	0

Note: Queue reported is the number of cars per lane.

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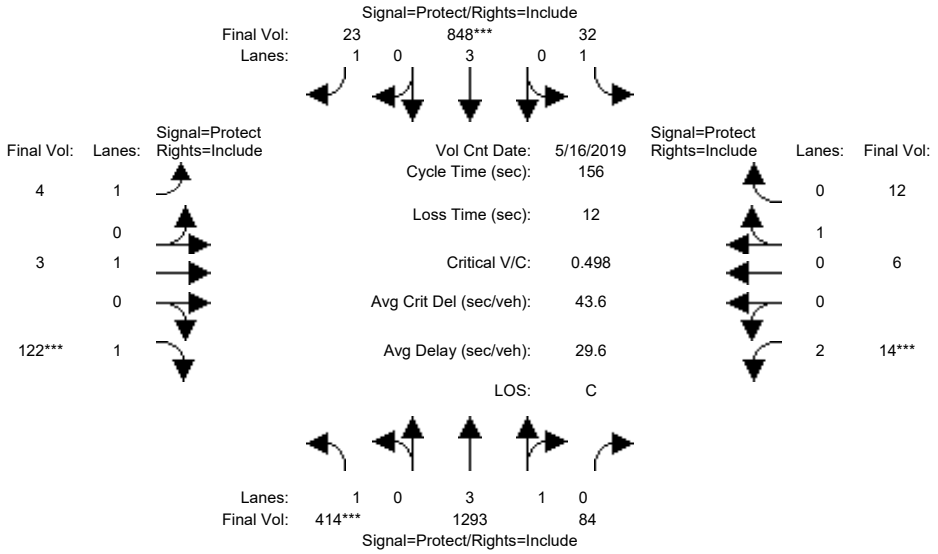
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	373	1164	76	29	763	21	4	3	110	13	5	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	1164	76	29	763	21	4	3	110	13	5	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	373	1164	76	29	763	21	4	3	110	13	5	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	414	1293	84	32	848	23	4	3	122	14	6	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	414	1293	84	32	848	23	4	3	122	14	6	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	414	1293	84	32	848	23	4	3	122	14	6	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.74	0.26	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.31	0.69
Final Sat.:	1750	7040	460	1750	5700	1750	1750	1900	1750	3150	563	1237
Capacity Analysis Module:												
Vol/Sat:	0.24	0.18	0.18	0.02	0.15	0.01	0.00	0.00	0.07	0.00	0.01	0.01
Crit Moves:	****				****				****	****		
Green Time:	71.8	96.6	96.6	20.2	45.1	45.1	9.1	21.2	21.2	6.0	18.1	18.1
Volume/Cap:	0.51	0.30	0.30	0.14	0.51	0.05	0.04	0.01	0.51	0.12	0.09	0.09
Delay/Veh:	30.4	13.9	13.9	60.5	46.6	40.0	69.6	58.4	64.6	72.9	61.7	61.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	13.9	13.9	60.5	46.6	40.0	69.6	58.4	64.6	72.9	61.7	61.7
LOS by Move:	C	B	B	E	D	D	E	E	E	E	E	E
HCM2k95thQ:	26	14	14	3	20	2	1	0	12	1	2	2

Note: Queue reported is the number of cars per lane.

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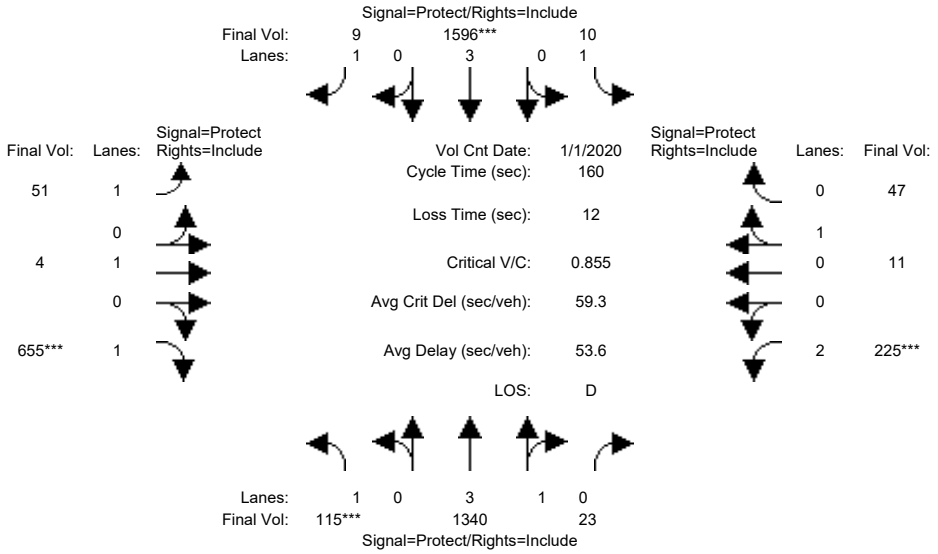
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module: >> Count Date: 1 Jan 2020 <<												
Base Vol:	107	1246	21	9	1484	8	47	4	609	209	10	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	1246	21	9	1484	8	47	4	609	209	10	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	1246	21	9	1484	8	47	4	609	209	10	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	115	1340	23	10	1596	9	51	4	655	225	11	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	1340	23	10	1596	9	51	4	655	225	11	47
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	115	1340	23	10	1596	9	51	4	655	225	11	47
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.93	0.07	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.19	0.81
Final Sat.:	1750	7375	124	1750	5700	1750	1750	1900	1750	3150	333	1467
Capacity Analysis Module:												
Vol/Sat:	0.07	0.18	0.18	0.01	0.28	0.00	0.03	0.00	0.37	0.07	0.03	0.03
Crit Moves:	****				****				****	****		
Green Time:	12.3	53.6	53.6	11.1	52.4	52.4	27.8	70.0	70.0	13.3	55.6	55.6
Volume/Cap:	0.86	0.54	0.54	0.08	0.86	0.02	0.17	0.01	0.86	0.86	0.09	0.09
Delay/Veh:	111.3	43.5	43.5	70.0	54.4	36.4	56.5	25.4	49.8	95.4	35.3	35.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.3	43.5	43.5	70.0	54.4	36.4	56.5	25.4	49.8	95.4	35.3	35.3
LOS by Move:	F	D	D	E	D	D	E	C	D	F	D	D
HCM2k95thQ:	13	24	24	1	42	1	5	0	53	17	4	4

Note: Queue reported is the number of cars per lane.

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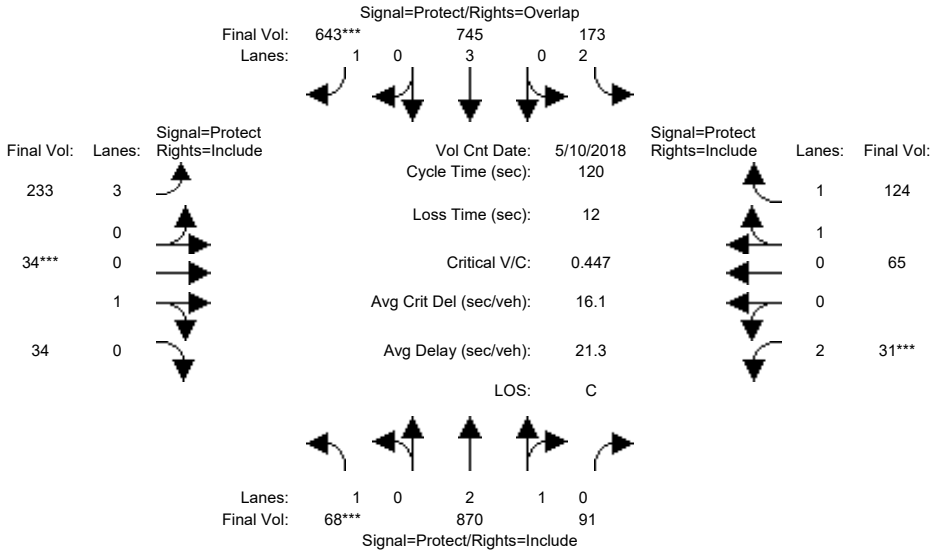
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	62	792	83	157	678	585	212	31	31	28	59	113
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	792	83	157	678	585	212	31	31	28	59	113
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	792	83	157	678	585	212	31	31	28	59	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	68	870	91	173	745	643	233	34	34	31	65	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	870	91	173	745	643	233	34	34	31	65	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	870	91	173	745	643	233	34	34	31	65	124
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.70	0.30	2.00	3.00	1.00	3.00	0.50	0.50	2.00	0.69	1.31
Final Sat.:	1750	5068	531	3150	5700	1750	4551	900	900	3150	1235	2365
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.05	0.13	0.37	0.05	0.04	0.04	0.01	0.05	0.05
Crit Moves:	****					****		****		****		
Green Time:	10.4	65.2	65.2	20.8	75.6	89.1	13.5	12.0	12.0	10.0	8.5	8.5
Volume/Cap:	0.45	0.32	0.32	0.32	0.21	0.49	0.46	0.38	0.38	0.12	0.74	0.74
Delay/Veh:	54.2	15.2	15.2	43.7	9.5	6.6	50.5	51.8	51.8	51.1	65.7	65.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.2	15.2	15.2	43.7	9.5	6.6	50.5	51.8	51.8	51.1	65.7	65.7
LOS by Move:	D	B	B	D	A	A	D	D	D	D	E	E
HCM2k95thQ:	5	12	12	6	7	19	8	6	6	1	10	10

Note: Queue reported is the number of cars per lane.

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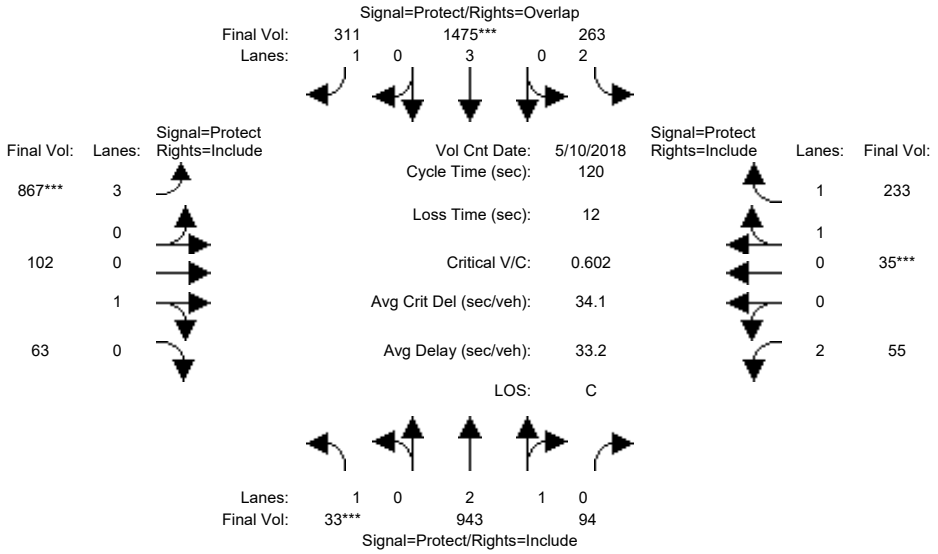
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	31	896	89	250	1401	295	824	97	60	52	33	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	896	89	250	1401	295	824	97	60	52	33	221
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	896	89	250	1401	295	824	97	60	52	33	221
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	33	943	94	263	1475	311	867	102	63	55	35	233
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	943	94	263	1475	311	867	102	63	55	35	233
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	943	94	263	1475	311	867	102	63	55	35	233
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.72	0.28	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.26	1.74
Final Sat.:	1750	5093	506	3150	5700	1750	4551	1112	688	3150	468	3132
Capacity Analysis Module:												
Vol/Sat:	0.02	0.19	0.19	0.08	0.26	0.18	0.19	0.09	0.09	0.02	0.07	0.07
Crit Moves:	****				****		****				****	
Green Time:	8.0	39.6	39.6	17.8	49.4	85.8	36.4	27.6	27.6	23.0	14.2	14.2
Volume/Cap:	0.28	0.56	0.56	0.56	0.63	0.25	0.63	0.40	0.40	0.09	0.63	0.63
Delay/Veh:	54.6	33.5	33.5	49.0	28.6	6.0	36.9	39.8	39.8	40.0	53.4	53.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.6	33.5	33.5	49.0	28.6	6.0	36.9	39.8	39.8	40.0	53.4	53.4
LOS by Move:	D	C	C	D	C	A	D	D	D	D	D	D
HCM2k95thQ:	2	19	19	10	25	8	22	11	11	2	12	12

Note: Queue reported is the number of cars per lane.

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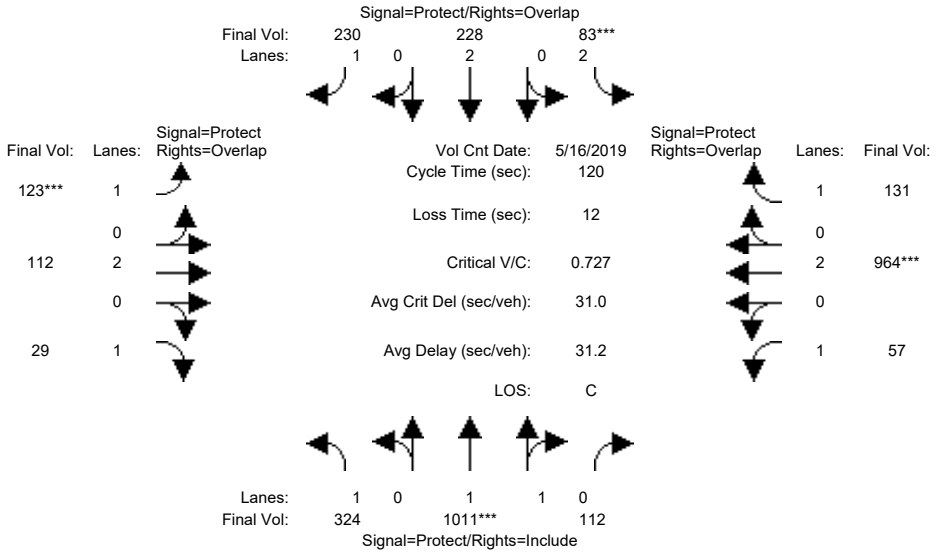
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	292	910	101	75	205	207	111	101	26	51	868	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	910	101	75	205	207	111	101	26	51	868	118
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	910	101	75	205	207	111	101	26	51	868	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1011	112	83	228	230	123	112	29	57	964	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1011	112	83	228	230	123	112	29	57	964	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1011	112	83	228	230	123	112	29	57	964	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.79	0.21	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3330	370	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.30	0.30	0.03	0.06	0.13	0.07	0.03	0.02	0.03	0.25	0.07
Crit Moves:		****		****			****				****	
Green Time:	38.9	48.4	48.4	8.0	17.5	28.7	11.2	25.8	64.7	25.8	40.4	48.4
Volume/Cap:	0.57	0.75	0.75	0.40	0.41	0.55	0.75	0.14	0.03	0.15	0.75	0.19
Delay/Veh:	24.3	19.1	19.1	52.4	41.8	33.2	70.8	38.2	13.0	38.4	37.9	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.3	19.1	19.1	52.4	41.8	33.2	70.8	38.2	13.0	38.4	37.9	23.2
LOS by Move:	C	B	B	D	D	C	E	D	B	D	D	C
HCM2k95thQ:	16	25	25	3	7	13	10	3	1	4	29	7

Note: Queue reported is the number of cars per lane.

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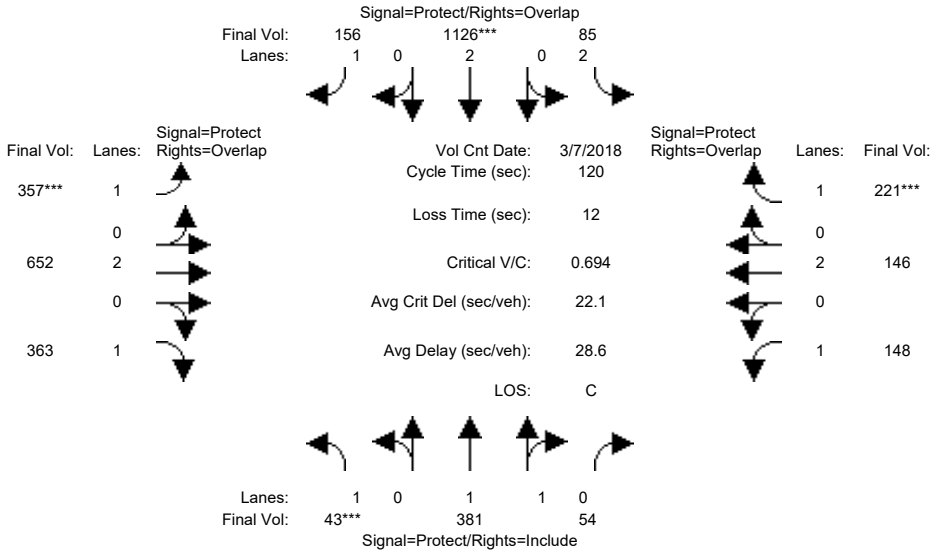
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module: >> Count Date: 7 Mar 2018 <<												
Base Vol:	43	377	53	84	1115	154	353	645	359	147	145	219
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	377	53	84	1115	154	353	645	359	147	145	219
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	377	53	84	1115	154	353	645	359	147	145	219
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	43	381	54	85	1126	156	357	652	363	148	146	221
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	381	54	85	1126	156	357	652	363	148	146	221
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	43	381	54	85	1126	156	357	652	363	148	146	221
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.75	0.25	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3244	456	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.12	0.12	0.03	0.30	0.09	0.20	0.17	0.21	0.08	0.04	0.13
Crit Moves:	****				****		****					****
Green Time:	5.0	38.0	38.0	21.6	54.5	92.0	37.5	33.1	38.1	15.4	11.0	32.5
Volume/Cap:	0.60	0.37	0.37	0.15	0.65	0.12	0.65	0.62	0.65	0.66	0.42	0.47
Delay/Veh:	67.6	22.2	22.2	35.6	12.2	0.0	38.4	39.2	38.1	57.0	52.3	37.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.6	22.2	22.2	35.6	12.2	0.0	38.4	39.2	38.1	57.0	52.3	37.2
LOS by Move:	E	C	C	D	B	A	D	D	D	E	D	D
HCM2k95thQ:	3	9	9	3	18	0	21	18	22	13	6	14

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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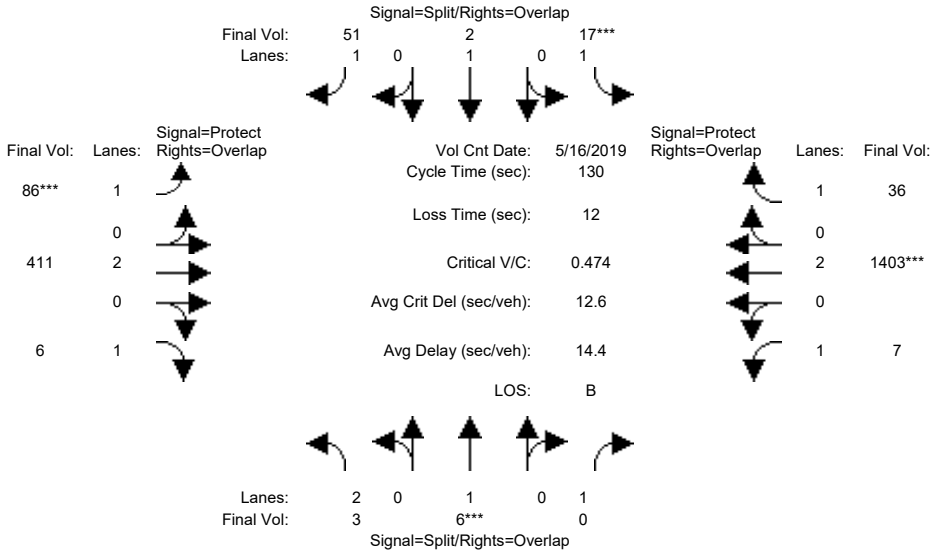
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	3	5	0	15	2	46	77	370	5	6	1263	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	15	2	46	77	370	5	6	1263	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	15	2	46	77	370	5	6	1263	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	17	2	51	86	411	6	7	1403	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	17	2	51	86	411	6	7	1403	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	17	2	51	86	411	6	7	1403	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.05	0.11	0.00	0.00	0.37	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	19.2	12.2	67.8	74.8	36.2	91.8	98.8
Volume/Cap:	0.02	0.05	0.00	0.18	0.02	0.20	0.52	0.21	0.01	0.01	0.52	0.03
Delay/Veh:	58.3	58.6	0.0	59.6	58.3	49.1	59.2	16.7	11.7	34.0	9.1	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.6	58.3	49.1	59.2	16.7	11.7	34.0	9.1	3.8
LOS by Move:	E	E	A	E	E	D	E	B	B	C	A	A
HCM2k95thQ:	0	1	0	2	0	4	7	8	0	0	23	1

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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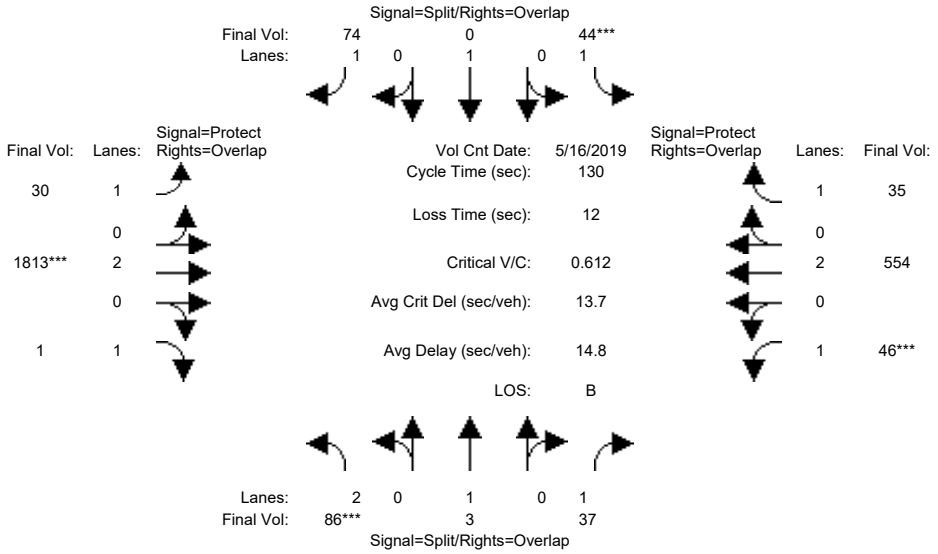
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	81	3	35	41	0	70	28	1704	1	43	521	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	70	28	1704	1	43	521	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	70	28	1704	1	43	521	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	74	30	1813	1	46	554	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	74	30	1813	1	46	554	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	74	30	1813	1	46	554	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.04	0.02	0.48	0.00	0.03	0.15	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	32.0	25.0	96.0	103.0	8.0	79.0	86.0
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.17	0.09	0.65	0.00	0.42	0.24	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	38.8	43.3	9.0	2.8	61.5	11.8	7.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	38.8	43.3	9.0	2.8	61.5	11.8	7.6
LOS by Move:	E	E	D	E	A	D	D	A	A	E	B	A
HCM2k95thQ:	6	0	3	5	0	5	2	30	0	4	10	1

Note: Queue reported is the number of cars per lane.

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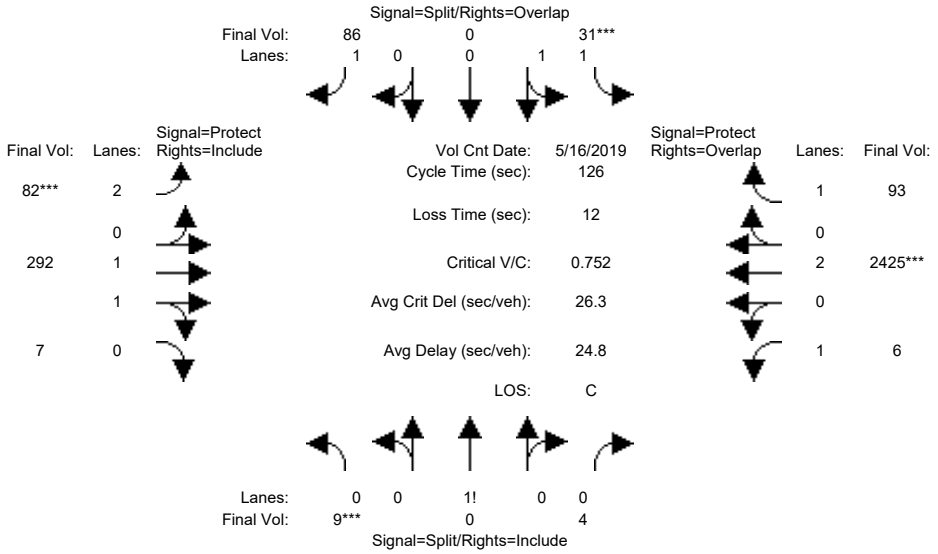
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	9	0	4	30	0	83	79	280	7	6	2328	89
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	0	4	30	0	83	79	280	7	6	2328	89
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	0	4	30	0	83	79	280	7	6	2328	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	9	0	4	31	0	86	82	292	7	6	2425	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	0	4	31	0	86	82	292	7	6	2425	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	0	4	31	0	86	82	292	7	6	2425	93
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	1.00	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.69	0.00	0.31	2.00	0.00	1.00	2.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	1212	0	538	3550	0	1750	3150	3610	90	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.01	0.00	0.05	0.03	0.08	0.08	0.00	0.64	0.05
Crit Moves:	****			****			****				****	
Green Time:	10.0	0.0	10.0	10.0	0.0	18.0	8.0	75.2	75.2	18.8	86.0	96.0
Volume/Cap:	0.10	0.00	0.10	0.11	0.00	0.35	0.41	0.14	0.14	0.02	0.93	0.07
Delay/Veh:	54.1	0.0	54.1	54.0	0.0	49.5	58.1	11.2	11.2	45.8	24.7	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.1	0.0	54.1	54.0	0.0	49.5	58.1	11.2	11.2	45.8	24.7	3.8
LOS by Move:	D	A	D	D	A	D	E	B	B	D	C	A
HCM2k95thQ:	1	0	1	1	0	7	4	5	5	0	70	2

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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2000 HCM Operations (Future Volume Alternative)
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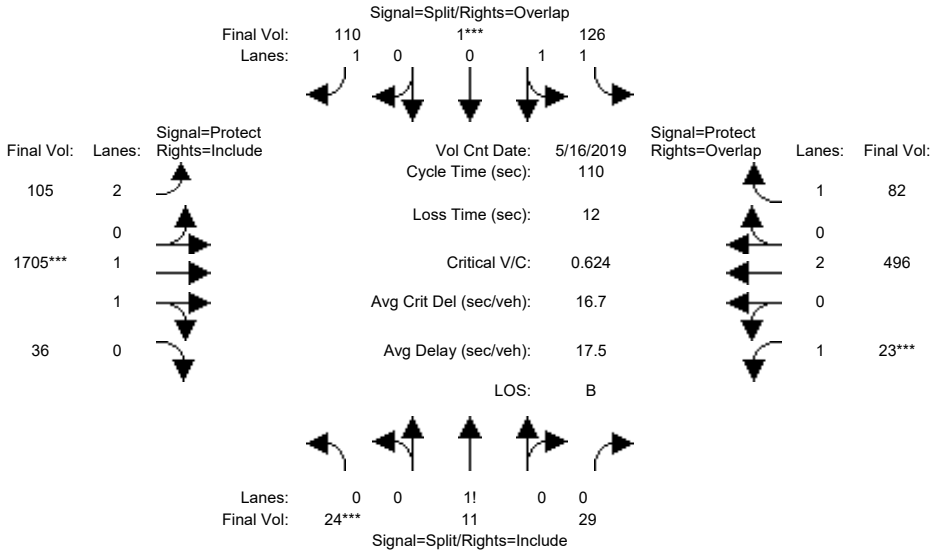
Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	22	10	26	115	1	100	96	1552	33	21	451	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	10	26	115	1	100	96	1552	33	21	451	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	10	26	115	1	100	96	1552	33	21	451	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	24	11	29	126	1	110	105	1705	36	23	496	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	11	29	126	1	110	105	1705	36	23	496	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	11	29	126	1	110	105	1705	36	23	496	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.38	0.17	0.45	1.98	0.02	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	664	302	784	3519	31	1750	3150	3623	77	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.04	0.04	0.06	0.03	0.47	0.47	0.01	0.13	0.05
Crit Moves:	****				****			****		****		
Green Time:	10.0	10.0	10.0	10.0	10.0	32.3	22.3	73.0	73.0	5.0	55.7	65.7
Volume/Cap:	0.40	0.40	0.40	0.39	0.39	0.21	0.17	0.71	0.71	0.29	0.26	0.08
Delay/Veh:	48.8	48.8	48.8	47.9	47.9	29.5	36.3	12.7	12.7	52.8	15.5	9.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.8	48.8	48.8	47.9	47.9	29.5	36.3	12.7	12.7	52.8	15.5	9.4
LOS by Move:	D	D	D	D	D	C	D	B	B	D	B	A
HCM2k95thQ:	5	5	5	5	5	6	3	33	33	2	9	3

Note: Queue reported is the number of cars per lane.

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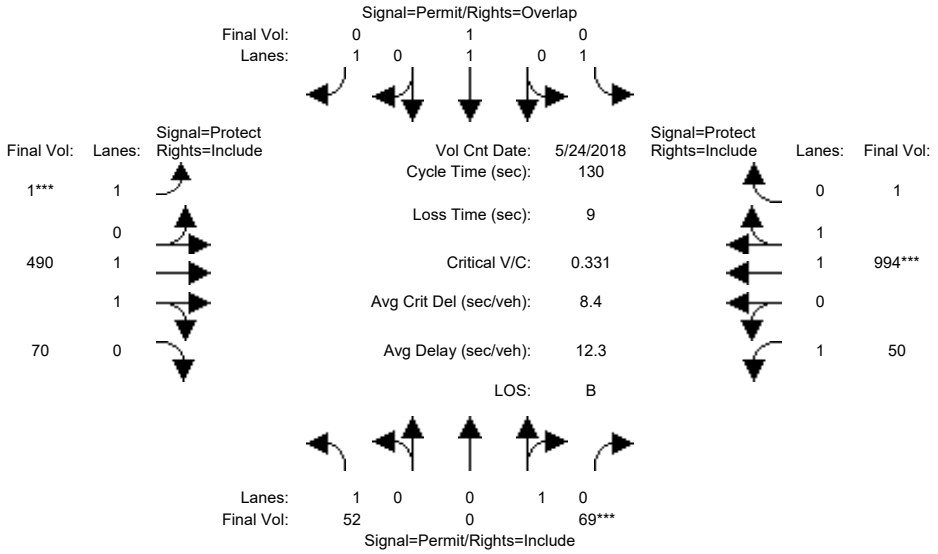
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	47	0	62	0	1	0	1	441	63	45	895	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	0	62	0	1	0	1	441	63	45	895	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	0	62	0	1	0	1	441	63	45	895	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	52	0	69	0	1	0	1	490	70	50	994	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	0	69	0	1	0	1	490	70	50	994	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	0	69	0	1	0	1	490	70	50	994	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.74	0.26	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3237	462	1750	3696	4
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.15	0.15	0.03	0.27	0.27
Crit Moves:			****				****				****	
Green Time:	14.1	0.0	14.1	0.0	14.1	0.0	8.0	76.0	76.0	30.9	98.9	98.9
Volume/Cap:	0.28	0.00	0.35	0.00	0.01	0.00	0.01	0.26	0.26	0.12	0.35	0.35
Delay/Veh:	54.1	0.0	54.9	0.0	51.7	0.0	57.3	13.3	13.3	39.0	5.2	5.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.1	0.0	54.9	0.0	51.7	0.0	57.3	13.3	13.3	39.0	5.2	5.2
LOS by Move:	D	A	D	A	D	A	E	B	B	D	A	A
HCM2k95thQ:	5	0	6	0	0	0	0	10	10	3	13	13

Note: Queue reported is the number of cars per lane.

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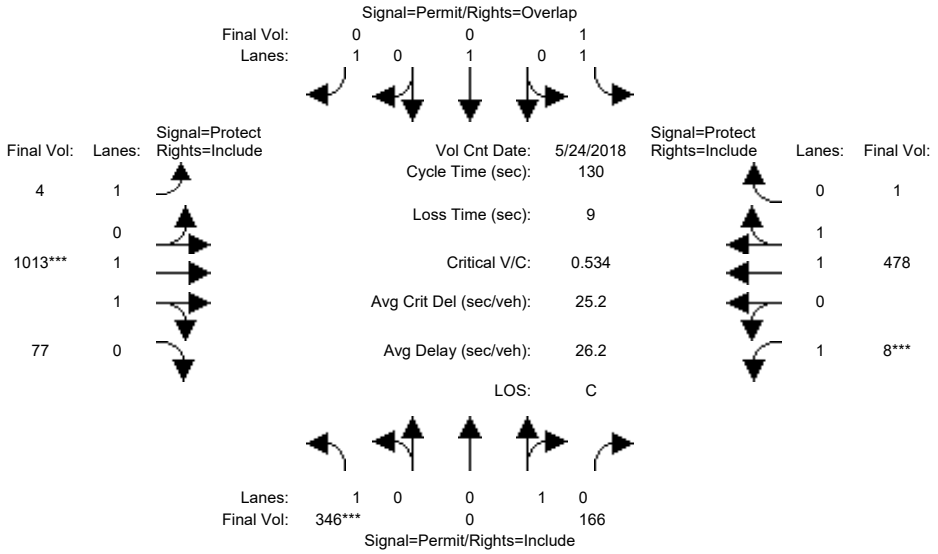
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	336	0	161	1	0	0	4	983	75	8	464	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	336	0	161	1	0	0	4	983	75	8	464	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	336	0	161	1	0	0	4	983	75	8	464	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	346	0	166	1	0	0	4	1013	77	8	478	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	346	0	166	1	0	0	4	1013	77	8	478	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	346	0	166	1	0	0	4	1013	77	8	478	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.85	0.15	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3438	262	1750	3692	8
Capacity Analysis Module:												
Vol/Sat:	0.20	0.00	0.09	0.00	0.00	0.00	0.00	0.29	0.29	0.00	0.13	0.13
Crit Moves:	****							****		****		
Green Time:	45.4	0.0	45.4	45.4	0.0	0.0	24.3	67.6	67.6	8.0	51.3	51.3
Volume/Cap:	0.57	0.00	0.26	0.00	0.00	0.00	0.01	0.57	0.57	0.08	0.33	0.33
Delay/Veh:	35.6	0.0	30.6	27.5	0.0	0.0	43.0	21.6	21.6	57.8	27.5	27.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.6	0.0	30.6	27.5	0.0	0.0	43.0	21.6	21.6	57.8	27.5	27.5
LOS by Move:	D	A	C	C	A	A	D	C	C	E	C	C
HCM2k95thQ:	22	0	10	0	0	0	0	26	26	1	13	13

Note: Queue reported is the number of cars per lane.

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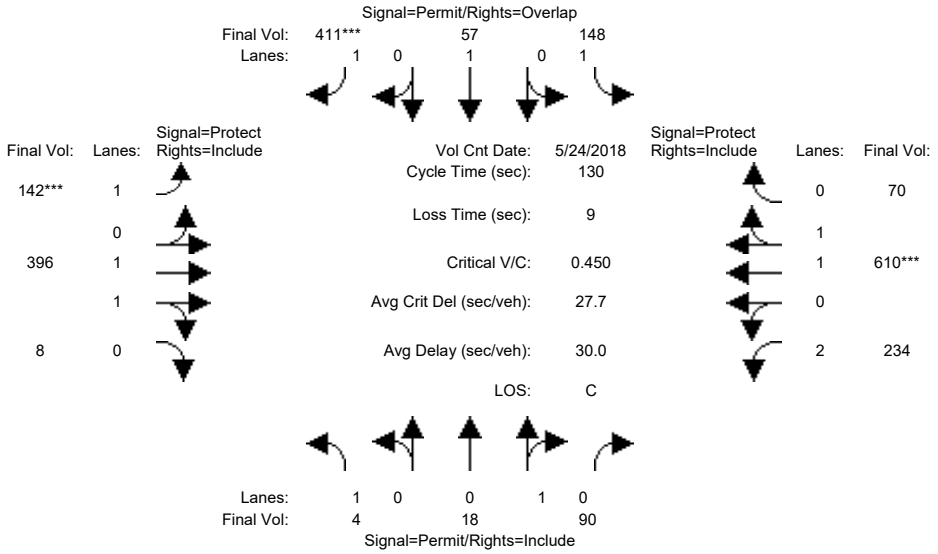
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	4	16	82	135	52	374	129	360	7	213	555	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	16	82	135	52	374	129	360	7	213	555	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	16	82	135	52	374	129	360	7	213	555	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	4	18	90	148	57	411	142	396	8	234	610	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	18	90	148	57	411	142	396	8	234	610	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	18	90	148	57	411	142	396	8	234	610	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.98	0.95
Lanes:	1.00	0.16	0.84	1.00	1.00	1.00	1.00	1.96	0.04	2.00	1.79	0.21
Final Sat.:	1750	294	1506	1750	1900	1750	1750	3629	71	3150	3317	383
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.06	0.08	0.03	0.23	0.08	0.11	0.11	0.07	0.18	0.18
Crit Moves:						****	****				****	
Green Time:	44.5	44.5	44.5	44.5	44.5	67.9	23.4	45.9	45.9	30.6	53.1	53.1
Volume/Cap:	0.01	0.17	0.17	0.25	0.09	0.45	0.45	0.31	0.31	0.32	0.45	0.45
Delay/Veh:	28.2	30.1	30.1	31.0	29.1	19.8	48.6	30.6	30.6	41.3	28.1	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.2	30.1	30.1	31.0	29.1	19.8	48.6	30.6	30.6	41.3	28.1	28.1
LOS by Move:	C	C	C	C	C	B	D	C	C	D	C	C
HCM2k95thQ:	0	6	6	9	3	20	10	11	11	9	18	18

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

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2000 HCM Operations (Future Volume Alternative)
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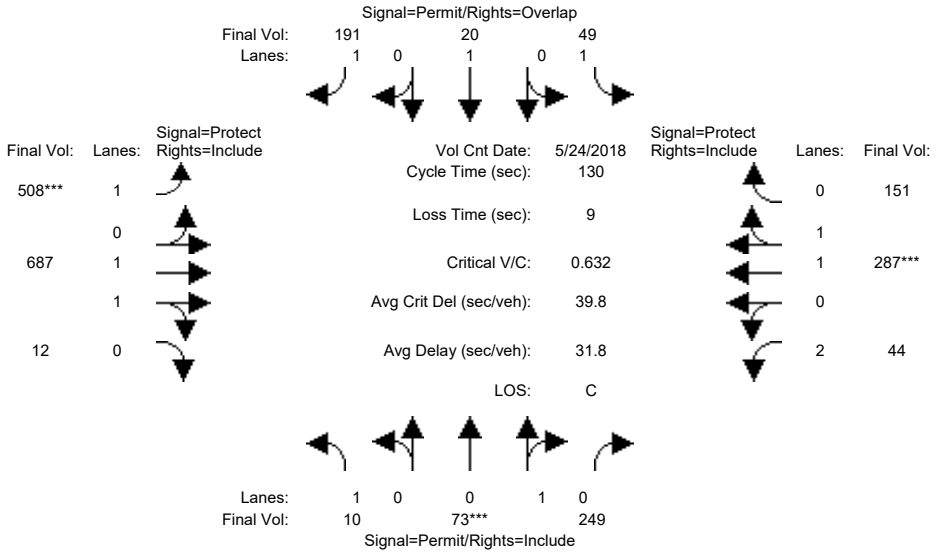
Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	10	71	242	48	19	185	493	666	12	43	278	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	71	242	48	19	185	493	666	12	43	278	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	71	242	48	19	185	493	666	12	43	278	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	10	73	249	49	20	191	508	687	12	44	287	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	73	249	49	20	191	508	687	12	44	287	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	73	249	49	20	191	508	687	12	44	287	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.99	0.95
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.96	0.04	2.00	1.29	0.71
Final Sat.:	1750	408	1392	1750	1900	1750	1750	3634	65	3150	2425	1274
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.03	0.01	0.11	0.29	0.19	0.19	0.01	0.12	0.12
Crit Moves:		****					****				****	
Green Time:	36.9	36.9	36.9	36.9	36.9	96.7	59.8	59.8	59.8	24.3	24.3	24.3
Volume/Cap:	0.02	0.63	0.63	0.10	0.04	0.15	0.63	0.41	0.41	0.08	0.63	0.63
Delay/Veh:	33.6	43.2	43.2	34.4	33.7	4.8	28.4	23.6	23.6	43.6	50.6	50.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	43.2	43.2	34.4	33.7	4.8	28.4	23.6	23.6	43.6	50.6	50.6
LOS by Move:	C	D	D	C	C	A	C	C	C	D	D	D
HCM2k95thQ:	1	22	22	3	1	5	29	17	17	2	15	15

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

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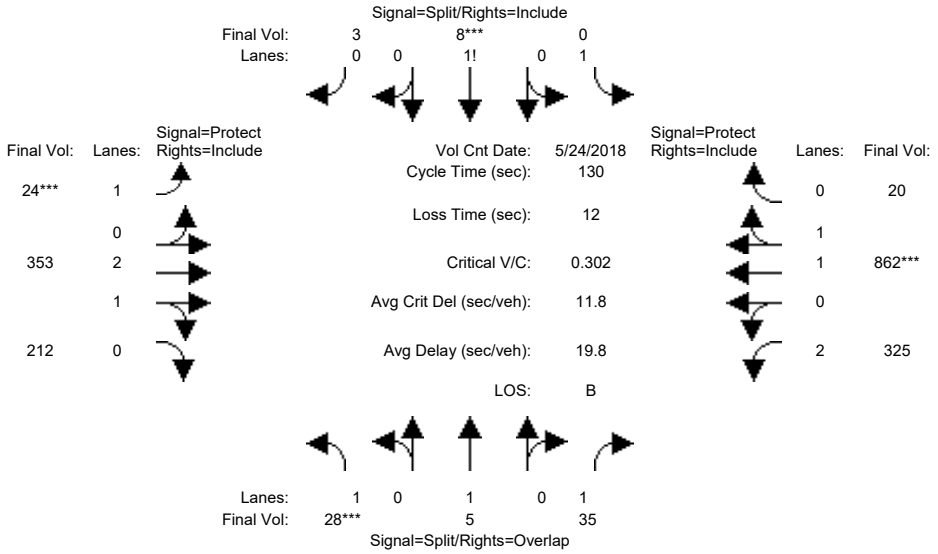
Existing (AM)

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	26	5	32	0	7	3	22	325	195	299	793	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	5	32	0	7	3	22	325	195	299	793	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	5	32	0	7	3	22	325	195	299	793	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	28	5	35	0	8	3	24	353	212	325	862	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	5	35	0	8	3	24	353	212	325	862	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	5	35	0	8	3	24	353	212	325	862	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.00	1.00	2.00	1.95	0.05
Final Sat.:	1750	1900	1750	1750	1260	540	1750	3800	1750	3150	3618	82
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.02	0.00	0.01	0.01	0.01	0.09	0.12	0.10	0.24	0.24
Crit Moves:	****				****		****				****	
Green Time:	10.0	10.0	57.8	0.0	10.0	10.0	9.0	50.2	50.2	47.8	89.0	89.0
Volume/Cap:	0.21	0.04	0.04	0.00	0.08	0.08	0.20	0.24	0.31	0.28	0.35	0.35
Delay/Veh:	57.1	55.6	20.5	0.0	56.0	56.0	57.9	27.1	28.0	29.1	8.6	8.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.1	55.6	20.5	0.0	56.0	56.0	57.9	27.1	28.0	29.1	8.6	8.6
LOS by Move:	E	E	C	A	E	E	E	C	C	C	A	A
HCM2k95thQ:	3	0	2	0	1	1	2	9	12	10	14	14

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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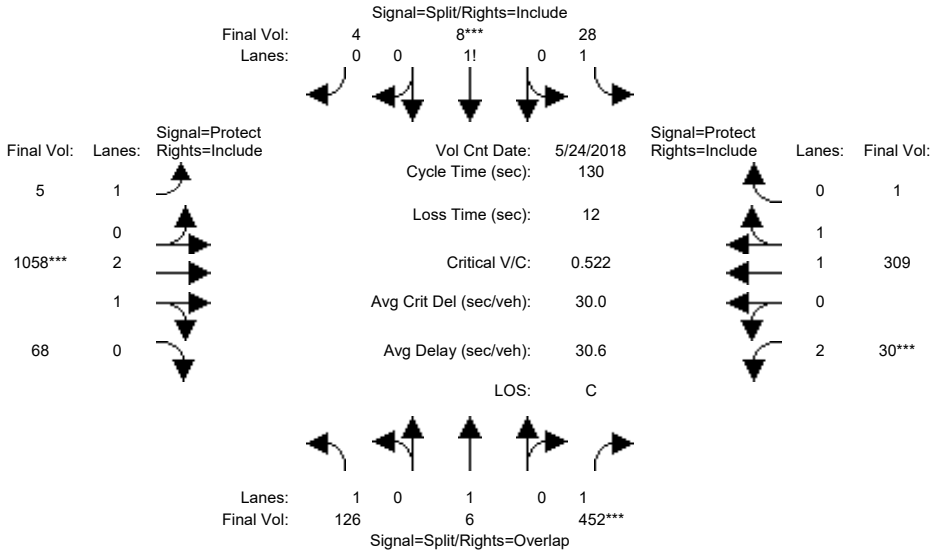
Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	122	6	438	27	8	4	5	1026	66	29	300	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	122	6	438	27	8	4	5	1026	66	29	300	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	6	438	27	8	4	5	1026	66	29	300	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	126	6	452	28	8	4	5	1058	68	30	309	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	6	452	28	8	4	5	1058	68	30	309	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	6	452	28	8	4	5	1058	68	30	309	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.81	0.19	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	5261	338	3150	3688	12
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.26	0.01	0.02	0.02	0.00	0.20	0.20	0.01	0.08	0.08
Crit Moves:			****		****			****		****		
Green Time:	38.6	38.6	53.6	10.0	10.0	10.0	26.0	54.4	54.4	15.0	43.4	43.4
Volume/Cap:	0.24	0.01	0.63	0.14	0.20	0.20	0.01	0.48	0.48	0.08	0.25	0.25
Delay/Veh:	34.9	32.2	32.0	56.2	56.7	56.7	41.7	27.7	27.7	51.5	31.6	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.9	32.2	32.0	56.2	56.7	56.7	41.7	27.7	27.7	51.5	31.6	31.6
LOS by Move:	C	C	C	E	E	E	D	C	C	D	C	C
HCM2k95thQ:	8	0	27	2	2	2	0	20	20	1	9	9

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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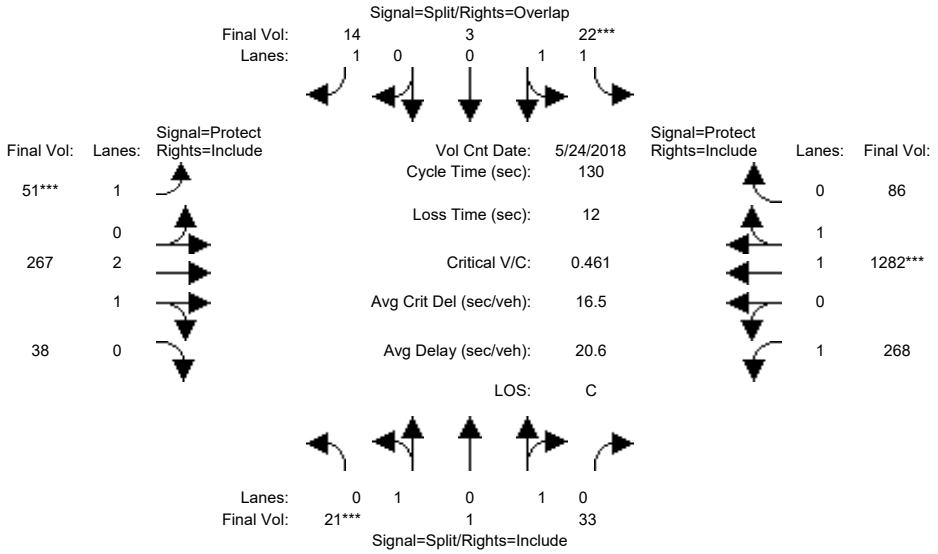
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	19	1	30	20	3	13	46	240	34	241	1154	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	13	46	240	34	241	1154	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	13	46	240	34	241	1154	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	14	51	267	38	268	1282	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	14	51	267	38	268	1282	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	14	51	267	38	268	1282	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.61	0.39	1.00	1.87	0.13
Final Sat.:	1710	90	1800	3087	463	1750	1750	4904	695	1750	3468	231
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.05	0.05	0.15	0.37	0.37
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	31.8	31.8	63.2	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.05	0.38	0.22	0.22	0.31	0.57	0.57
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	39.3	39.3	20.5	12.7	12.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	39.3	39.3	20.5	12.7	12.7
LOS by Move:	D	D	D	D	D	D	E	D	D	C	B	B
HCM2k95thQ:	2	2	3	1	1	1	4	6	6	13	27	27

Note: Queue reported is the number of cars per lane.

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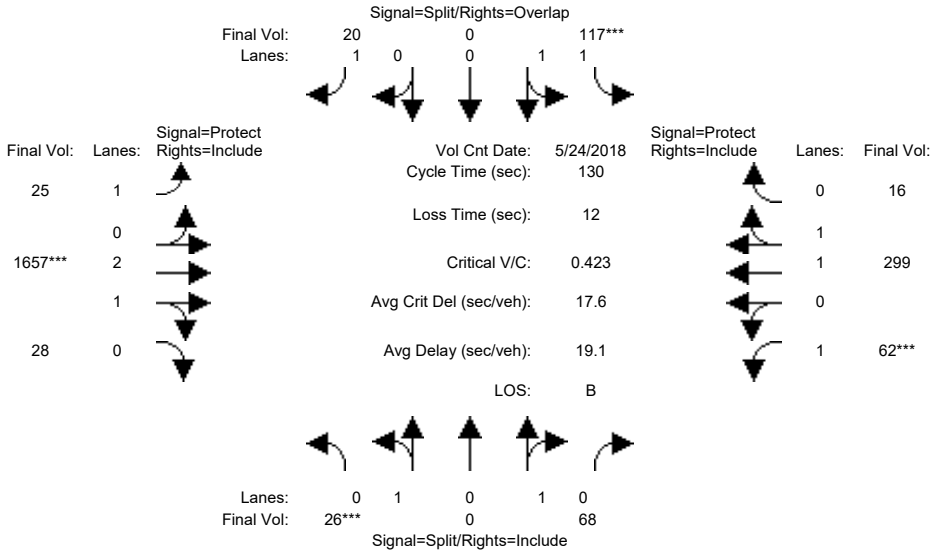
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module: >> Count Date: 24 May 2018 <<												
Base Vol:	25	0	65	111	0	19	24	1574	27	59	284	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	19	24	1574	27	59	284	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	19	24	1574	27	59	284	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	20	25	1657	28	62	299	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	20	25	1657	28	62	299	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	20	25	1657	28	62	299	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.95	0.05	1.00	1.90	0.10
Final Sat.:	1800	0	1800	3550	0	1750	1750	5505	94	1750	3514	186
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.01	0.01	0.30	0.30	0.04	0.09	0.09
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	56.1	45.1	85.0	85.0	10.0	49.9	49.9
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.03	0.04	0.46	0.46	0.46	0.22	0.22
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	21.3	28.1	11.2	11.2	59.9	27.1	27.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	21.3	28.1	11.2	11.2	59.9	27.1	27.1
LOS by Move:	D	A	E	E	A	C	C	B	B	E	C	C
HCM2k95thQ:	2	0	6	6	0	1	1	20	20	6	8	8

Note: Queue reported is the number of cars per lane.

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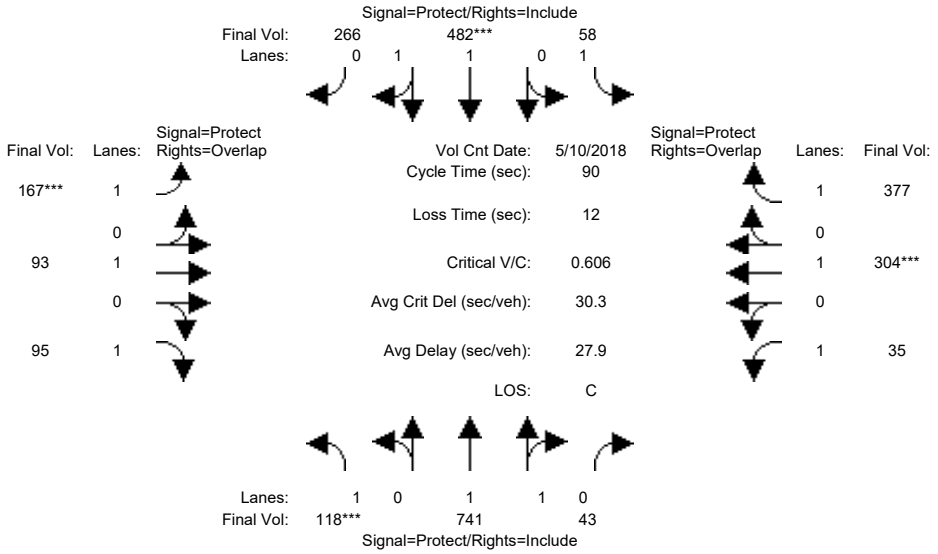
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	107	674	39	53	439	242	152	85	86	32	277	343
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	674	39	53	439	242	152	85	86	32	277	343
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	674	39	53	439	242	152	85	86	32	277	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	118	741	43	58	482	266	167	93	95	35	304	377
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	741	43	58	482	266	167	93	95	35	304	377
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	741	43	58	482	266	167	93	95	35	304	377
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.89	0.11	1.00	1.27	0.73	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3497	202	1750	2384	1314	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.21	0.03	0.20	0.20	0.10	0.05	0.05	0.02	0.16	0.22
Crit Moves:	****				****		****				****	
Green Time:	10.0	29.7	29.7	10.4	30.1	30.1	14.2	25.3	35.3	12.7	23.8	34.2
Volume/Cap:	0.61	0.64	0.64	0.29	0.61	0.61	0.61	0.17	0.14	0.14	0.61	0.57
Delay/Veh:	43.5	26.9	26.9	37.2	25.9	25.9	39.1	24.6	17.7	34.2	31.1	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.5	26.9	26.9	37.2	25.9	25.9	39.1	24.6	17.7	34.2	31.1	23.2
LOS by Move:	D	C	C	D	C	C	D	C	B	C	C	C
HCM2k95thQ:	7	17	17	3	16	16	9	4	4	2	15	17

Note: Queue reported is the number of cars per lane.

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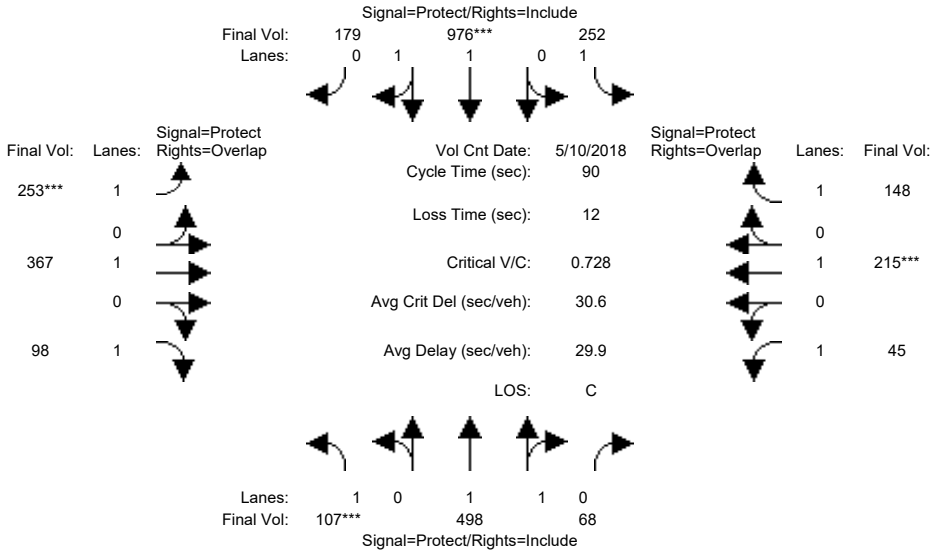
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	105	488	67	247	956	175	248	360	96	44	211	145
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	488	67	247	956	175	248	360	96	44	211	145
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	488	67	247	956	175	248	360	96	44	211	145
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	498	68	252	976	179	253	367	98	45	215	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	498	68	252	976	179	253	367	98	45	215	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	498	68	252	976	179	253	367	98	45	215	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.75	0.25	1.00	1.68	0.32	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3253	447	1750	3127	572	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.14	0.31	0.31	0.14	0.19	0.06	0.03	0.11	0.08
Crit Moves:	****				****		****				****	
Green Time:	8.0	28.1	28.1	18.2	38.3	38.3	17.8	25.8	33.8	5.9	13.9	32.1
Volume/Cap:	0.69	0.49	0.49	0.71	0.73	0.73	0.73	0.68	0.15	0.39	0.73	0.24
Delay/Veh:	52.1	25.5	25.5	40.1	23.4	23.4	41.7	31.8	18.7	42.5	45.4	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	25.5	25.5	40.1	23.4	23.4	41.7	31.8	18.7	42.5	45.4	20.5
LOS by Move:	D	C	C	D	C	C	D	C	B	D	D	C
HCM2k95thQ:	7	12	12	14	25	25	14	17	4	4	14	6

Note: Queue reported is the number of cars per lane.

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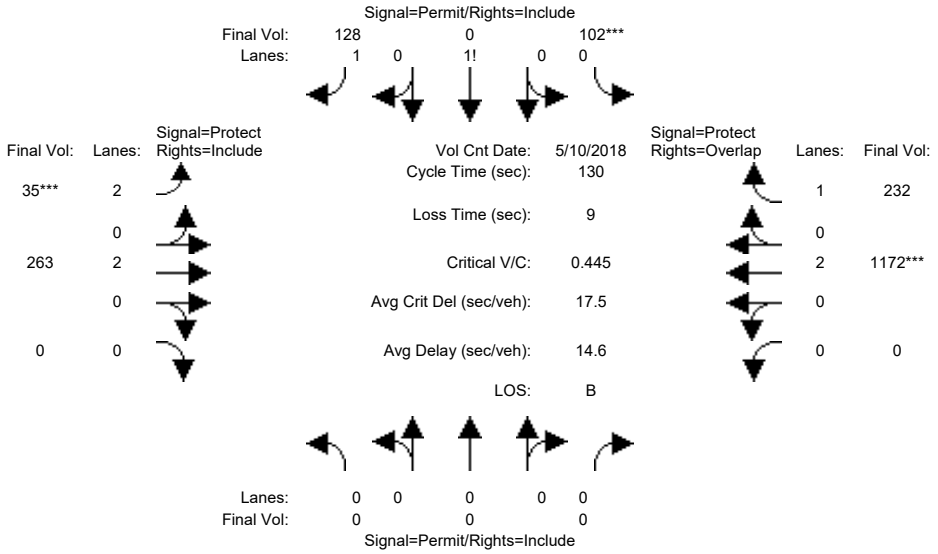
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	0	0	99	0	124	34	255	0	0	1137	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	124	34	255	0	0	1137	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	124	34	255	0	0	1137	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	128	35	263	0	0	1172	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	128	35	263	0	0	1172	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	128	35	263	0	0	1172	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.61	0.00	1.39	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1076	0	2424	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.09	0.00	0.05	0.01	0.07	0.00	0.00	0.31	0.13
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	26.6	0.0	26.6	8.0	94.4	0.0	0.0	86.4	86.4
Volume/Cap:	0.00	0.00	0.00	0.46	0.00	0.26	0.18	0.10	0.00	0.00	0.46	0.20
Delay/Veh:	0.0	0.0	0.0	46.1	0.0	43.6	58.3	5.2	0.0	0.0	10.7	8.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	46.1	0.0	43.6	58.3	5.2	0.0	0.0	10.7	8.5
LOS by Move:	A	A	A	D	A	D	E	A	A	A	B	A
HCM2k95thQ:	0	0	0	13	0	7	2	3	0	0	20	7

Note: Queue reported is the number of cars per lane.

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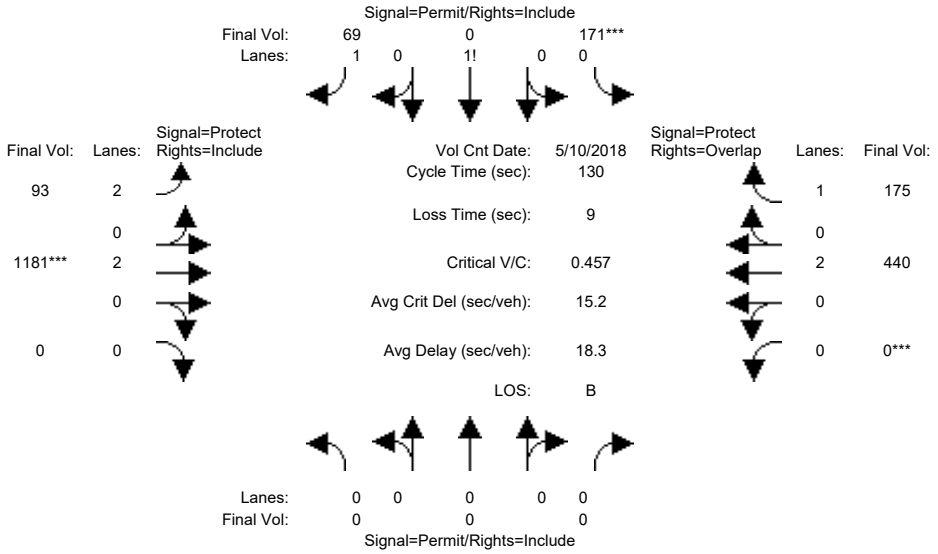
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	0	0	166	0	67	90	1146	0	0	427	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	67	90	1146	0	0	427	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	67	90	1146	0	0	427	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	69	93	1181	0	0	440	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	69	93	1181	0	0	440	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	69	93	1181	0	0	440	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.83	0.00	1.17	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1491	0	2051	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.03	0.03	0.31	0.00	0.00	0.12	0.10
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	32.6	0.0	32.6	30.7	88.4	0.0	0.0	57.7	57.7
Volume/Cap:	0.00	0.00	0.00	0.46	0.00	0.13	0.12	0.46	0.00	0.00	0.26	0.23
Delay/Veh:	0.0	0.0	0.0	41.8	0.0	37.8	39.2	9.8	0.0	0.0	22.8	22.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	41.8	0.0	37.8	39.2	9.8	0.0	0.0	22.8	22.5
LOS by Move:	A	A	A	D	A	D	D	A	A	A	C	C
HCM2k95thQ:	0	0	0	14	0	4	3	20	0	0	10	9

Note: Queue reported is the number of cars per lane.

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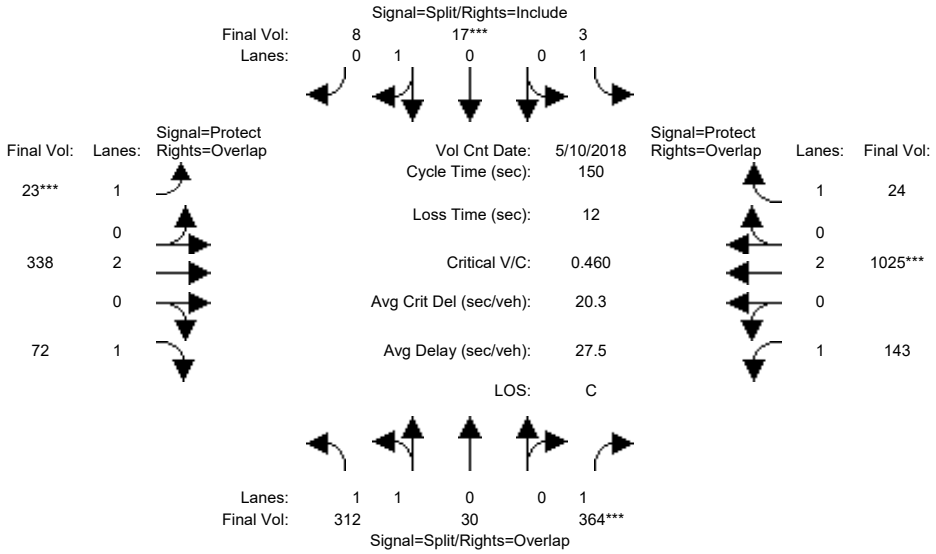
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	287	28	335	3	16	7	21	311	66	132	943	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	28	335	3	16	7	21	311	66	132	943	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	28	335	3	16	7	21	311	66	132	943	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	312	30	364	3	17	8	23	338	72	143	1025	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	30	364	3	17	8	23	338	72	143	1025	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	30	364	3	17	8	23	338	72	143	1025	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.82	0.18	1.00	1.00	0.70	0.30	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3234	316	1750	1750	1252	548	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.21	0.00	0.01	0.01	0.01	0.09	0.04	0.08	0.27	0.01
Crit Moves:			****		****		****				****	
Green Time:	40.5	40.5	84.4	6.0	6.0	6.0	5.0	47.6	88.1	43.9	86.5	92.5
Volume/Cap:	0.36	0.36	0.37	0.05	0.35	0.35	0.39	0.28	0.07	0.28	0.47	0.02
Delay/Veh:	44.5	44.5	18.4	69.5	73.0	73.0	75.3	38.5	13.3	41.2	18.5	11.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	44.5	18.4	69.5	73.0	73.0	75.3	38.5	13.3	41.2	18.5	11.2
LOS by Move:	D	D	B	E	E	E	E	D	B	D	B	B
HCM2k95thQ:	12	12	18	0	3	3	2	11	3	10	23	1

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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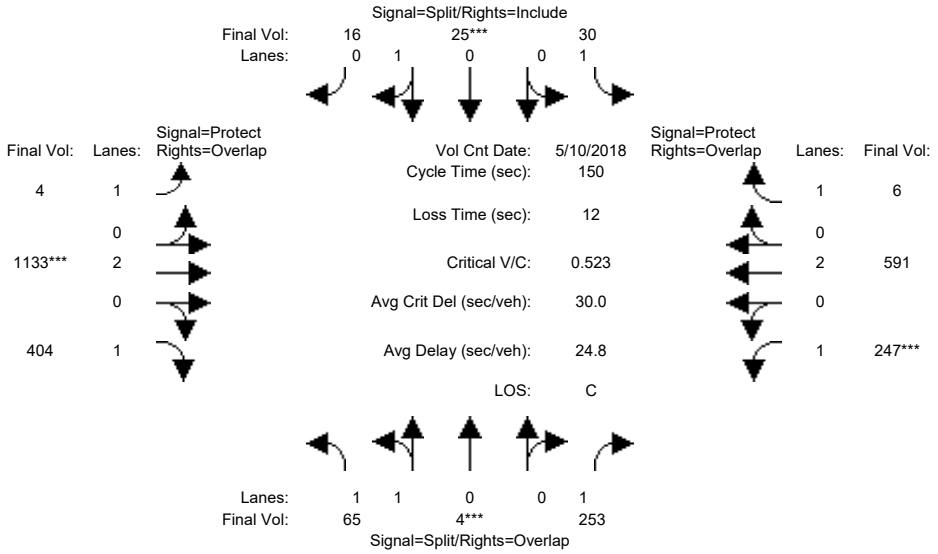
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	62	4	243	29	24	15	4	1088	388	237	567	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	4	243	29	24	15	4	1088	388	237	567	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	4	243	29	24	15	4	1088	388	237	567	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	65	4	253	30	25	16	4	1133	404	247	591	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	4	253	30	25	16	4	1133	404	247	591	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	4	253	30	25	16	4	1133	404	247	591	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.95	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.88	0.12	1.00	1.00	0.62	0.38	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3335	215	1750	1750	1108	692	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.14	0.02	0.02	0.02	0.00	0.30	0.23	0.14	0.16	0.00
Crit Moves:		****			****			****			****	
Green Time:	10.0	10.0	49.1	6.3	6.3	6.3	21.5	82.7	92.7	39.1	100	106.5
Volume/Cap:	0.29	0.29	0.44	0.41	0.54	0.54	0.02	0.54	0.37	0.54	0.23	0.01
Delay/Veh:	67.3	67.3	40.2	73.9	78.3	78.3	55.2	21.8	14.5	49.1	9.8	6.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.3	67.3	40.2	73.9	78.3	78.3	55.2	21.8	14.5	49.1	9.8	6.3
LOS by Move:	E	E	D	E	E	E	E	C	B	D	A	A
HCM2k95thQ:	3	3	18	4	5	5	0	28	18	19	10	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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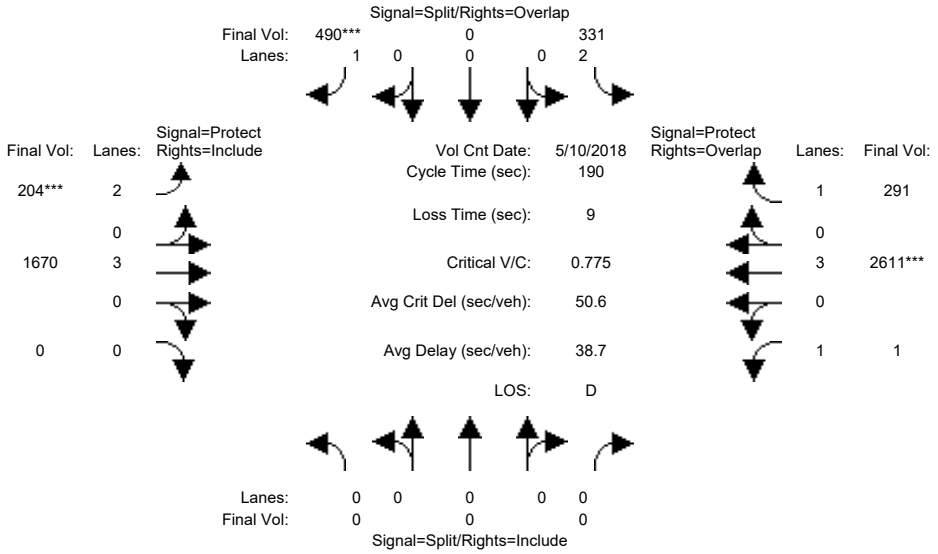
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	0.0	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	0	0	331	0	490	204	1919	0	1	3001	291
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	331	0	490	204	1919	0	1	3001	291
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	331	0	490	204	1919	0	1	3001	291
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	331	0	490	204	1670	0	1	2611	291
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	331	0	490	204	1670	0	1	2611	291
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	331	0	490	204	1670	0	1	2611	291
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.28	0.06	0.29	0.00	0.00	0.46	0.17
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	0.79	0.00	1.26	0.73	0.41	0.00	0.01	0.67	0.20
Delay/Veh:	0.0	0.0	0.0	89.1	0.0	209.2	93.6	11.2	0.0	84.8	17.5	3.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	89.1	0.0	209.2	93.6	11.2	0.0	84.8	17.5	3.7
LOS by Move:	A	A	A	F	A	F	F	B	A	F	B	A
HCM2k95thQ:	0	0	0	23	0	70	16	23	0	0	44	7

Note: Queue reported is the number of cars per lane.

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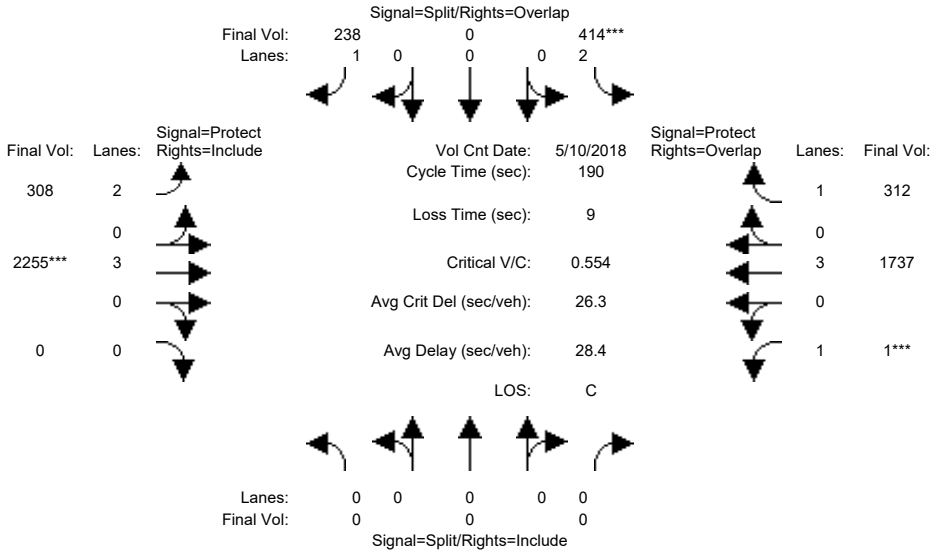
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	0	0	414	0	238	308	2819	0	1	2554	312
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	414	0	238	308	2819	0	1	2554	312
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	414	0	238	308	2819	0	1	2554	312
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	414	0	238	308	2255	0	1	1737	312
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	414	0	238	308	2255	0	1	1737	312
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	414	0	238	308	2255	0	1	1737	312
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.00	0.14	0.10	0.40	0.00	0.00	0.30	0.18
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	0.81	0.00	0.50	0.88	0.57	0.00	0.01	0.48	0.22
Delay/Veh:	0.0	0.0	0.0	86.0	0.0	58.8	104.9	15.3	0.0	84.8	18.2	4.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	86.0	0.0	58.8	104.9	15.3	0.0	84.8	18.2	4.8
LOS by Move:	A	A	A	F	A	E	F	B	A	F	B	A
HCM2k95thQ:	0	0	0	27	0	22	24	36	0	0	29	9

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
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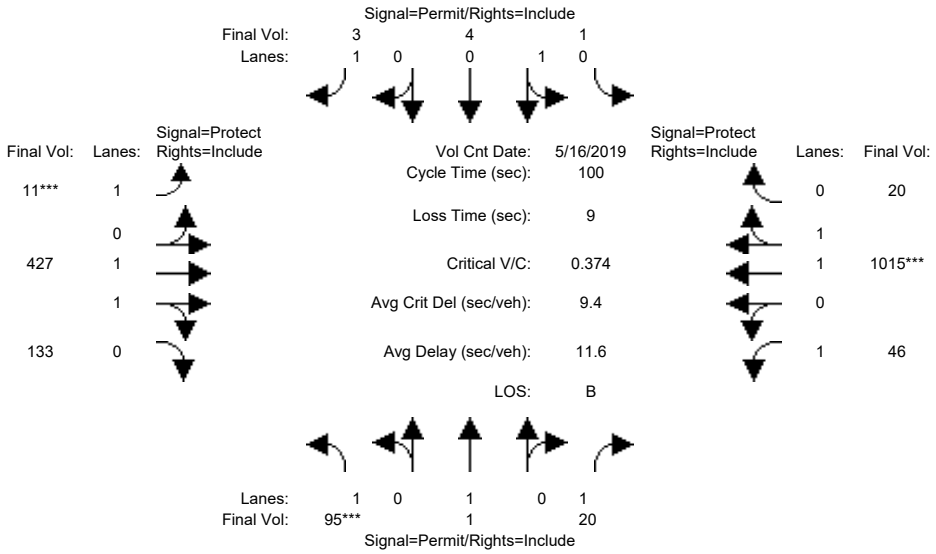
Existing (AM)

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	89	1	19	1	4	3	10	401	125	43	954	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	1	19	1	4	3	10	401	125	43	954	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	1	19	1	4	3	10	401	125	43	954	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	95	1	20	1	4	3	11	427	133	46	1015	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	1	20	1	4	3	11	427	133	46	1015	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	1	20	1	4	3	11	427	133	46	1015	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.20	0.80	1.00	1.00	1.51	0.49	1.00	1.96	0.04
Final Sat.:	1750	1900	1750	360	1440	1750	1750	2820	879	1750	3628	72
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.01	0.00	0.00	0.00	0.01	0.15	0.15	0.03	0.28	0.28
Crit Moves:	****						****				****	
Green Time:	13.6	13.6	13.6	13.6	13.6	13.6	7.0	52.9	52.9	24.5	70.4	70.4
Volume/Cap:	0.40	0.00	0.08	0.02	0.02	0.01	0.09	0.29	0.29	0.11	0.40	0.40
Delay/Veh:	40.5	37.3	37.9	37.5	37.5	37.4	43.8	13.1	13.1	29.4	6.2	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.5	37.3	37.9	37.5	37.5	37.4	43.8	13.1	13.1	29.4	6.2	6.2
LOS by Move:	D	D	D	D	D	D	D	B	B	C	A	A
HCM2k95thQ:	6	0	1	0	0	0	1	9	9	2	13	13

Note: Queue reported is the number of cars per lane.

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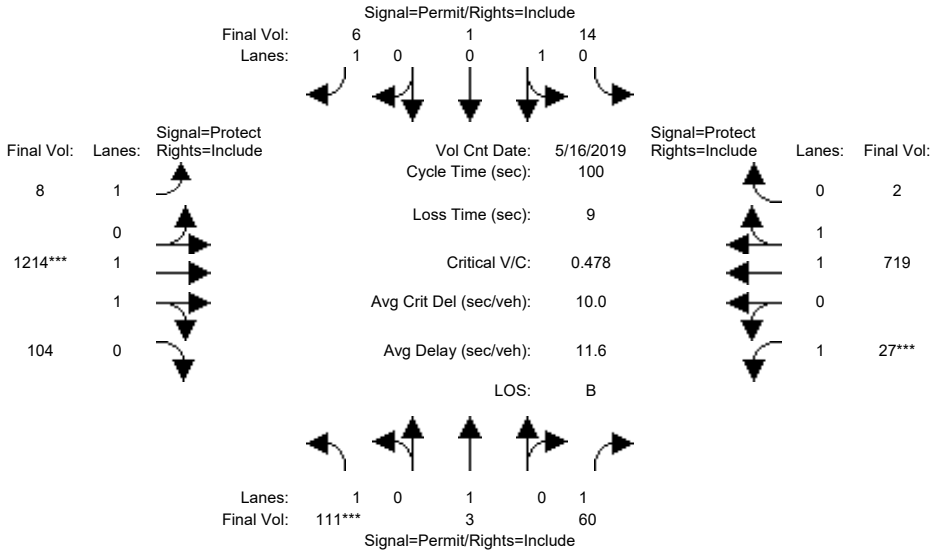
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	108	3	58	14	1	6	8	1178	101	26	697	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	3	58	14	1	6	8	1178	101	26	697	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	3	58	14	1	6	8	1178	101	26	697	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	111	3	60	14	1	6	8	1214	104	27	719	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	3	60	14	1	6	8	1214	104	27	719	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	3	60	14	1	6	8	1214	104	27	719	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.93	0.07	1.00	1.00	1.84	0.16	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1680	120	1750	1750	3408	292	1750	3689	11
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.01	0.01	0.00	0.00	0.36	0.36	0.02	0.19	0.19
Crit Moves:	****							****		****		
Green Time:	12.7	12.7	12.7	12.7	12.7	12.7	20.7	71.3	71.3	7.0	57.6	57.6
Volume/Cap:	0.50	0.01	0.27	0.07	0.07	0.03	0.02	0.50	0.50	0.22	0.34	0.34
Delay/Veh:	42.4	38.2	40.1	38.5	38.5	38.3	31.6	6.6	6.6	44.8	11.3	11.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.4	38.2	40.1	38.5	38.5	38.3	31.6	6.6	6.6	44.8	11.3	11.3
LOS by Move:	D	D	D	D	D	D	C	A	A	D	B	B
HCM2k95thQ:	8	0	4	1	1	0	0	17	17	2	11	11

Note: Queue reported is the number of cars per lane.

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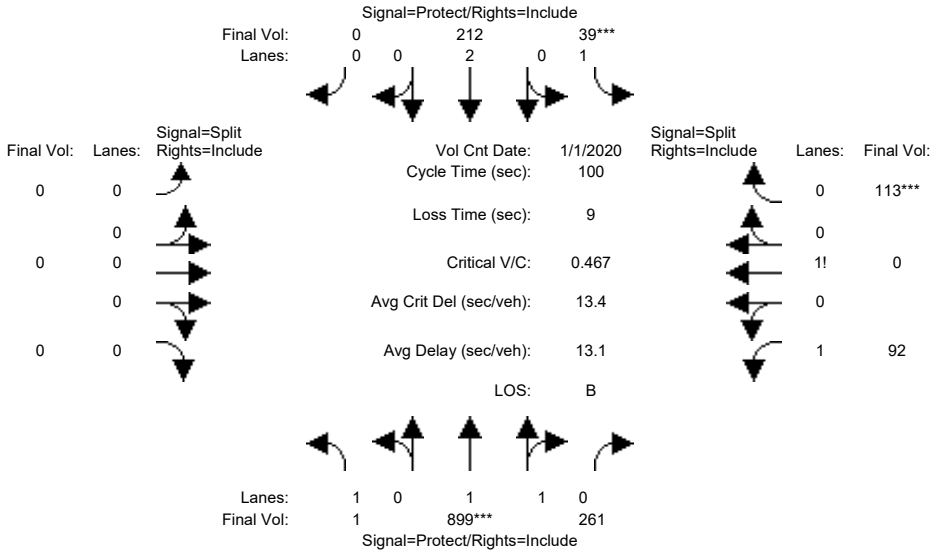
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module: >> Count Date: 1 Jan 2020 <<												
Base Vol:	1	899	261	39	212	0	0	0	0	92	0	113
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	899	261	39	212	0	0	0	0	92	0	113
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	899	261	39	212	0	0	0	0	92	0	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	899	261	39	212	0	0	0	0	92	0	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	899	261	39	212	0	0	0	0	92	0	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	899	261	39	212	0	0	0	0	92	0	113
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.95
Lanes:	1.00	1.54	0.46	1.00	2.00	0.00	0.00	0.00	0.00	1.30	0.00	0.70
Final Sat.:	1750	2867	832	1750	3800	0	0	0	0	2266	0	1269
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.31	0.02	0.06	0.00	0.00	0.00	0.00	0.04	0.00	0.09
Crit Moves:		****		****								****
Green Time:	20.6	67.2	67.2	4.8	51.4	0.0	0.0	0.0	0.0	19.1	0.0	19.1
Volume/Cap:	0.00	0.47	0.47	0.47	0.11	0.00	0.00	0.00	0.00	0.21	0.00	0.47
Delay/Veh:	31.6	8.0	8.0	50.5	12.5	0.0	0.0	0.0	0.0	34.2	0.0	36.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.6	8.0	8.0	50.5	12.5	0.0	0.0	0.0	0.0	34.2	0.0	36.7
LOS by Move:	C	A	A	D	B	A	A	A	A	C	A	D
HCM2k95thQ:	0	16	16	4	3	0	0	0	0	4	0	10

Note: Queue reported is the number of cars per lane.

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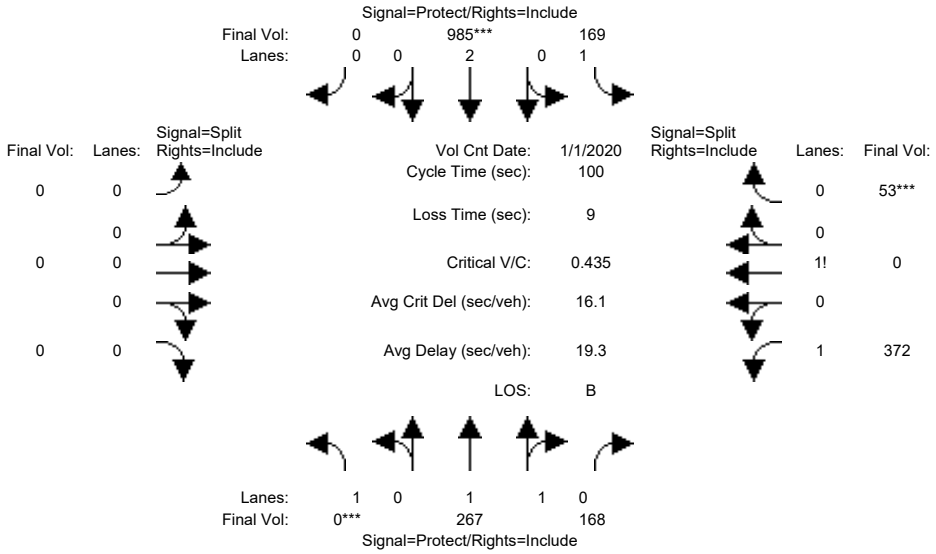
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	5.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module: >> Count Date: 1 Jan 2020 <<												
Base Vol:	0	267	168	169	985	0	0	0	0	372	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	267	168	169	985	0	0	0	0	372	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	267	168	169	985	0	0	0	0	372	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	267	168	169	985	0	0	0	0	372	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	267	168	169	985	0	0	0	0	372	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	267	168	169	985	0	0	0	0	372	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.21	0.79	1.00	2.00	0.00	0.00	0.00	0.00	1.78	0.00	0.22
Final Sat.:	1750	2270	1428	1750	3800	0	0	0	0	3112	0	388
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.12	0.10	0.26	0.00	0.00	0.00	0.00	0.12	0.00	0.14
Crit Moves:	****				****							****
Green Time:	0.0	32.7	32.7	26.9	59.6	0.0	0.0	0.0	0.0	31.4	0.0	31.4
Volume/Cap:	0.00	0.36	0.36	0.36	0.43	0.00	0.00	0.00	0.00	0.38	0.00	0.43
Delay/Veh:	0.0	25.8	25.8	30.1	11.2	0.0	0.0	0.0	0.0	26.9	0.0	27.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	25.8	25.8	30.1	11.2	0.0	0.0	0.0	0.0	26.9	0.0	27.6
LOS by Move:	A	C	C	C	B	A	A	A	A	C	A	C
HCM2k95thQ:	0	10	10	9	15	0	0	0	0	11	0	12

Note: Queue reported is the number of cars per lane.

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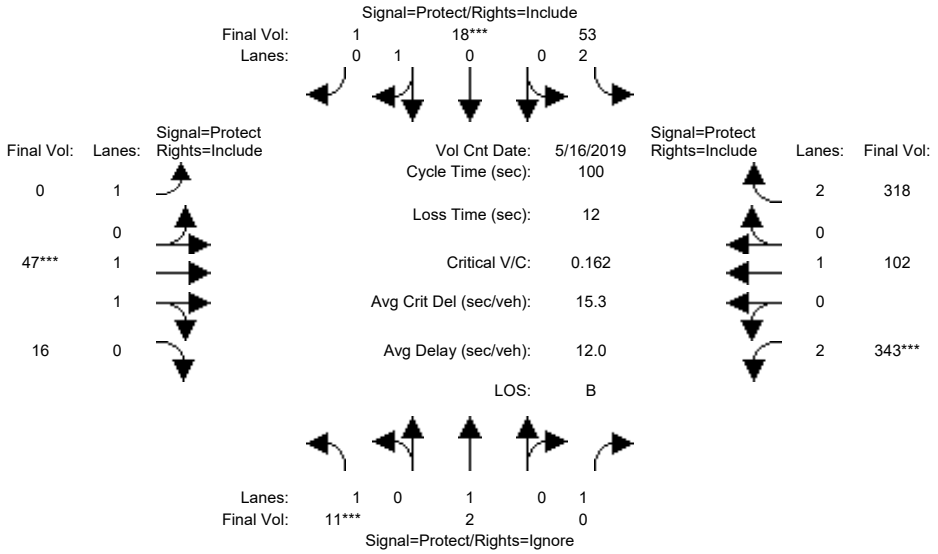
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	10	2	88	48	16	1	0	42	14	309	92	286
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	2	88	48	16	1	0	42	14	309	92	286
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	2	88	48	16	1	0	42	14	309	92	286
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	11	2	0	53	18	1	0	47	16	343	102	318
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	2	0	53	18	1	0	47	16	343	102	318
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	2	0	53	18	1	0	47	16	343	102	318
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.94	0.06	1.00	1.49	0.51	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1694	106	1750	2774	925	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.11	0.05	0.10
Crit Moves:	****				****			****		****		
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.0	10.0	62.0	72.0	72.0
Volume/Cap:	0.08	0.01	0.00	0.21	0.13	0.13	0.00	0.17	0.17	0.18	0.07	0.14
Delay/Veh:	42.8	42.4	0.0	43.5	43.2	43.2	0.0	41.4	41.4	8.1	4.2	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.8	42.4	0.0	43.5	43.2	43.2	0.0	41.4	41.4	8.1	4.2	4.4
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	2	1	1	0	2	2	5	2	4

Note: Queue reported is the number of cars per lane.

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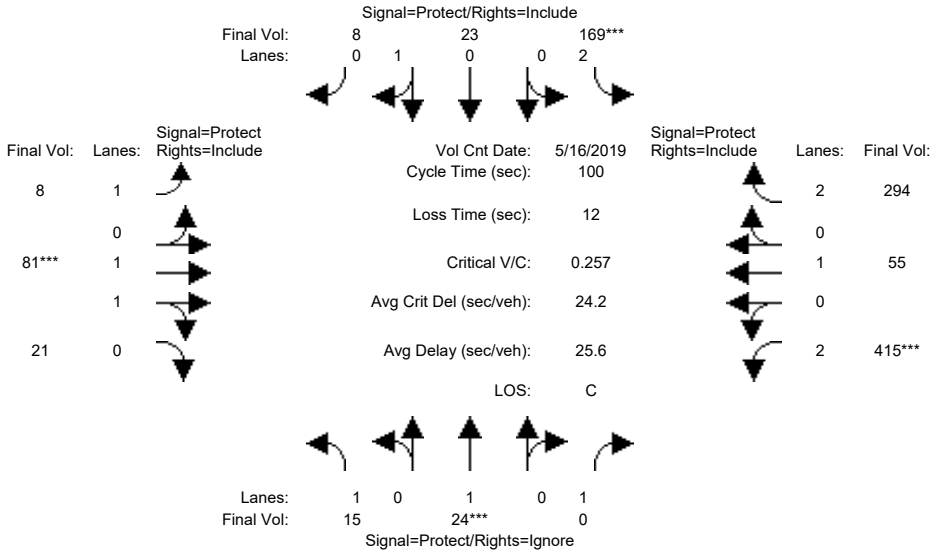
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	14	23	555	161	22	8	8	77	20	394	52	279
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	14	23	555	161	22	8	8	77	20	394	52	279
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	23	555	161	22	8	8	77	20	394	52	279
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	15	24	0	169	23	8	8	81	21	415	55	294
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	24	0	169	23	8	8	81	21	415	55	294
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	24	0	169	23	8	8	81	21	415	55	294
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1320	480	1750	2937	763	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.05	0.02	0.02	0.00	0.03	0.03	0.13	0.03	0.09
Crit Moves:		****		****				****		****		
Green Time:	14.1	8.0	0.0	20.2	14.1	14.1	29.9	10.4	10.4	49.4	29.9	29.9
Volume/Cap:	0.06	0.16	0.00	0.27	0.12	0.12	0.02	0.27	0.27	0.27	0.10	0.31
Delay/Veh:	37.3	43.4	0.0	33.9	37.8	37.8	24.7	41.7	41.7	14.8	25.4	27.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.3	43.4	0.0	33.9	37.8	37.8	24.7	41.7	41.7	14.8	25.4	27.3
LOS by Move:	D	D	A	C	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	6	2	2	0	3	3	8	2	8

Note: Queue reported is the number of cars per lane.

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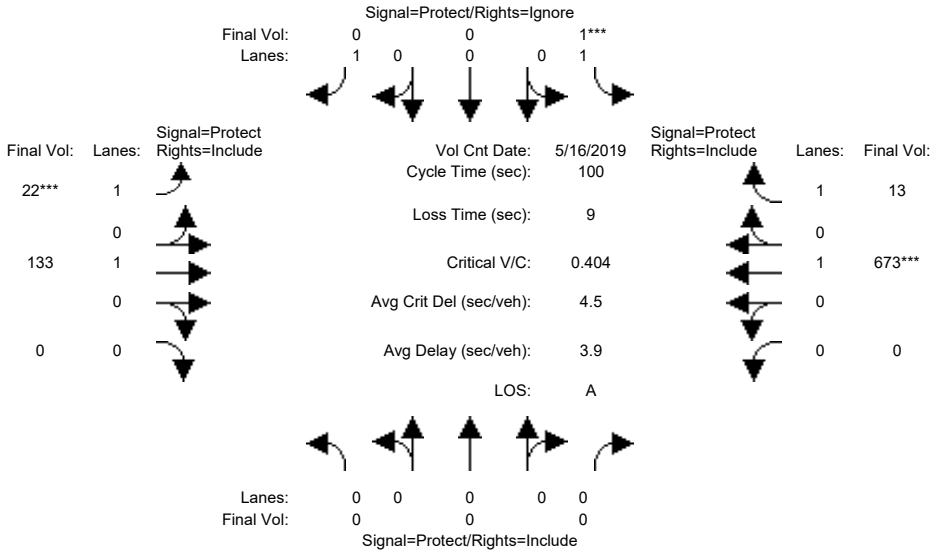
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	0	0	0	1	0	9	21	125	0	0	633	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1	0	9	21	125	0	0	633	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1	0	9	21	125	0	0	633	12
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	1	0	0	22	133	0	0	673	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1	0	0	22	133	0	0	673	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1	0	0	22	133	0	0	673	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.00	0.00	0.35	0.01
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.01	0.00	0.00	0.26	0.08	0.00	0.00	0.44	0.01
Delay/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.3	1.1	0.0	0.0	3.0	1.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.3	1.1	0.0	0.0	3.0	1.8
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	0	0	0	1	1	0	0	12	0

Note: Queue reported is the number of cars per lane.

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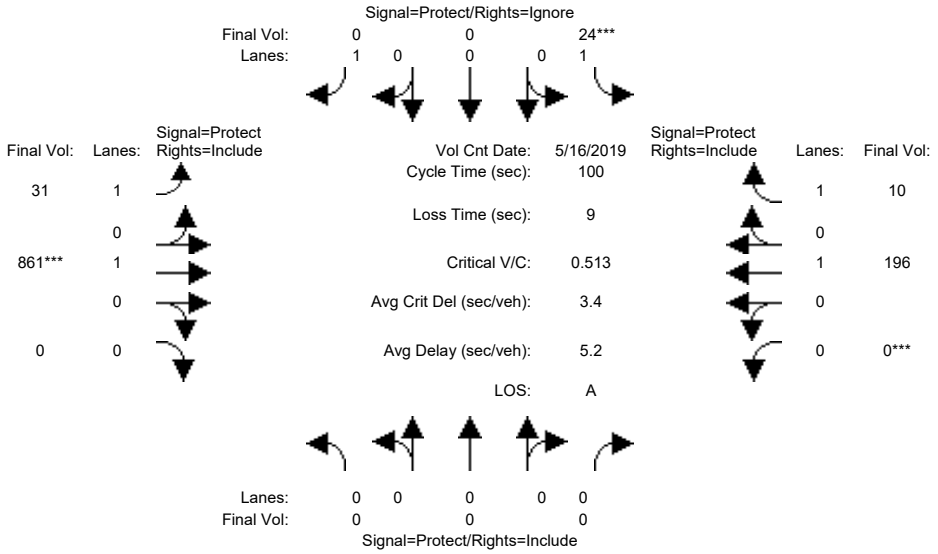
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	0	0	0	22	0	51	28	775	0	0	176	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	22	0	51	28	775	0	0	176	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	22	0	51	28	775	0	0	176	9
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	24	0	0	31	861	0	0	196	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	24	0	0	31	861	0	0	196	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	24	0	0	31	861	0	0	196	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.45	0.00	0.00	0.10	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	28.1	86.0	0.0	0.0	57.9	57.9
Volume/Cap:	0.00	0.00	0.00	0.28	0.00	0.00	0.06	0.53	0.00	0.00	0.18	0.01
Delay/Veh:	0.0	0.0	0.0	47.5	0.0	0.0	26.4	2.1	0.0	0.0	10.0	8.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.5	0.0	0.0	26.4	2.1	0.0	0.0	10.0	8.9
LOS by Move:	A	A	A	D	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	0	0	2	0	0	1	14	0	0	5	0

Note: Queue reported is the number of cars per lane.

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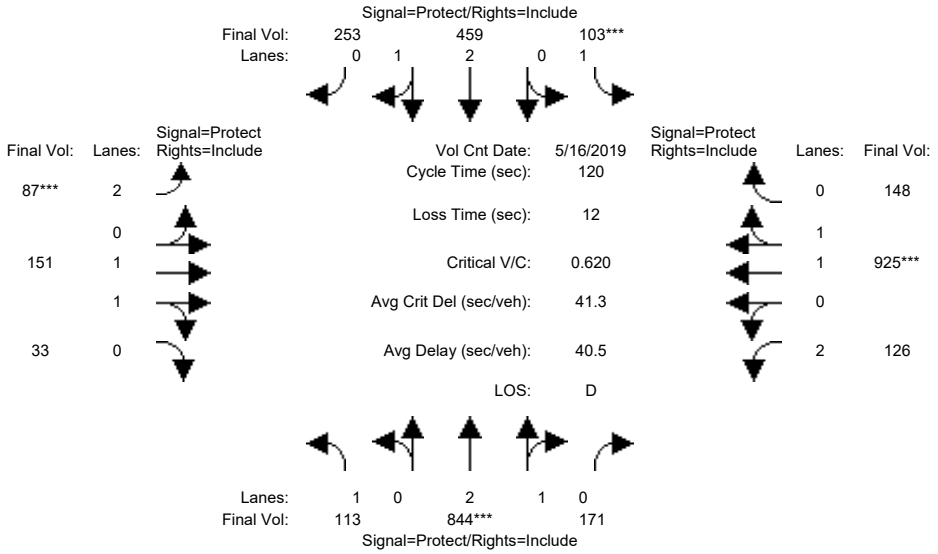
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	113	844	171	103	459	253	87	151	33	126	925	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	113	844	171	103	459	253	87	151	33	126	925	148
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	844	171	103	459	253	87	151	33	126	925	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	844	171	103	459	253	87	151	33	126	925	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	844	171	103	459	253	87	151	33	126	925	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	844	171	103	459	253	87	151	33	126	925	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.48	0.52	1.00	2.00	1.00	2.00	1.63	0.37	2.00	1.72	0.28
Final Sat.:	1750	4655	943	1750	3800	1750	3150	3036	663	3150	3189	510
Capacity Analysis Module:												
Vol/Sat:	0.06	0.18	0.18	0.06	0.12	0.14	0.03	0.05	0.05	0.04	0.29	0.29
Crit Moves:		****		****			****				****	
Green Time:	20.0	30.0	30.0	20.0	30.0	30.0	15.0	33.1	33.1	24.9	43.0	43.0
Volume/Cap:	0.39	0.73	0.73	0.35	0.48	0.58	0.22	0.18	0.18	0.19	0.81	0.81
Delay/Veh:	45.4	43.1	43.1	45.0	38.6	40.1	47.5	33.2	33.2	39.4	38.6	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	43.1	43.1	45.0	38.6	40.1	47.5	33.2	33.2	39.4	38.6	38.6
LOS by Move:	D	D	D	D	D	D	D	C	C	D	D	D
HCM2k95thQ:	8	21	21	7	13	16	3	5	5	4	32	32

Note: Queue reported is the number of cars per lane.

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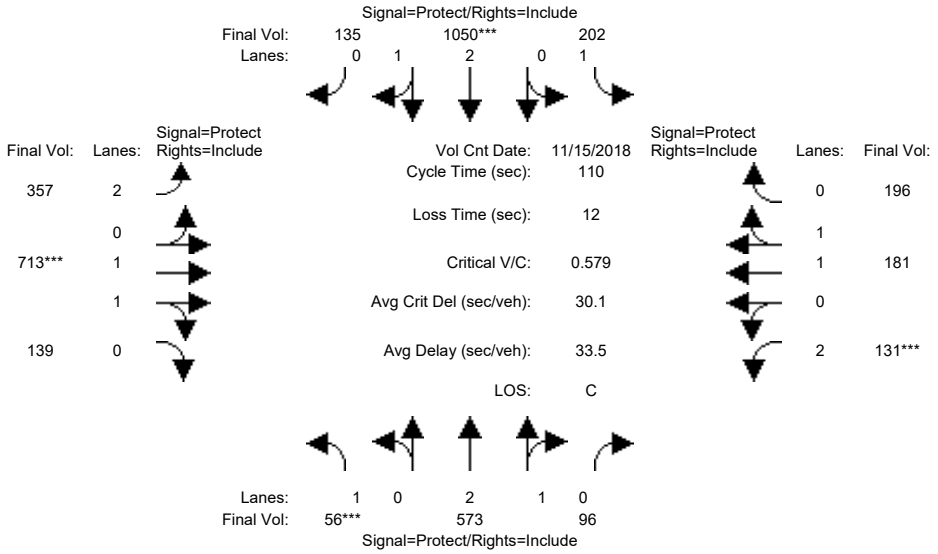
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 15 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	56	573	96	202	1050	135	357	713	139	131	181	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	573	96	202	1050	135	357	713	139	131	181	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	573	96	202	1050	135	357	713	139	131	181	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	573	96	202	1050	135	357	713	139	131	181	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	573	96	202	1050	135	357	713	139	131	181	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	573	96	202	1050	135	357	713	139	131	181	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	1.00	0.92
Lanes:	1.00	2.55	0.45	1.00	2.65	0.35	2.00	1.66	0.34	2.00	1.00	1.00
Final Sat.:	1750	4795	803	1750	4961	638	3150	3096	604	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.12	0.21	0.21	0.11	0.23	0.23	0.04	0.10	0.11
Crit Moves:	****				****			****		****		
Green Time:	7.0	23.8	23.8	23.0	39.8	39.8	25.7	43.3	43.3	7.8	25.4	25.4
Volume/Cap:	0.50	0.55	0.55	0.55	0.58	0.58	0.48	0.58	0.58	0.58	0.41	0.48
Delay/Veh:	53.4	38.9	38.9	40.7	28.8	28.8	36.9	26.9	26.9	53.4	36.2	37.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.4	38.9	38.9	40.7	28.8	28.8	36.9	26.9	26.9	53.4	36.2	37.1
LOS by Move:	D	D	D	D	C	C	D	C	C	D	D	D
HCM2k95thQ:	4	13	13	12	19	19	12	21	21	5	10	12

Note: Queue reported is the number of cars per lane.

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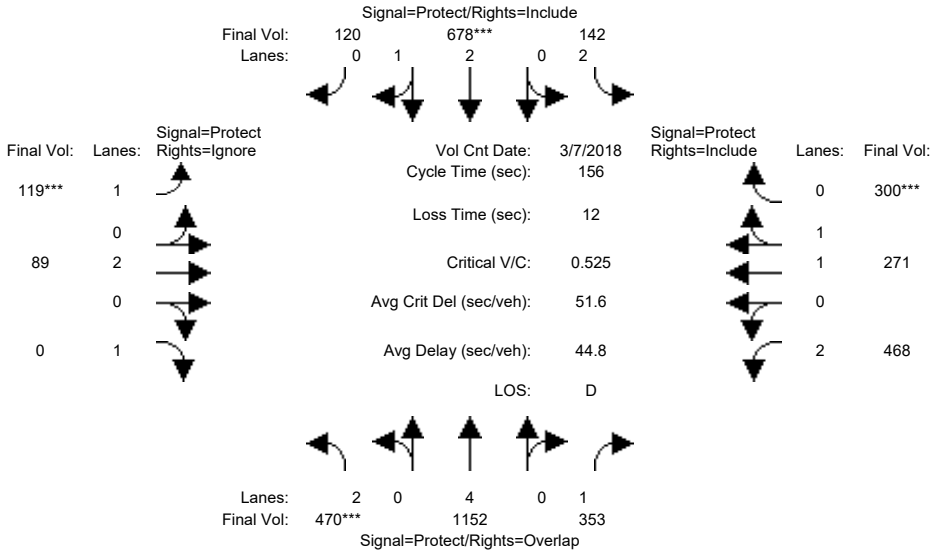
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module: >> Count Date: 7 Mar 2018 <<												
Base Vol:	470	1152	353	142	678	120	119	89	103	468	271	300
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	470	1152	353	142	678	120	119	89	103	468	271	300
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	470	1152	353	142	678	120	119	89	103	468	271	300
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	470	1152	353	142	678	120	119	89	0	468	271	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	470	1152	353	142	678	120	119	89	0	468	271	300
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	470	1152	353	142	678	120	119	89	0	468	271	300
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	4.00	1.00	2.00	2.55	0.45	1.00	2.00	1.00	2.00	1.00	1.00
Final Sat.:	3800	7600	1900	3800	4843	857	1900	3800	1900	3800	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.15	0.19	0.04	0.14	0.14	0.06	0.02	0.00	0.12	0.14	0.16
Crit Moves:	****				****		****					****
Green Time:	36.8	55.1	98.2	23.3	41.6	41.6	18.6	22.5	0.0	43.1	47.0	47.0
Volume/Cap:	0.52	0.43	0.30	0.25	0.52	0.52	0.52	0.16	0.00	0.45	0.47	0.52
Delay/Veh:	54.2	39.0	13.8	59.7	50.0	50.0	73.0	59.2	0.0	47.9	45.8	47.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.2	39.0	13.8	59.7	50.0	50.0	73.0	59.2	0.0	47.9	45.8	47.1
LOS by Move:	D	D	B	E	D	D	E	E	A	D	D	D
HCM2k95thQ:	17	18	14	6	18	18	11	4	0	16	18	20

Note: Queue reported is the number of cars per lane.

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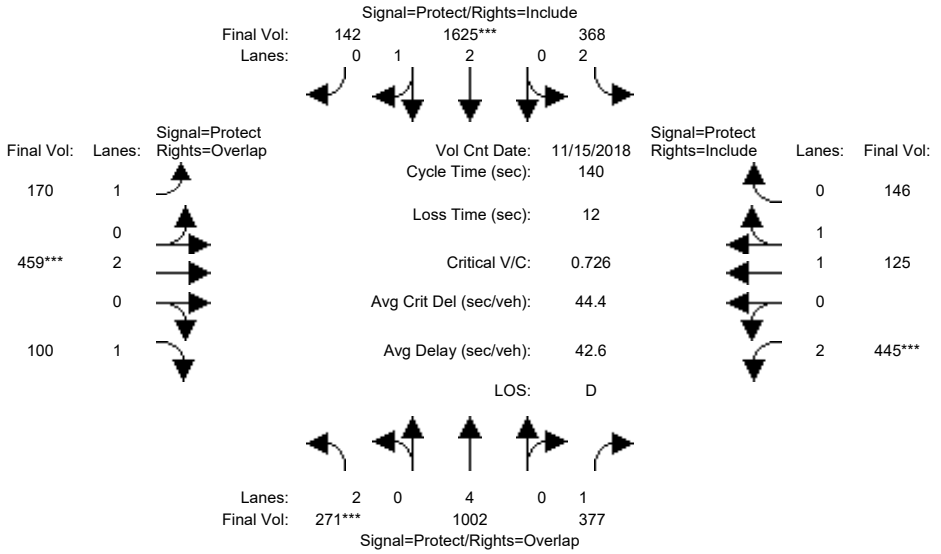
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 15 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	271	1002	377	368	1625	142	170	459	100	445	125	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	1002	377	368	1625	142	170	459	100	445	125	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	1002	377	368	1625	142	170	459	100	445	125	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	1002	377	368	1625	142	170	459	100	445	125	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	1002	377	368	1625	142	170	459	100	445	125	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	271	1002	377	368	1625	142	170	459	100	445	125	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	2.75	0.25	1.00	2.00	1.00	2.00	1.00	1.00
Final Sat.:	3150	7600	1750	3150	5149	450	1750	3800	1750	3150	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.22	0.12	0.32	0.32	0.10	0.12	0.06	0.14	0.07	0.08
Crit Moves:	****				****			****		****		
Green Time:	16.6	41.1	68.3	36.4	60.9	60.9	27.2	23.3	39.9	27.2	23.4	23.4
Volume/Cap:	0.73	0.45	0.44	0.45	0.73	0.73	0.50	0.73	0.20	0.73	0.39	0.50
Delay/Veh:	66.5	40.4	23.8	43.8	33.8	33.8	51.5	59.5	38.2	57.2	52.4	53.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.5	40.4	23.8	43.8	33.8	33.8	51.5	59.5	38.2	57.2	52.4	53.7
LOS by Move:	E	D	C	D	C	C	D	E	D	E	D	D
HCM2k95thQ:	13	16	20	14	34	34	13	18	7	20	9	12

Note: Queue reported is the number of cars per lane.

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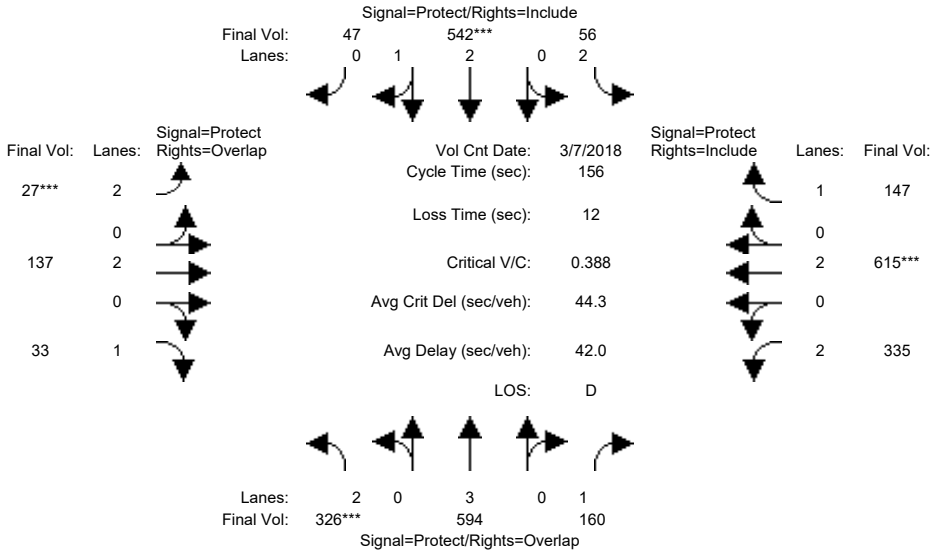
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module: >> Count Date: 7 Mar 2018 <<												
Base Vol:	326	594	160	56	542	47	27	137	33	335	615	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	594	160	56	542	47	27	137	33	335	615	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	594	160	56	542	47	27	137	33	335	615	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	594	160	56	542	47	27	137	33	335	615	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	594	160	56	542	47	27	137	33	335	615	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	594	160	56	542	47	27	137	33	335	615	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.76	0.24	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5245	455	3800	3800	1900	3800	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.10	0.08	0.01	0.10	0.10	0.01	0.04	0.02	0.09	0.16	0.08
Crit Moves:	****				****		****				****	
Green Time:	33.5	51.6	92.2	22.2	40.3	40.3	7.0	29.5	63.0	40.6	63.2	63.2
Volume/Cap:	0.40	0.32	0.14	0.10	0.40	0.40	0.16	0.19	0.04	0.34	0.40	0.19
Delay/Veh:	54.1	39.4	14.5	58.6	48.6	48.6	73.6	53.8	28.3	47.7	33.7	30.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.1	39.4	14.5	58.6	48.6	48.6	73.6	53.8	28.3	47.7	33.7	30.5
LOS by Move:	D	D	B	E	D	D	E	D	C	D	C	C
HCM2k95thQ:	12	13	7	3	14	14	2	6	2	12	18	9

Note: Queue reported is the number of cars per lane.

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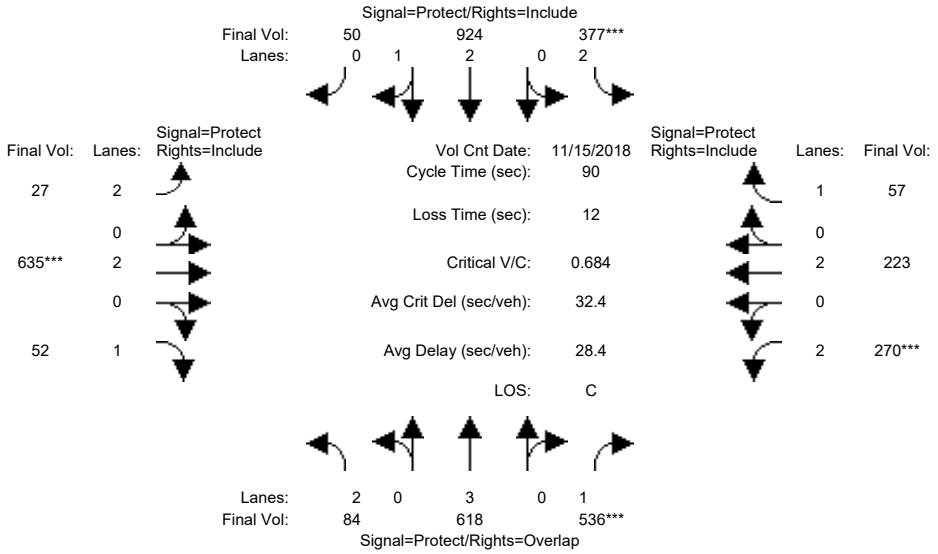
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 15 Nov 2018 << 4:45 - 5:45 PM												
Base Vol:	84	618	536	377	924	50	27	635	52	270	223	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	618	536	377	924	50	27	635	52	270	223	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	618	536	377	924	50	27	635	52	270	223	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	618	536	377	924	50	27	635	52	270	223	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	618	536	377	924	50	27	635	52	270	223	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	618	536	377	924	50	27	635	52	270	223	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	2.84	0.16	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5312	287	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.31	0.12	0.17	0.17	0.01	0.17	0.03	0.09	0.06	0.03
Crit Moves:			****	****				****		****		
Green Time:	13.8	29.0	40.3	15.7	30.9	30.9	13.7	22.0	22.0	11.3	19.6	19.6
Volume/Cap:	0.17	0.34	0.68	0.68	0.51	0.51	0.06	0.68	0.12	0.68	0.27	0.15
Delay/Veh:	33.3	23.3	22.3	38.4	23.7	23.7	32.7	33.0	26.6	42.6	29.5	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	23.3	22.3	38.4	23.7	23.7	32.7	33.0	26.6	42.6	29.5	28.7
LOS by Move:	C	C	C	D	C	C	C	C	C	D	C	C
HCM2k95thQ:	2	8	23	12	13	13	1	15	2	9	5	3

Note: Queue reported is the number of cars per lane.

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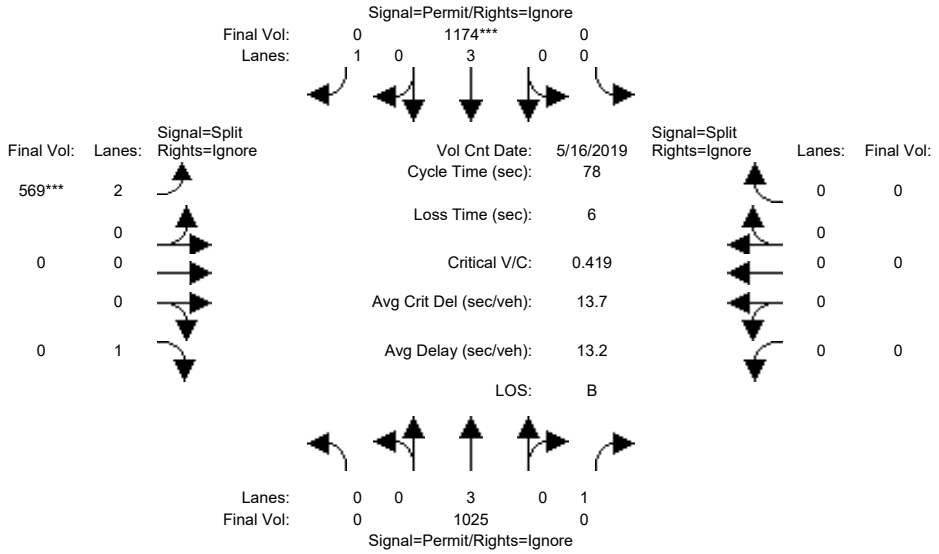
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	0	1025	248	0	1174	260	569	0	485	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1025	248	0	1174	260	569	0	485	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1025	248	0	1174	260	569	0	485	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1025	0	0	1174	0	569	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1025	0	0	1174	0	569	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1025	0	0	1174	0	569	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.00	0.00	0.21	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	0.0	38.4	0.0	0.0	38.4	0.0	33.6	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.37	0.00	0.00	0.42	0.00	0.42	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	12.4	0.0	0.0	12.8	0.0	15.6	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.4	0.0	0.0	12.8	0.0	15.6	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	B	A	A	B	A	B	A	A	A	A	A
HCM2k95thQ:	0	10	0	0	11	0	11	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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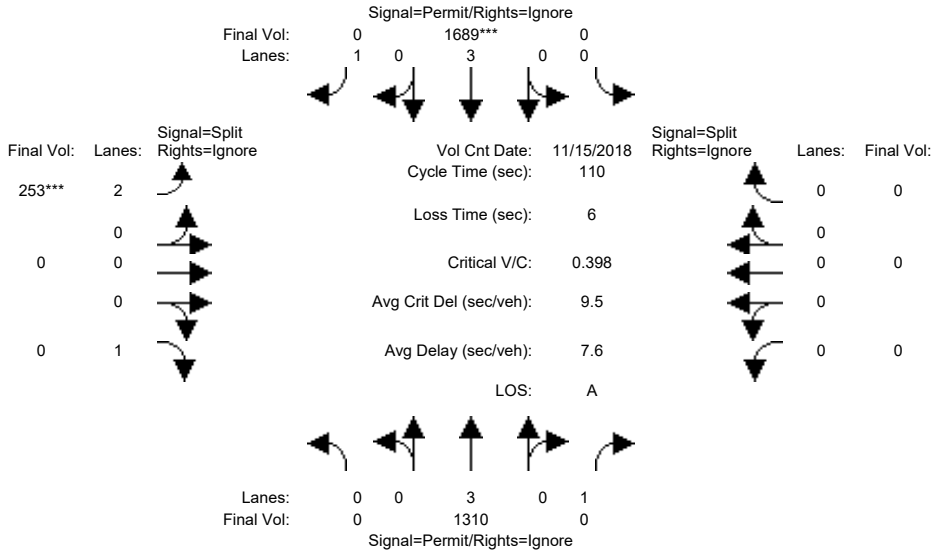
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 15 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	0	1310	789	0	1689	621	253	0	196	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1310	789	0	1689	621	253	0	196	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1310	789	0	1689	621	253	0	196	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1310	0	0	1689	0	253	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1310	0	0	1689	0	253	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1310	0	0	1689	0	253	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.23	0.00	0.00	0.30	0.00	0.08	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	0.0	81.8	0.0	0.0	81.8	0.0	22.2	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.31	0.00	0.00	0.40	0.00	0.40	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	4.7	0.0	0.0	5.2	0.0	38.5	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.7	0.0	0.0	5.2	0.0	38.5	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	9	0	0	13	0	9	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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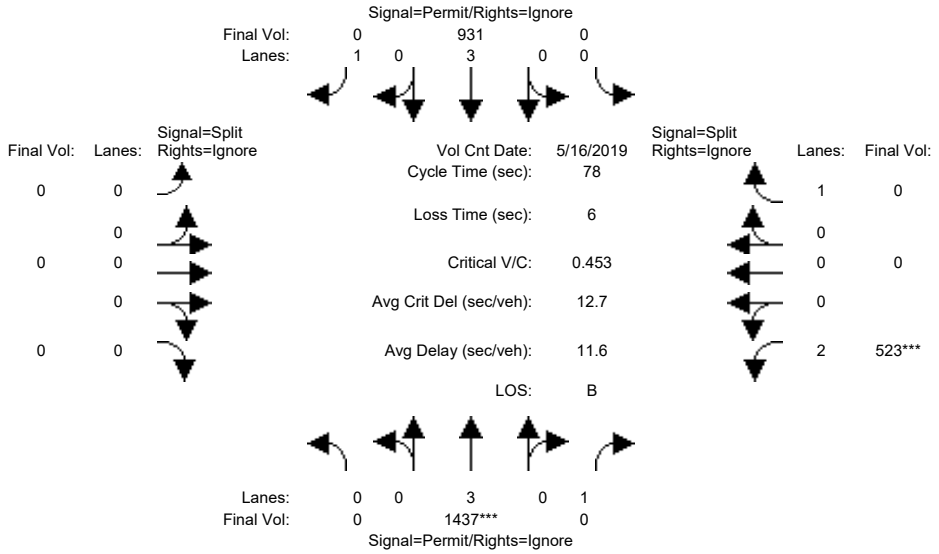
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	0	1437	152	0	931	284	0	0	0	523	0	1020
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1437	152	0	931	284	0	0	0	523	0	1020
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1437	152	0	931	284	0	0	0	523	0	1020
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1437	0	0	931	0	0	0	0	523	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1437	0	0	931	0	0	0	0	523	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1437	0	0	931	0	0	0	0	523	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.25	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Crit Moves:		****								****		
Green Time:	0.0	43.4	0.0	0.0	43.4	0.0	0.0	0.0	0.0	28.6	0.0	0.0
Volume/Cap:	0.00	0.45	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.45	0.00	0.00
Delay/Veh:	0.0	10.4	0.0	0.0	9.2	0.0	0.0	0.0	0.0	19.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.4	0.0	0.0	9.2	0.0	0.0	0.0	0.0	19.0	0.0	0.0
LOS by Move:	A	B	A	A	A	A	A	A	A	B	A	A
HCM2k95thQ:	0	13	0	0	8	0	0	0	0	12	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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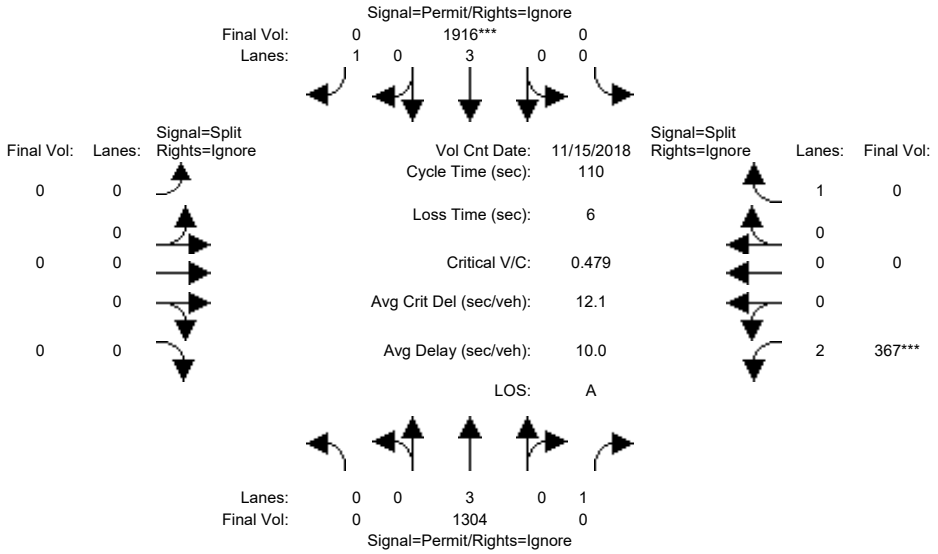
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 15 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	0	1304	298	0	1916	517	0	0	0	367	0	573
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1304	298	0	1916	517	0	0	0	367	0	573
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1304	298	0	1916	517	0	0	0	367	0	573
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1304	0	0	1916	0	0	0	0	367	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1304	0	0	1916	0	0	0	0	367	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1304	0	0	1916	0	0	0	0	367	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.23	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	77.2	0.0	0.0	77.2	0.0	0.0	0.0	0.0	26.8	0.0	0.0
Volume/Cap:	0.00	0.33	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.48	0.00	0.00
Delay/Veh:	0.0	6.4	0.0	0.0	7.4	0.0	0.0	0.0	0.0	36.1	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.4	0.0	0.0	7.4	0.0	0.0	0.0	0.0	36.1	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	11	0	0	18	0	0	0	0	13	0	0

Note: Queue reported is the number of cars per lane.

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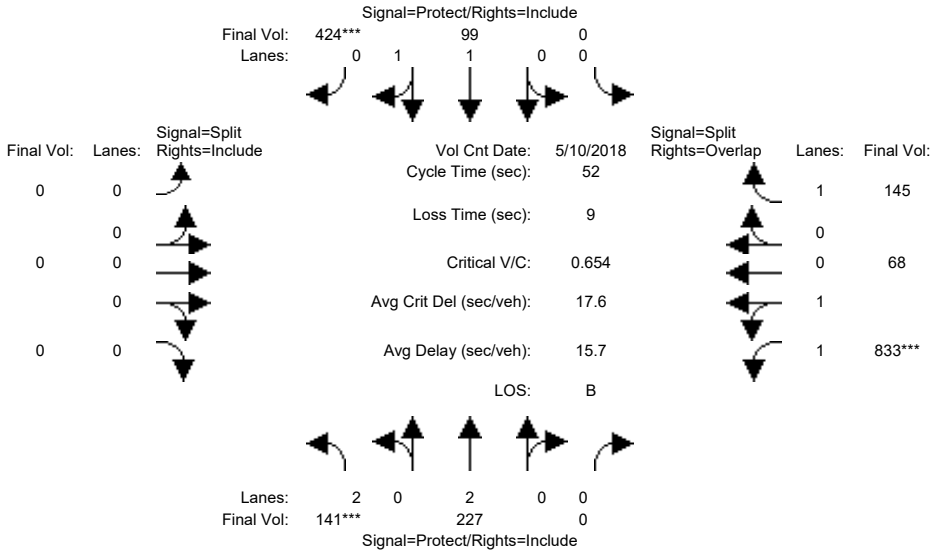
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	141	227	0	0	99	424	0	0	0	833	68	145
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	141	227	0	0	99	424	0	0	0	833	68	145
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	141	227	0	0	99	424	0	0	0	833	68	145
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	141	227	0	0	99	424	0	0	0	833	68	145
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	227	0	0	99	424	0	0	0	833	68	145
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	227	0	0	99	424	0	0	0	833	68	145
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	2.00	2.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.85	0.15	1.00
Final Sat.:	3150	3800	0	0	1900	1750	0	0	0	3282	268	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.00	0.00	0.05	0.24	0.00	0.00	0.00	0.25	0.25	0.08
Crit Moves:	****					****				****		
Green Time:	7.0	24.6	0.0	0.0	17.6	17.6	0.0	0.0	0.0	18.4	18.4	18.4
Volume/Cap:	0.33	0.13	0.00	0.00	0.15	0.72	0.00	0.00	0.00	0.72	0.72	0.23
Delay/Veh:	20.8	7.7	0.0	0.0	12.0	18.5	0.0	0.0	0.0	16.5	16.5	12.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.8	7.7	0.0	0.0	12.0	18.5	0.0	0.0	0.0	16.5	16.5	12.0
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	B
HCM2k95thQ:	3	2	0	0	2	13	0	0	0	16	16	4

Note: Queue reported is the number of cars per lane.

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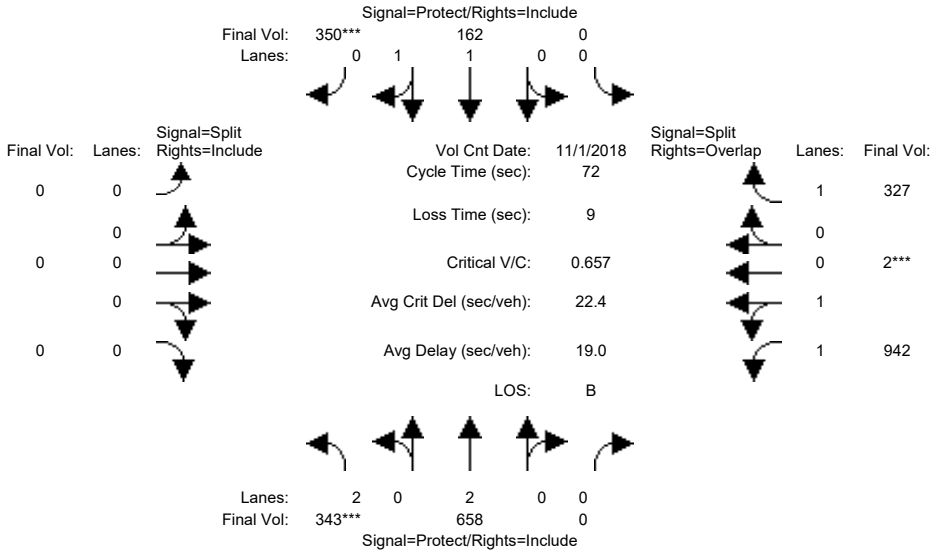
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 1 Nov 2018 <<												
Base Vol:	343	658	0	0	162	350	0	0	0	942	2	327
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	343	658	0	0	162	350	0	0	0	942	2	327
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	343	658	0	0	162	350	0	0	0	942	2	327
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	343	658	0	0	162	350	0	0	0	942	2	327
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	343	658	0	0	162	350	0	0	0	942	2	327
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	343	658	0	0	162	350	0	0	0	942	2	327
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.93	0.95	0.92
Lanes:	2.00	2.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.99	0.01	1.00
Final Sat.:	3150	3800	0	0	1900	1750	0	0	0	3542	8	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.17	0.00	0.00	0.09	0.20	0.00	0.00	0.00	0.27	0.27	0.19
Crit Moves:	****					****					****	
Green Time:	11.9	33.9	0.0	0.0	21.9	21.9	0.0	0.0	0.0	29.1	29.1	29.1
Volume/Cap:	0.66	0.37	0.00	0.00	0.28	0.66	0.00	0.00	0.00	0.66	0.66	0.46
Delay/Veh:	31.2	12.3	0.0	0.0	19.1	23.8	0.0	0.0	0.0	18.5	18.5	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.2	12.3	0.0	0.0	19.1	23.8	0.0	0.0	0.0	18.5	18.5	16.2
LOS by Move:	C	B	A	A	B	C	A	A	A	B	B	B
HCM2k95thQ:	9	9	0	0	5	14	0	0	0	18	18	12

Note: Queue reported is the number of cars per lane.

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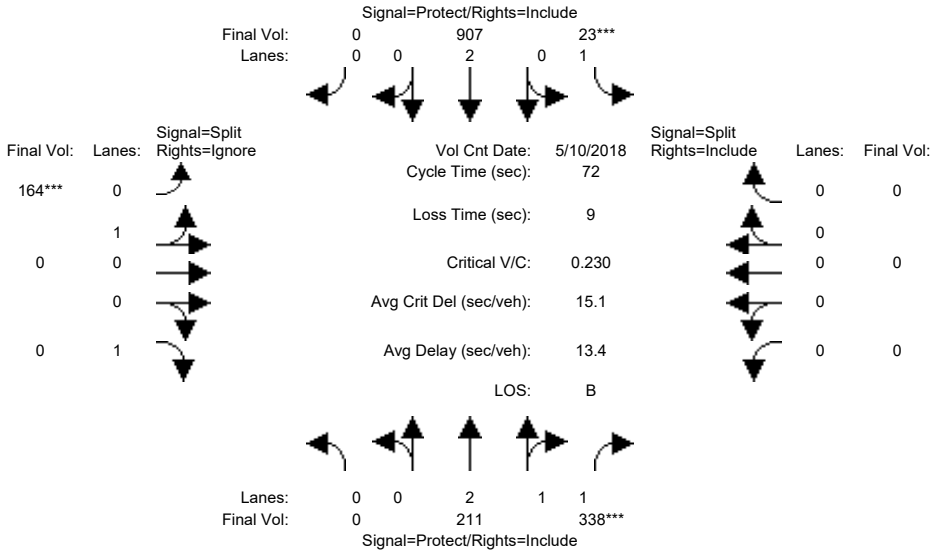
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	0	211	338	23	907	0	164	0	441	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	211	338	23	907	0	164	0	441	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	211	338	23	907	0	164	0	441	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	211	338	23	907	0	164	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	211	338	23	907	0	164	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	211	338	23	907	0	164	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	2.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	3800	0	1800	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.10	0.01	0.24	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	28.8	28.8	7.0	35.8	0.0	27.2	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.14	0.24	0.14	0.48	0.00	0.24	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	13.7	14.4	30.1	12.1	0.0	15.5	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.7	14.4	30.1	12.1	0.0	15.5	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	C	B	A	B	A	A	A	A	A
HCM2k95thQ:	0	3	5	1	12	0	5	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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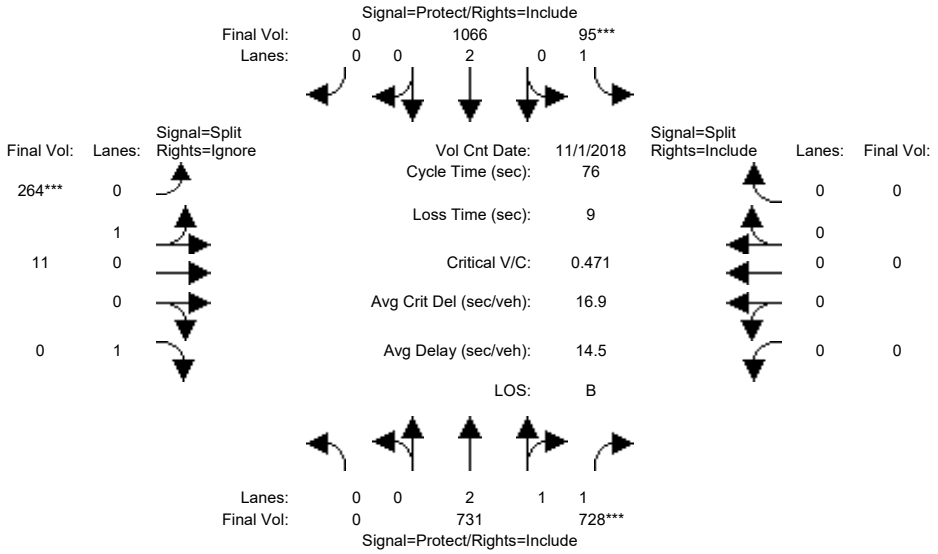
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 1 Nov 2018 <<												
Base Vol:	0	731	728	95	1066	0	264	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	731	728	95	1066	0	264	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	731	728	95	1066	0	264	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	731	728	95	1066	0	264	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	731	728	95	1066	0	264	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	731	728	95	1066	0	264	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.92	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	2.00	0.00	0.96	0.04	1.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	3800	0	1728	72	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.19	0.21	0.05	0.28	0.00	0.15	0.15	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	33.6	33.6	8.8	42.3	0.0	24.7	24.7	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.44	0.47	0.47	0.50	0.00	0.47	0.47	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.8	15.1	33.2	10.6	0.0	21.1	21.1	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.8	15.1	33.2	10.6	0.0	21.1	21.1	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	C	B	A	C	C	A	A	A	A
HCM2k95thQ:	0	11	12	5	14	0	11	11	0	0	0	0

Note: Queue reported is the number of cars per lane.

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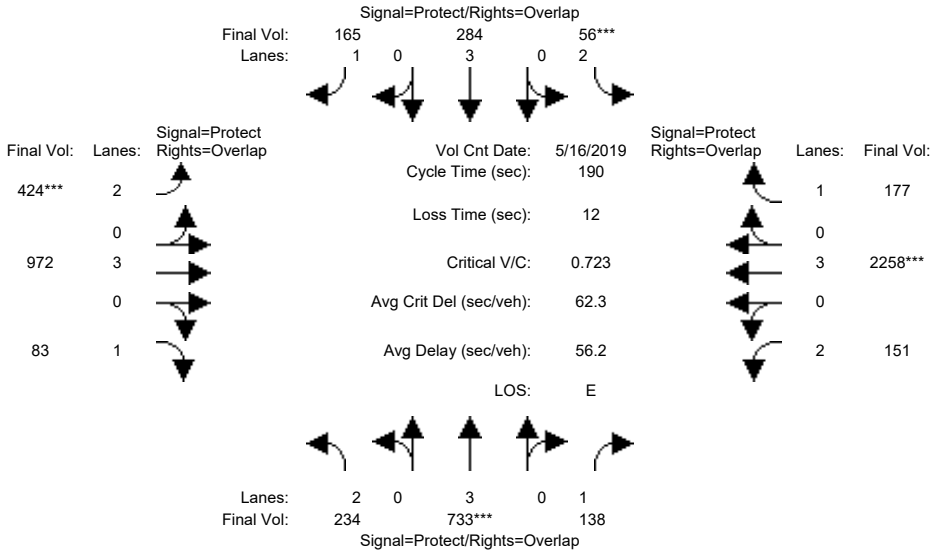
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	234	733	138	56	284	165	424	972	83	151	2258	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	733	138	56	284	165	424	972	83	151	2258	177
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	733	138	56	284	165	424	972	83	151	2258	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	733	138	56	284	165	424	972	83	151	2258	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	733	138	56	284	165	424	972	83	151	2258	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	733	138	56	284	165	424	972	83	151	2258	177
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.08	0.02	0.05	0.09	0.13	0.17	0.05	0.05	0.40	0.10
Crit Moves:		****		****			****				****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.64	0.58	0.24	0.23	0.27	0.27	0.80	0.32	0.07	0.46	0.85	0.18
Delay/Veh:	84.1	66.8	47.0	82.5	66.7	44.2	84.3	32.3	18.6	80.9	56.2	28.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.1	66.8	47.0	82.5	66.7	44.2	84.3	32.3	18.6	80.9	56.2	28.3
LOS by Move:	F	E	D	F	E	D	F	C	B	F	E	C
HCM2k95thQ:	14	22	11	4	9	13	28	23	6	11	65	14

Note: Queue reported is the number of cars per lane.

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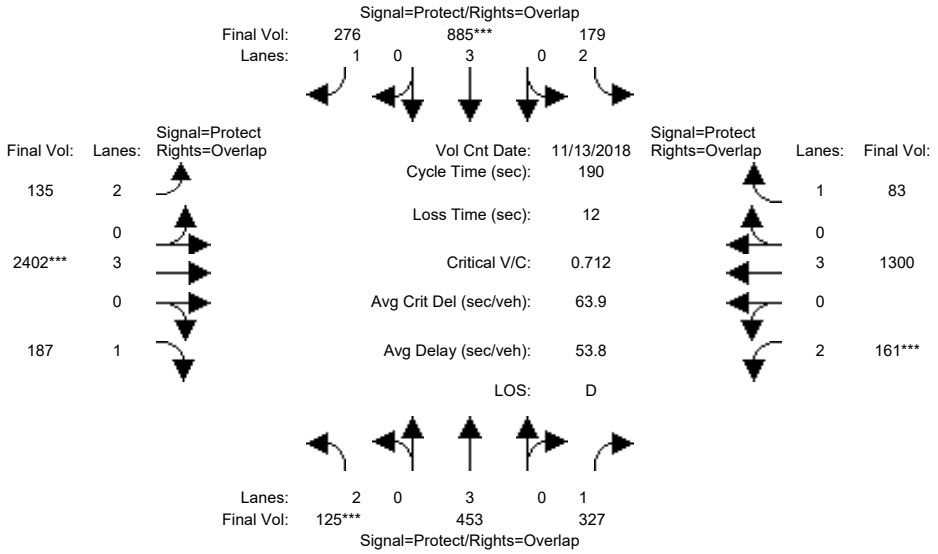
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module: >> Count Date: 13 Nov 2018 << 5:15 - 6:15 PM												
Base Vol:	125	453	327	179	885	276	135	2402	187	161	1300	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	125	453	327	179	885	276	135	2402	187	161	1300	83
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	125	453	327	179	885	276	135	2402	187	161	1300	83
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	125	453	327	179	885	276	135	2402	187	161	1300	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	125	453	327	179	885	276	135	2402	187	161	1300	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	125	453	327	179	885	276	135	2402	187	161	1300	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.08	0.19	0.06	0.16	0.16	0.04	0.42	0.11	0.05	0.23	0.05
Crit Moves:	****				****			****			****	
Green Time:	15.0	39.1	53.1	16.0	40.1	57.8	17.7	109	123.9	14.0	105	121.2
Volume/Cap:	0.50	0.39	0.67	0.67	0.74	0.52	0.46	0.74	0.16	0.69	0.41	0.07
Delay/Veh:	85.6	65.3	64.2	91.1	72.4	55.5	88.3	57.6	29.0	94.7	16.6	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	85.6	65.3	64.2	91.1	72.4	55.5	88.3	57.6	29.0	94.7	16.6	6.2
LOS by Move:	F	E	E	F	E	E	F	E	C	F	B	A
HCM2k95thQ:	8	14	31	12	28	24	10	66	17	13	17	2

Note: Queue reported is the number of cars per lane.

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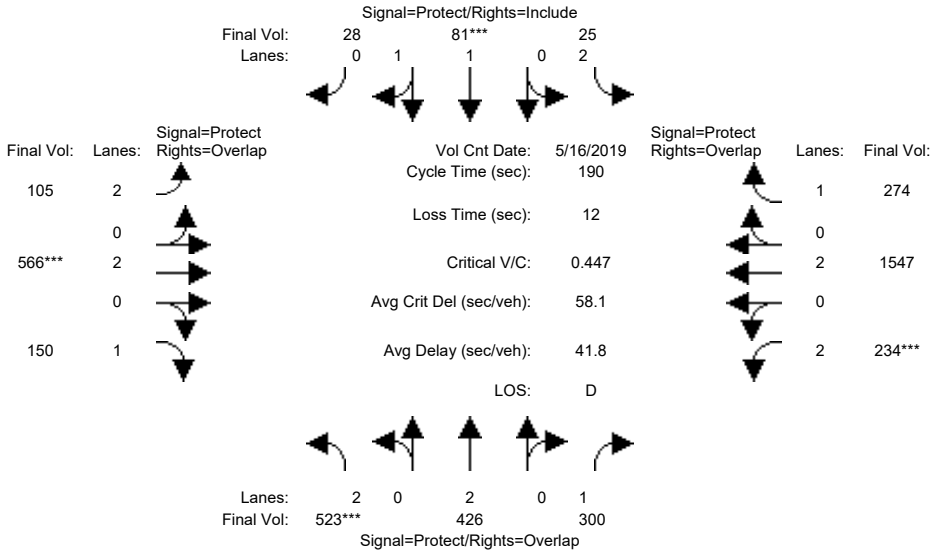
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5332: (42) Scott Boulevard and Central Expressway

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Street Name:         Scott Boulevard                 Central Expressway
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:    38   52    52    10   24    24    16   92    92    24  100   100
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module: >> Count Date: 16 May 2019 <<
Base Vol:     523  426   300    25   81    28   105  658   150   234 1799   274
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  523  426   300    25   81    28   105  658   150   234 1799   274
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
ATI:            0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  523  426   300    25   81    28   105  658   150   234 1799   274
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 0.86  1.00  1.00 0.86  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   523  426   300    25   81    28   105  566   150   234 1547   274
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  523  426   300    25   81    28   105  566   150   234 1547   274
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  523  426   300    25   81    28   105  566   150   234 1547   274
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.83 1.00  0.92  0.83 0.98  0.95  0.83 1.00  0.92  0.83 1.00  0.92
Lanes:       2.00 2.00  1.00  2.00 1.47  0.53  2.00 2.00  1.00  2.00 2.00  1.00
Final Sat.:  3150 3800  1750  3150 2749   950  3150 3800  1750  3150 3800  1750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.11  0.17  0.01 0.03  0.03  0.03 0.15  0.09  0.07 0.41  0.16
Crit Moves:  ****                ****               ****        ****
Green Time:  38.0 52.0  76.0  10.0 24.0  24.0  16.0 92.0 130.0  24.0  100 110.0
Volume/Cap:  0.83 0.41  0.43  0.15 0.23  0.23  0.40 0.31  0.13  0.59 0.77  0.27
Delay/Veh:   82.0 56.7  41.7  86.4 75.0  75.0  83.4 23.6   3.4  80.6 28.0  12.6
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  82.0 56.7  41.7  86.4 75.0  75.0  83.4 23.6   3.4  80.6 28.0  12.6
LOS by Move:    F    E     D     F    E     E     F    C     A     F    C     B
HCM2k95thQ:    31   18    23     2    6     6     7   13     2    14   46     9
Note: Queue reported is the number of cars per lane.
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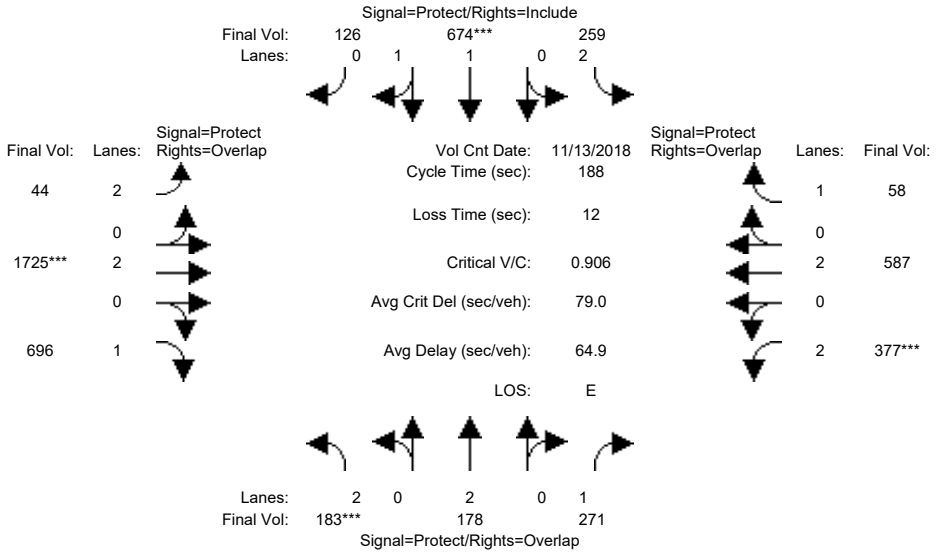
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module: >> Count Date: 13 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	183	178	271	259	674	126	44	2211	696	377	638	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	183	178	271	259	674	126	44	2211	696	377	638	58
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	183	178	271	259	674	126	44	2211	696	377	638	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	183	178	271	259	674	126	44	1725	696	377	587	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	178	271	259	674	126	44	1725	696	377	587	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	183	178	271	259	674	126	44	1725	696	377	587	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.68	0.32	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3117	583	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.05	0.15	0.08	0.22	0.22	0.01	0.45	0.40	0.12	0.15	0.03
Crit Moves:	****				****			****		****		
Green Time:	18.0	43.3	66.8	17.2	42.5	42.5	12.4	92.0	110.0	23.5	103	120.3
Volume/Cap:	0.61	0.20	0.44	0.90	0.96	0.96	0.21	0.93	0.68	0.96	0.28	0.05
Delay/Veh:	85.1	58.5	46.7	113.5	93.1	93.1	83.7	63.7	38.6	115.9	15.6	5.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	85.1	58.5	46.7	113.5	93.1	93.1	83.7	63.7	38.6	115.9	15.6	5.9
LOS by Move:	F	E	D	F	F	F	F	E	D	F	B	A
HCM2k95thQ:	12	8	22	17	40	40	3	78	55	26	11	1

Note: Queue reported is the number of cars per lane.

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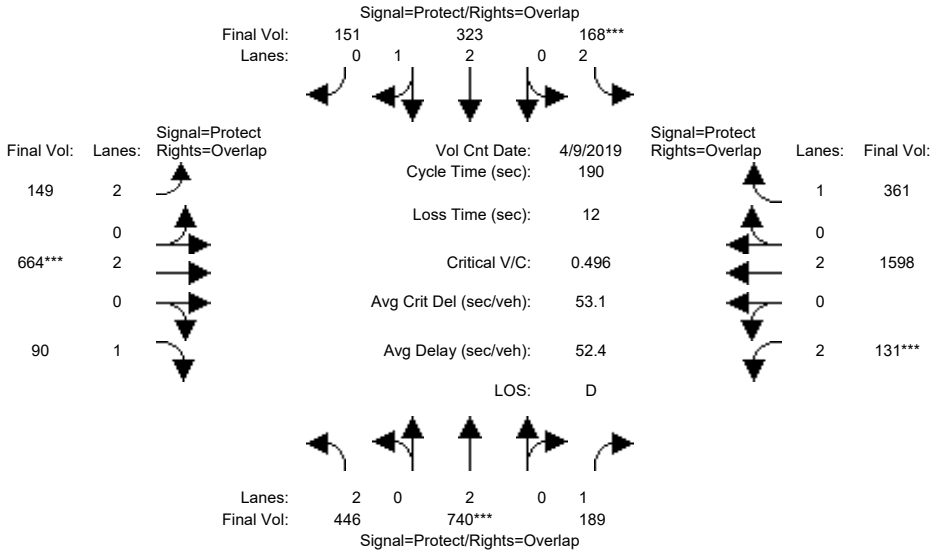
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2019 <<												
Base Vol:	446	740	189	168	323	151	149	772	90	131	1858	361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	446	740	189	168	323	151	149	772	90	131	1858	361
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	446	740	189	168	323	151	149	772	90	131	1858	361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	446	740	189	168	323	151	149	664	90	131	1598	361
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	446	740	189	168	323	151	149	664	90	131	1598	361
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	446	740	189	168	323	151	149	664	90	131	1598	361
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.01	0.99	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3814	1783	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.19	0.11	0.05	0.08	0.08	0.05	0.17	0.05	0.04	0.42	0.21
Crit Moves:		****		****				****		****		
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.00	0.73	0.29	0.60	0.39	0.27	0.50	0.36	0.08	0.42	0.87	0.36
Delay/Veh:	123.0	65.8	42.7	86.7	64.0	49.4	83.0	25.1	7.5	81.2	39.2	14.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	123.0	65.8	42.7	86.7	64.0	49.4	83.0	25.1	7.5	81.2	39.2	14.0
LOS by Move:	F	E	D	F	E	D	F	C	A	F	D	B
HCM2k95thQ:	31	33	15	11	15	13	9	16	2	8	61	14

Note: Queue reported is the number of cars per lane.

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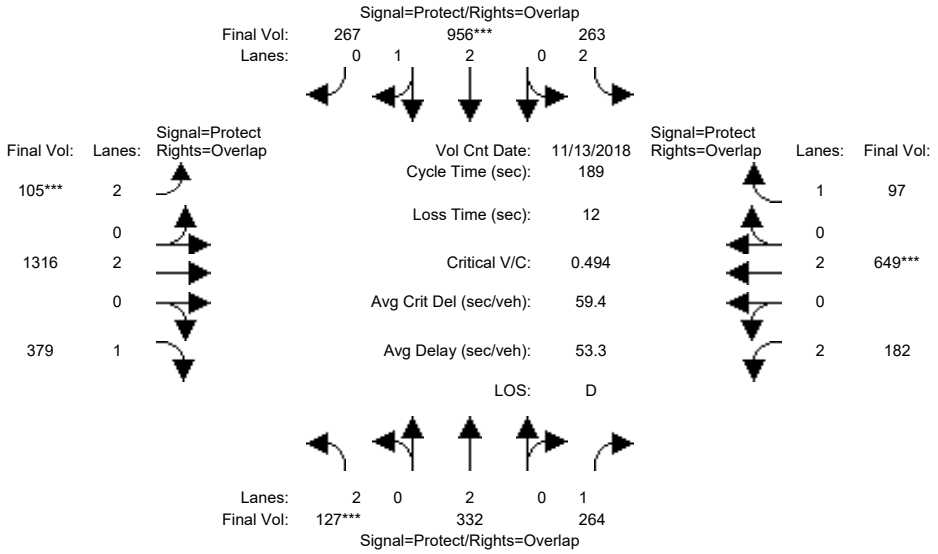
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module: >> Count Date: 13 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	127	332	264	263	956	267	105	2122	379	182	705	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	332	264	263	956	267	105	2122	379	182	705	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	332	264	263	956	267	105	2122	379	182	705	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	127	332	264	263	956	267	105	1316	379	182	649	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	332	264	263	956	267	105	1316	379	182	649	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	332	264	263	956	267	105	1316	379	182	649	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.32	0.68	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	4376	1222	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.09	0.15	0.08	0.22	0.22	0.03	0.35	0.22	0.06	0.17	0.06
Crit Moves:	****				****		****				****	
Green Time:	13.0	36.6	52.6	24.4	48.0	61.0	13.0	100	113.0	16.0	103	127.4
Volume/Cap:	0.59	0.45	0.54	0.65	0.86	0.68	0.48	0.65	0.36	0.68	0.31	0.08
Delay/Veh:	89.5	67.8	59.2	81.8	72.9	56.5	86.5	41.8	27.3	91.1	23.7	10.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.5	67.8	59.2	81.8	72.9	56.5	86.5	41.8	27.3	91.1	23.7	10.7
LOS by Move:	F	E	E	F	E	E	F	D	C	F	C	B
HCM2k95thQ:	9	15	24	16	39	34	7	48	27	12	18	4

Note: Queue reported is the number of cars per lane.

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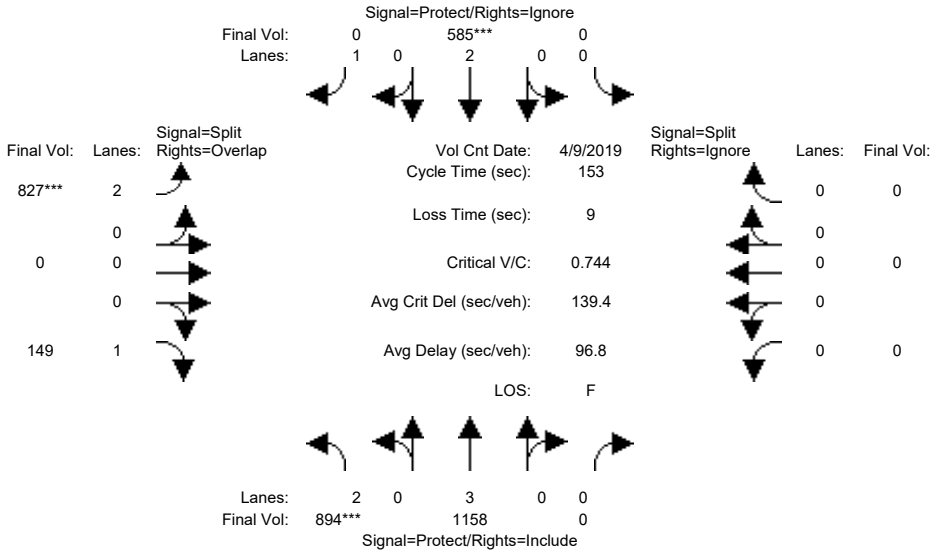
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	27	79	0	0	50	50	67	0	67	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2019 <<												
Base Vol:	894	1158	0	0	585	1615	962	0	149	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	894	1158	0	0	585	1615	962	0	149	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	894	1158	0	0	585	1615	962	0	149	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	0.86	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	894	1158	0	0	585	0	827	0	149	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	894	1158	0	0	585	0	827	0	149	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	894	1158	0	0	585	0	827	0	149	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	3.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3150	5700	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.28	0.20	0.00	0.00	0.15	0.00	0.26	0.00	0.09	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	28.6	78.0	0.0	0.0	49.4	0.0	66.1	0.0	94.8	0.0	0.0	0.0
Volume/Cap:	1.52	0.40	0.00	0.00	0.48	0.00	0.61	0.00	0.14	0.00	0.00	0.00
Delay/Veh:	304.3	23.5	0.0	0.0	42.3	0.0	29.9	0.0	6.5	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	304.3	23.5	0.0	0.0	42.3	0.0	29.9	0.0	6.5	0.0	0.0	0.0
LOS by Move:	F	C	A	A	D	A	C	A	A	A	A	A
HCM2k95thQ:	75	20	0	0	19	0	27	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

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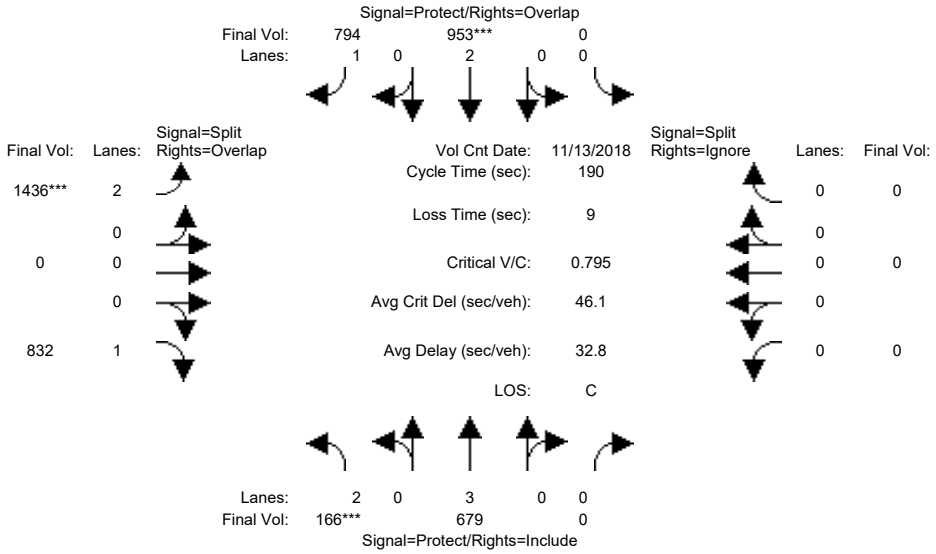
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 13 Nov 2018 << 4:45 - 5:45 PM												
Base Vol:	166	679	0	0	953	794	2052	0	832	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	166	679	0	0	953	794	2052	0	832	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	166	679	0	0	953	794	2052	0	832	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.70	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	166	679	0	0	953	794	1436	0	832	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	166	679	0	0	953	794	1436	0	832	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	166	679	0	0	953	794	1436	0	832	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	3.00	0.00	0.00	2.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3150	5700	0	0	3800	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.12	0.00	0.00	0.25	0.45	0.46	0.00	0.48	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	0.62	0.30	0.00	0.00	0.82	0.52	0.81	0.00	0.73	0.00	0.00	0.00
Delay/Veh:	92.1	41.8	0.0	0.0	68.5	3.4	25.9	0.0	12.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.1	41.8	0.0	0.0	68.5	3.4	25.9	0.0	12.9	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	C	A	B	A	A	A
HCM2k95thQ:	13	17	0	0	44	23	54	0	35	0	0	0

Note: Queue reported is the number of cars per lane.

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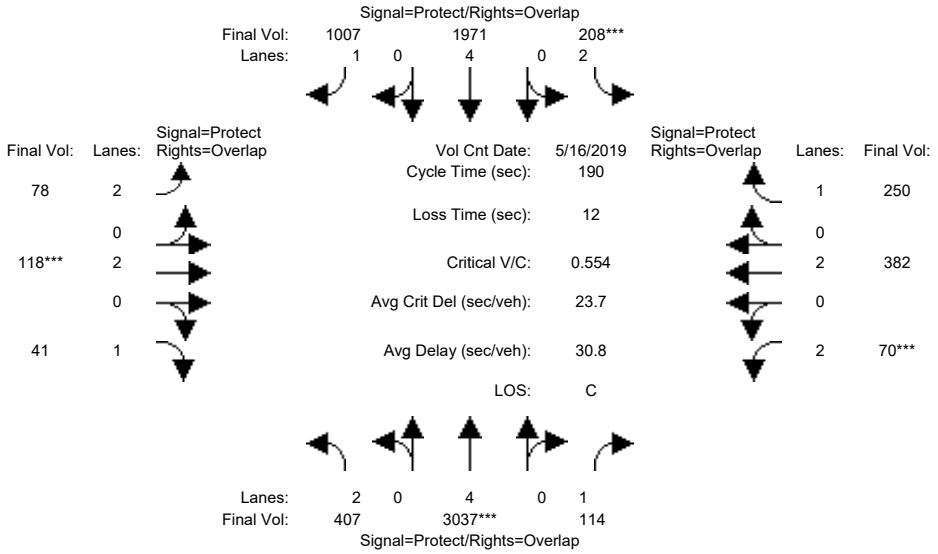
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	407	3037	114	208	1971	1007	78	118	41	70	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3037	114	208	1971	1007	78	118	41	70	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3037	114	208	1971	1007	78	118	41	70	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3037	114	208	1971	1007	78	118	41	70	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3037	114	208	1971	1007	78	118	41	70	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3037	114	208	1971	1007	78	118	41	70	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.07	0.07	0.26	0.58	0.02	0.03	0.02	0.02	0.10	0.14
Crit Moves:		****		****				****		****		
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.68	0.10	0.63	0.47	0.91	0.31	0.18	0.07	0.32	0.62	0.53
Delay/Veh:	102.6	16.4	4.9	85.2	17.4	26.2	83.4	67.1	45.6	85.2	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	16.4	4.9	85.2	17.4	26.2	83.4	67.1	45.6	85.2	75.8	60.5
LOS by Move:	F	B	A	F	B	C	F	E	D	F	E	E
HCM2k95thQ:	29	35	2	15	21	71	5	6	3	4	18	23

Note: Queue reported is the number of cars per lane.

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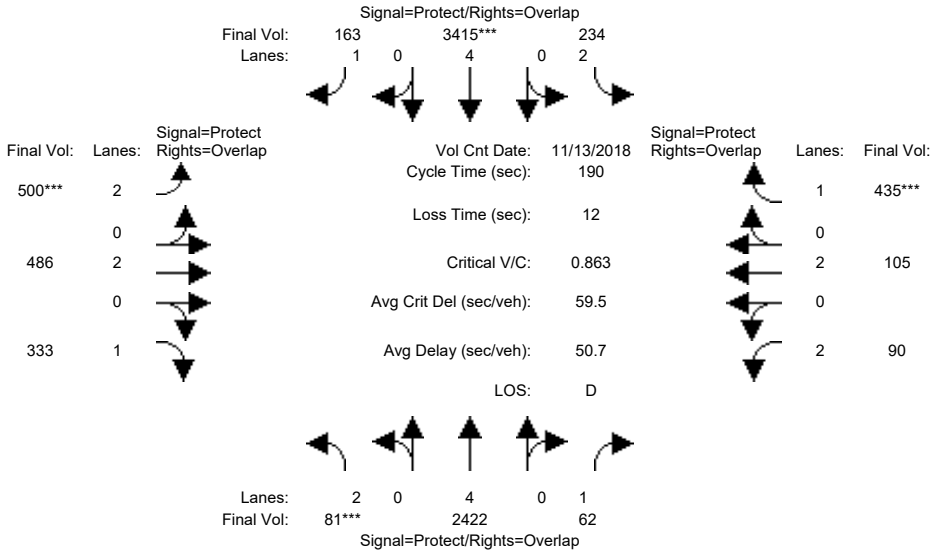
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module: >> Count Date: 13 Nov 2018 << 4:45 - 5:45 PM												
Base Vol:	81	2422	62	234	3415	163	500	486	333	90	105	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	2422	62	234	3415	163	500	486	333	90	105	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	2422	62	234	3415	163	500	486	333	90	105	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	2422	62	234	3415	163	500	486	333	90	105	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	2422	62	234	3415	163	500	486	333	90	105	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	2422	62	234	3415	163	500	486	333	90	105	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.32	0.04	0.07	0.45	0.09	0.16	0.13	0.19	0.03	0.03	0.25
Crit Moves:	****				****		****					****
Green Time:	12.0	90.6	103.6	21.4	xxxx	135.3	35.3	53.1	65.1	13.0	30.7	52.1
Volume/Cap:	0.41	0.67	0.06	0.66	0.85	0.13	0.85	0.46	0.56	0.42	0.17	0.91
Delay/Veh:	86.9	31.0	14.1	85.4	51.3	14.8	86.5	56.9	51.9	86.2	68.8	87.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	86.9	31.0	14.1	85.4	51.3	14.8	86.5	56.9	51.9	86.2	68.8	87.4
LOS by Move:	F	C	B	F	D	B	F	E	D	F	E	F
HCM2k95thQ:	6	37	2	17	72	10	30	20	28	6	5	46

Note: Queue reported is the number of cars per lane.

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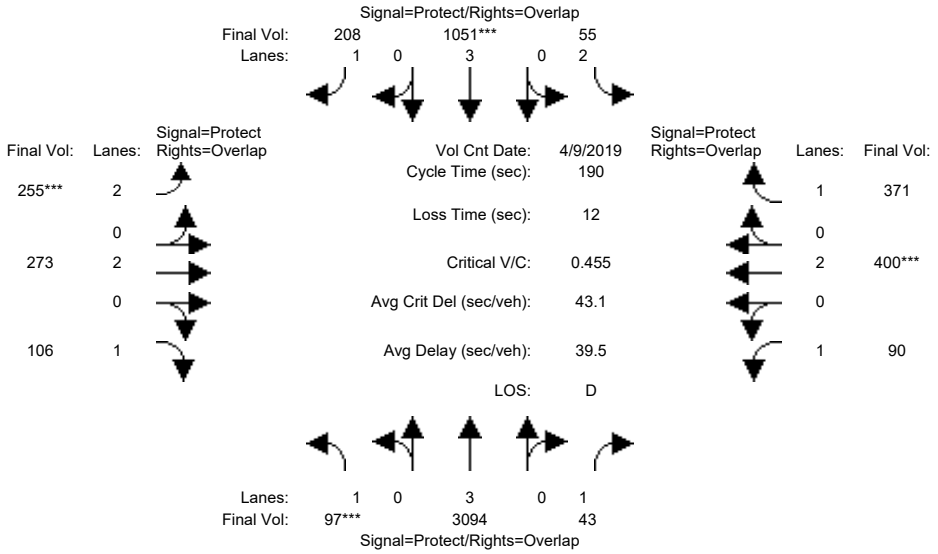
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2019 <<												
Base Vol:	97	3640	43	55	1237	208	255	273	106	90	400	371
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	3640	43	55	1237	208	255	273	106	90	400	371
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	3640	43	55	1237	208	255	273	106	90	400	371
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	3094	43	55	1051	208	255	273	106	90	400	371
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	3094	43	55	1051	208	255	273	106	90	400	371
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	3094	43	55	1051	208	255	273	106	90	400	371
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.54	0.02	0.02	0.18	0.12	0.08	0.07	0.06	0.05	0.11	0.21
Crit Moves:	****				****		****				****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.62	0.95	0.04	0.28	0.34	0.18	0.77	0.35	0.21	0.54	0.54	0.82
Delay/Veh:	90.8	30.8	4.1	85.6	16.4	5.7	93.2	64.9	50.5	85.7	69.7	77.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.8	30.8	4.1	85.6	16.4	5.7	93.2	64.9	50.5	85.7	69.7	77.9
LOS by Move:	F	C	A	F	B	A	F	E	D	F	E	E
HCM2k95thQ:	10	75	1	4	14	4	19	13	9	12	19	39

Note: Queue reported is the number of cars per lane.

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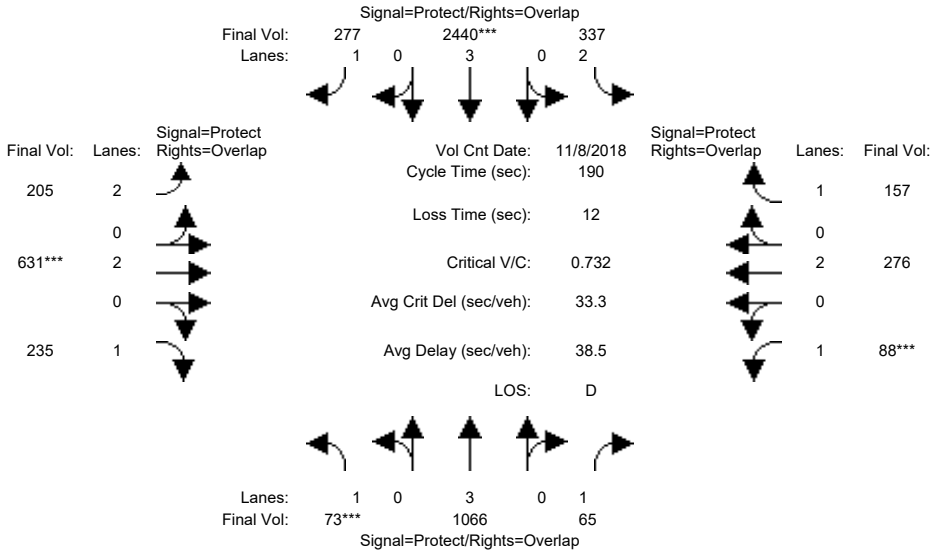
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module: >> Count Date: 8 Nov 2018 << 4:45 - 5:45 PM												
Base Vol:	73	1480	65	337	3343	277	205	631	235	88	276	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	1480	65	337	3343	277	205	631	235	88	276	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	1480	65	337	3343	277	205	631	235	88	276	157
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	1066	65	337	2440	277	205	631	235	88	276	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	1066	65	337	2440	277	205	631	235	88	276	157
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	1066	65	337	2440	277	205	631	235	88	276	157
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.19	0.04	0.11	0.43	0.16	0.07	0.17	0.13	0.05	0.07	0.09
Crit Moves:	****				****			****			****	
Green Time:	11.0	84.9	98.0	37.0	111	125.5	14.5	43.0	54.0	13.0	41.5	78.5
Volume/Cap:	0.72	0.42	0.07	0.55	0.73	0.24	0.85	0.73	0.47	0.73	0.33	0.22
Delay/Veh:	110.1	30.1	17.2	70.0	18.5	5.4	110.6	71.4	56.9	107.4	62.8	36.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.1	30.1	17.2	70.0	18.5	5.4	110.6	71.4	56.9	107.4	62.8	36.1
LOS by Move:	F	C	B	E	B	A	F	E	E	F	E	D
HCM2k95thQ:	9	20	3	17	38	5	17	31	22	13	13	12

Note: Queue reported is the number of cars per lane.

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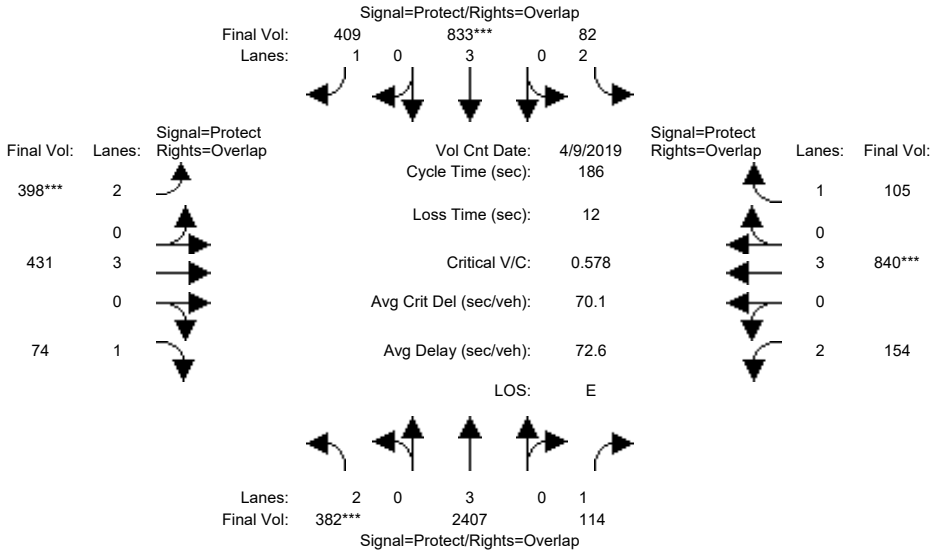
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2019 <<												
Base Vol:	382	2832	114	82	980	409	398	431	74	154	840	105
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	382	2832	114	82	980	409	398	431	74	154	840	105
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	382	2832	114	82	980	409	398	431	74	154	840	105
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	382	2407	114	82	833	409	398	431	74	154	840	105
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	382	2407	114	82	833	409	398	431	74	154	840	105
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	382	2407	114	82	833	409	398	431	74	154	840	105
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.51	0.07	0.03	0.15	0.23	0.13	0.08	0.04	0.05	0.15	0.06
Crit Moves:	****				****		****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	0.84	0.98	0.10	0.32	0.32	0.39	0.90	0.39	0.12	0.35	0.76	0.22
Delay/Veh:	98.7	87.8	26.3	81.4	38.3	27.6	100.4	65.7	42.6	72.8	74.1	52.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.7	87.8	26.3	81.4	38.3	27.6	100.4	65.7	42.6	72.8	74.1	52.4
LOS by Move:	F	F	C	F	D	C	F	E	D	E	E	D
HCM2k95thQ:	23	73	10	5	21	30	26	13	6	9	27	9

Note: Queue reported is the number of cars per lane.

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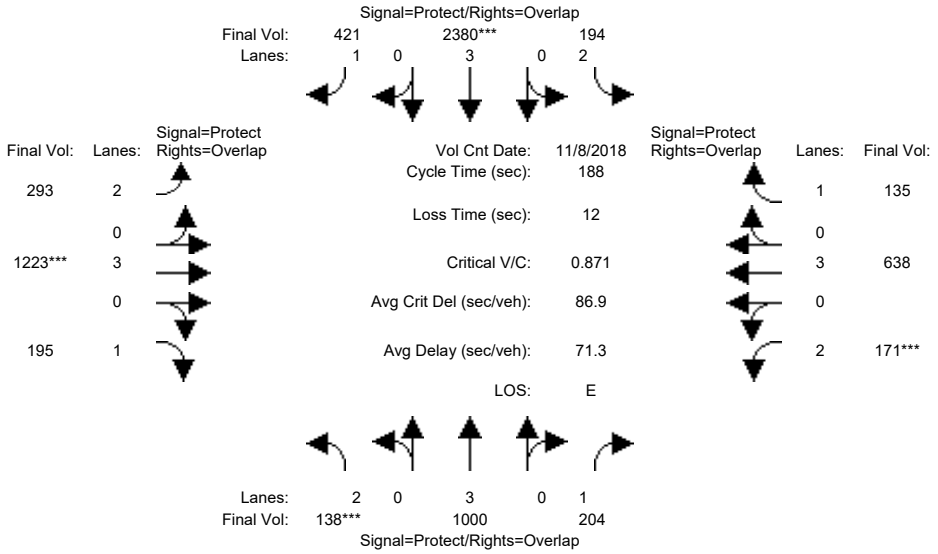
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module: >> Count Date: 8 Nov 2018 << 5:00 - 6:00 PM												
Base Vol:	138	1191	204	194	2903	421	293	1223	195	171	638	135
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	138	1191	204	194	2903	421	293	1223	195	171	638	135
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	138	1191	204	194	2903	421	293	1223	195	171	638	135
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	138	1000	204	194	2380	421	293	1223	195	171	638	135
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	138	1000	204	194	2380	421	293	1223	195	171	638	135
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	138	1000	204	194	2380	421	293	1223	195	171	638	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.12	0.06	0.50	0.24	0.09	0.21	0.11	0.05	0.11	0.08
Crit Moves:	****				****			****			****	
Green Time:	13.0	84.5	100.5	22.5	94.0	117.0	23.0	53.0	66.0	16.0	46.0	68.5
Volume/Cap:	0.63	0.39	0.22	0.51	1.01	0.39	0.76	0.76	0.32	0.64	0.46	0.21
Delay/Veh:	91.2	41.0	29.8	85.9	98.4	37.3	88.4	63.9	44.8	88.3	60.6	41.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	91.2	41.0	29.8	85.9	98.4	37.3	88.4	63.9	44.8	88.3	60.6	41.3
LOS by Move:	F	D	C	F	F	D	F	E	D	F	E	D
HCM2k95thQ:	9	26	16	12	76	35	18	35	16	11	18	11

Note: Queue reported is the number of cars per lane.

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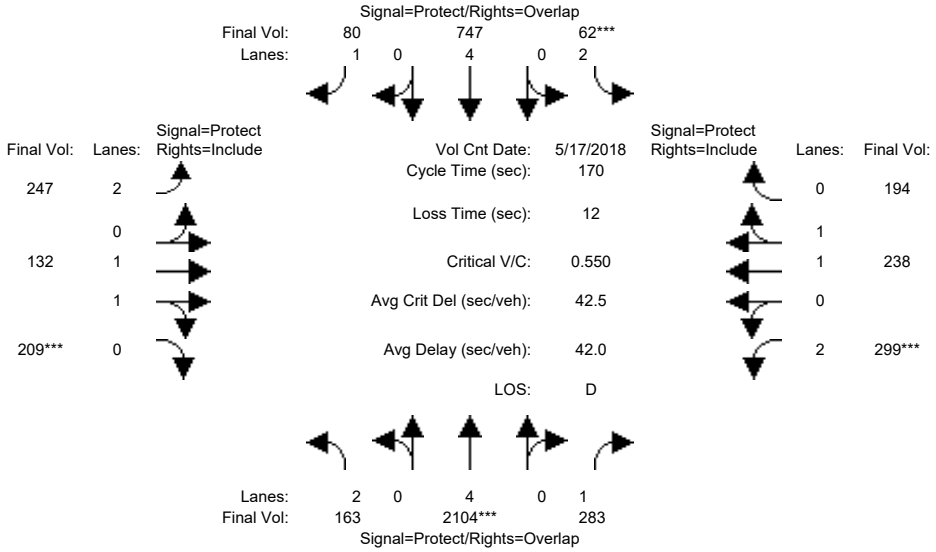
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module: >> Count Date: 17 May 2018 <<												
Base Vol:	163	2104	283	62	747	80	247	132	209	299	238	194
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	163	2104	283	62	747	80	247	132	209	299	238	194
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	2104	283	62	747	80	247	132	209	299	238	194
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	163	2104	283	62	747	80	247	132	209	299	238	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	2104	283	62	747	80	247	132	209	299	238	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	163	2104	283	62	747	80	247	132	209	299	238	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.08	0.92
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	1900	1750	3150	2037	1661
Capacity Analysis Module:												
Vol/Sat:	0.05	0.28	0.16	0.02	0.10	0.05	0.08	0.07	0.12	0.09	0.12	0.12
Crit Moves:		****		****					****	****		
Green Time:	19.3	77.4	104.0	16.0	74.1	98.5	24.3	38.0	38.0	26.6	40.2	40.2
Volume/Cap:	0.46	0.61	0.26	0.21	0.23	0.08	0.55	0.31	0.53	0.61	0.49	0.49
Delay/Veh:	71.3	35.2	15.4	71.5	30.0	15.8	69.1	55.2	59.1	69.1	56.5	56.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.3	35.2	15.4	71.5	30.0	15.8	69.1	55.2	59.1	69.1	56.5	56.5
LOS by Move:	E	D	B	E	C	B	E	E	E	E	E	E
HCM2k95thQ:	9	37	18	4	13	5	13	11	19	16	18	18

Note: Queue reported is the number of cars per lane.

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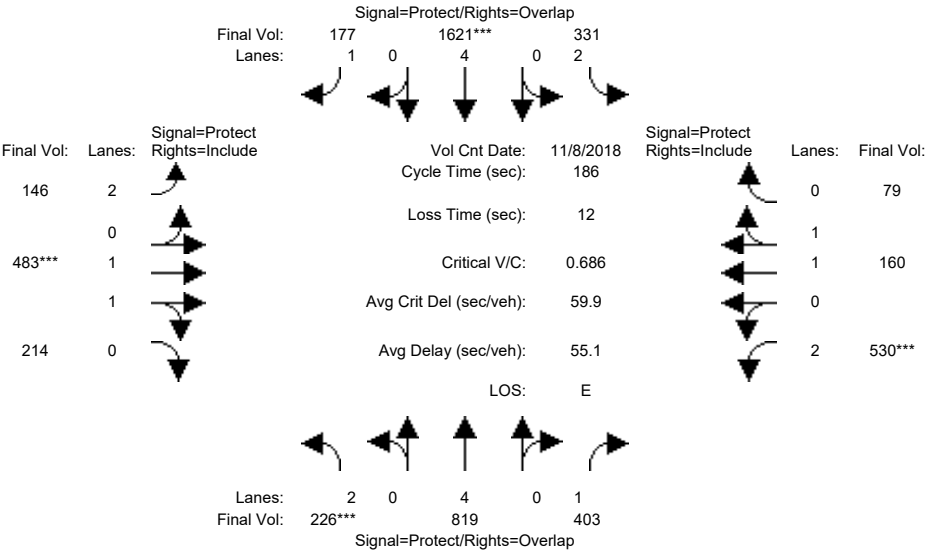
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module: >> Count Date: 8 Nov 2018 <<												
Base Vol:	226	819	403	331	1621	177	146	483	214	530	160	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	226	819	403	331	1621	177	146	483	214	530	160	79
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	226	819	403	331	1621	177	146	483	214	530	160	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	819	403	331	1621	177	146	483	214	530	160	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	819	403	331	1621	177	146	483	214	530	160	79
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	819	403	331	1621	177	146	483	214	530	160	79
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.37	0.63	2.00	1.32	0.68
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2563	1136	3150	2476	1223
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.23	0.11	0.21	0.10	0.05	0.19	0.19	0.17	0.06	0.06
Crit Moves:	****				****			****		****		
Green Time:	19.0	58.8	99.8	28.2	68.0	108.9	40.9	46.0	46.0	41.0	46.1	46.1
Volume/Cap:	0.70	0.34	0.43	0.69	0.58	0.17	0.21	0.76	0.76	0.76	0.26	0.26
Delay/Veh:	87.6	48.9	26.3	79.1	47.9	17.9	59.5	68.7	68.7	73.0	56.4	56.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	48.9	26.3	79.1	47.9	17.9	59.5	68.7	68.7	73.0	56.4	56.4
LOS by Move:	F	D	C	E	D	B	E	E	E	E	E	E
HCM2k95thQ:	15	17	31	20	33	13	8	32	32	30	10	10

Note: Queue reported is the number of cars per lane.

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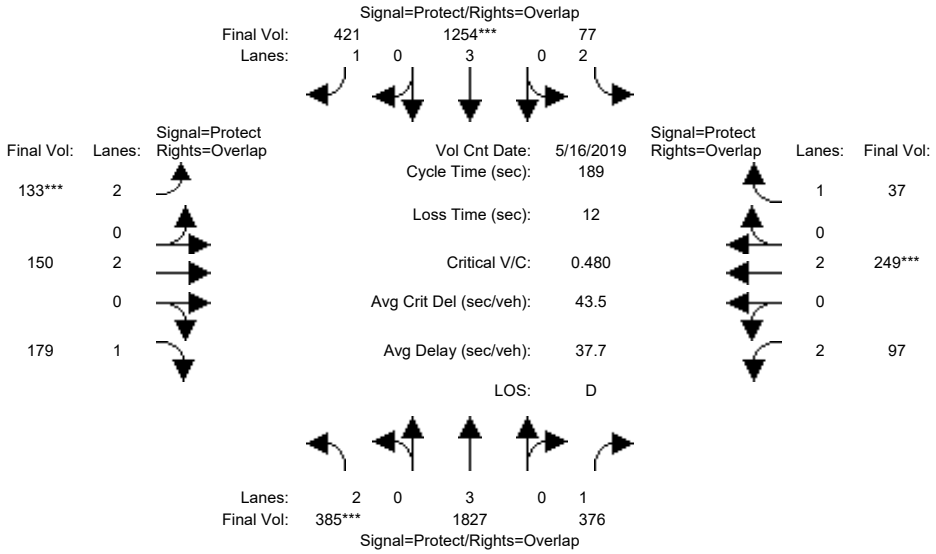
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	385	2100	376	77	1441	421	133	150	179	97	249	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	385	2100	376	77	1441	421	133	150	179	97	249	37
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	385	2100	376	77	1441	421	133	150	179	97	249	37
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	385	1827	376	77	1254	421	133	150	179	97	249	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	385	1827	376	77	1254	421	133	150	179	97	249	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	385	1827	376	77	1254	421	133	150	179	97	249	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.21	0.02	0.22	0.24	0.04	0.04	0.11	0.03	0.07	0.02
Crit Moves:	****				****		****				****	
Green Time:	38.0	111	124.8	18.9	92.0	107.0	15.0	33.3	71.3	13.7	32.0	50.9
Volume/Cap:	0.61	0.55	0.33	0.24	0.45	0.42	0.53	0.22	0.30	0.42	0.39	0.08
Delay/Veh:	71.0	32.6	21.4	78.9	25.2	15.5	85.8	66.9	41.5	85.1	70.2	51.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.0	32.6	21.4	78.9	25.2	15.5	85.8	66.9	41.5	85.1	70.2	51.6
LOS by Move:	E	C	C	E	C	B	F	E	D	F	E	D
HCM2k95thQ:	23	43	26	5	21	17	10	7	14	6	12	3

Note: Queue reported is the number of cars per lane.

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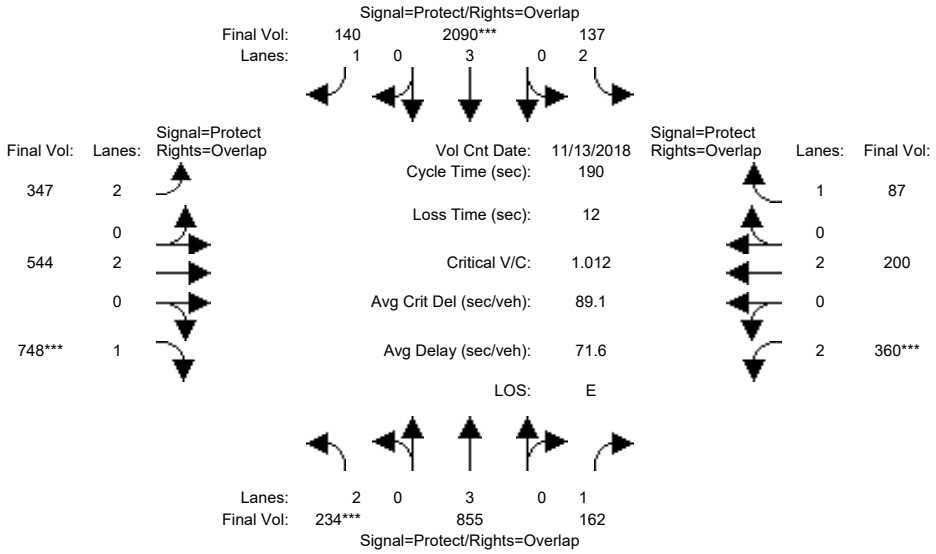
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module: >> Count Date: 13 Nov 2018 << 4:30 - 5:30 PM												
Base Vol:	234	1276	162	137	2612	140	347	544	748	360	200	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	1276	162	137	2612	140	347	544	748	360	200	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	1276	162	137	2612	140	347	544	748	360	200	87
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	855	162	137	2090	140	347	544	748	360	200	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	855	162	137	2090	140	347	544	748	360	200	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	855	162	137	2090	140	347	544	748	360	200	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.09	0.04	0.37	0.08	0.11	0.14	0.47	0.11	0.05	0.05
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	0.64	0.33	0.16	0.55	0.88	0.14	0.74	0.51	1.18	0.90	0.21	0.15
Delay/Veh:	84.1	28.0	11.6	86.9	63.1	26.1	83.2	58.1	155.5	105.4	55.7	44.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.1	28.0	11.6	86.9	63.1	26.1	83.2	58.1	155.5	105.4	55.7	44.4
LOS by Move:	F	C	B	F	E	C	F	E	F	F	E	D
HCM2k95thQ:	16	15	5	9	59	10	23	23	96	24	9	7

Note: Queue reported is the number of cars per lane.

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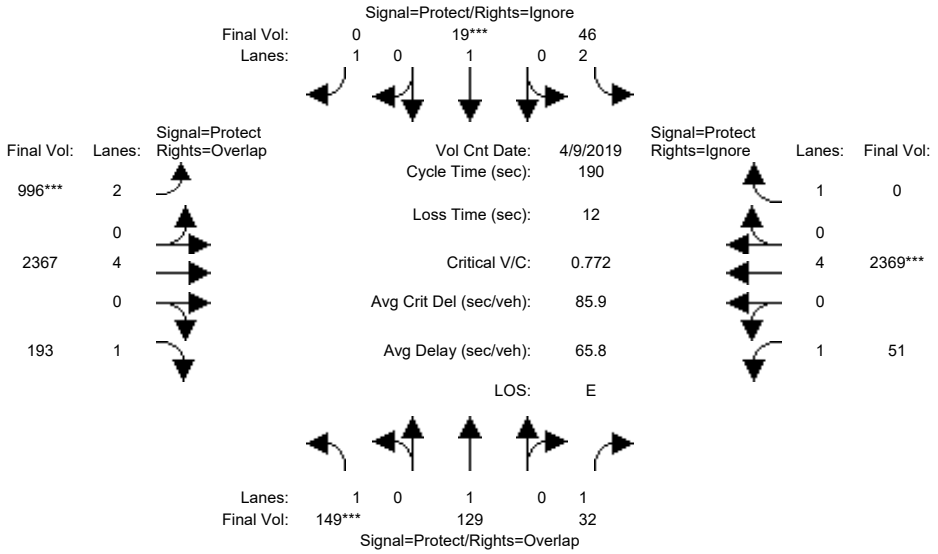
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 9 Apr 2019 <<												
Base Vol:	149	129	32	46	19	294	996	2367	193	51	2369	633
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	129	32	46	19	294	996	2367	193	51	2369	633
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	149	129	32	46	19	294	996	2367	193	51	2369	633
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	149	129	32	46	19	0	996	2367	193	51	2369	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	129	32	46	19	0	996	2367	193	51	2369	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	149	129	32	46	19	0	996	2367	193	51	2369	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.07	0.02	0.01	0.01	0.00	0.32	0.31	0.11	0.03	0.31	0.00
Crit Moves:	****				****		****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.51	0.40	0.08	0.23	0.16	0.00	1.00	0.49	0.14	0.46	0.80	0.00
Delay/Veh:	73.2	71.3	57.2	85.2	84.8	0.0	113.8	38.9	14.8	92.8	75.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.2	71.3	57.2	85.2	84.8	0.0	113.8	38.9	14.8	92.8	75.0	0.0
LOS by Move:	E	E	E	F	F	A	F	D	B	F	E	A
HCM2k95thQ:	16	13	3	3	2	0	63	46	16	7	54	0

Note: Queue reported is the number of cars per lane.

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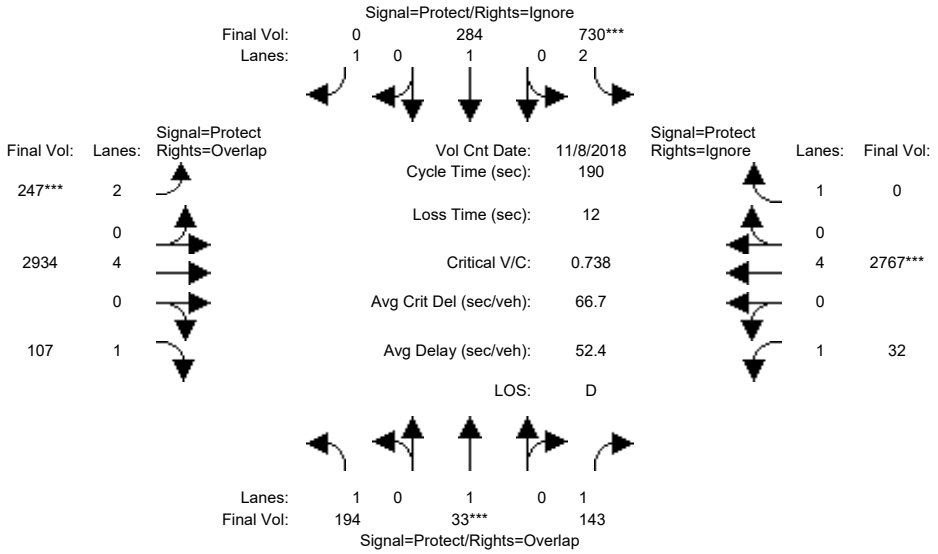
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module: >> Count Date: 8 Nov 2018 << 4:45 - 5:45 PM												
Base Vol:	194	33	143	730	284	845	247	2934	107	32	2767	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	33	143	730	284	845	247	2934	107	32	2767	134
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	33	143	730	284	845	247	2934	107	32	2767	134
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	194	33	143	730	284	0	247	2934	107	32	2767	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	33	143	730	284	0	247	2934	107	32	2767	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	194	33	143	730	284	0	247	2934	107	32	2767	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.02	0.08	0.23	0.15	0.00	0.08	0.39	0.06	0.02	0.36	0.00
Crit Moves:		****		****			****				****	
Green Time:	29.6	26.0	35.0	48.0	44.4	0.0	24.0	95.0	124.6	9.0	80.0	0.0
Volume/Cap:	0.71	0.13	0.44	0.92	0.64	0.00	0.62	0.77	0.09	0.39	0.86	0.00
Delay/Veh:	84.7	72.3	69.8	84.5	68.7	0.0	81.7	30.7	5.1	90.8	60.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	72.3	69.8	84.5	68.7	0.0	81.7	30.7	5.1	90.8	60.6	0.0
LOS by Move:	F	E	E	F	E	A	F	C	A	F	E	A
HCM2k95thQ:	23	3	15	45	27	0	16	48	2	5	62	0

Note: Queue reported is the number of cars per lane.

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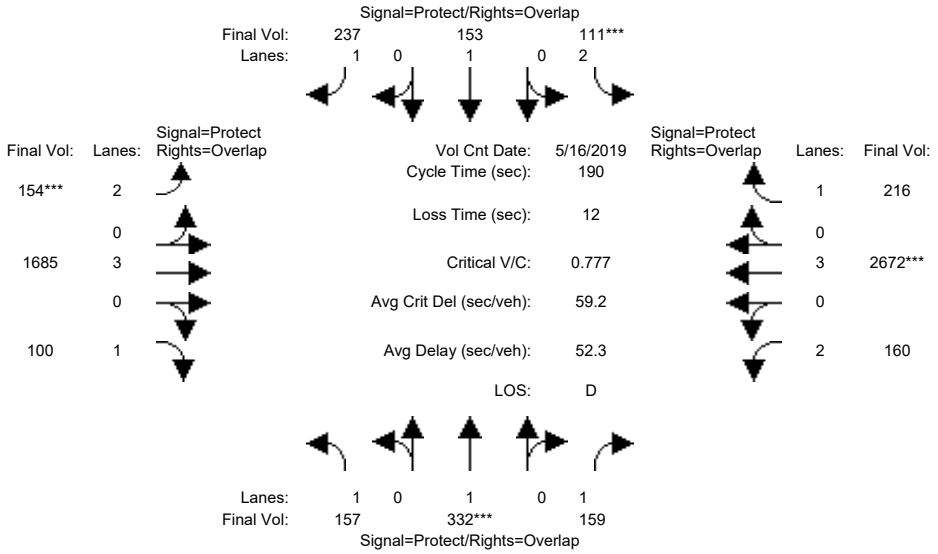
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module: >> Count Date: 16 May 2019 <<												
Base Vol:	157	332	159	111	153	237	154	1937	100	160	3071	216
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	332	159	111	153	237	154	1937	100	160	3071	216
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	157	332	159	111	153	237	154	1937	100	160	3071	216
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	332	159	111	153	237	154	1685	100	160	2672	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	332	159	111	153	237	154	1685	100	160	2672	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	332	159	111	153	237	154	1685	100	160	2672	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.17	0.09	0.04	0.08	0.14	0.05	0.30	0.06	0.05	0.47	0.12
Crit Moves:		****		****			****				****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.70	0.67	0.27	0.51	0.41	0.48	0.58	0.62	0.09	0.65	0.99	0.23
Delay/Veh:	88.3	66.9	46.2	87.4	67.4	57.6	87.0	37.1	15.5	91.2	55.5	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	88.3	66.9	46.2	87.4	67.4	57.6	87.0	37.1	15.5	91.2	55.5	16.0
LOS by Move:	F	E	D	F	E	E	F	D	B	F	E	B
HCM2k95thQ:	18	31	16	9	16	25	11	39	5	12	86	9

Note: Queue reported is the number of cars per lane.

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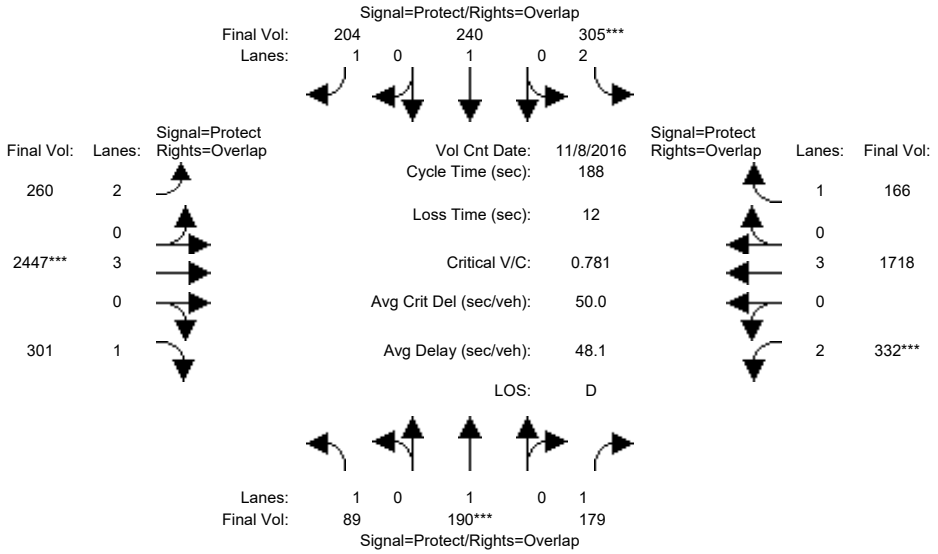
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module: >> Count Date: 8 Nov 2016 << 4:45 - 5:45 PM												
Base Vol:	89	190	179	305	240	204	260	3059	301	332	2527	166
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	190	179	305	240	204	260	3059	301	332	2527	166
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	190	179	305	240	204	260	3059	301	332	2527	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	190	179	305	240	204	260	2447	301	332	1718	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	190	179	305	240	204	260	2447	301	332	1718	166
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	190	179	305	240	204	260	2447	301	332	1718	166
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.10	0.10	0.10	0.13	0.12	0.08	0.43	0.17	0.11	0.30	0.09
Crit Moves:		****		****				****		****		
Green Time:	12.4	39.0	61.9	21.0	47.6	71.4	23.8	93.1	105.5	22.9	92.1	113.2
Volume/Cap:	0.77	0.48	0.31	0.87	0.50	0.31	0.65	0.87	0.31	0.87	0.62	0.16
Delay/Veh:	112.9	66.5	47.4	101.8	60.8	41.2	81.9	35.5	14.6	99.5	43.4	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	112.9	66.5	47.4	101.8	60.8	41.2	81.9	35.5	14.6	99.5	43.4	23.1
LOS by Move:	F	E	D	F	E	D	F	D	B	F	D	C
HCM2k95thQ:	11	17	15	23	21	16	17	61	12	25	44	12

Note: Queue reported is the number of cars per lane.

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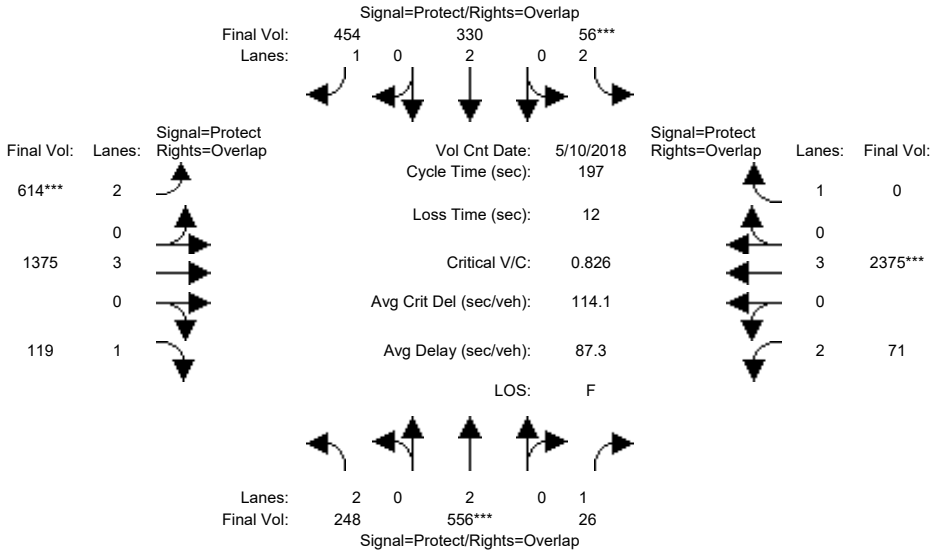
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	248	556	26	56	330	454	614	1580	119	71	2730	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	556	26	56	330	454	614	1580	119	71	2730	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	556	26	56	330	454	614	1580	119	71	2730	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	248	556	26	56	330	454	614	1375	119	71	2375	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	556	26	56	330	454	614	1375	119	71	2375	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	248	556	26	56	330	454	614	1375	119	71	2375	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.01	0.02	0.09	0.26	0.19	0.24	0.07	0.02	0.42	0.00
Crit Moves:		****		****			****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	0.96	0.68	0.05	0.16	0.35	0.62	1.13	0.49	0.12	0.35	1.10	0.00
Delay/Veh:	136.1	73.8	52.1	79.0	61.7	46.7	160.9	34.1	19.6	89.2	112	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	136.1	73.8	52.1	79.0	61.7	46.7	160.9	34.1	19.6	89.2	112	0.0
LOS by Move:	F	E	D	E	E	D	F	C	B	F	F	A
HCM2k95thQ:	18	26	2	4	15	38	46	31	7	5	85	0

Note: Queue reported is the number of cars per lane.

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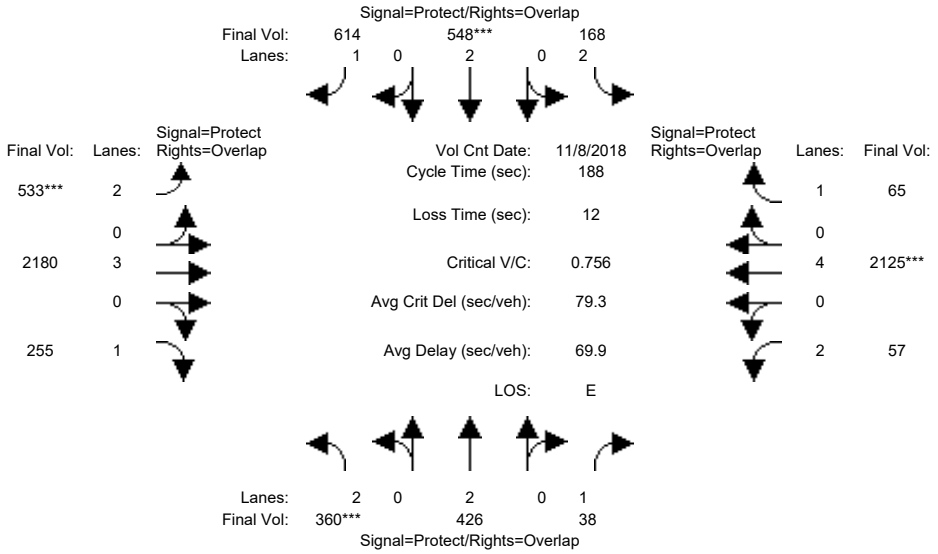
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module: >> Count Date: 8 Nov 2018 << 4:45 - 5:45 PM												
Base Vol:	360	426	38	168	548	614	533	2831	255	57	2125	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	360	426	38	168	548	614	533	2831	255	57	2125	65
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	360	426	38	168	548	614	533	2831	255	57	2125	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	360	426	38	168	548	614	533	2180	255	57	2125	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	360	426	38	168	548	614	533	2180	255	57	2125	65
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	360	426	38	168	548	614	533	2180	255	57	2125	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.02	0.05	0.14	0.35	0.17	0.38	0.15	0.02	0.28	0.04
Crit Moves:	****				****		****				****	
Green Time:	25.4	39.8	50.8	33.6	48.0	85.6	37.6	91.7	117.1	10.9	65.0	98.6
Volume/Cap:	0.85	0.53	0.08	0.30	0.56	0.77	0.85	0.78	0.23	0.31	0.81	0.07
Delay/Veh:	93.9	66.4	51.3	67.3	61.7	47.6	94.8	66.8	33.0	89.4	77.5	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.9	66.4	51.3	67.3	61.7	47.6	94.8	66.8	33.0	89.4	77.5	38.4
LOS by Move:	F	E	D	E	E	D	F	E	C	F	E	D
HCM2k95thQ:	23	19	3	10	24	52	32	61	22	4	48	6

Note: Queue reported is the number of cars per lane.

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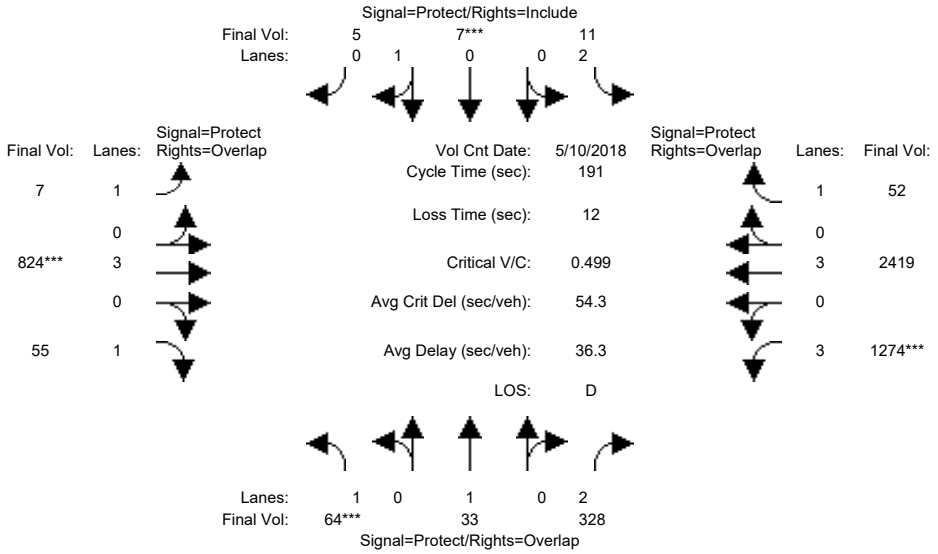
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	64	33	377	11	7	5	7	947	55	1274	2780	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	33	377	11	7	5	7	947	55	1274	2780	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	33	377	11	7	5	7	947	55	1274	2780	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	64	33	328	11	7	5	7	824	55	1274	2419	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	33	328	11	7	5	7	824	55	1274	2419	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	33	328	11	7	5	7	824	55	1274	2419	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.10	0.00	0.01	0.01	0.00	0.14	0.03	0.28	0.42	0.03
Crit Moves:	****				****			****		****		
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	0.41	0.15	0.22	0.11	0.09	0.09	0.08	0.42	0.07	0.78	0.65	0.04
Delay/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	47.7	31.3	56.8	20.7	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	47.7	31.3	56.8	20.7	10.0
LOS by Move:	F	E	C	F	F	F	F	D	C	E	C	A
HCM2k95thQ:	7	3	12	1	1	1	1	21	4	43	44	2

Note: Queue reported is the number of cars per lane.

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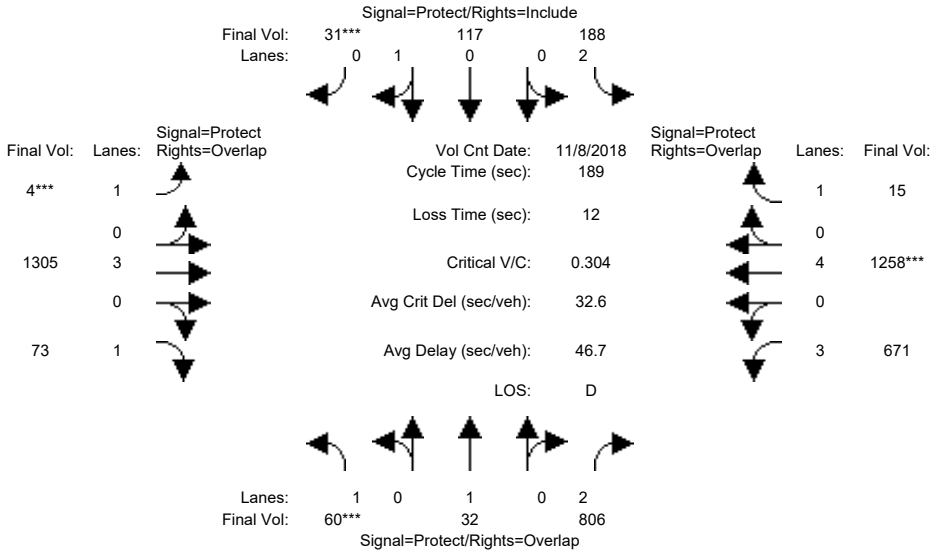
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module: >> Count Date: 8 Nov 2018 << 4:30 - 5:30 PM												
Base Vol:	60	32	983	188	117	31	4	1652	73	671	1258	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	32	983	188	117	31	4	1652	73	671	1258	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	32	983	188	117	31	4	1652	73	671	1258	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	60	32	806	188	117	31	4	1305	73	671	1258	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	32	806	188	117	31	4	1305	73	671	1258	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	32	806	188	117	31	4	1305	73	671	1258	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.02	0.26	0.06	0.08	0.08	0.00	0.23	0.04	0.15	0.17	0.01
Crit Moves:	****					****	****				****	
Green Time:	17.4	27.6	68.0	31.4	41.6	41.6	7.0	77.7	95.0	40.3	111	142.4
Volume/Cap:	0.37	0.12	0.71	0.36	0.37	0.37	0.06	0.56	0.08	0.69	0.28	0.01
Delay/Veh:	82.2	70.3	54.2	70.3	63.2	63.2	88.2	42.8	24.4	71.7	26.5	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	82.2	70.3	54.2	70.3	63.2	63.2	88.2	42.8	24.4	71.7	26.5	10.9
LOS by Move:	F	E	D	E	E	E	F	D	C	E	C	B
HCM2k95thQ:	7	3	40	11	14	14	0	32	5	27	21	1

Note: Queue reported is the number of cars per lane.

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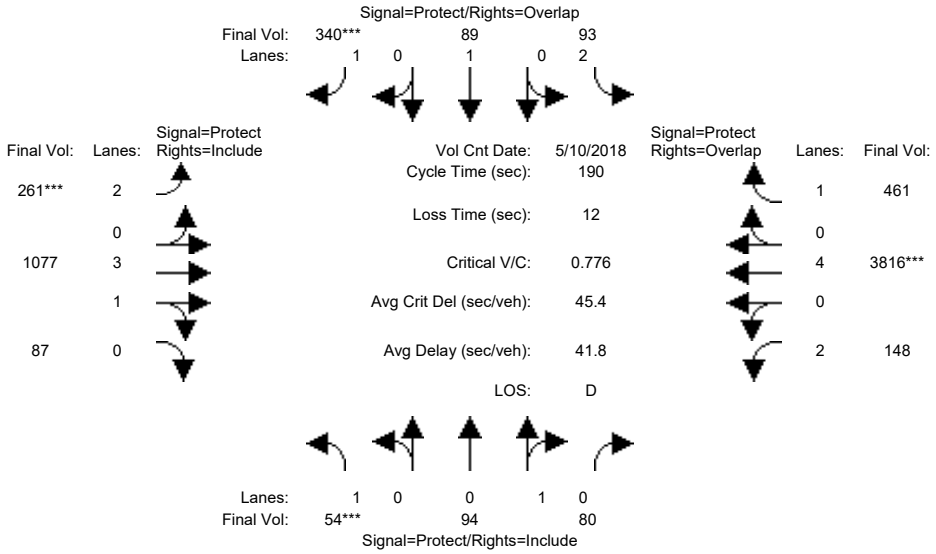
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module: >> Count Date: 10 May 2018 << 7:00-9:00												
Base Vol:	54	94	80	93	89	340	261	1077	87	148	3816	461
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	94	80	93	89	340	261	1077	87	148	3816	461
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	94	80	93	89	340	261	1077	87	148	3816	461
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	94	80	93	89	340	261	1077	87	148	3816	461
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	94	80	93	89	340	261	1077	87	148	3816	461
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	94	80	93	89	340	261	1077	87	148	3816	461
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.54	0.46	2.00	1.00	1.00	2.00	3.69	0.31	2.00	4.00	1.00
Final Sat.:	1750	972	828	3150	1900	1750	3150	6939	560	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.03	0.05	0.19	0.08	0.16	0.16	0.05	0.50	0.26
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.44	0.64	0.64	0.47	0.32	0.78	0.81	0.27	0.27	0.55	0.89	0.42
Delay/Veh:	87.3	80.7	80.7	87.8	73.5	75.7	97.4	19.7	19.7	85.8	38.5	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.3	80.7	80.7	87.8	73.5	75.7	97.4	19.7	19.7	85.8	38.5	18.1
LOS by Move:	F	F	F	F	E	E	F	B	B	F	D	B
HCM2k95thQ:	7	20	20	6	9	34	17	15	15	11	76	25

Note: Queue reported is the number of cars per lane.

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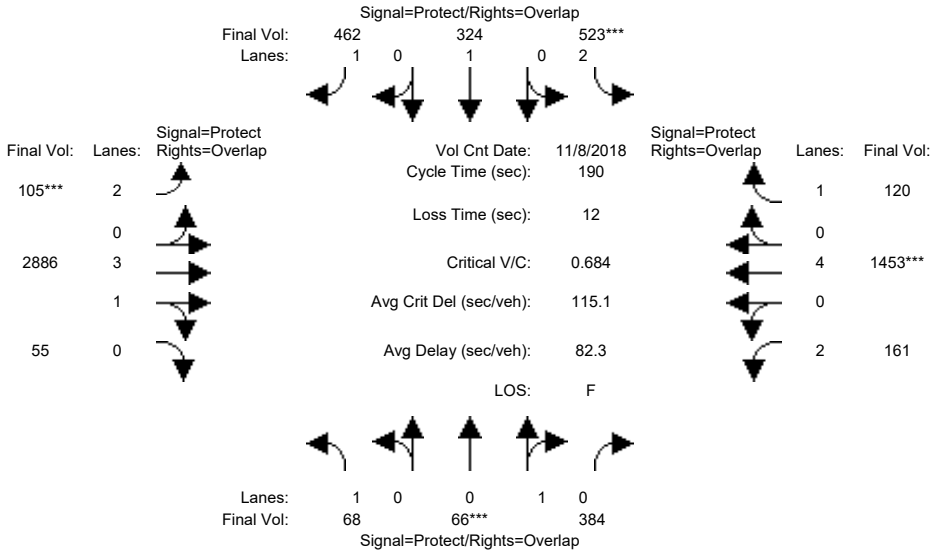
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module: >> Count Date: 8 Nov 2018 << 4:30-5:30 PM												
Base Vol:	68	66	384	523	324	462	105	2886	55	161	1453	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	66	384	523	324	462	105	2886	55	161	1453	120
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	66	384	523	324	462	105	2886	55	161	1453	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	66	384	523	324	462	105	2886	55	161	1453	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	66	384	523	324	462	105	2886	55	161	1453	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	66	384	523	324	462	105	2886	55	161	1453	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.15	0.85	2.00	1.00	1.00	2.00	3.94	0.06	2.00	4.00	1.00
Final Sat.:	1750	264	1536	3150	1900	1750	3150	5547	106	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.25	0.17	0.17	0.26	0.03	0.52	0.52	0.05	0.19	0.07
Crit Moves:		****		****			****				****	
Green Time:	12.2	33.0	47.0	28.0	48.8	63.8	15.0	103	115.2	14.0	102	130.0
Volume/Cap:	0.60	1.44	1.01	1.13	0.66	0.79	0.42	0.96	0.86	0.69	0.36	0.10
Delay/Veh:	95.4	294	116.8	162.2	66.7	63.9	89.3	83.1	64.5	99.2	44.7	24.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	95.4	294	116.8	162.2	66.7	63.9	89.3	83.1	64.5	99.2	44.7	24.9
LOS by Move:	F	F	F	F	E	E	F	F	E	F	D	C
HCM2k95thQ:	10	71	53	39	28	42	7	70	84	13	30	11

Note: Queue reported is the number of cars per lane.

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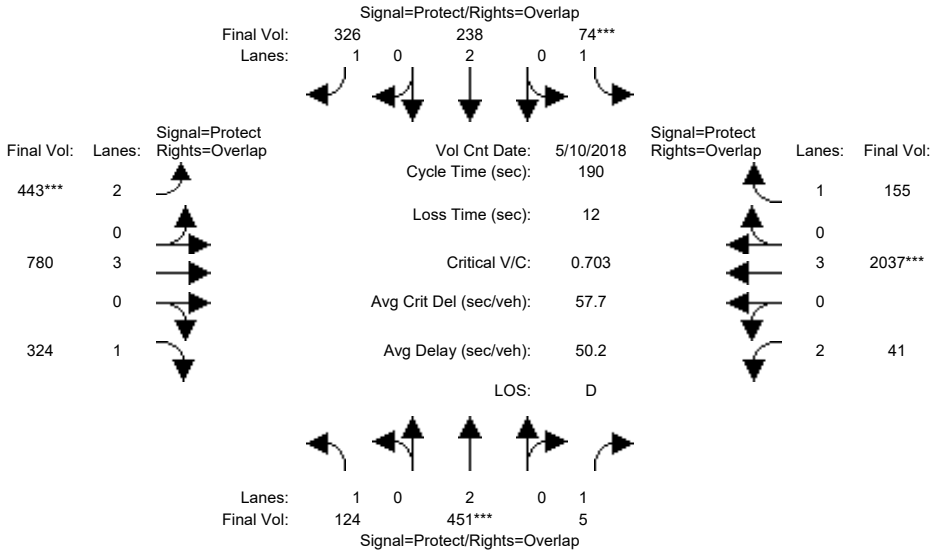
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (AM)

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module: >> Count Date: 10 May 2018 <<												
Base Vol:	124	451	5	74	238	326	443	896	324	41	2341	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	451	5	74	238	326	443	896	324	41	2341	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	451	5	74	238	326	443	896	324	41	2341	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	451	5	74	238	326	443	780	324	41	2037	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	451	5	74	238	326	443	780	324	41	2037	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	451	5	74	238	326	443	780	324	41	2037	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.12	0.00	0.04	0.06	0.19	0.14	0.14	0.19	0.01	0.36	0.09
Crit Moves:		****		****			****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.86	0.59	0.01	0.63	0.34	0.55	0.91	0.24	0.29	0.23	0.77	0.17
Delay/Veh:	124.2	70.3	52.6	96.5	67.6	52.0	100.5	21.5	15.2	86.3	44.2	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.2	70.3	52.6	96.5	67.6	52.0	100.5	21.5	15.2	86.3	44.2	23.1
LOS by Move:	F	E	D	F	E	D	F	C	B	F	D	C
HCM2k95thQ:	16	21	0	9	11	28	29	14	16	3	53	9

Note: Queue reported is the number of cars per lane.

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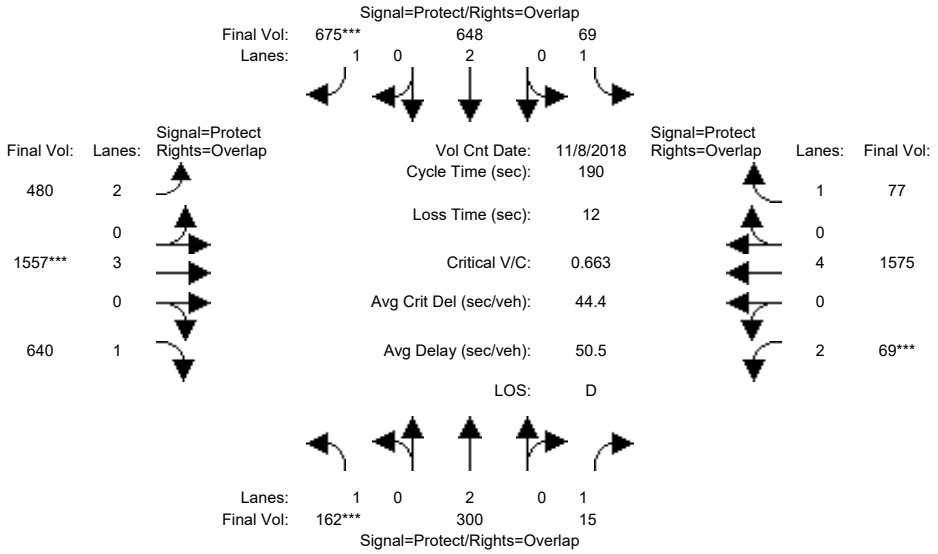
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing (PM)

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module: >> Count Date: 8 Nov 2018 << 4:30 - 5:30 PM												
Base Vol:	162	300	15	69	648	675	480	1922	640	69	1575	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	300	15	69	648	675	480	1922	640	69	1575	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	162	300	15	69	648	675	480	1922	640	69	1575	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	300	15	69	648	675	480	1557	640	69	1575	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	300	15	69	648	675	480	1557	640	69	1575	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	300	15	69	648	675	480	1557	640	69	1575	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.08	0.01	0.04	0.17	0.39	0.15	0.27	0.37	0.02	0.21	0.04
Crit Moves:	****					****		****		****		
Green Time:	20.2	55.9	66.9	15.1	50.8	79.8	29.0	96.0	116.2	11.0	78.0	93.1
Volume/Cap:	0.87	0.27	0.02	0.50	0.64	0.92	1.00	0.54	0.60	0.38	0.50	0.09
Delay/Veh:	116.8	51.5	40.3	86.5	62.8	68.5	121.1	24.5	13.3	87.5	47.8	31.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	116.8	51.5	40.3	86.5	62.8	68.5	121.1	24.5	13.3	87.5	47.8	31.8
LOS by Move:	F	D	D	F	E	E	F	C	B	F	D	C
HCM2k95thQ:	20	12	1	8	28	66	32	26	25	5	32	6

Note: Queue reported is the number of cars per lane.

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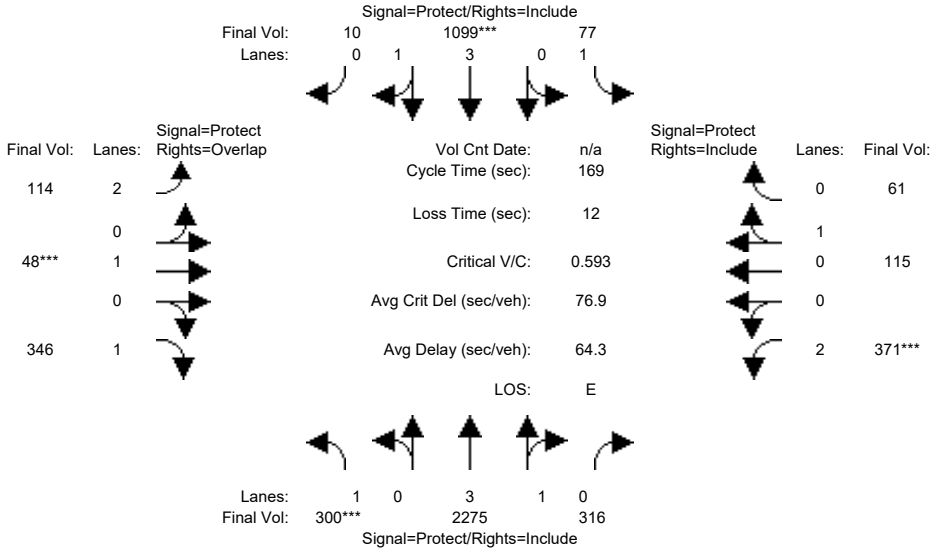
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2275	316	77	1099	10	114	48	346	371	115	61
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2275	316	77	1099	10	114	48	346	371	115	61
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2275	316	77	1099	10	114	48	346	371	115	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2275	316	77	1099	10	114	48	346	371	115	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2275	316	77	1099	10	114	48	346	371	115	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2275	316	77	1099	10	114	48	346	371	115	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.49	0.51	1.00	3.96	0.04	2.00	1.00	1.00	2.00	0.65	0.35
Final Sat.:	1750	6584	914	1750	7432	68	1575	760	1225	2205	470	250
Capacity Analysis Module:												
Vol/Sat:	0.17	0.35	0.35	0.04	0.15	0.15	0.07	0.06	0.28	0.17	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	33.1	71.4	71.4	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	0.82	0.82	0.64	0.50	0.50	1.06	0.29	0.68	1.08	0.80	0.80
Delay/Veh:	87.6	51.6	51.6	87.2	52.7	52.7	184.1	56.3	44.4	143.4	72.9	72.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	51.6	51.6	87.2	52.7	52.7	184.1	56.3	44.4	143.4	72.9	72.9
LOS by Move:	F	D	D	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	51	51	9	22	22	12	5	29	29	20	20

Note: Queue reported is the number of cars per lane.

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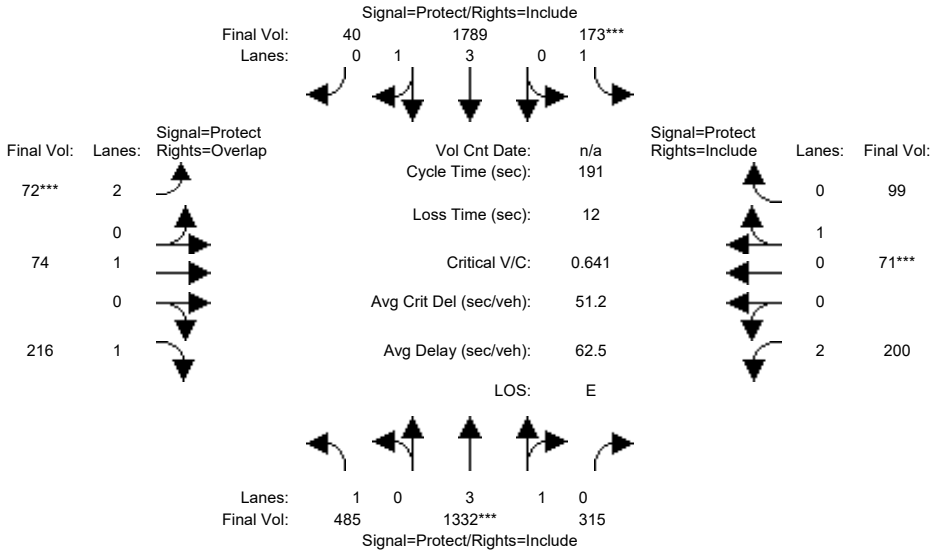
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1332	315	173	1789	40	72	74	216	200	71	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	315	173	1789	40	72	74	216	200	71	99
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	315	173	1789	40	72	74	216	200	71	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	315	173	1789	40	72	74	216	200	71	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	315	173	1789	40	72	74	216	200	71	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	315	173	1789	40	72	74	216	200	71	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.20	0.80	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.42	0.58
Final Sat.:	1750	6063	1434	1750	7336	164	1575	760	1225	2205	301	419
Capacity Analysis Module:												
Vol/Sat:	0.28	0.22	0.22	0.10	0.24	0.24	0.05	0.10	0.18	0.09	0.24	0.24
Crit Moves:		****		****			****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.47	0.47	0.68	0.81	0.81	0.68	0.61	0.38	0.86	1.20	1.20
Delay/Veh:	80.8	28.5	28.5	84.9	67.8	67.8	103.1	84.0	33.6	109.6	216	215.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	28.5	28.5	84.9	67.8	67.8	103.1	84.0	33.6	109.6	216	215.6
LOS by Move:	F	C	C	F	E	E	F	F	C	F	F	F
HCM2k95thQ:	49	23	23	19	42	42	7	10	16	17	29	29

Note: Queue reported is the number of cars per lane.

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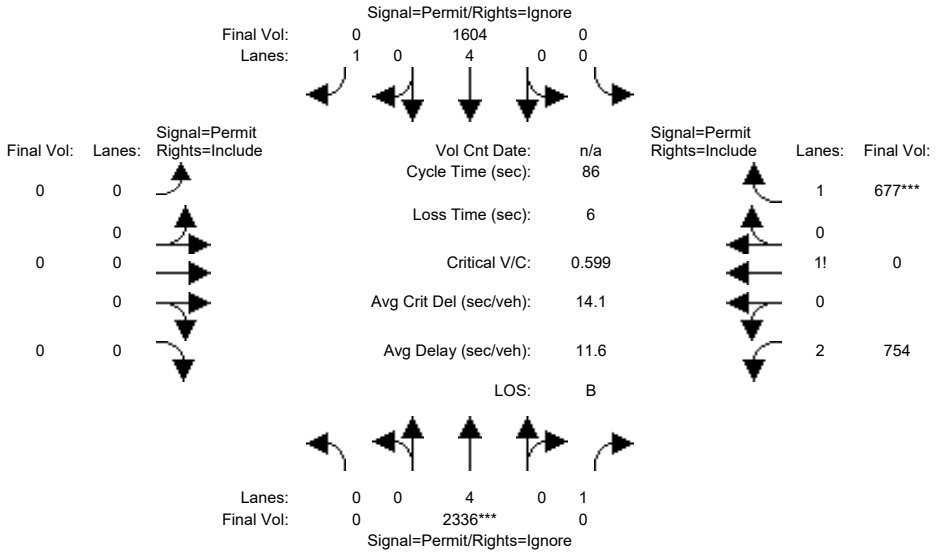
Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2336	0	0	1604	505	0	0	0	754	0	677
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2336	0	0	1604	505	0	0	0	754	0	677
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2336	0	0	1604	505	0	0	0	754	0	677
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2336	0	0	1604	0	0	0	0	754	0	677
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2336	0	0	1604	0	0	0	0	754	0	677
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2336	0	0	1604	0	0	0	0	754	0	677
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.45	0.00	1.55
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	3882	0	2711
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.19	0.00	0.25
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.51	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.73	0.00	0.77
Delay/Veh:	0.0	5.5	0.0	0.0	4.8	0.0	0.0	0.0	0.0	30.0	0.0	28.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	5.5	0.0	0.0	4.8	0.0	0.0	0.0	0.0	30.0	0.0	28.2
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	10	0	0	6	0	0	0	0	19	0	23

Note: Queue reported is the number of cars per lane.

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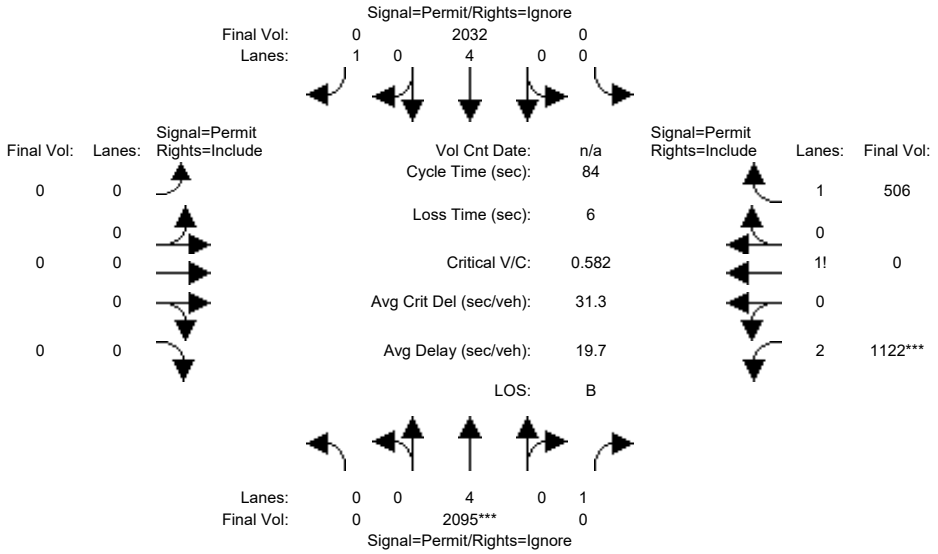
Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2095	0	0	2032	349	0	0	0	1122	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2095	0	0	2032	349	0	0	0	1122	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2095	0	0	2032	349	0	0	0	1122	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2095	0	0	2032	0	0	0	0	1122	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2095	0	0	2032	0	0	0	0	1122	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2095	0	0	2032	0	0	0	0	1122	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.85	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.61	0.00	1.39
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4243	0	2425
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.26	0.00	0.21
Crit Moves:		****								****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.45	0.00	0.00	0.43	0.00	0.00	0.00	0.00	1.01	0.00	0.80
Delay/Veh:	0.0	12.2	0.0	0.0	4.6	0.0	0.0	0.0	0.0	55.8	0.0	31.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.2	0.0	0.0	4.6	0.0	0.0	0.0	0.0	55.8	0.0	31.2
LOS by Move:	A	B	A	A	A	A	A	A	A	E	A	C
HCM2k95thQ:	0	17	0	0	7	0	0	0	0	34	0	21

Note: Queue reported is the number of cars per lane.

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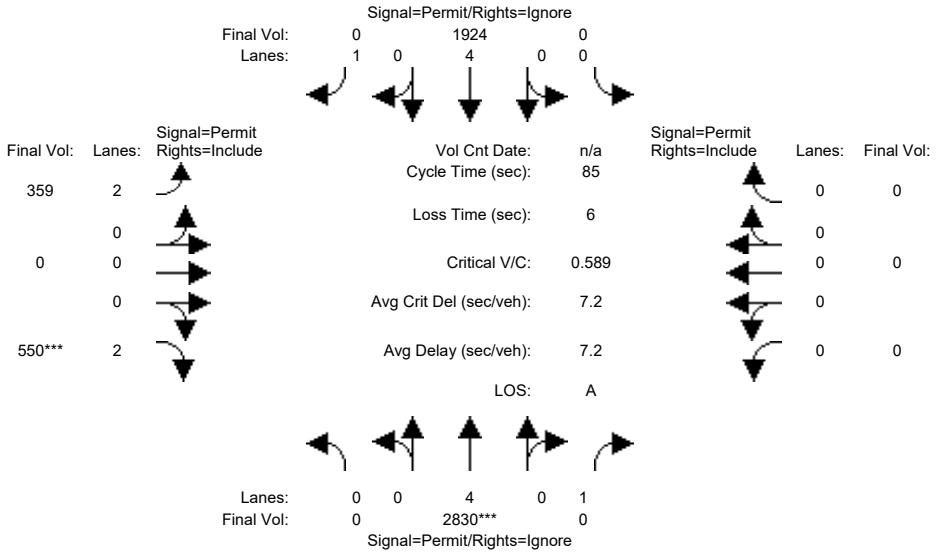
Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	2830	851	0	1924	0	359	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2830	851	0	1924	0	359	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2830	851	0	1924	0	359	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2830	0	0	1924	0	359	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2830	0	0	1924	0	359	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2830	0	0	1924	0	359	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.25	0.00	0.11	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****							****			
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	18.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.53	0.00	0.00	0.36	0.00	0.72	0.00	0.79	0.00	0.00	0.00
Delay/Veh:	0.0	1.4	0.0	0.0	1.2	0.0	38.9	0.0	37.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	1.4	0.0	0.0	1.2	0.0	38.9	0.0	37.3	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	D	A	A	A
HCM2k95thQ:	0	6	0	0	3	0	13	0	19	0	0	0

Note: Queue reported is the number of cars per lane.

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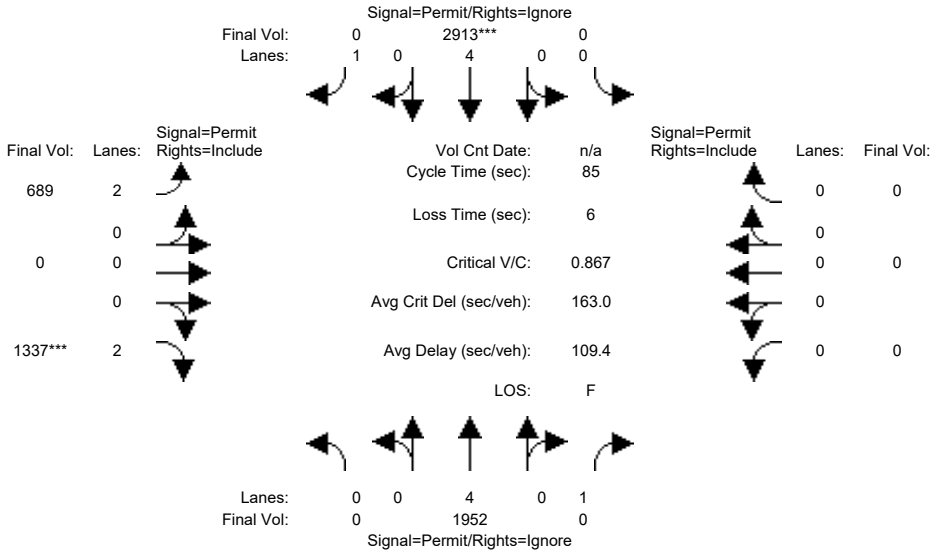
Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1952	494	0	2913	0	689	0	1337	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1952	494	0	2913	0	689	0	1337	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1952	494	0	2913	0	689	0	1337	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1952	0	0	2913	0	689	0	1337	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1952	0	0	2913	0	689	0	1337	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1952	0	0	2913	0	689	0	1337	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.38	0.00	0.22	0.00	0.42	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.34	0.00	0.00	0.51	0.00	1.06	0.00	2.06	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	88.0	0.0	517.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	88.0	0.0	517.9	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	2	0	33	0	111	0	0	0

Note: Queue reported is the number of cars per lane.

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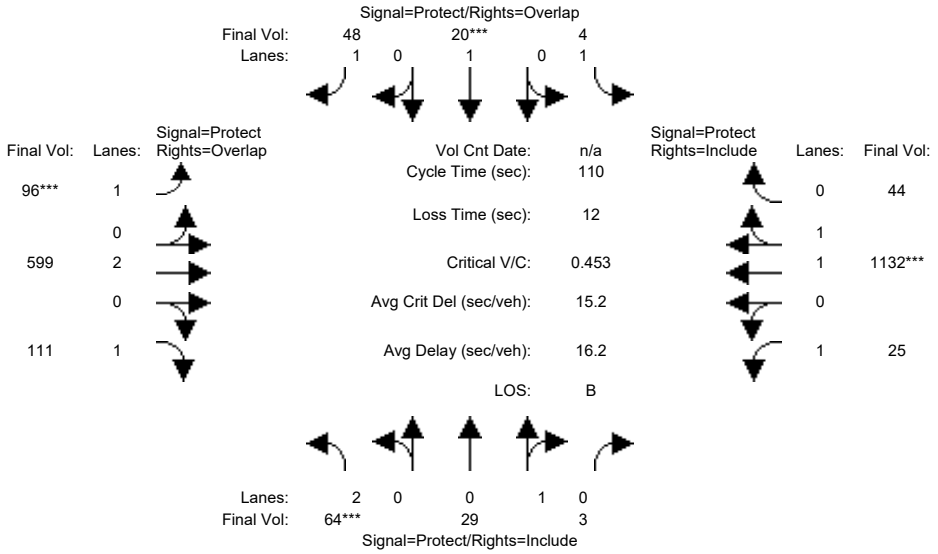
Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	61	28	3	4	19	46	91	569	105	24	1075	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	28	3	4	19	46	91	569	105	24	1075	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	28	3	4	19	46	91	569	105	24	1075	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	64	29	3	4	20	48	96	599	111	25	1132	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	29	3	4	20	48	96	599	111	25	1132	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	29	3	4	20	48	96	599	111	25	1132	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.90	0.10	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	3150	1626	174	1750	1900	1750	1750	3800	1750	1750	3561	139
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.00	0.01	0.03	0.05	0.16	0.06	0.01	0.32	0.32
Crit Moves:	****				****		****				****	
Green Time:	6.0	8.0	8.0	6.0	8.0	20.3	12.3	57.5	63.5	26.5	71.7	71.7
Volume/Cap:	0.37	0.25	0.25	0.04	0.14	0.15	0.49	0.30	0.11	0.06	0.49	0.49
Delay/Veh:	51.6	49.2	49.2	49.5	48.3	37.8	47.8	15.0	10.5	32.2	10.0	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.6	49.2	49.2	49.5	48.3	37.8	47.8	15.0	10.5	32.2	10.0	10.0
LOS by Move:	D	D	D	D	D	D	D	B	B	C	A	A
HCM2k95thQ:	3	3	3	0	2	3	7	11	4	1	19	19

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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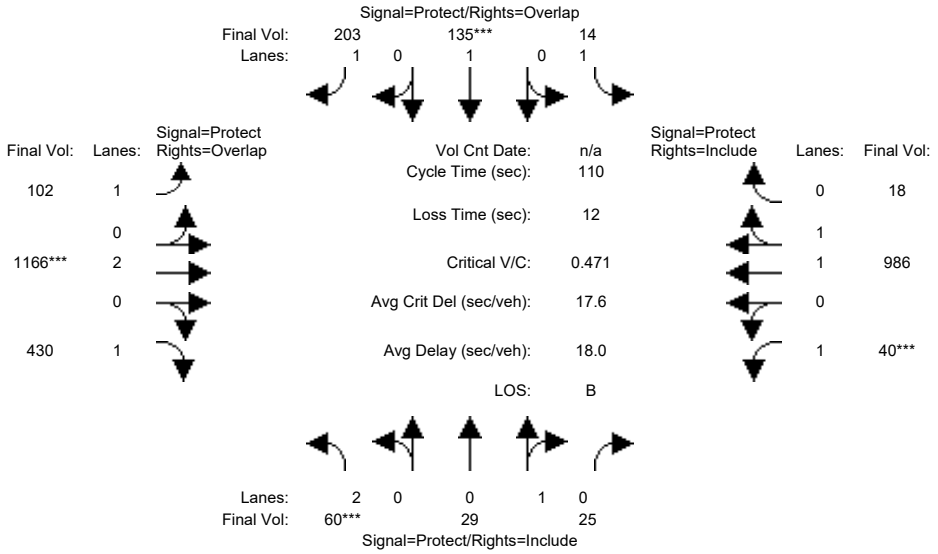
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	58	28	24	14	131	197	99	1131	417	39	956	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	28	24	14	131	197	99	1131	417	39	956	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	28	24	14	131	197	99	1131	417	39	956	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	60	29	25	14	135	203	102	1166	430	40	986	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	60	29	25	14	135	203	102	1166	430	40	986	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	60	29	25	14	135	203	102	1166	430	40	986	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.54	0.46	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	969	831	1750	1900	1750	1750	3800	1750	1750	3635	65
Capacity Analysis Module:												
Vol/Sat:	0.02	0.03	0.03	0.01	0.07	0.12	0.06	0.31	0.25	0.02	0.27	0.27
Crit Moves:	****				****			****			****	
Green Time:	6.0	12.5	12.5	9.3	15.8	31.9	16.1	68.2	74.2	8.0	60.1	60.1
Volume/Cap:	0.35	0.26	0.26	0.10	0.49	0.40	0.40	0.49	0.36	0.32	0.50	0.50
Delay/Veh:	51.3	45.3	45.3	46.7	44.8	31.9	43.6	11.6	7.9	49.8	15.7	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.3	45.3	45.3	46.7	44.8	31.9	43.6	11.6	7.9	49.8	15.7	15.7
LOS by Move:	D	D	D	D	D	C	D	B	A	D	B	B
HCM2k95thQ:	3	4	4	1	9	12	7	19	13	3	19	19

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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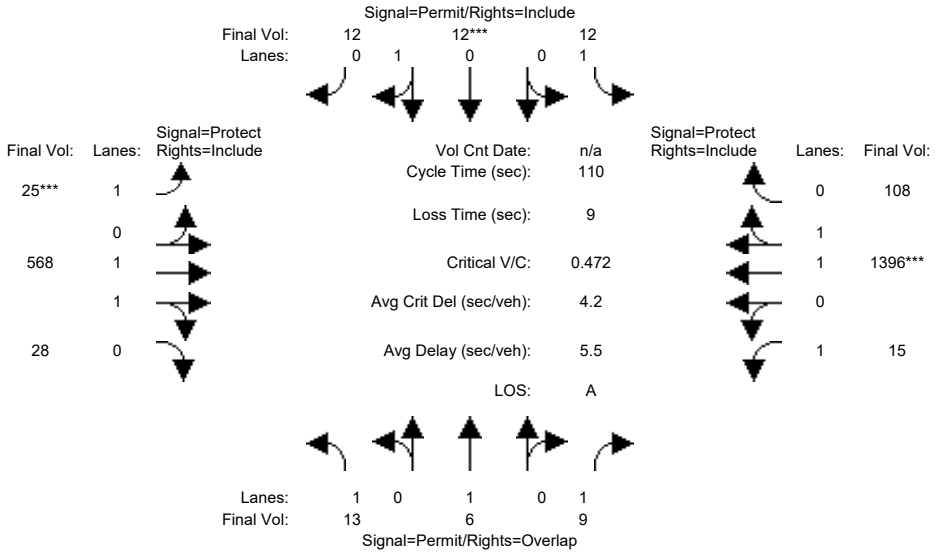
Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	12	6	8	11	11	11	23	528	26	14	1298	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	6	8	11	11	11	23	528	26	14	1298	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	6	8	11	11	11	23	528	26	14	1298	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	13	6	9	12	12	12	25	568	28	15	1396	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	6	9	12	12	12	25	568	28	15	1396	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	6	9	12	12	12	25	568	28	15	1396	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.50	0.50	1.00	1.90	0.10	1.00	1.85	0.15
Final Sat.:	1750	1900	1750	1750	900	900	1750	3526	174	1750	3435	265
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.16	0.16	0.01	0.41	0.41
Crit Moves:					****		****				****	
Green Time:	4.0	4.0	21.9	4.0	4.0	4.0	5.0	79.1	79.1	17.9	92.0	92.0
Volume/Cap:	0.20	0.09	0.02	0.18	0.36	0.36	0.31	0.22	0.22	0.05	0.49	0.49
Delay/Veh:	52.9	51.8	35.5	52.7	55.1	55.1	53.1	5.2	5.2	39.0	2.6	2.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.9	51.8	35.5	52.7	55.1	55.1	53.1	5.2	5.2	39.0	2.6	2.6
LOS by Move:	D	D	D	D	E	E	D	A	A	D	A	A
HCM2k95thQ:	1	1	1	1	3	3	2	7	7	1	14	14

Note: Queue reported is the number of cars per lane.

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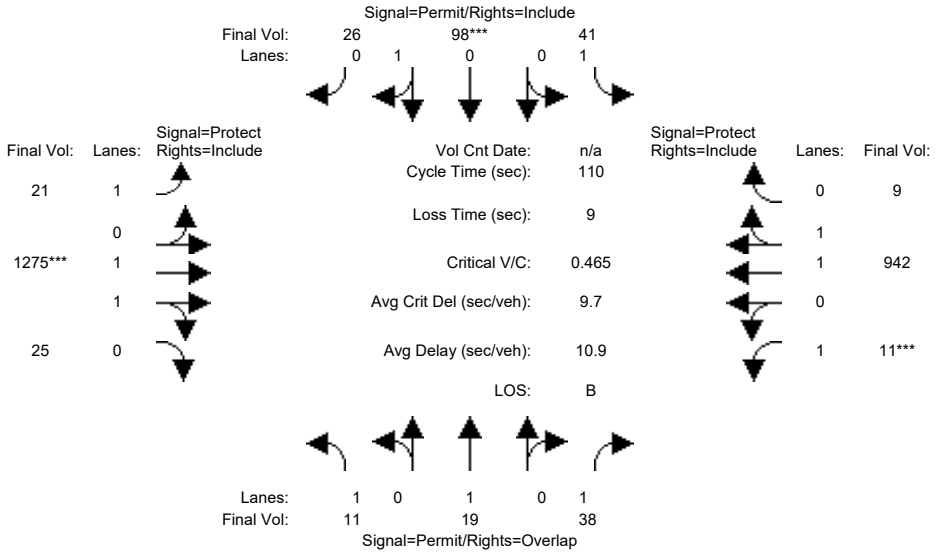
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	11	18	36	39	94	25	20	1224	24	11	904	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	18	36	39	94	25	20	1224	24	11	904	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	18	36	39	94	25	20	1224	24	11	904	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	11	19	38	41	98	26	21	1275	25	11	942	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	19	38	41	98	26	21	1275	25	11	942	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	19	38	41	98	26	21	1275	25	11	942	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.79	0.21	1.00	1.96	0.04	1.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1422	378	1750	3629	71	1750	3663	36
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.02	0.07	0.07	0.01	0.35	0.35	0.01	0.26	0.26
Crit Moves:					****			****		****		
Green Time:	15.9	15.9	19.9	15.9	15.9	15.9	12.8	81.1	81.1	4.0	72.3	72.3
Volume/Cap:	0.05	0.07	0.12	0.16	0.48	0.48	0.10	0.48	0.48	0.18	0.39	0.39
Delay/Veh:	40.6	40.8	37.9	41.5	44.6	44.6	43.7	6.0	6.0	52.8	8.8	8.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.6	40.8	37.9	41.5	44.6	44.6	43.7	6.0	6.0	52.8	8.8	8.8
LOS by Move:	D	D	D	D	D	D	D	A	A	D	A	A
HCM2k95thQ:	1	1	2	3	9	9	1	17	17	1	14	14

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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2000 HCM Unsignalized (Future Volume Alternative)
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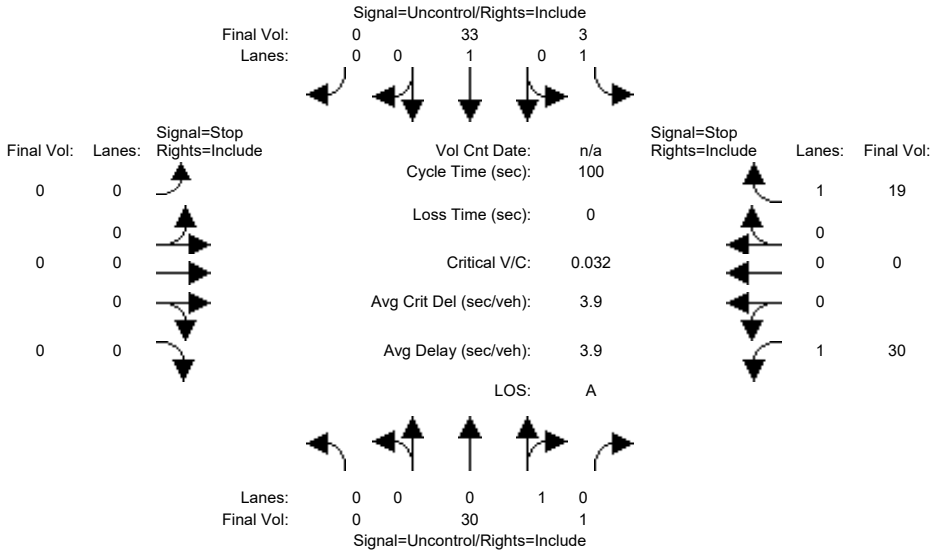
Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	27	1	3	30	0	0	0	0	27	0	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	27	1	3	30	0	0	0	0	27	0	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	27	1	3	30	0	0	0	0	27	0	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	30	1	3	33	0	0	0	0	30	0	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	30	1	3	33	0	0	0	0	30	0	19
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	31	xxxx	xxxxx	xxxx	xxxx	xxxxx	71	xxxx	31
Potent Cap.:	xxxx	xxxx	xxxxx	1594	xxxx	xxxxx	xxxx	xxxx	xxxxx	939	xxxx	1050
Move Cap.:	xxxx	xxxx	xxxxx	1594	xxxx	xxxxx	xxxx	xxxx	xxxxx	937	xxxx	1050
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.0	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	A	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.8		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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2000 HCM Unsignalized (Future Volume Alternative)
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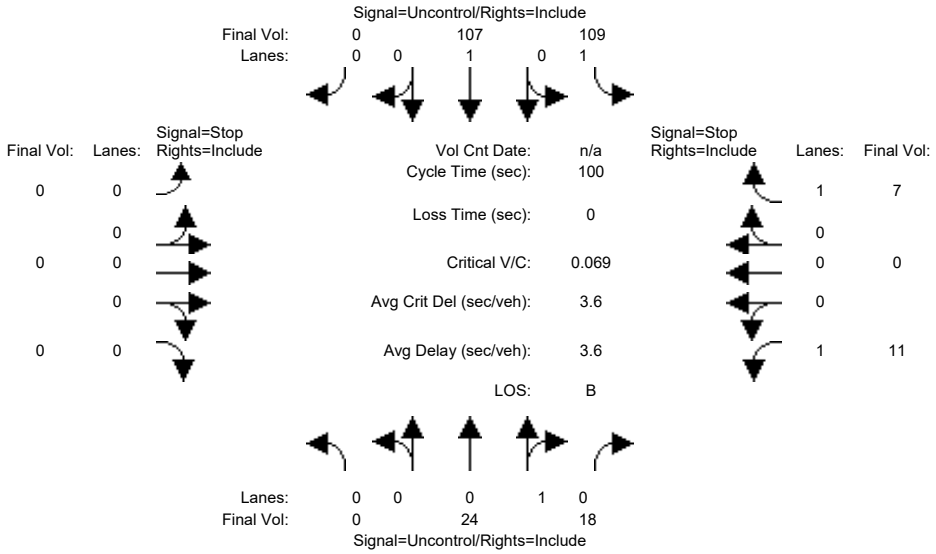
Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	22	16	98	96	0	0	0	0	10	0	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	22	16	98	96	0	0	0	0	10	0	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	22	16	98	96	0	0	0	0	10	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	24	18	109	107	0	0	0	0	11	0	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	24	18	109	107	0	0	0	0	11	0	7
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	42	xxxx	xxxxx	xxxx	xxxx	xxxxx	358	xxxx	33
Potent Cap.:	xxxx	xxxx	xxxxx	1580	xxxx	xxxxx	xxxx	xxxx	xxxxx	645	xxxx	1046
Move Cap.:	xxxx	xxxx	xxxxx	1580	xxxx	xxxxx	xxxx	xxxx	xxxxx	611	xxxx	1046
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.0	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.1		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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2000 HCM Unsignalized (Future Volume Alternative)
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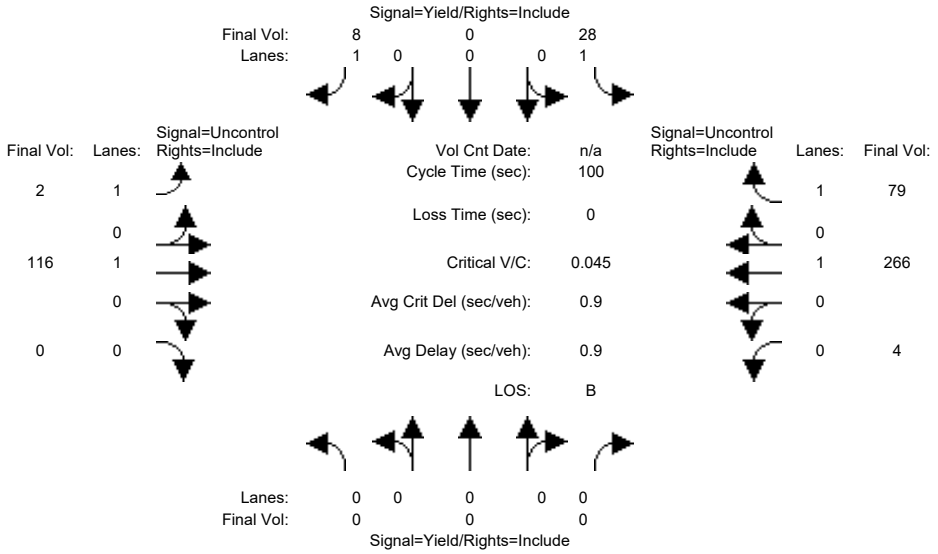
Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	0	0	0	25	0	7	2	104	0	4	239	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	25	0	7	2	104	0	4	239	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	25	0	7	2	104	0	4	239	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	28	0	8	2	116	0	4	266	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	28	0	8	2	116	0	4	266	79
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	394	xxxx	266	344	xxxx	xxxxx	116	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	614	xxxx	778	1226	xxxx	xxxxx	1486	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	612	xxxx	778	1226	xxxx	xxxxx	1486	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	0.01	0.00	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	0.0	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	11.2	xxxx	9.7	7.9	xxxx	xxxxx	7.4	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			10.8			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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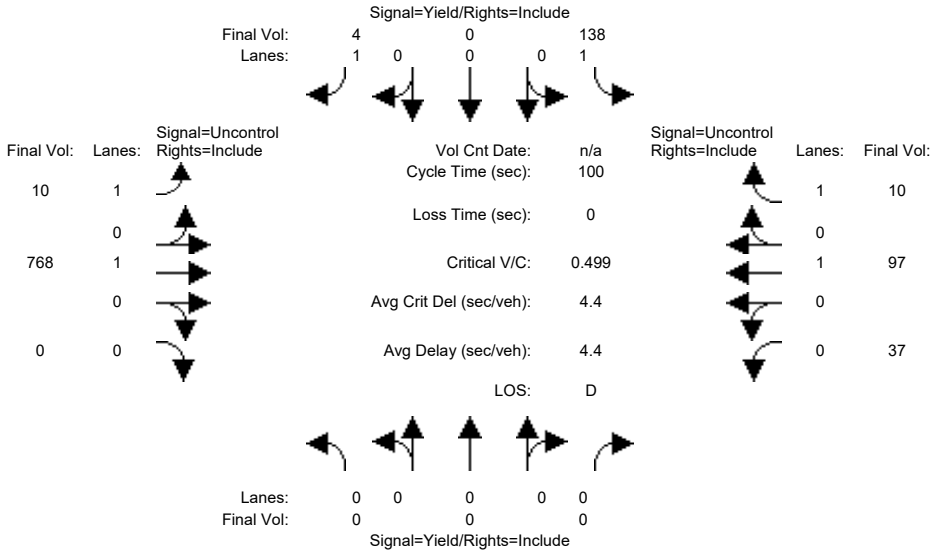
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2030 NoProj PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	0	0	127	0	4	9	707	0	34	89	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	127	0	4	9	707	0	34	89	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	127	0	4	9	707	0	34	89	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	138	0	4	10	768	0	37	97	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	138	0	4	10	768	0	37	97	10
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	959	xxxx	97	107	xxxx	xxxxx	768	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	288	xxxx	965	1497	xxxx	xxxxx	855	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	277	xxxx	965	1497	xxxx	xxxxx	855	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.50	xxxx	0.00	0.01	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	2.6	xxxx	0.0	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	30.3	xxxx	8.7	7.4	xxxx	xxxxx	9.4	xxxx	xxxxx
LOS by Move:	*	*	*	D	*	A	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			29.7			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

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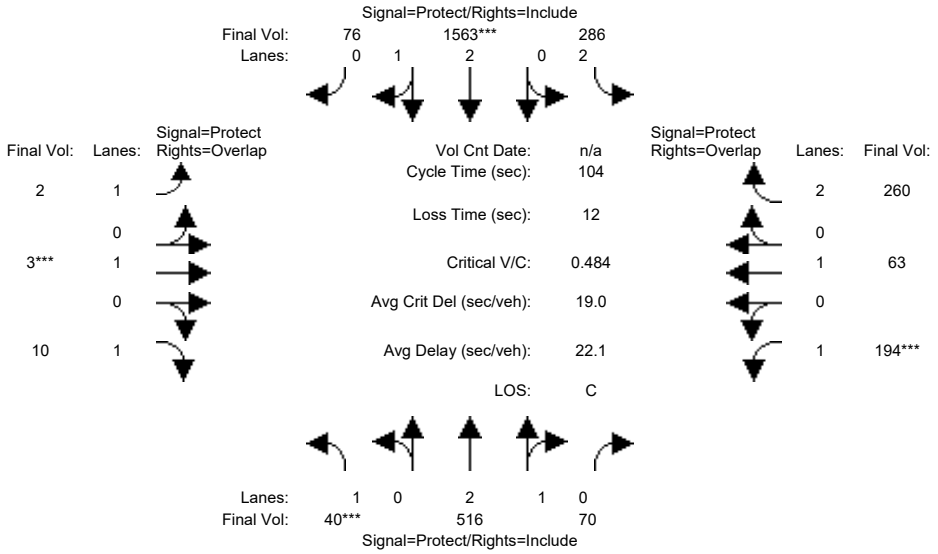
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	36	464	63	257	1407	68	2	3	9	175	57	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	464	63	257	1407	68	2	3	9	175	57	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	464	63	257	1407	68	2	3	9	175	57	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	516	70	286	1563	76	2	3	10	194	63	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	516	70	286	1563	76	2	3	10	194	63	260
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	516	70	286	1563	76	2	3	10	194	63	260
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.63	0.37	2.00	2.86	0.14	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4930	669	3150	5341	258	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.09	0.29	0.29	0.00	0.00	0.01	0.11	0.03	0.08
Crit Moves:	****				****			****			****	
Green Time:	4.4	32.5	32.5	28.2	56.3	56.3	13.9	10.0	14.4	21.4	17.4	45.6
Volume/Cap:	0.54	0.33	0.33	0.33	0.54	0.54	0.01	0.02	0.04	0.54	0.20	0.19
Delay/Veh:	56.7	27.6	27.6	30.6	15.7	15.7	39.1	42.6	38.9	38.6	37.6	18.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.7	27.6	27.6	30.6	15.7	15.7	39.1	42.6	38.9	38.6	37.6	18.0
LOS by Move:	E	C	C	C	B	B	D	D	D	D	D	B
HCM2k95thQ:	3	9	9	8	21	21	0	0	1	13	4	6

Note: Queue reported is the number of cars per lane.

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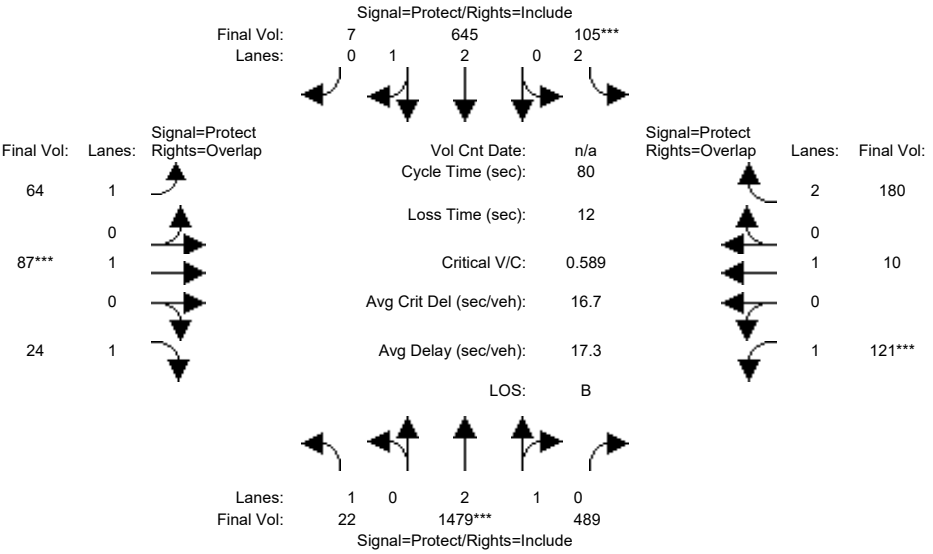
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	21	1390	460	99	606	7	60	82	23	114	9	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	1390	460	99	606	7	60	82	23	114	9	169
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	1390	460	99	606	7	60	82	23	114	9	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	1479	489	105	645	7	64	87	24	121	10	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1479	489	105	645	7	64	87	24	121	10	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	1479	489	105	645	7	64	87	24	121	10	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.23	0.77	2.00	2.96	0.04	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4206	1392	3150	5536	64	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.35	0.35	0.03	0.12	0.12	0.04	0.05	0.01	0.07	0.01	0.06
Crit Moves:		****		****				****		****		
Green Time:	14.1	43.4	43.4	6.0	35.3	35.3	8.2	10.0	24.1	8.6	10.3	16.3
Volume/Cap:	0.07	0.65	0.65	0.45	0.26	0.26	0.35	0.37	0.05	0.65	0.04	0.28
Delay/Veh:	27.6	13.4	13.4	36.7	14.2	14.2	34.6	33.1	19.8	42.0	30.6	27.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.6	13.4	13.4	36.7	14.2	14.2	34.6	33.1	19.8	42.0	30.6	27.1
LOS by Move:	C	B	B	D	B	B	C	C	B	D	C	C
HCM2k95thQ:	1	21	21	3	7	7	4	5	1	9	0	5

Note: Queue reported is the number of cars per lane.

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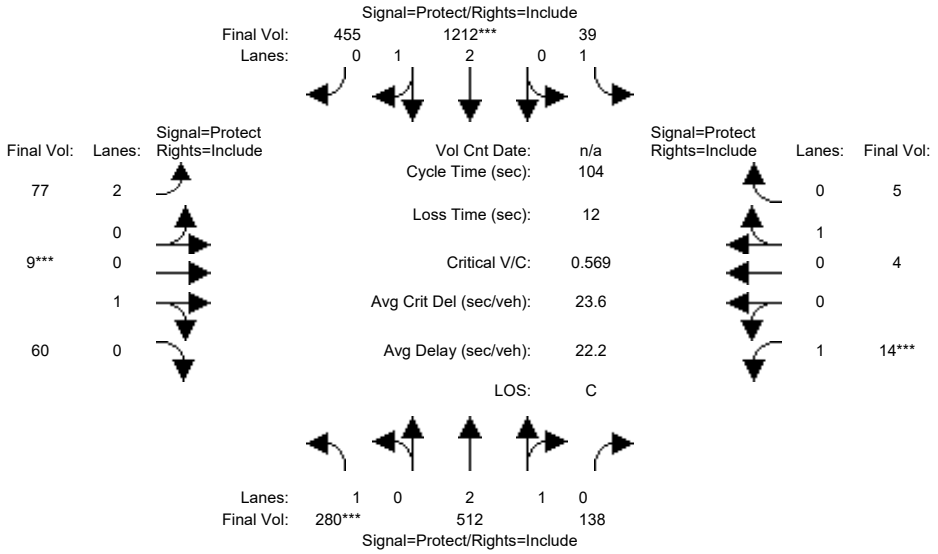
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	260	476	128	36	1127	423	72	8	56	13	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	476	128	36	1127	423	72	8	56	13	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	476	128	36	1127	423	72	8	56	13	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	280	512	138	39	1212	455	77	9	60	14	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	280	512	138	39	1212	455	77	9	60	14	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	280	512	138	39	1212	455	77	9	60	14	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.34	0.66	1.00	2.15	0.85	2.00	0.13	0.87	1.00	0.44	0.56
Final Sat.:	1750	4412	1186	1750	4070	1528	3150	225	1575	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.16	0.12	0.12	0.02	0.30	0.30	0.02	0.04	0.04	0.01	0.01	0.01
Crit Moves:	****				****			****			****	
Green Time:	26.9	54.4	54.4	22.6	50.1	50.1	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.62	0.22	0.22	0.10	0.62	0.62	0.48	0.40	0.40	0.17	0.06	0.06
Delay/Veh:	36.6	13.4	13.4	32.7	20.3	20.3	50.2	45.7	45.7	48.4	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	13.4	13.4	32.7	20.3	20.3	50.2	45.7	45.7	48.4	43.2	43.2
LOS by Move:	D	B	B	C	C	C	D	D	D	D	D	D
HCM2k95thQ:	16	7	7	2	23	23	4	5	5	1	1	1

Note: Queue reported is the number of cars per lane.

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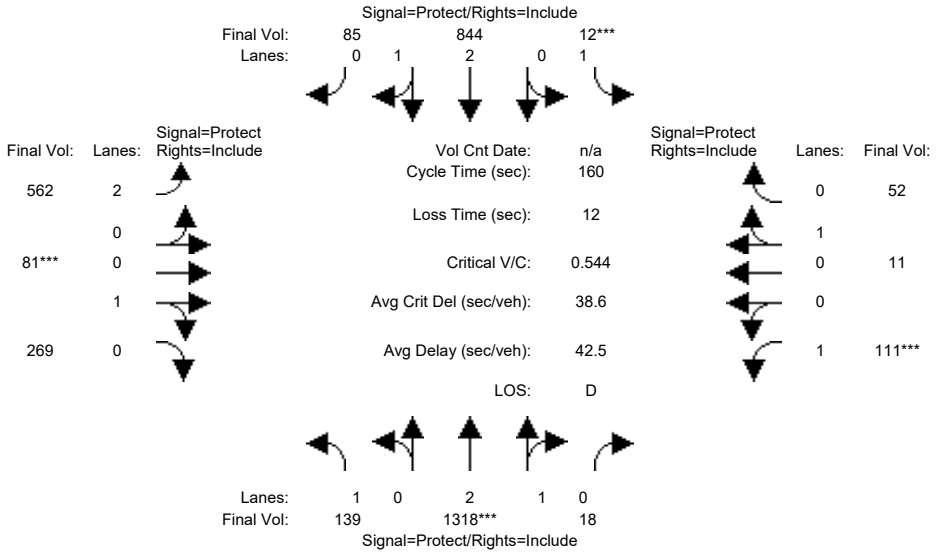
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	132	1252	17	11	802	81	534	77	256	105	10	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	1252	17	11	802	81	534	77	256	105	10	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	1252	17	11	802	81	534	77	256	105	10	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	139	1318	18	12	844	85	562	81	269	111	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	1318	18	12	844	85	562	81	269	111	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	1318	18	12	844	85	562	81	269	111	11	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.96	0.04	1.00	2.71	0.29	2.00	0.23	0.77	1.00	0.17	0.83
Final Sat.:	1750	5525	75	1750	5086	514	3150	416	1384	1750	305	1495
Capacity Analysis Module:												
Vol/Sat:	0.08	0.24	0.24	0.01	0.17	0.17	0.18	0.19	0.19	0.06	0.03	0.03
Crit Moves:		****		****				****		****		
Green Time:	23.8	68.7	68.7	5.0	49.9	49.9	56.5	56.1	56.1	18.2	17.8	17.8
Volume/Cap:	0.53	0.56	0.56	0.21	0.53	0.53	0.51	0.56	0.56	0.56	0.31	0.31
Delay/Veh:	65.0	34.5	34.5	77.5	45.8	45.8	41.1	43.0	43.0	70.5	66.3	66.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.0	34.5	34.5	77.5	45.8	45.8	41.1	43.0	43.0	70.5	66.3	66.3
LOS by Move:	E	C	C	E	D	D	D	D	D	E	E	E
HCM2k95thQ:	13	28	28	1	22	22	23	26	26	12	6	6

Note: Queue reported is the number of cars per lane.

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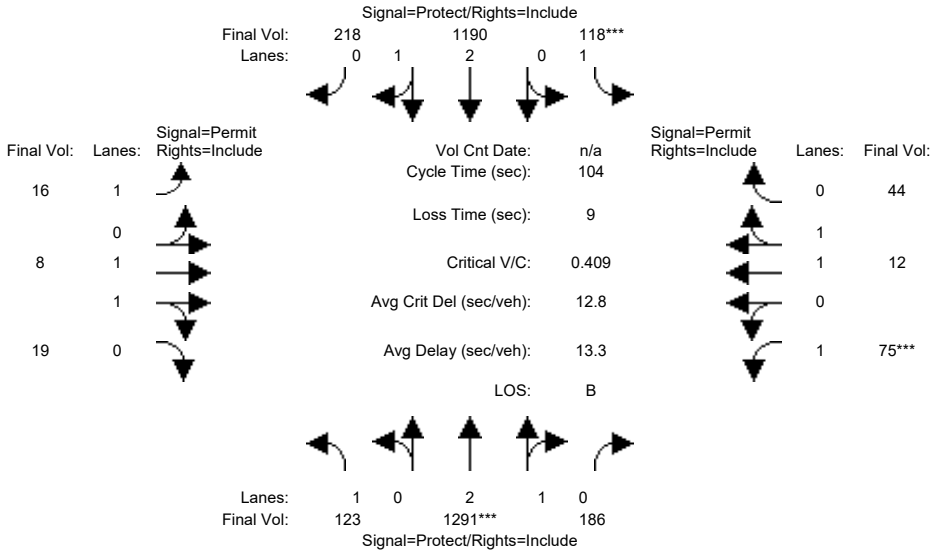
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	112	1175	169	107	1083	198	15	7	17	68	11	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	1175	169	107	1083	198	15	7	17	68	11	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	1175	169	107	1083	198	15	7	17	68	11	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	1291	186	118	1190	218	16	8	19	75	12	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	1291	186	118	1190	218	16	8	19	75	12	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	1291	186	118	1190	218	16	8	19	75	12	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.61	0.39	1.00	2.52	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4895	704	1750	4733	865	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.26	0.26	0.07	0.25	0.25	0.01	0.00	0.01	0.04	0.01	0.03
Crit Moves:		****		****						****		
Green Time:	18.4	66.9	66.9	17.1	65.6	65.6	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.40	0.41	0.41	0.41	0.40	0.40	0.09	0.04	0.10	0.40	0.06	0.24
Delay/Veh:	38.8	9.0	9.0	39.9	9.5	9.5	42.2	41.8	42.2	44.9	41.9	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.8	9.0	9.0	39.9	9.5	9.5	42.2	41.8	42.2	44.9	41.9	43.2
LOS by Move:	D	A	A	D	A	A	D	D	D	D	D	D
HCM2k95thQ:	7	14	14	7	14	14	1	1	1	6	1	3

Note: Queue reported is the number of cars per lane.

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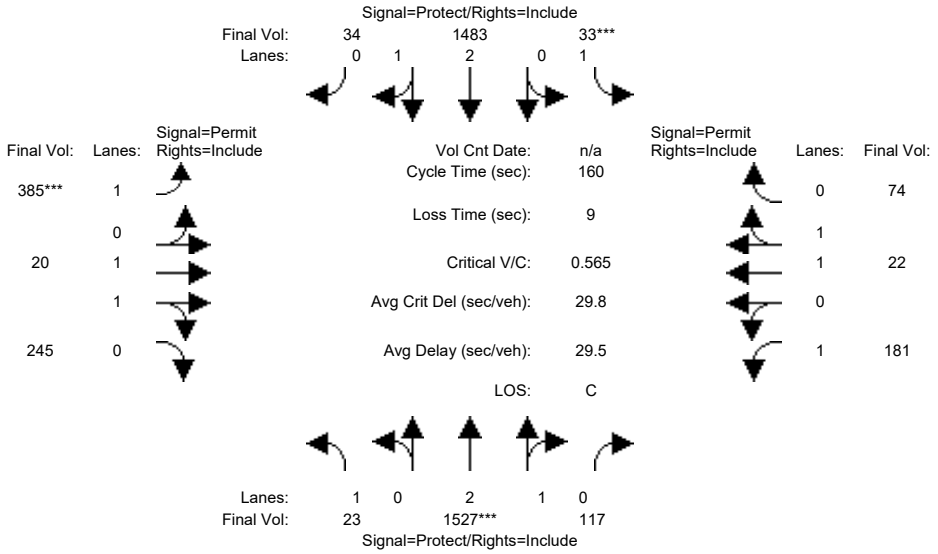
Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	22	1466	112	32	1424	33	370	19	235	174	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1466	112	32	1424	33	370	19	235	174	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1466	112	32	1424	33	370	19	235	174	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	1527	117	33	1483	34	385	20	245	181	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	1527	117	33	1483	34	385	20	245	181	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	1527	117	33	1483	34	385	20	245	181	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.78	0.22	1.00	2.93	0.07	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5202	397	1750	5473	127	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.29	0.29	0.02	0.27	0.27	0.22	0.01	0.14	0.10	0.01	0.04
Crit Moves:		****		****			****					
Green Time:	7.5	83.2	83.2	5.4	81.1	81.1	62.4	62.4	62.4	62.4	62.4	62.4
Volume/Cap:	0.28	0.56	0.56	0.56	0.53	0.53	0.56	0.03	0.36	0.27	0.03	0.11
Delay/Veh:	75.5	26.4	26.4	88.2	26.9	26.9	39.3	30.1	34.9	33.4	30.1	31.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.5	26.4	26.4	88.2	26.9	26.9	39.3	30.1	34.9	33.4	30.1	31.1
LOS by Move:	E	C	C	F	C	C	D	C	C	C	C	C
HCM2k95thQ:	2	31	31	4	29	29	28	1	17	12	1	5

Note: Queue reported is the number of cars per lane.

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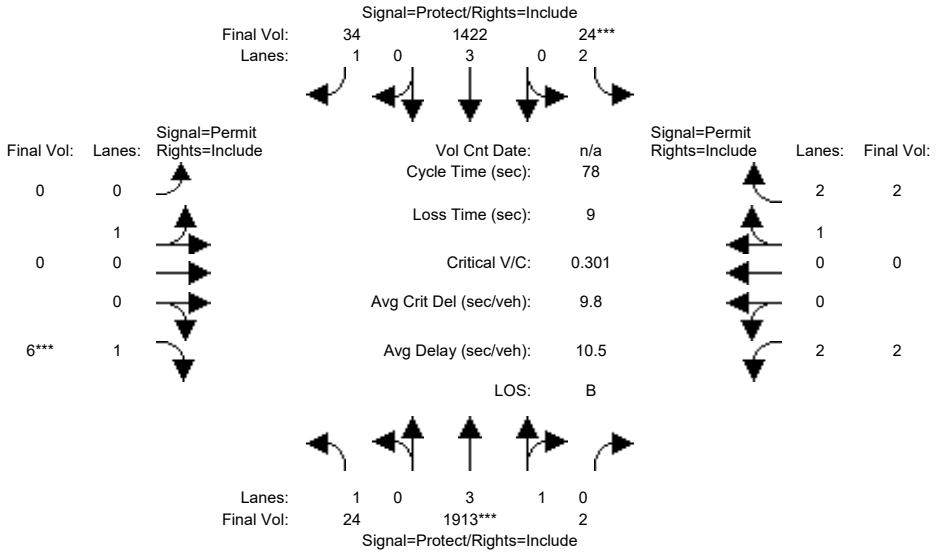
Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	22	1722	2	22	1280	31	0	0	5	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1722	2	22	1280	31	0	0	5	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1722	2	22	1280	31	0	0	5	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	24	1913	2	24	1422	34	0	0	6	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	1913	2	24	1422	34	0	0	6	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	1913	2	24	1422	34	0	0	6	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	0.00	1.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7491	9	3150	5700	1750	0	1800	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.01	0.26	0.26	0.01	0.25	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green Time:	13.0	45.0	45.0	10.0	42.0	42.0	0.0	0.0	14.0	14.0	0.0	14.0
Volume/Cap:	0.08	0.44	0.44	0.06	0.46	0.04	0.00	0.00	0.02	0.00	0.00	0.00
Delay/Veh:	27.6	9.4	9.4	29.9	11.2	8.5	0.0	0.0	26.4	26.3	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.6	9.4	9.4	29.9	11.2	8.5	0.0	0.0	26.4	26.3	0.0	26.3
LOS by Move:	C	A	A	C	B	A	A	A	C	C	A	C
HCM2k95thQ:	1	12	12	1	13	1	0	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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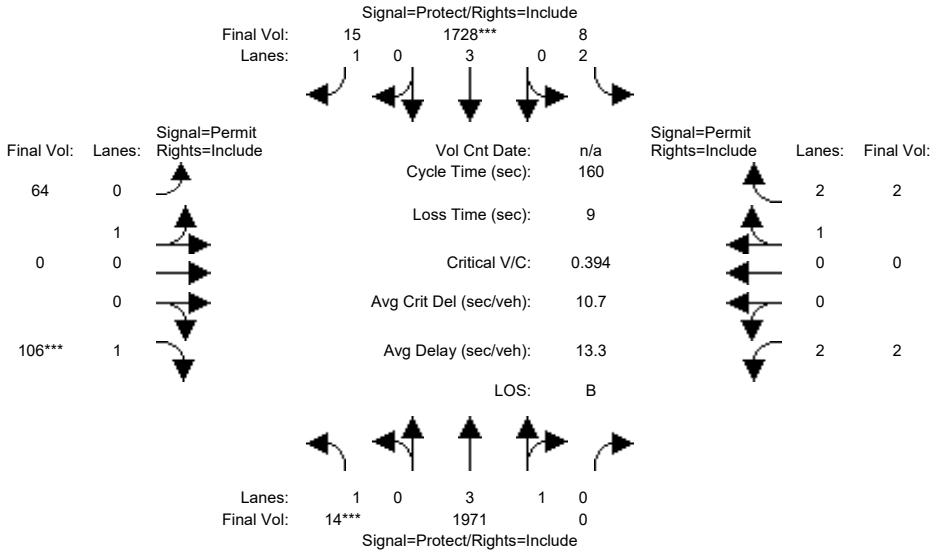
Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	13	1872	0	8	1642	14	61	0	101	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	1872	0	8	1642	14	61	0	101	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	1872	0	8	1642	14	61	0	101	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	14	1971	0	8	1728	15	64	0	106	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1971	0	8	1728	15	64	0	106	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	1971	0	8	1728	15	64	0	106	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.01	0.26	0.00	0.00	0.30	0.01	0.04	0.00	0.06	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	6.0	102	0.0	24.4	121	120.8	24.2	0.0	24.2	24.2	0.0	24.2
Volume/Cap:	0.21	0.41	0.00	0.02	0.40	0.01	0.24	0.00	0.40	0.00	0.00	0.00
Delay/Veh:	76.3	14.1	0.0	57.7	7.0	4.8	60.2	0.0	62.4	57.7	0.0	57.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.3	14.1	0.0	57.7	7.0	4.8	60.2	0.0	62.4	57.7	0.0	57.7
LOS by Move:	E	B	A	E	A	A	E	A	E	E	A	E
HCM2k95thQ:	1	21	0	0	18	0	6	0	10	0	0	0

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

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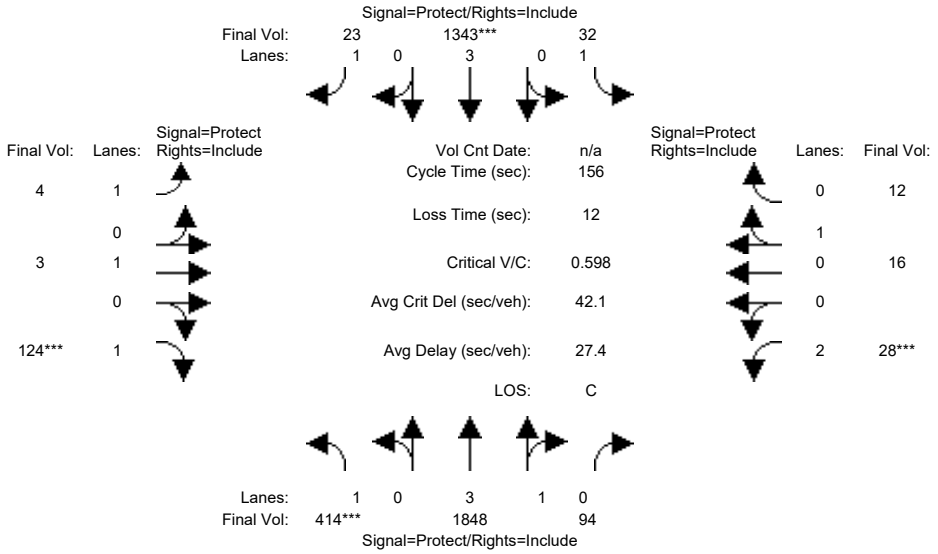
Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	373	1663	85	29	1209	21	4	3	112	25	14	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	1663	85	29	1209	21	4	3	112	25	14	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	373	1663	85	29	1209	21	4	3	112	25	14	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	414	1848	94	32	1343	23	4	3	124	28	16	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	414	1848	94	32	1343	23	4	3	124	28	16	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	414	1848	94	32	1343	23	4	3	124	28	16	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.80	0.20	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.56	0.44
Final Sat.:	1750	7135	365	1750	5700	1750	1750	1900	1750	3150	1008	792
Capacity Analysis Module:												
Vol/Sat:	0.24	0.26	0.26	0.02	0.24	0.01	0.00	0.00	0.07	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	60.1	104	104.4	15.5	59.8	59.8	8.0	18.1	18.1	6.0	16.0	16.0
Volume/Cap:	0.61	0.39	0.39	0.19	0.61	0.03	0.05	0.02	0.61	0.23	0.15	0.15
Delay/Veh:	40.3	11.5	11.5	65.0	39.3	30.1	70.6	61.1	71.2	73.7	64.2	64.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.3	11.5	11.5	65.0	39.3	30.1	70.6	61.1	71.2	73.7	64.2	64.2
LOS by Move:	D	B	B	E	D	C	E	E	E	E	E	E
HCM2k95thQ:	29	19	19	3	29	1	1	0	13	2	3	3

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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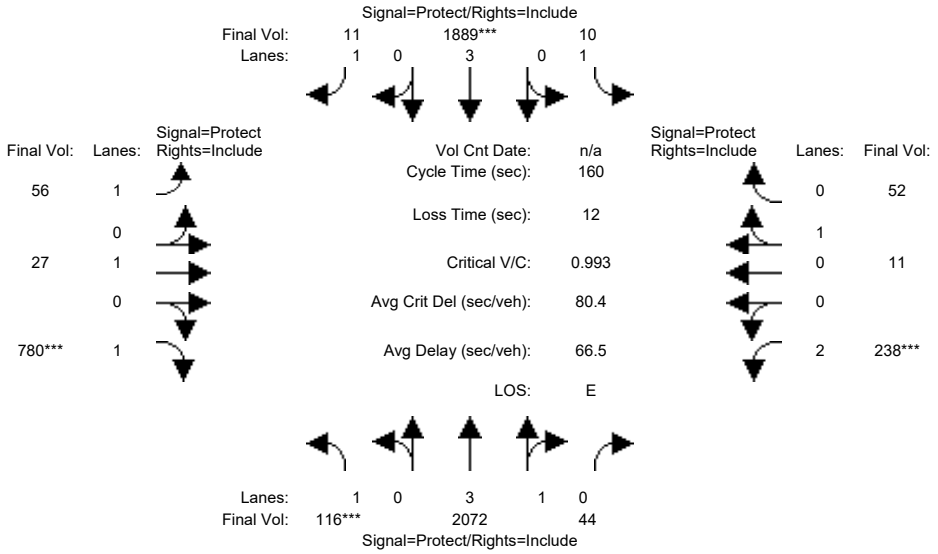
2030 NoProj PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	108	1927	41	9	1757	10	52	25	725	221	10	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	1927	41	9	1757	10	52	25	725	221	10	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	1927	41	9	1757	10	52	25	725	221	10	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	116	2072	44	10	1889	11	56	27	780	238	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	2072	44	10	1889	11	56	27	780	238	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	2072	44	10	1889	11	56	27	780	238	11	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.17	0.83
Final Sat.:	1750	7343	156	1750	5700	1750	1750	1900	1750	3150	310	1490
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.28	0.01	0.33	0.01	0.03	0.01	0.45	0.08	0.03	0.03
Crit Moves:	****				****				****	****		
Green Time:	10.7	56.6	56.6	7.5	53.4	53.4	28.0	71.8	71.8	12.2	55.9	55.9
Volume/Cap:	0.99	0.80	0.80	0.12	0.99	0.02	0.18	0.03	0.99	0.99	0.10	0.10
Delay/Veh:	155.6	48.4	48.4	73.7	72.1	35.7	56.6	24.7	74.2	130.0	35.1	35.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	155.6	48.4	48.4	73.7	72.1	35.7	56.6	24.7	74.2	130.0	35.1	35.1
LOS by Move:	F	D	D	E	E	D	E	C	E	F	D	D
HCM2k95thQ:	14	39	39	1	56	1	5	1	73	19	4	4

Note: Queue reported is the number of cars per lane.

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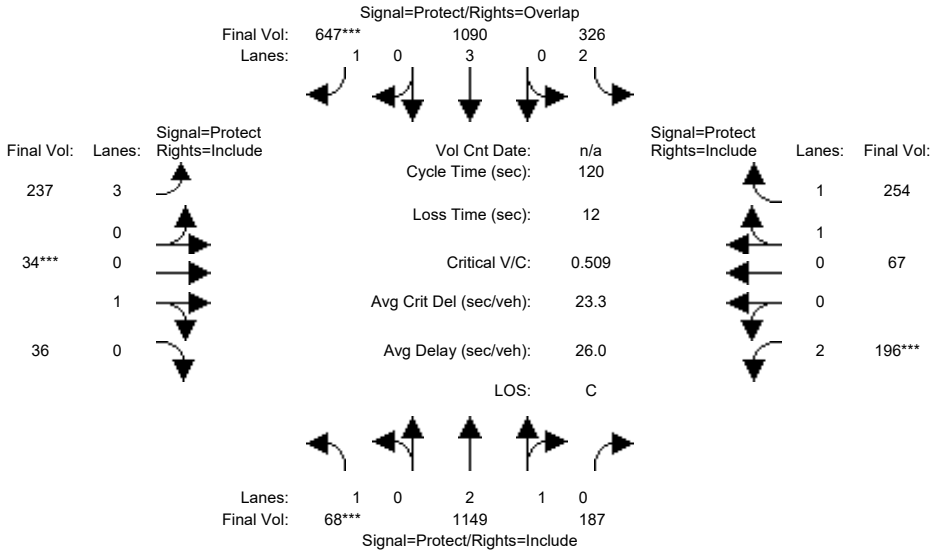
Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	62	1046	170	297	992	589	216	31	33	178	61	231
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	1046	170	297	992	589	216	31	33	178	61	231
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	1046	170	297	992	589	216	31	33	178	61	231
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	68	1149	187	326	1090	647	237	34	36	196	67	254
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	1149	187	326	1090	647	237	34	36	196	67	254
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	1149	187	326	1090	647	237	34	36	196	67	254
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.57	0.43	2.00	3.00	1.00	3.00	0.48	0.52	2.00	0.42	1.58
Final Sat.:	1750	4816	783	3150	5700	1750	4551	872	928	3150	752	2848
Capacity Analysis Module:												
Vol/Sat:	0.04	0.24	0.24	0.10	0.19	0.37	0.05	0.04	0.04	0.06	0.09	0.09
Crit Moves:	****					****		****		****		
Green Time:	9.6	56.2	56.2	24.4	71.0	84.2	13.2	12.0	12.0	15.4	14.2	14.2
Volume/Cap:	0.48	0.51	0.51	0.51	0.32	0.53	0.47	0.39	0.39	0.48	0.76	0.76
Delay/Veh:	55.4	22.4	22.4	43.2	12.4	8.9	50.8	52.0	52.0	49.5	58.8	58.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.4	22.4	22.4	43.2	12.4	8.9	50.8	52.0	52.0	49.5	58.8	58.8
LOS by Move:	E	C	C	D	B	A	D	D	D	D	E	E
HCM2k95thQ:	5	20	20	12	12	22	8	6	6	9	15	15

Note: Queue reported is the number of cars per lane.

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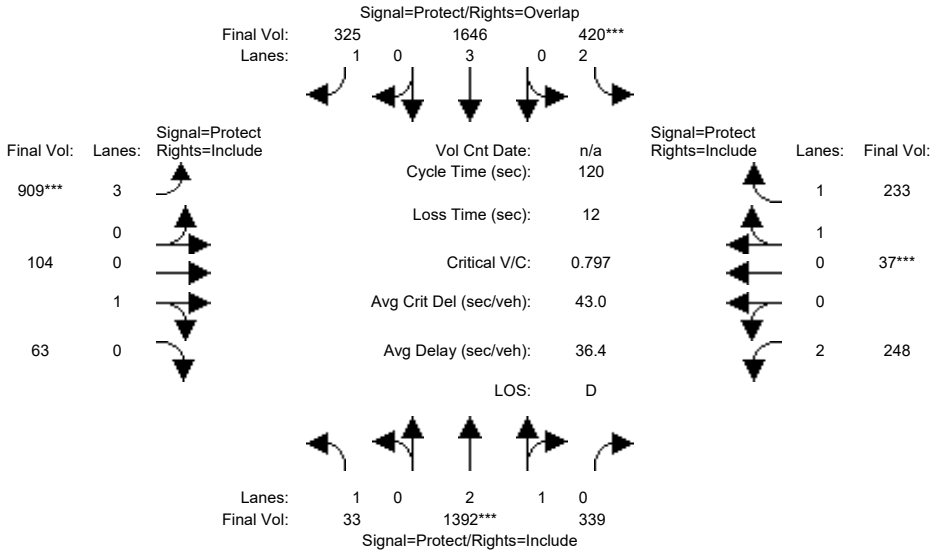
Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	31	1322	322	399	1564	309	864	99	60	236	35	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1322	322	399	1564	309	864	99	60	236	35	221
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1322	322	399	1564	309	864	99	60	236	35	221
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	33	1392	339	420	1646	325	909	104	63	248	37	233
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	1392	339	420	1646	325	909	104	63	248	37	233
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	1392	339	420	1646	325	909	104	63	248	37	233
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.39	0.61	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.27	1.73
Final Sat.:	1750	4502	1096	3150	5700	1750	4551	1121	679	3150	492	3108
Capacity Analysis Module:												
Vol/Sat:	0.02	0.31	0.31	0.13	0.29	0.19	0.20	0.09	0.09	0.08	0.07	0.07
Crit Moves:		****		****			****				****	
Green Time:	12.5	46.6	46.6	20.1	54.1	84.2	30.1	22.6	22.6	18.8	11.3	11.3
Volume/Cap:	0.18	0.80	0.80	0.80	0.64	0.26	0.80	0.49	0.49	0.50	0.80	0.80
Delay/Veh:	49.5	34.7	34.7	56.3	26.0	6.7	46.1	44.8	44.8	47.2	65.7	65.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.5	34.7	34.7	56.3	26.0	6.7	46.1	44.8	44.8	47.2	65.7	65.7
LOS by Move:	D	C	C	E	C	A	D	D	D	D	E	E
HCM2k95thQ:	2	32	32	17	27	9	26	12	12	11	14	14

Note: Queue reported is the number of cars per lane.

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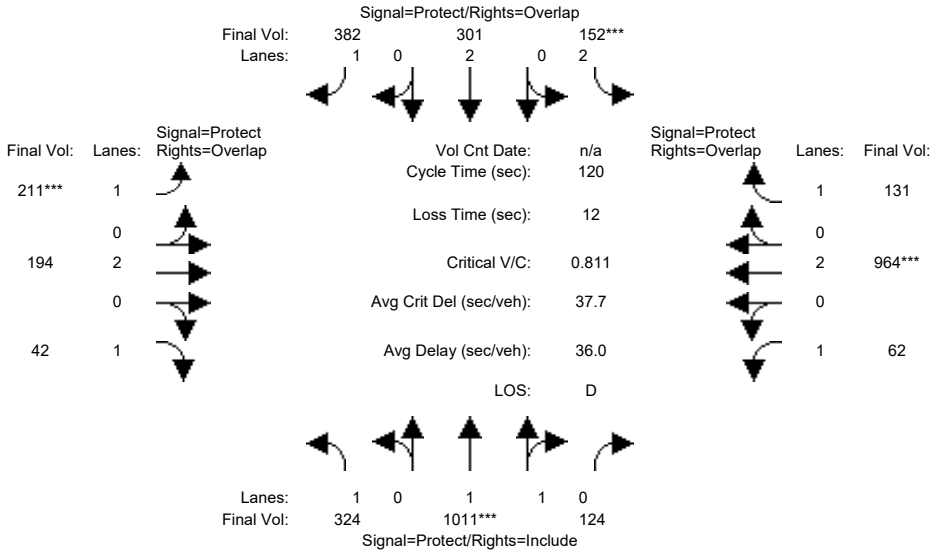
2030 NoProj AM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	292	910	112	137	271	344	190	175	38	56	868	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	910	112	137	271	344	190	175	38	56	868	118
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	910	112	137	271	344	190	175	38	56	868	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1011	124	152	301	382	211	194	42	62	964	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1011	124	152	301	382	211	194	42	62	964	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1011	124	152	301	382	211	194	42	62	964	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.77	0.23	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3294	405	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.31	0.31	0.05	0.08	0.22	0.12	0.05	0.02	0.04	0.25	0.07
Crit Moves:		****		****			****				****	
Green Time:	34.7	45.0	45.0	8.0	18.3	36.0	17.7	30.3	65.0	24.7	37.2	45.2
Volume/Cap:	0.64	0.82	0.82	0.72	0.52	0.73	0.82	0.20	0.04	0.17	0.82	0.20
Delay/Veh:	29.9	24.2	24.2	64.2	42.0	31.9	67.7	35.4	12.9	39.5	42.8	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.9	24.2	24.2	64.2	42.0	31.9	67.7	35.4	12.9	39.5	42.8	25.3
LOS by Move:	C	C	C	E	D	C	E	D	B	D	D	C
HCM2k95thQ:	17	29	29	7	9	22	16	5	2	4	32	7

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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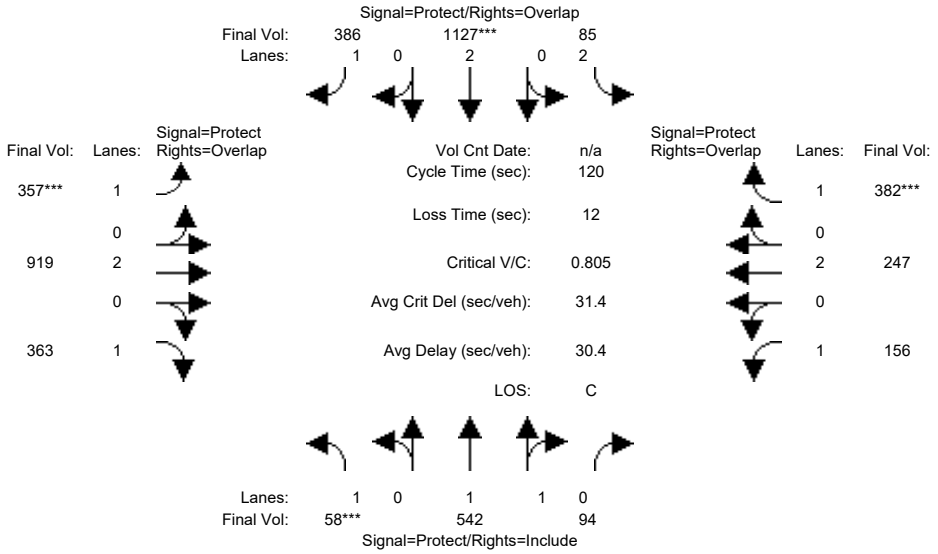
Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	57	537	93	84	1116	382	353	910	359	154	245	378
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	537	93	84	1116	382	353	910	359	154	245	378
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	537	93	84	1116	382	353	910	359	154	245	378
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	58	542	94	85	1127	386	357	919	363	156	247	382
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	542	94	85	1127	386	357	919	363	156	247	382
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	542	94	85	1127	386	357	919	363	156	247	382
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.70	0.30	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3153	546	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.17	0.17	0.03	0.30	0.22	0.20	0.24	0.21	0.09	0.07	0.22
Crit Moves:	****				****		****					****
Green Time:	5.0	37.4	37.4	14.5	46.9	79.1	32.2	41.0	46.0	15.1	23.9	38.4
Volume/Cap:	0.79	0.55	0.55	0.22	0.76	0.33	0.76	0.71	0.54	0.71	0.33	0.68
Delay/Veh:	97.9	24.6	24.6	43.6	20.5	0.2	47.4	36.1	29.6	60.4	41.4	38.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	97.9	24.6	24.6	43.6	20.5	0.2	47.4	36.1	29.6	60.4	41.4	38.9
LOS by Move:	F	C	C	D	C	A	D	D	C	E	D	D
HCM2k95thQ:	5	14	14	3	25	1	23	25	19	14	8	25

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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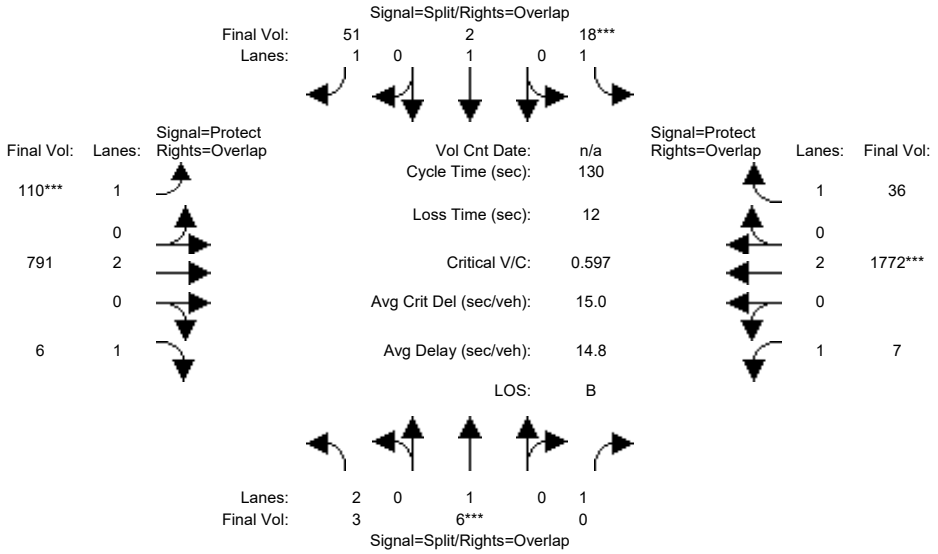
Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	3	5	0	16	2	46	99	712	5	6	1595	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	16	2	46	99	712	5	6	1595	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	16	2	46	99	712	5	6	1595	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	18	2	51	110	791	6	7	1772	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	18	2	51	110	791	6	7	1772	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	18	2	51	110	791	6	7	1772	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.06	0.21	0.00	0.00	0.47	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	19.4	12.4	80.3	87.3	23.7	91.6	98.6
Volume/Cap:	0.02	0.05	0.00	0.19	0.02	0.20	0.66	0.34	0.00	0.02	0.66	0.03
Delay/Veh:	58.3	58.6	0.0	59.8	58.3	48.9	66.3	12.1	7.0	43.6	11.2	3.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.8	58.3	48.9	66.3	12.1	7.0	43.6	11.2	3.9
LOS by Move:	E	E	A	E	E	D	E	B	A	D	B	A
HCM2k95thQ:	0	1	0	2	0	4	9	14	0	0	33	1

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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2000 HCM Operations (Future Volume Alternative)
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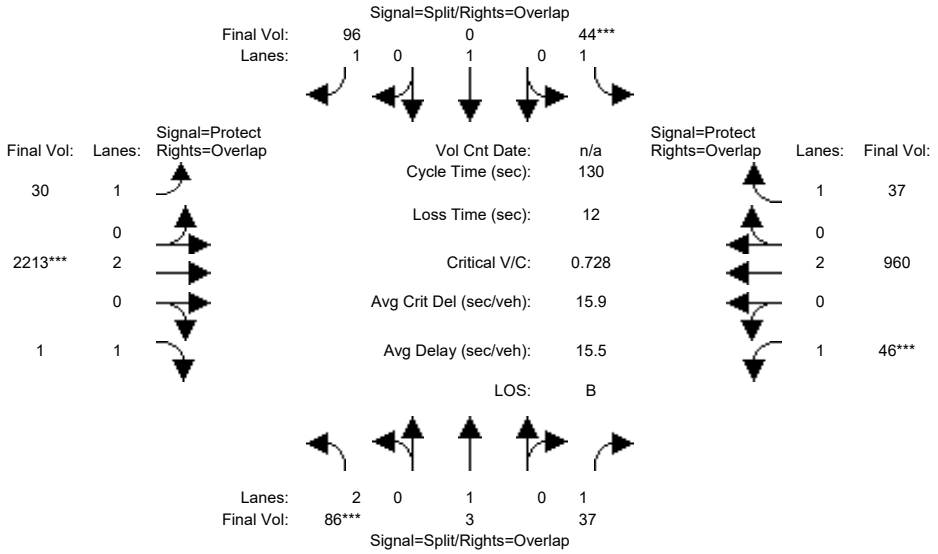
Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	81	3	35	41	0	90	28	2080	1	43	902	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	90	28	2080	1	43	902	35
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	90	28	2080	1	43	902	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	96	30	2213	1	46	960	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	96	30	2213	1	46	960	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	96	30	2213	1	46	960	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.05	0.02	0.58	0.00	0.03	0.25	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	23.1	16.1	96.0	103.0	8.0	87.9	94.9
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.31	0.14	0.79	0.00	0.42	0.37	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	47.1	51.1	12.2	2.8	61.5	9.2	4.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	47.1	51.1	12.2	2.8	61.5	9.2	4.8
LOS by Move:	E	E	D	E	A	D	D	B	A	E	A	A
HCM2k95thQ:	6	0	3	5	0	7	2	43	0	4	15	1

Note: Queue reported is the number of cars per lane.

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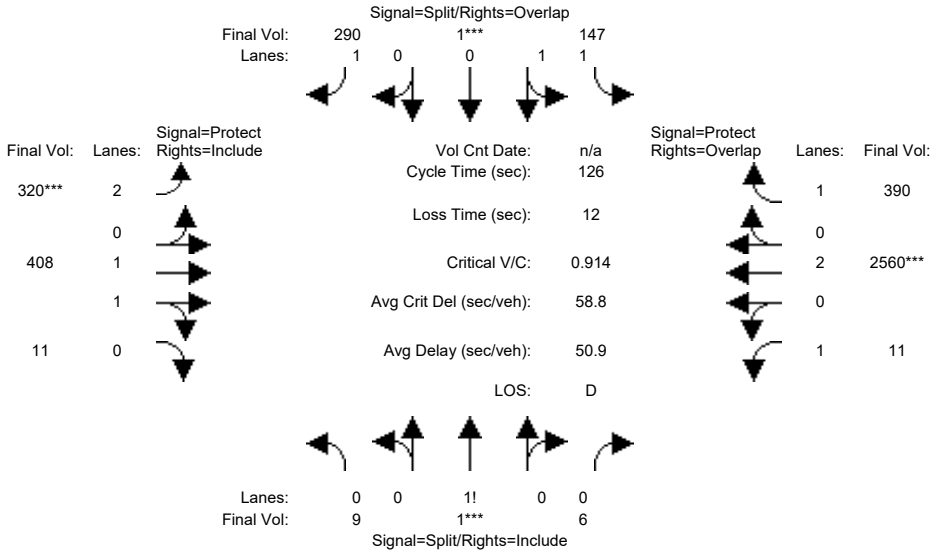
Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	9	1	6	141	1	278	307	392	11	11	2458	374
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1	6	141	1	278	307	392	11	11	2458	374
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1	6	141	1	278	307	392	11	11	2458	374
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	9	1	6	147	1	290	320	408	11	11	2560	390
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	6	147	1	290	320	408	11	11	2560	390
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	6	147	1	290	320	408	11	11	2560	390
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.57	0.06	0.37	1.99	0.01	1.00	2.00	1.94	0.06	1.00	2.00	1.00
Final Sat.:	984	109	656	3525	25	1750	3150	3599	101	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.04	0.04	0.17	0.10	0.11	0.11	0.01	0.67	0.22
Crit Moves:		****			****		****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	22.3	12.3	75.2	75.2	18.8	81.7	91.7
Volume/Cap:	0.12	0.12	0.12	0.53	0.53	0.93	1.04	0.19	0.19	0.04	1.04	0.31
Delay/Veh:	54.3	54.3	54.3	57.5	57.5	85.4	118.7	11.6	11.6	46.0	51.5	6.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.3	54.3	54.3	57.5	57.5	85.4	118.7	11.6	11.6	46.0	51.5	6.1
LOS by Move:	D	D	D	E	E	F	F	B	B	D	D	A
HCM2k95thQ:	2	2	2	7	7	28	18	7	7	1	92	11

Note: Queue reported is the number of cars per lane.

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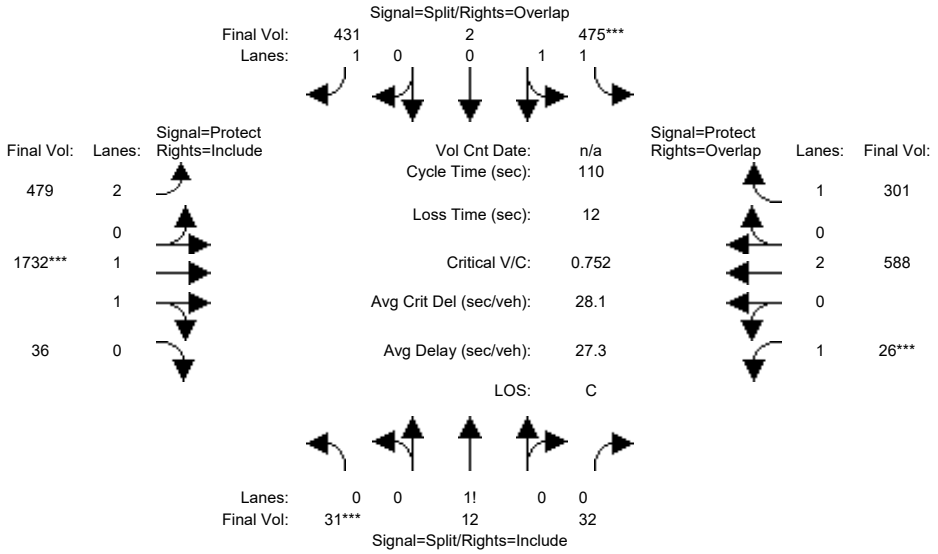
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	28	11	29	432	2	392	436	1576	33	24	535	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	11	29	432	2	392	436	1576	33	24	535	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	11	29	432	2	392	436	1576	33	24	535	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	31	12	32	475	2	431	479	1732	36	26	588	301
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	12	32	475	2	431	479	1732	36	26	588	301
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	12	32	475	2	431	479	1732	36	26	588	301
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.41	0.16	0.43	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	721	283	746	3534	16	1750	3150	3624	76	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.13	0.13	0.25	0.15	0.48	0.48	0.02	0.15	0.17
Crit Moves:	****			****				****		****		
Green Time:	10.0	10.0	10.0	18.2	18.2	50.0	31.8	64.8	64.8	5.0	38.0	56.2
Volume/Cap:	0.47	0.47	0.47	0.81	0.81	0.54	0.53	0.81	0.81	0.33	0.45	0.34
Delay/Veh:	49.7	49.7	49.7	52.6	52.6	22.5	33.4	20.2	20.2	53.3	28.1	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.7	49.7	49.7	52.6	52.6	22.5	33.4	20.2	20.2	53.3	28.1	16.1
LOS by Move:	D	D	D	D	D	C	C	C	C	D	C	B
HCM2k95thQ:	6	6	6	19	19	21	15	41	41	2	14	12

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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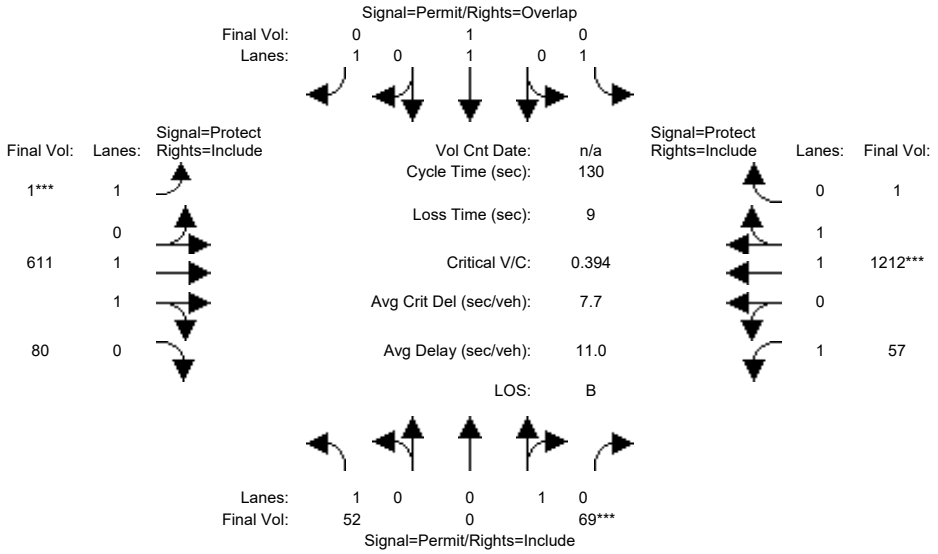
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	47	0	62	0	1	0	1	550	72	51	1091	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	0	62	0	1	0	1	550	72	51	1091	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	0	62	0	1	0	1	550	72	51	1091	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	52	0	69	0	1	0	1	611	80	57	1212	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	0	69	0	1	0	1	611	80	57	1212	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	0	69	0	1	0	1	611	80	57	1212	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.76	0.24	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3271	428	1750	3697	3
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.19	0.19	0.03	0.33	0.33
Crit Moves:			****				****				****	
Green Time:	11.8	0.0	11.8	0.0	11.8	0.0	8.0	82.1	82.1	27.1	101	101.2
Volume/Cap:	0.33	0.00	0.42	0.00	0.01	0.00	0.01	0.30	0.30	0.16	0.42	0.42
Delay/Veh:	56.6	0.0	57.6	0.0	53.8	0.0	57.3	10.9	10.9	42.3	4.8	4.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.6	0.0	57.6	0.0	53.8	0.0	57.3	10.9	10.9	42.3	4.8	4.8
LOS by Move:	E	A	E	A	D	A	E	B	B	D	A	A
HCM2k95thQ:	5	0	6	0	0	0	0	12	12	4	15	15

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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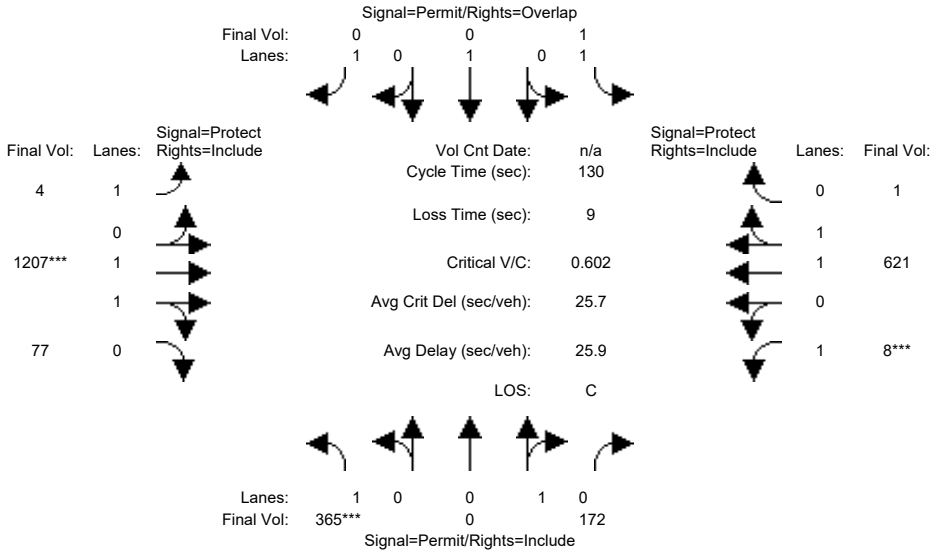
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	354	0	167	1	0	0	4	1171	75	8	602	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	354	0	167	1	0	0	4	1171	75	8	602	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	354	0	167	1	0	0	4	1171	75	8	602	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	365	0	172	1	0	0	4	1207	77	8	621	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	365	0	172	1	0	0	4	1207	77	8	621	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	365	0	172	1	0	0	4	1207	77	8	621	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.88	0.12	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3477	223	1750	3694	6
Capacity Analysis Module:												
Vol/Sat:	0.21	0.00	0.10	0.00	0.00	0.00	0.00	0.35	0.35	0.00	0.17	0.17
Crit Moves:	****							****		****		
Green Time:	42.4	0.0	42.4	42.4	0.0	0.0	21.1	70.6	70.6	8.0	57.5	57.5
Volume/Cap:	0.64	0.00	0.29	0.00	0.00	0.00	0.01	0.64	0.64	0.08	0.38	0.38
Delay/Veh:	39.7	0.0	32.9	29.5	0.0	0.0	45.8	21.5	21.5	57.8	24.4	24.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.7	0.0	32.9	29.5	0.0	0.0	45.8	21.5	21.5	57.8	24.4	24.4
LOS by Move:	D	A	C	C	A	A	D	C	C	E	C	C
HCM2k95thQ:	25	0	10	0	0	0	0	31	31	1	15	15

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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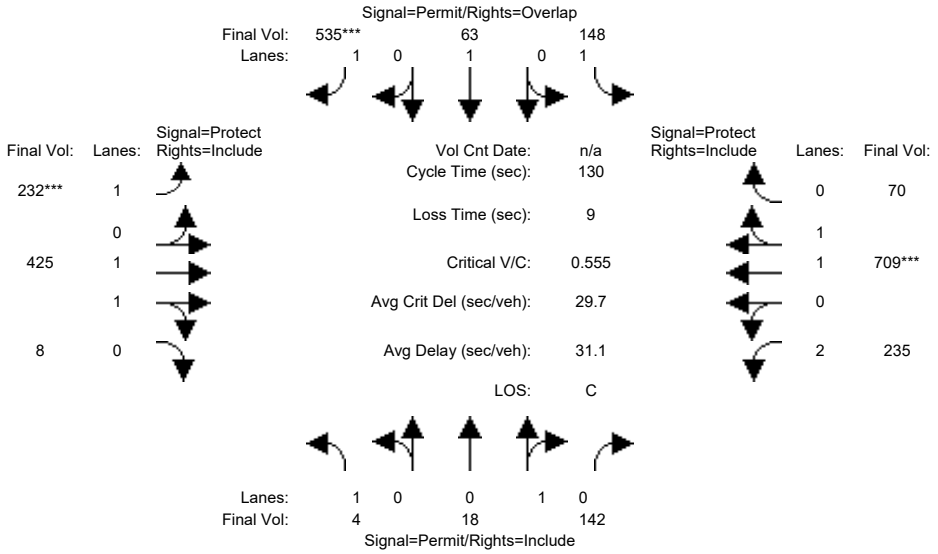
Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	4	16	129	135	57	487	211	387	7	214	645	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	16	129	135	57	487	211	387	7	214	645	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	16	129	135	57	487	211	387	7	214	645	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	4	18	142	148	63	535	232	425	8	235	709	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	18	142	148	63	535	232	425	8	235	709	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	18	142	148	63	535	232	425	8	235	709	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.98	0.95
Lanes:	1.00	0.11	0.89	1.00	1.00	1.00	1.00	1.96	0.04	2.00	1.81	0.19
Final Sat.:	1750	199	1601	1750	1900	1750	1750	3634	66	3150	3366	334
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.09	0.08	0.03	0.31	0.13	0.12	0.12	0.07	0.21	0.21
Crit Moves:						****	****				****	
Green Time:	40.6	40.6	40.6	40.6	40.6	71.7	31.0	48.5	48.5	31.9	49.3	49.3
Volume/Cap:	0.01	0.28	0.28	0.27	0.11	0.55	0.55	0.31	0.31	0.30	0.55	0.55
Delay/Veh:	30.8	34.0	34.0	33.8	31.9	19.6	45.1	29.1	29.1	40.2	32.2	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.8	34.0	34.0	33.8	31.9	19.6	45.1	29.1	29.1	40.2	32.2	32.2
LOS by Move:	C	C	C	C	C	B	D	C	C	D	C	C
HCM2k95thQ:	0	10	10	9	3	26	16	12	12	9	22	22

Note: Queue reported is the number of cars per lane.

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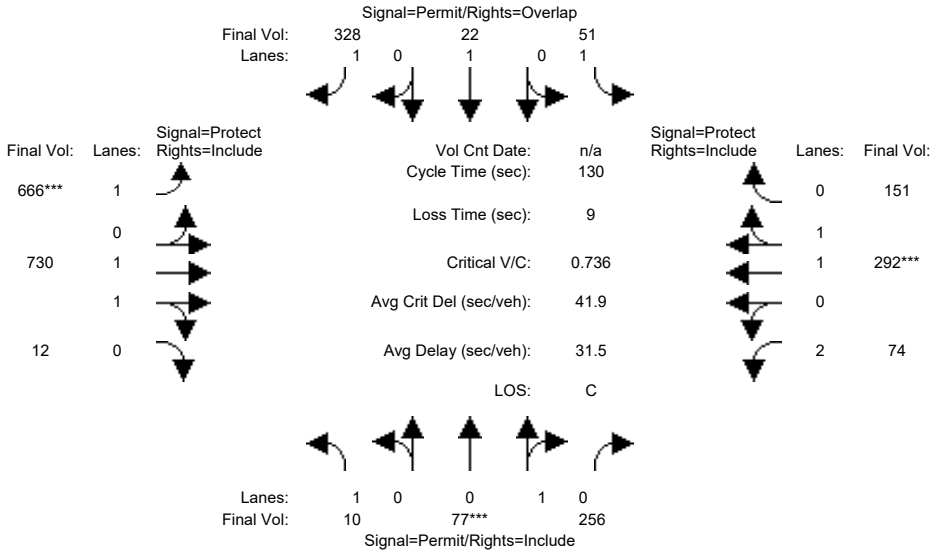
Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	10	75	248	49	21	318	646	708	12	72	283	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	75	248	49	21	318	646	708	12	72	283	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	75	248	49	21	318	646	708	12	72	283	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	10	77	256	51	22	328	666	730	12	74	292	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	77	256	51	22	328	666	730	12	74	292	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	77	256	51	22	328	666	730	12	74	292	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.99	0.95
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.97	0.03	2.00	1.30	0.70
Final Sat.:	1750	418	1382	1750	1900	1750	1750	3638	62	3150	2440	1259
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.03	0.01	0.19	0.38	0.20	0.20	0.02	0.12	0.12
Crit Moves:		****					****				****	
Green Time:	32.7	32.7	32.7	32.7	32.7	99.9	67.2	63.8	63.8	24.5	21.1	21.1
Volume/Cap:	0.02	0.74	0.74	0.11	0.05	0.24	0.74	0.41	0.41	0.13	0.74	0.74
Delay/Veh:	36.7	50.9	50.9	37.6	36.9	4.4	27.7	21.2	21.2	44.0	56.5	56.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.7	50.9	50.9	37.6	36.9	4.4	27.7	21.2	21.2	44.0	56.5	56.5
LOS by Move:	D	D	D	D	D	A	C	C	C	D	E	E
HCM2k95thQ:	1	25	25	3	1	8	38	17	17	3	17	17

Note: Queue reported is the number of cars per lane.

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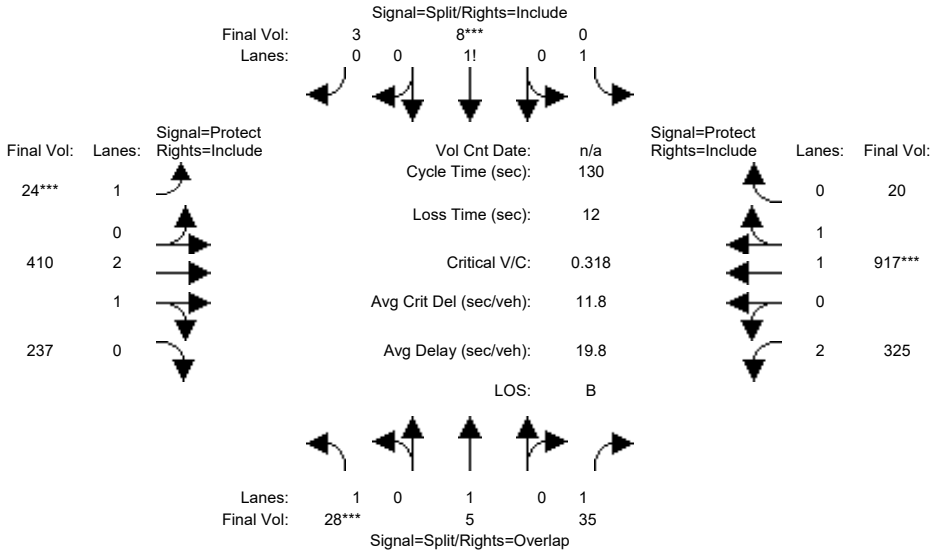
Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	26	5	32	0	7	3	22	377	218	299	844	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	5	32	0	7	3	22	377	218	299	844	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	5	32	0	7	3	22	377	218	299	844	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	28	5	35	0	8	3	24	410	237	325	917	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	5	35	0	8	3	24	410	237	325	917	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	5	35	0	8	3	24	410	237	325	917	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.00	1.00	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1260	540	1750	3800	1750	3150	3623	77
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.02	0.00	0.01	0.01	0.01	0.11	0.14	0.10	0.25	0.25
Crit Moves:	****				****		****				****	
Green Time:	10.0	10.0	55.1	0.0	10.0	10.0	9.0	52.9	52.9	45.1	89.0	89.0
Volume/Cap:	0.21	0.04	0.05	0.00	0.08	0.08	0.20	0.26	0.33	0.30	0.37	0.37
Delay/Veh:	57.1	55.6	22.0	0.0	56.0	56.0	57.9	25.7	26.5	31.1	8.7	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.1	55.6	22.0	0.0	56.0	56.0	57.9	25.7	26.5	31.1	8.7	8.7
LOS by Move:	E	E	C	A	E	E	E	C	C	C	A	A
HCM2k95thQ:	3	0	2	0	1	1	2	10	13	10	15	15

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

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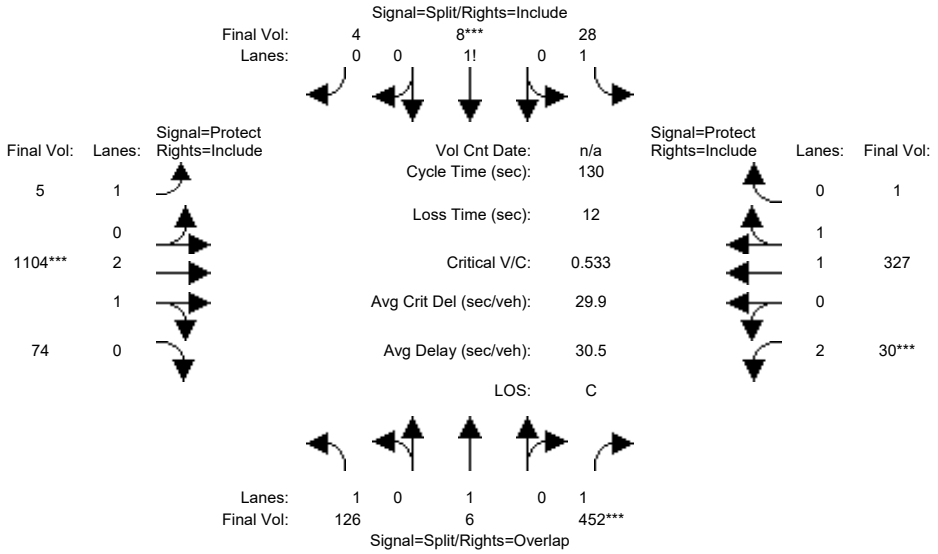
2030 NoProj PM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	122	6	438	27	8	4	5	1071	72	29	317	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	122	6	438	27	8	4	5	1071	72	29	317	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	6	438	27	8	4	5	1071	72	29	317	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	126	6	452	28	8	4	5	1104	74	30	327	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	126	6	452	28	8	4	5	1104	74	30	327	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	126	6	452	28	8	4	5	1104	74	30	327	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.80	0.20	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	5247	353	3150	3688	12
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.26	0.01	0.02	0.02	0.00	0.21	0.21	0.01	0.09	0.09
Crit Moves:			****		****			****		****		
Green Time:	37.6	37.6	52.6	10.0	10.0	10.0	26.4	55.4	55.4	15.0	44.0	44.0
Volume/Cap:	0.25	0.01	0.64	0.14	0.20	0.20	0.01	0.49	0.49	0.08	0.26	0.26
Delay/Veh:	35.7	33.0	33.0	56.2	56.7	56.7	41.4	27.2	27.2	51.5	31.3	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.7	33.0	33.0	56.2	56.7	56.7	41.4	27.2	27.2	51.5	31.3	31.3
LOS by Move:	D	C	C	E	E	E	D	C	C	D	C	C
HCM2k95thQ:	8	0	28	2	2	2	0	20	20	1	9	9

Note: Queue reported is the number of cars per lane.

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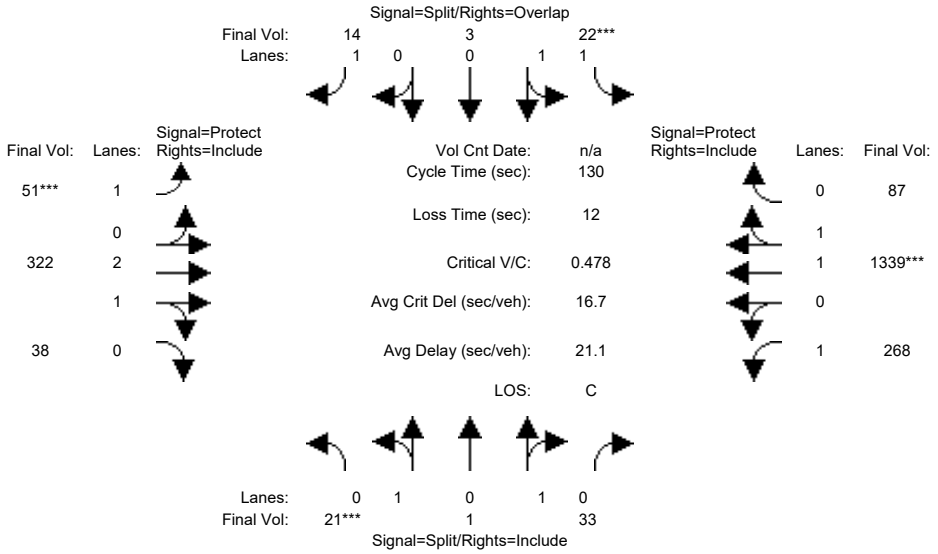
Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	19	1	30	20	3	13	46	290	34	241	1205	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	13	46	290	34	241	1205	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	13	46	290	34	241	1205	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	14	51	322	38	268	1339	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	14	51	322	38	268	1339	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	14	51	322	38	268	1339	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.67	0.33	1.00	1.88	0.12
Final Sat.:	1710	90	1800	3087	463	1750	1750	5012	588	1750	3475	225
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.06	0.06	0.15	0.39	0.39
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	31.8	31.8	63.2	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.05	0.38	0.26	0.26	0.31	0.59	0.59
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	39.8	39.8	20.5	13.1	13.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	39.8	39.8	20.5	13.1	13.1
LOS by Move:	D	D	D	D	D	D	E	D	D	C	B	B
HCM2k95thQ:	2	2	3	1	1	1	4	7	7	13	28	28

Note: Queue reported is the number of cars per lane.

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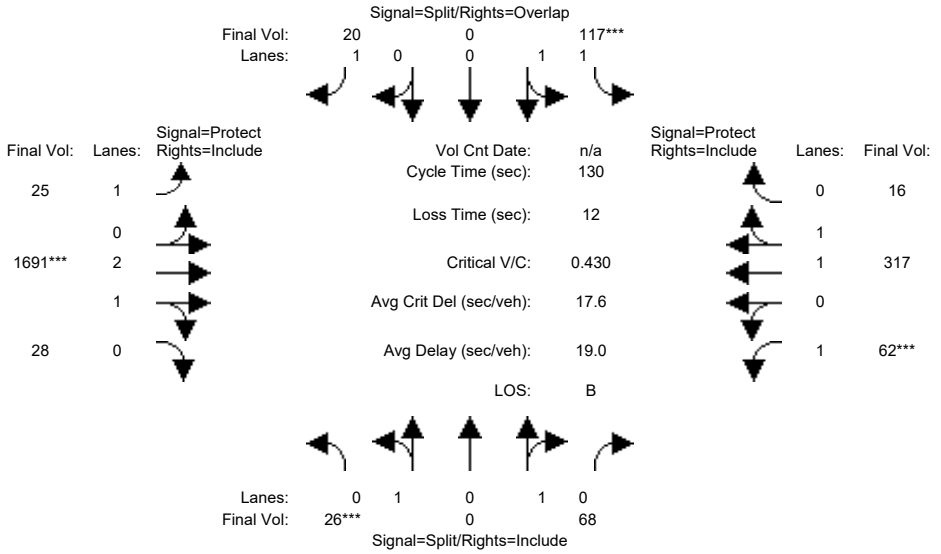
Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	25	0	65	111	0	19	24	1606	27	59	301	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	19	24	1606	27	59	301	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	19	24	1606	27	59	301	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	20	25	1691	28	62	317	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	20	25	1691	28	62	317	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	20	25	1691	28	62	317	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.95	0.05	1.00	1.90	0.10
Final Sat.:	1800	0	1800	3550	0	1750	1750	5507	93	1750	3524	176
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.01	0.01	0.31	0.31	0.04	0.09	0.09
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	54.8	43.8	85.0	85.0	10.0	51.2	51.2
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.03	0.04	0.47	0.47	0.46	0.23	0.23
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	22.0	29.0	11.3	11.3	59.9	26.3	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	22.0	29.0	11.3	11.3	59.9	26.3	26.3
LOS by Move:	D	A	E	E	A	C	C	B	B	E	C	C
HCM2k95thQ:	2	0	6	6	0	1	1	21	21	6	9	9

Note: Queue reported is the number of cars per lane.

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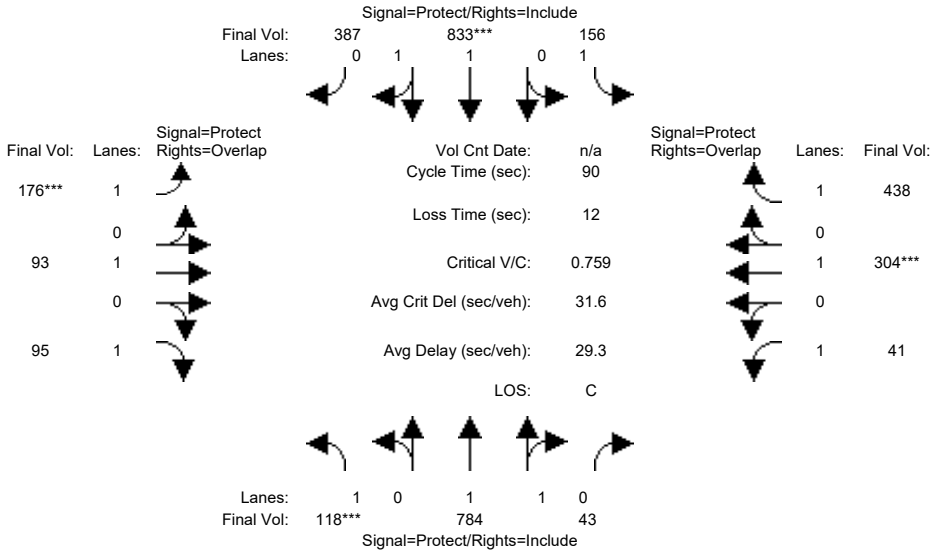
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	107	713	39	142	758	352	160	85	86	37	277	399
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	713	39	142	758	352	160	85	86	37	277	399
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	713	39	142	758	352	160	85	86	37	277	399
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	118	784	43	156	833	387	176	93	95	41	304	438
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	784	43	156	833	387	176	93	95	41	304	438
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	784	43	156	833	387	176	93	95	41	304	438
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.89	0.11	1.00	1.35	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3508	192	1750	2526	1173	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.22	0.22	0.09	0.33	0.33	0.10	0.05	0.05	0.02	0.16	0.25
Crit Moves:	****				****		****				****	
Green Time:	8.0	33.7	33.7	13.4	39.1	39.1	11.9	20.6	28.6	10.3	19.0	32.4
Volume/Cap:	0.76	0.60	0.60	0.60	0.76	0.76	0.76	0.21	0.17	0.20	0.76	0.70
Delay/Veh:	58.9	23.4	23.4	39.5	23.6	23.6	51.2	28.4	22.3	36.6	41.5	28.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	23.4	23.4	39.5	23.6	23.6	51.2	28.4	22.3	36.6	41.5	28.0
LOS by Move:	E	C	C	D	C	C	D	C	C	D	D	C
HCM2k95thQ:	7	17	17	9	26	26	11	4	4	3	18	22

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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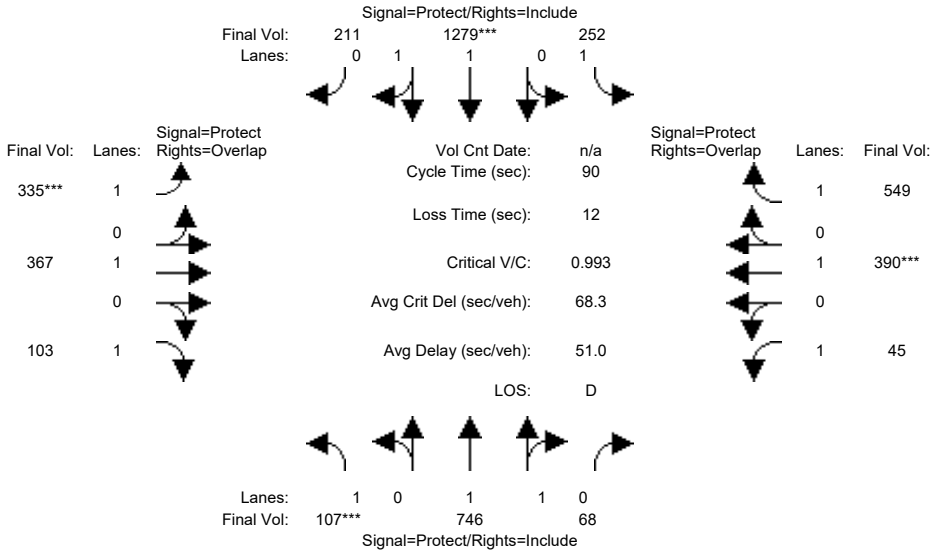
Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	105	731	67	247	1253	207	328	360	101	44	382	538
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	731	67	247	1253	207	328	360	101	44	382	538
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	731	67	247	1253	207	328	360	101	44	382	538
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	746	68	252	1279	211	335	367	103	45	390	549
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	746	68	252	1279	211	335	367	103	45	390	549
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	746	68	252	1279	211	335	367	103	45	390	549
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.83	0.17	1.00	1.71	0.29	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3389	311	1750	3175	525	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.22	0.14	0.40	0.40	0.19	0.19	0.06	0.03	0.21	0.31
Crit Moves:	****				****		****				****	
Green Time:	8.0	26.3	26.3	17.0	35.3	35.3	16.8	28.2	36.2	6.5	18.0	35.0
Volume/Cap:	0.69	0.75	0.75	0.76	1.03	1.03	1.03	0.62	0.15	0.36	1.03	0.81
Delay/Veh:	52.1	32.0	32.0	44.5	58.3	58.3	93.7	28.2	17.2	41.5	89.4	31.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	32.0	32.0	44.5	58.3	58.3	93.7	28.2	17.2	41.5	89.4	31.6
LOS by Move:	D	C	C	D	E	E	F	C	B	D	F	C
HCM2k95thQ:	7	20	20	14	45	45	24	16	4	3	30	29

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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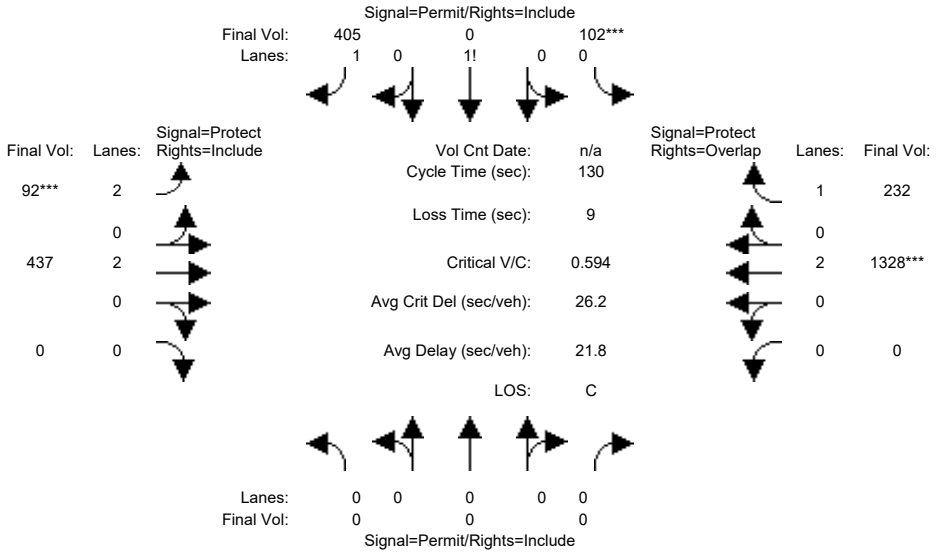
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	99	0	393	89	424	0	0	1288	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	393	89	424	0	0	1288	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	393	89	424	0	0	1288	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	405	92	437	0	0	1328	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	405	92	437	0	0	1328	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	405	92	437	0	0	1328	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.34	0.00	1.66	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	586	0	2914	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.17	0.00	0.14	0.03	0.12	0.00	0.00	0.35	0.13
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	37.6	0.0	37.6	8.0	83.4	0.0	0.0	75.4	75.4
Volume/Cap:	0.00	0.00	0.00	0.60	0.00	0.48	0.47	0.18	0.00	0.00	0.60	0.23
Delay/Veh:	0.0	0.0	0.0	41.0	0.0	38.5	60.8	9.5	0.0	0.0	18.1	13.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	41.0	0.0	38.5	60.8	9.5	0.0	0.0	18.1	13.3
LOS by Move:	A	A	A	D	A	D	E	A	A	A	B	B
HCM2k95thQ:	0	0	0	21	0	16	4	7	0	0	28	9

Note: Queue reported is the number of cars per lane.

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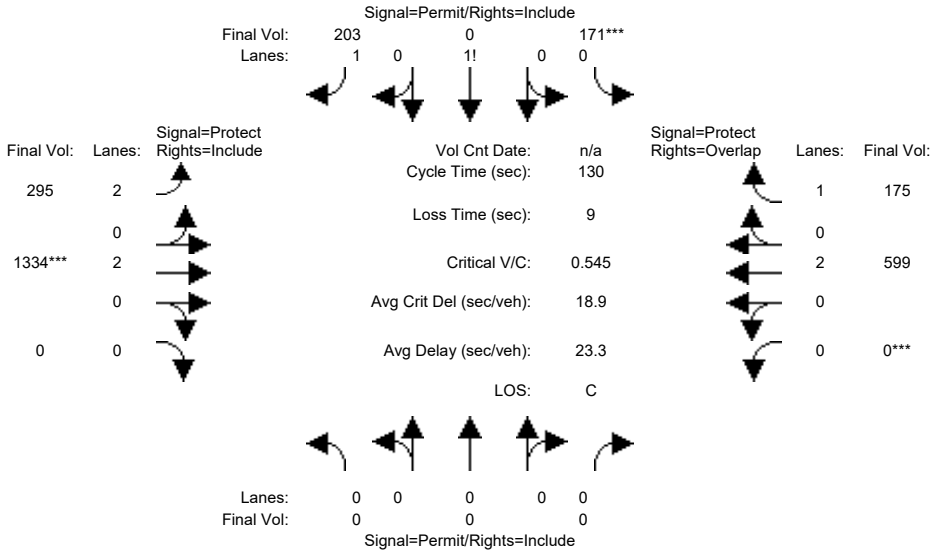
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	166	0	197	286	1294	0	0	581	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	197	286	1294	0	0	581	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	197	286	1294	0	0	581	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	203	295	1334	0	0	599	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	203	295	1334	0	0	599	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	203	295	1334	0	0	599	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.63	0.00	1.37	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1098	0	2402	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.08	0.09	0.35	0.00	0.00	0.16	0.10
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	37.2	0.0	37.2	31.2	83.8	0.0	0.0	52.6	52.6
Volume/Cap:	0.00	0.00	0.00	0.54	0.00	0.30	0.39	0.54	0.00	0.00	0.39	0.25
Delay/Veh:	0.0	0.0	0.0	40.1	0.0	36.3	41.7	12.9	0.0	0.0	27.5	25.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	40.1	0.0	36.3	41.7	12.9	0.0	0.0	27.5	25.8
LOS by Move:	A	A	A	D	A	D	D	B	A	A	C	C
HCM2k95thQ:	0	0	0	19	0	10	11	25	0	0	15	9

Note: Queue reported is the number of cars per lane.

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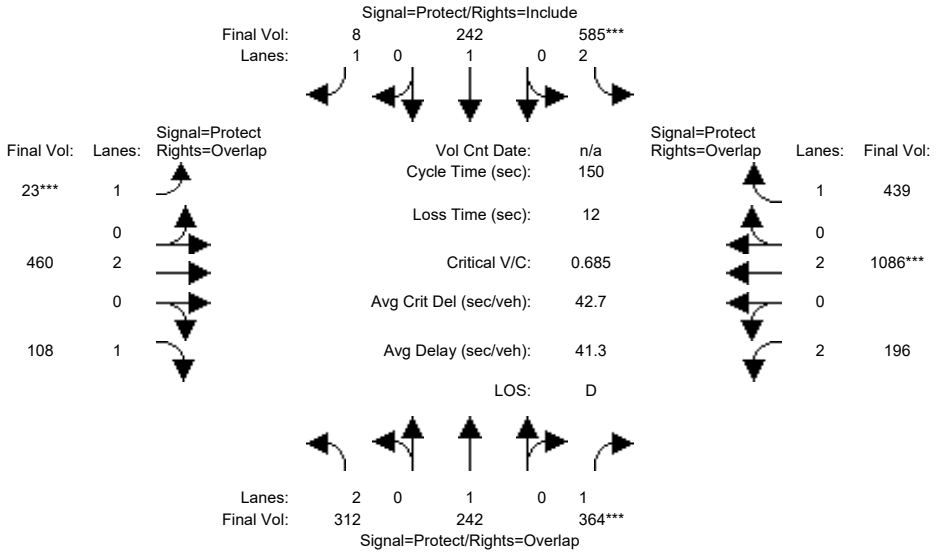
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	287	223	335	538	223	7	21	423	99	180	999	404
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	223	335	538	223	7	21	423	99	180	999	404
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	223	335	538	223	7	21	423	99	180	999	404
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	312	242	364	585	242	8	23	460	108	196	1086	439
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	242	364	585	242	8	23	460	108	196	1086	439
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	242	364	585	242	8	23	460	108	196	1086	439
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.13	0.21	0.19	0.13	0.00	0.01	0.12	0.06	0.06	0.29	0.25
Crit Moves:			****	****			****				****	
Green Time:	31.2	31.4	54.0	40.0	40.2	40.2	5.0	44.0	75.2	22.6	61.6	101.6
Volume/Cap:	0.48	0.61	0.58	0.70	0.48	0.02	0.39	0.41	0.12	0.41	0.70	0.37
Delay/Veh:	52.7	56.4	40.1	52.1	46.8	40.4	75.3	42.9	19.9	58.3	37.9	10.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.7	56.4	40.1	52.1	46.8	40.4	75.3	42.9	19.9	58.3	37.9	10.6
LOS by Move:	D	E	D	D	D	D	E	D	B	E	D	B
HCM2k95thQ:	14	18	25	27	17	1	2	15	5	9	34	17

Note: Queue reported is the number of cars per lane.

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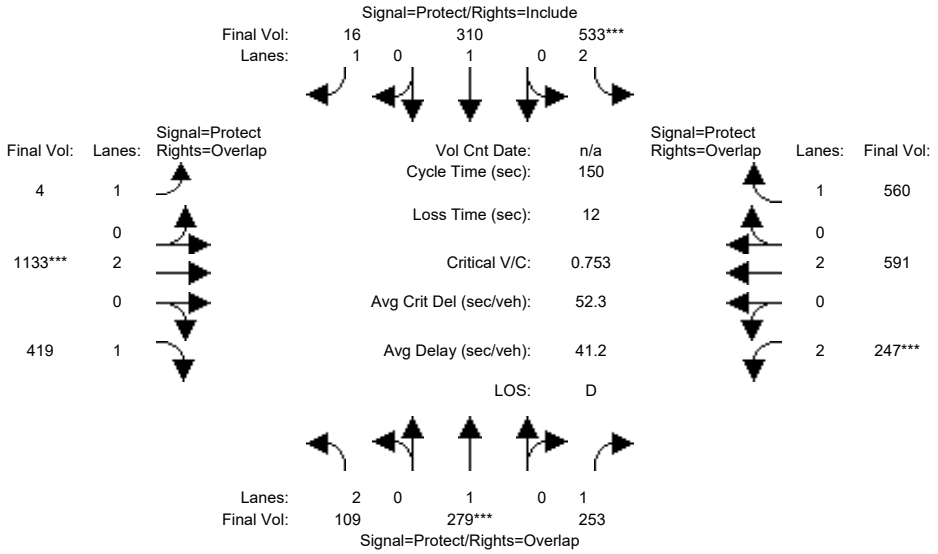
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	105	268	243	512	298	15	4	1088	402	237	567	538
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	268	243	512	298	15	4	1088	402	237	567	538
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	268	243	512	298	15	4	1088	402	237	567	538
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	109	279	253	533	310	16	4	1133	419	247	591	560
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	279	253	533	310	16	4	1133	419	247	591	560
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	279	253	533	310	16	4	1133	419	247	591	560
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.14	0.17	0.16	0.01	0.00	0.30	0.24	0.08	0.16	0.32
Crit Moves:		****		****				****		****		
Green Time:	18.3	29.3	44.9	33.7	44.7	44.7	13.2	59.4	77.7	15.6	61.8	95.5
Volume/Cap:	0.29	0.75	0.48	0.75	0.55	0.03	0.03	0.75	0.46	0.75	0.38	0.50
Delay/Veh:	60.4	65.4	43.8	58.8	45.3	37.3	62.6	41.2	23.3	74.8	30.9	14.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.4	65.4	43.8	58.8	45.3	37.3	62.6	41.2	23.3	74.8	30.9	14.9
LOS by Move:	E	E	D	E	D	D	E	D	C	E	C	B
HCM2k95thQ:	5	22	18	27	22	1	0	37	23	13	17	26

Note: Queue reported is the number of cars per lane.

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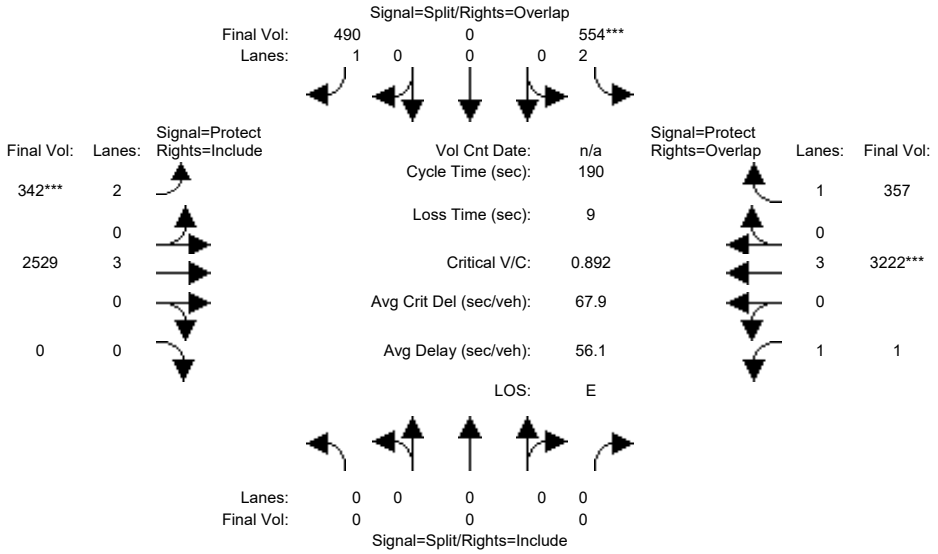
Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	554	0	490	342	2907	0	1	3704	357
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	554	0	490	342	2907	0	1	3704	357
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	554	0	490	342	2907	0	1	3704	357
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	554	0	490	342	2529	0	1	3222	357
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	554	0	490	342	2529	0	1	3222	357
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	554	0	490	342	2529	0	1	3222	357
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.28	0.11	0.44	0.00	0.00	0.57	0.20
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	1.32	0.00	1.26	1.22	0.62	0.00	0.01	0.82	0.25
Delay/Veh:	0.0	0.0	0.0	240.3	0.0	209.2	213.9	14.5	0.0	84.8	22.8	3.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	240.3	0.0	209.2	213.9	14.5	0.0	84.8	22.8	3.9
LOS by Move:	A	A	A	F	A	F	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	50	0	70	32	41	0	0	64	9

Note: Queue reported is the number of cars per lane.

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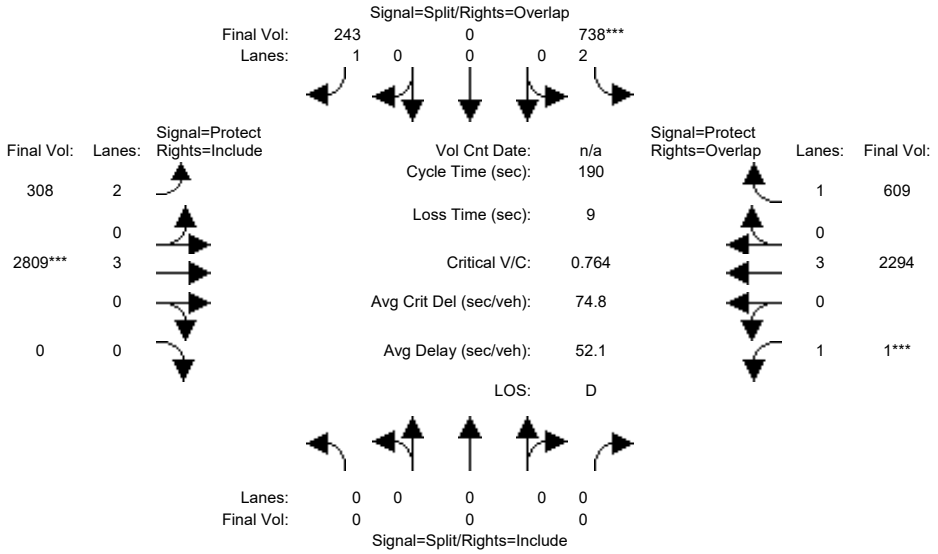
Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	738	0	243	308	3511	0	1	3373	609
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	738	0	243	308	3511	0	1	3373	609
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	738	0	243	308	3511	0	1	3373	609
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	738	0	243	308	2809	0	1	2294	609
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	738	0	243	308	2809	0	1	2294	609
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	738	0	243	308	2809	0	1	2294	609
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.00	0.14	0.10	0.49	0.00	0.00	0.40	0.35
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	1.44	0.00	0.51	0.88	0.71	0.00	0.01	0.63	0.44
Delay/Veh:	0.0	0.0	0.0	288.8	0.0	59.1	104.9	18.6	0.0	84.8	21.4	6.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	288.8	0.0	59.1	104.9	18.6	0.0	84.8	21.4	6.1
LOS by Move:	A	A	A	F	A	E	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	67	0	23	24	52	0	0	41	20

Note: Queue reported is the number of cars per lane.

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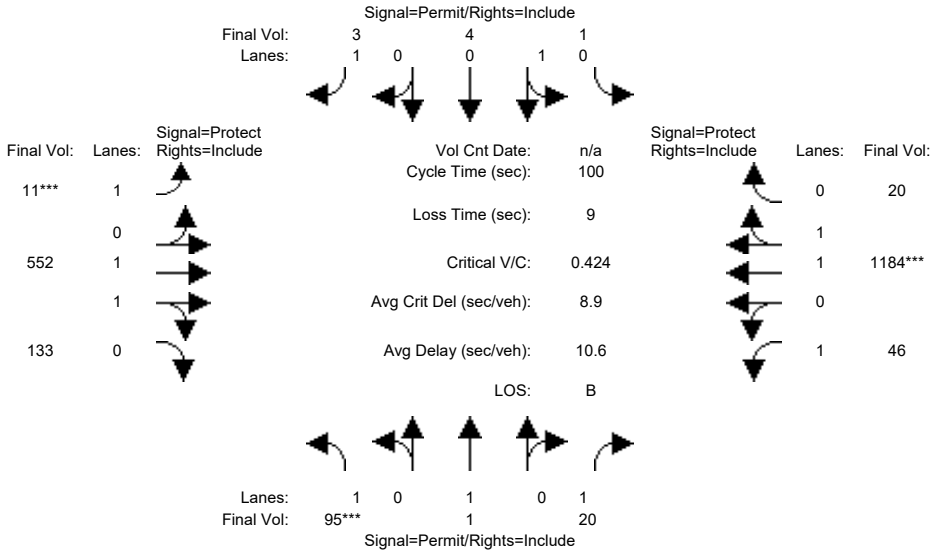
Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	1	19	1	4	3	10	519	125	43	1113	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	1	19	1	4	3	10	519	125	43	1113	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	1	19	1	4	3	10	519	125	43	1113	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	95	1	20	1	4	3	11	552	133	46	1184	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	1	20	1	4	3	11	552	133	46	1184	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	1	20	1	4	3	11	552	133	46	1184	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.20	0.80	1.00	1.00	1.60	0.40	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	360	1440	1750	1750	2981	718	1750	3638	62
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.01	0.00	0.00	0.00	0.01	0.19	0.19	0.03	0.33	0.33
Crit Moves:	****						****				****	
Green Time:	12.0	12.0	12.0	12.0	12.0	12.0	7.0	57.4	57.4	21.7	72.0	72.0
Volume/Cap:	0.45	0.00	0.10	0.02	0.02	0.02	0.09	0.32	0.32	0.12	0.45	0.45
Delay/Veh:	42.5	38.8	39.4	38.9	38.9	38.8	43.8	11.3	11.3	31.6	5.9	5.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.5	38.8	39.4	38.9	38.9	38.8	43.8	11.3	11.3	31.6	5.9	5.9
LOS by Move:	D	D	D	D	D	D	D	B	B	C	A	A
HCM2k95thQ:	7	0	1	0	0	0	1	11	11	2	15	15

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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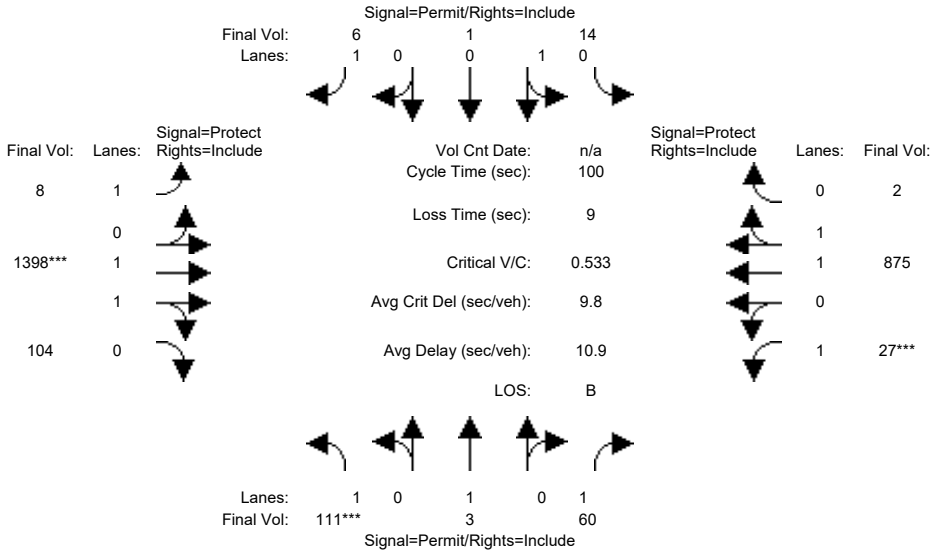
2030 NoProj PM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	108	3	58	14	1	6	8	1356	101	26	849	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	3	58	14	1	6	8	1356	101	26	849	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	3	58	14	1	6	8	1356	101	26	849	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	111	3	60	14	1	6	8	1398	104	27	875	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	3	60	14	1	6	8	1398	104	27	875	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	3	60	14	1	6	8	1398	104	27	875	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.93	0.07	1.00	1.00	1.86	0.14	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1680	120	1750	1750	3443	256	1750	3691	9
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.01	0.01	0.00	0.00	0.41	0.41	0.02	0.24	0.24
Crit Moves:	****							****		****		
Green Time:	11.4	11.4	11.4	11.4	11.4	11.4	18.1	72.6	72.6	7.0	61.5	61.5
Volume/Cap:	0.56	0.01	0.30	0.08	0.08	0.03	0.03	0.56	0.56	0.22	0.39	0.39
Delay/Veh:	45.5	39.4	41.5	39.8	39.8	39.5	33.7	6.6	6.6	44.8	9.8	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.5	39.4	41.5	39.8	39.8	39.5	33.7	6.6	6.6	44.8	9.8	9.8
LOS by Move:	D	D	D	D	D	D	C	A	A	D	A	A
HCM2k95thQ:	9	0	4	1	1	0	0	19	19	2	13	13

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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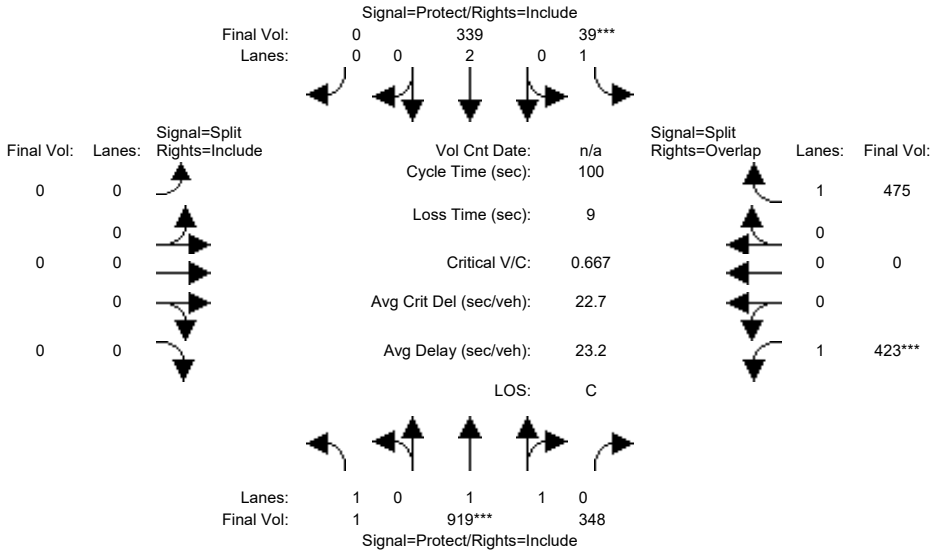
Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	1	919	348	39	339	0	0	0	0	423	0	475
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	919	348	39	339	0	0	0	0	423	0	475
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	919	348	39	339	0	0	0	0	423	0	475
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	919	348	39	339	0	0	0	0	423	0	475
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	919	348	39	339	0	0	0	0	423	0	475
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	919	348	39	339	0	0	0	0	423	0	475
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.44	0.56	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1750	2683	1016	1750	3800	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.02	0.09	0.00	0.00	0.00	0.00	0.24	0.00	0.27
Crit Moves:		****		****						****		
Green Time:	15.7	51.0	51.0	4.0	39.3	0.0	0.0	0.0	0.0	36.0	0.0	40.0
Volume/Cap:	0.00	0.67	0.67	0.56	0.23	0.00	0.00	0.00	0.00	0.67	0.00	0.68
Delay/Veh:	35.5	19.2	19.2	56.7	20.3	0.0	0.0	0.0	0.0	29.8	0.0	27.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.5	19.2	19.2	56.7	20.3	0.0	0.0	0.0	0.0	29.8	0.0	27.4
LOS by Move:	D	B	B	E	C	A	A	A	A	C	A	C
HCM2k95thQ:	0	26	26	4	7	0	0	0	0	23	0	25

Note: Queue reported is the number of cars per lane.

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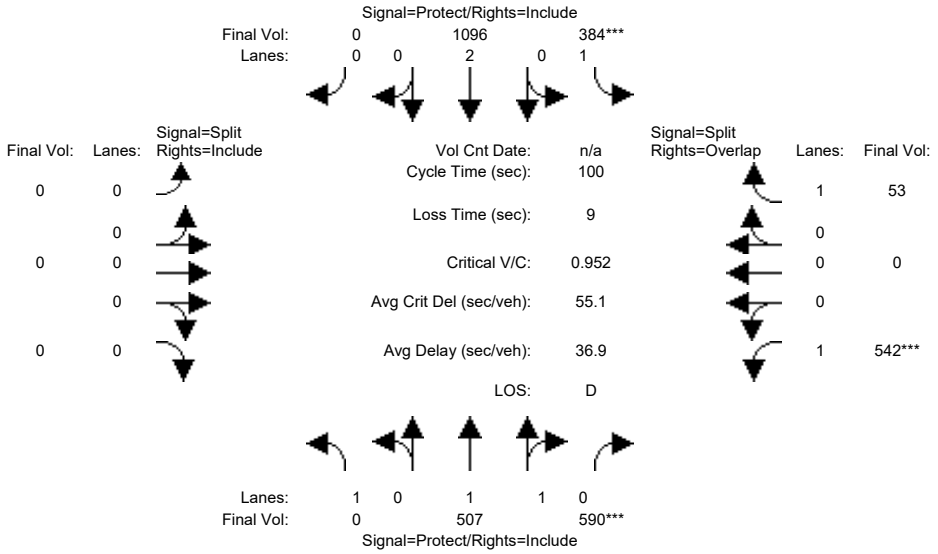
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	5.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	0	507	590	384	1096	0	0	0	0	542	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	507	590	384	1096	0	0	0	0	542	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	507	590	384	1096	0	0	0	0	542	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	507	590	384	1096	0	0	0	0	542	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	507	590	384	1096	0	0	0	0	542	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	507	590	384	1096	0	0	0	0	542	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1750	1900	1750	1750	3800	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.34	0.22	0.29	0.00	0.00	0.00	0.00	0.31	0.00	0.03
Crit Moves:			****	****						****		
Green Time:	0.0	35.4	35.4	23.1	58.5	0.0	0.0	0.0	0.0	32.5	0.0	55.6
Volume/Cap:	0.00	0.75	0.95	0.95	0.49	0.00	0.00	0.00	0.00	0.95	0.00	0.05
Delay/Veh:	0.0	30.7	47.8	70.5	12.3	0.0	0.0	0.0	0.0	59.1	0.0	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	30.7	47.8	70.5	12.3	0.0	0.0	0.0	0.0	59.1	0.0	10.2
LOS by Move:	A	C	D	E	B	A	A	A	A	E	A	B
HCM2k95thQ:	0	25	38	30	18	0	0	0	0	38	0	2

Note: Queue reported is the number of cars per lane.

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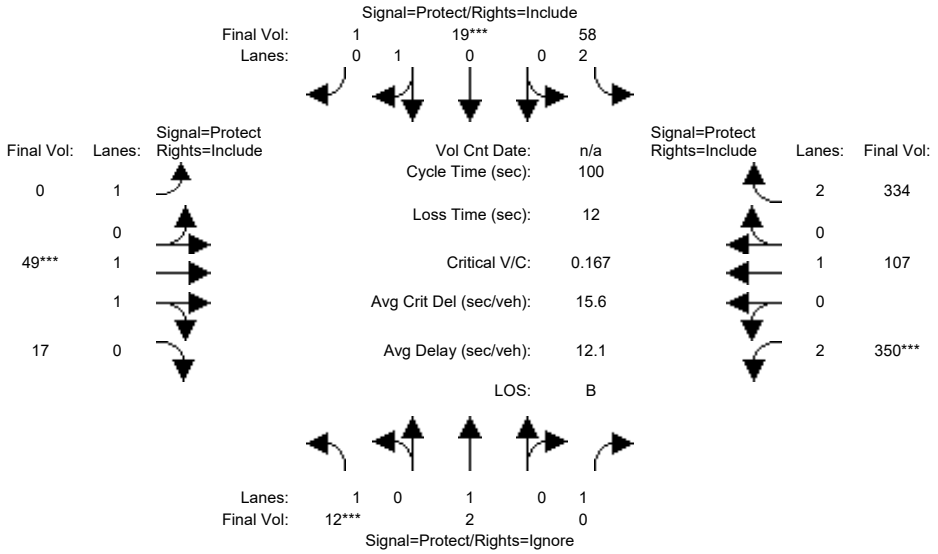
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	115	52	17	1	0	44	15	315	96	301
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	115	52	17	1	0	44	15	315	96	301
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	115	52	17	1	0	44	15	315	96	301
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	58	19	1	0	49	17	350	107	334
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	58	19	1	0	49	17	350	107	334
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	58	19	1	0	49	17	350	107	334
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.94	0.06	1.00	1.48	0.52	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1700	100	1750	2759	940	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.11	0.06	0.11
Crit Moves:	****				****			****		****		
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.0	10.0	62.0	72.0	72.0
Volume/Cap:	0.09	0.01	0.00	0.23	0.14	0.14	0.00	0.18	0.18	0.18	0.08	0.15
Delay/Veh:	42.9	42.4	0.0	43.6	43.2	43.2	0.0	41.5	41.5	8.2	4.2	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	42.4	0.0	43.6	43.2	43.2	0.0	41.5	41.5	8.2	4.2	4.4
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	2	1	1	0	2	2	5	2	4

Note: Queue reported is the number of cars per lane.

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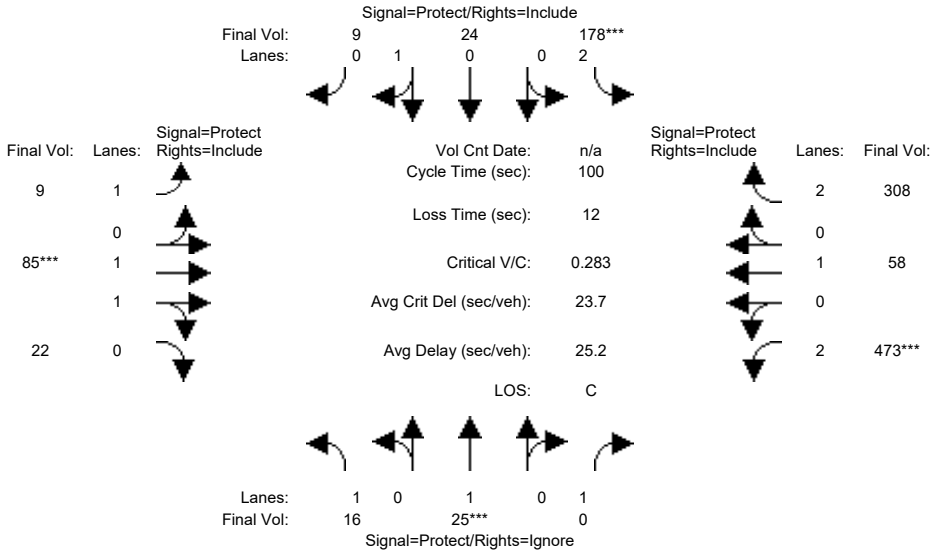
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	24	601	169	23	9	9	81	21	449	55	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	24	601	169	23	9	9	81	21	449	55	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	24	601	169	23	9	9	81	21	449	55	293
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	25	0	178	24	9	9	85	22	473	58	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	25	0	178	24	9	9	85	22	473	58	308
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	25	0	178	24	9	9	85	22	473	58	308
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.72	0.28	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1294	506	1750	2938	762	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.06	0.02	0.02	0.01	0.03	0.03	0.15	0.03	0.10
Crit Moves:		****		****				****		****		
Green Time:	13.6	8.0	0.0	19.1	13.6	13.6	30.4	10.0	10.0	50.9	30.4	30.4
Volume/Cap:	0.07	0.17	0.00	0.30	0.14	0.14	0.02	0.29	0.29	0.30	0.10	0.32
Delay/Veh:	37.8	43.4	0.0	34.9	38.3	38.3	24.3	42.1	42.1	14.3	25.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.8	43.4	0.0	34.9	38.3	38.3	24.3	42.1	42.1	14.3	25.0	27.0
LOS by Move:	D	D	A	C	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	6	2	2	0	4	4	10	2	8

Note: Queue reported is the number of cars per lane.

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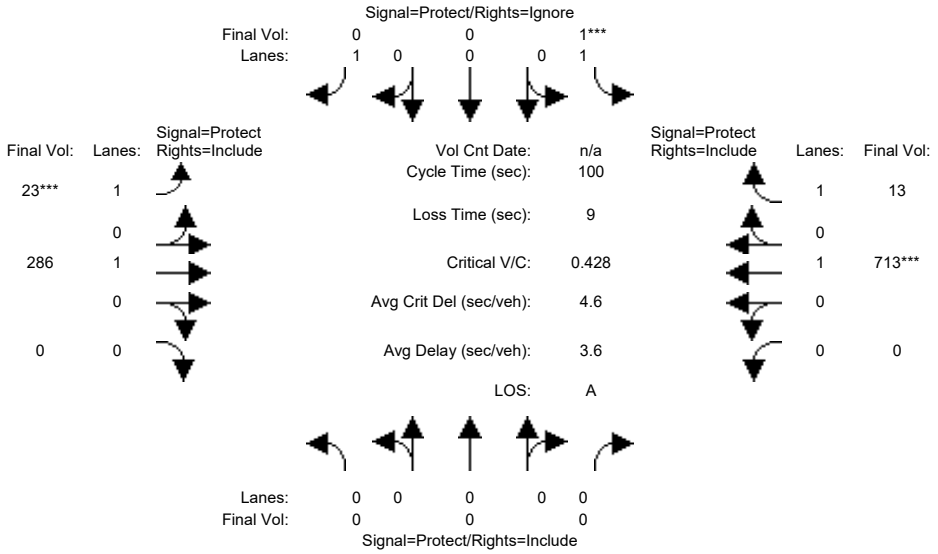
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	1	0	9	22	269	0	0	670	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1	0	9	22	269	0	0	670	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1	0	9	22	269	0	0	670	12
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	1	0	0	23	286	0	0	713	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1	0	0	23	286	0	0	713	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1	0	0	23	286	0	0	713	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.15	0.00	0.00	0.38	0.01
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.01	0.00	0.00	0.27	0.18	0.00	0.00	0.46	0.01
Delay/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.4	1.2	0.0	0.0	3.1	1.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.4	1.2	0.0	0.0	3.1	1.8
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	0	0	0	2	3	0	0	12	0

Note: Queue reported is the number of cars per lane.

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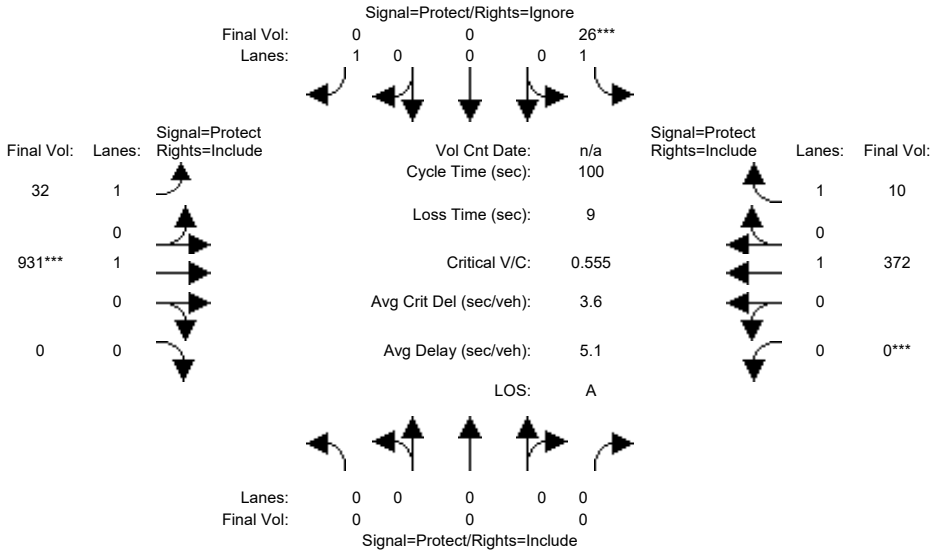
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	23	0	53	29	838	0	0	335	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	23	0	53	29	838	0	0	335	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	23	0	53	29	838	0	0	335	9
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	26	0	0	32	931	0	0	372	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	26	0	0	32	931	0	0	372	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	26	0	0	32	931	0	0	372	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.49	0.00	0.00	0.20	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	17.5	86.0	0.0	0.0	68.5	68.5
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.00	0.11	0.57	0.00	0.00	0.29	0.01
Delay/Veh:	0.0	0.0	0.0	47.7	0.0	0.0	34.8	2.4	0.0	0.0	6.3	5.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.7	0.0	0.0	34.8	2.4	0.0	0.0	6.3	5.0
LOS by Move:	A	A	A	D	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	0	0	2	0	0	2	16	0	0	8	0

Note: Queue reported is the number of cars per lane.

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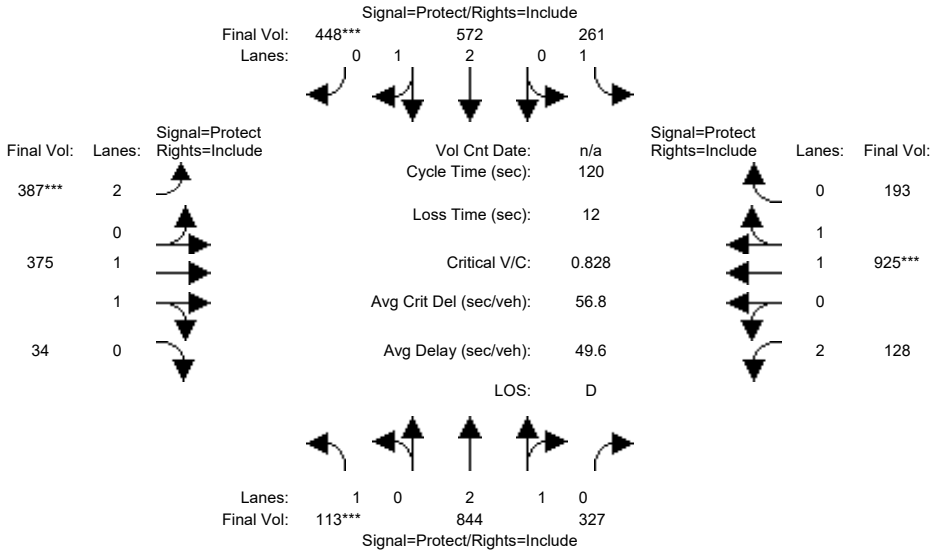
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module:												
Base Vol:	113	844	327	261	572	448	387	375	34	128	925	193
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	113	844	327	261	572	448	387	375	34	128	925	193
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	844	327	261	572	448	387	375	34	128	925	193
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	844	327	261	572	448	387	375	34	128	925	193
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	844	327	261	572	448	387	375	34	128	925	193
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	844	327	261	572	448	387	375	34	128	925	193
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.13	0.87	1.00	2.00	1.00	2.00	1.83	0.17	2.00	1.65	0.35
Final Sat.:	1750	4034	1563	1750	3800	1750	3150	3392	308	3150	3061	639
Capacity Analysis Module:												
Vol/Sat:	0.06	0.21	0.21	0.15	0.15	0.26	0.12	0.11	0.11	0.04	0.30	0.30
Crit Moves:	****					****	****				****	
Green Time:	20.0	31.8	31.8	21.2	33.1	33.1	15.9	31.4	31.4	23.5	39.0	39.0
Volume/Cap:	0.39	0.79	0.79	0.84	0.55	0.93	0.93	0.42	0.42	0.21	0.93	0.93
Delay/Veh:	45.4	43.9	43.9	66.3	37.4	55.7	78.6	37.1	37.1	40.6	51.6	51.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	43.9	43.9	66.3	37.4	55.7	78.6	37.1	37.1	40.6	51.6	51.6
LOS by Move:	D	D	D	E	D	E	E	D	D	D	D	D
HCM2k95thQ:	8	24	24	20	16	33	18	12	12	5	37	37

Note: Queue reported is the number of cars per lane.

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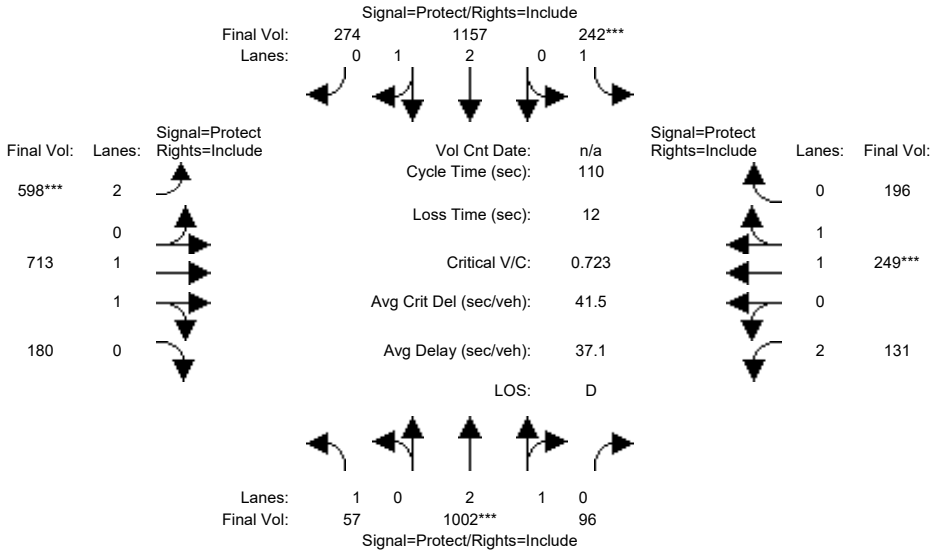
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	1002	96	242	1157	274	598	713	180	131	249	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	1002	96	242	1157	274	598	713	180	131	249	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	1002	96	242	1157	274	598	713	180	131	249	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	1002	96	242	1157	274	598	713	180	131	249	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	1002	96	242	1157	274	598	713	180	131	249	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	57	1002	96	242	1157	274	598	713	180	131	249	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	1.00	2.73	0.27	1.00	2.40	0.60	2.00	1.59	0.41	2.00	1.10	0.90
Final Sat.:	1750	5110	490	1750	4526	1072	3150	2954	746	3150	2069	1629
Capacity Analysis Module:												
Vol/Sat:	0.03	0.20	0.20	0.14	0.26	0.26	0.19	0.24	0.24	0.04	0.12	0.12
Crit Moves:		****		****			****				****	
Green Time:	10.1	29.8	29.8	21.0	40.7	40.7	28.9	37.3	37.3	9.8	18.3	18.3
Volume/Cap:	0.35	0.72	0.72	0.72	0.69	0.69	0.72	0.71	0.71	0.46	0.72	0.72
Delay/Veh:	48.2	38.1	38.1	49.4	30.3	30.3	40.1	33.6	33.6	48.8	47.7	47.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	38.1	38.1	49.4	30.3	30.3	40.1	33.6	33.6	48.8	47.7	47.7
LOS by Move:	D	D	D	D	C	C	D	C	C	D	D	D
HCM2k95thQ:	4	21	21	16	24	24	20	24	24	5	14	14

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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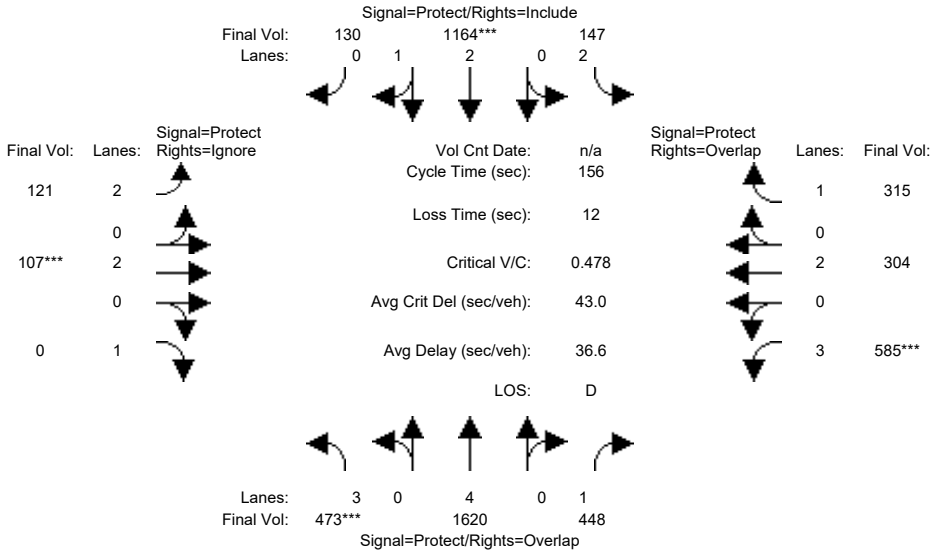
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	473	1620	448	147	1164	130	121	107	106	585	304	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	473	1620	448	147	1164	130	121	107	106	585	304	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	473	1620	448	147	1164	130	121	107	106	585	304	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	473	1620	448	147	1164	130	121	107	0	585	304	315
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	473	1620	448	147	1164	130	121	107	0	585	304	315
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	473	1620	448	147	1164	130	121	107	0	585	304	315
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.70	0.30	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5127	573	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.24	0.04	0.23	0.23	0.03	0.03	0.00	0.10	0.08	0.17
Crit Moves:	****				****			****		****		
Green Time:	26.9	77.4	110.7	23.3	73.7	73.7	8.7	10.0	0.0	33.3	34.6	57.9
Volume/Cap:	0.48	0.43	0.33	0.26	0.48	0.48	0.57	0.44	0.00	0.48	0.36	0.45
Delay/Veh:	59.9	25.5	9.3	59.8	28.7	28.7	82.6	76.0	0.0	55.1	52.5	39.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.9	25.5	9.3	59.8	28.7	28.7	82.6	76.0	0.0	55.1	52.5	39.0
LOS by Move:	E	C	A	E	C	C	F	E	A	E	D	D
HCM2k95thQ:	13	21	15	6	23	23	6	6	0	15	11	19

Note: Queue reported is the number of cars per lane.

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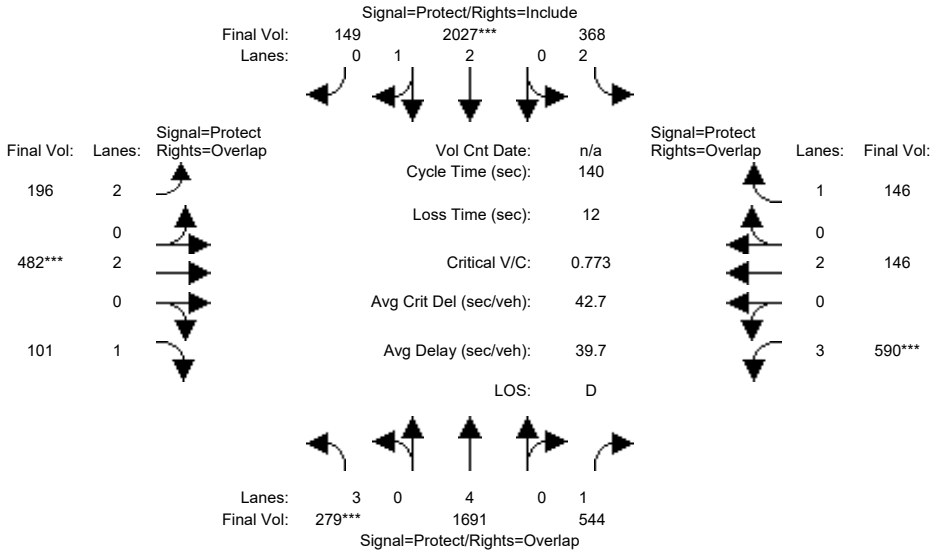
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	279	1691	544	368	2027	149	196	482	101	590	146	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	279	1691	544	368	2027	149	196	482	101	590	146	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	279	1691	544	368	2027	149	196	482	101	590	146	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	279	1691	544	368	2027	149	196	482	101	590	146	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	279	1691	544	368	2027	149	196	482	101	590	146	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	279	1691	544	368	2027	149	196	482	101	590	146	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.79	0.21	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5216	383	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.31	0.12	0.39	0.39	0.06	0.13	0.06	0.13	0.04	0.08
Crit Moves:	****				****			****		****		
Green Time:	11.1	53.5	76.9	28.1	70.4	70.4	21.6	23.0	34.1	23.5	24.8	52.9
Volume/Cap:	0.77	0.58	0.57	0.58	0.77	0.77	0.40	0.77	0.24	0.77	0.22	0.22
Delay/Veh:	73.1	34.7	21.4	52.1	29.7	29.7	53.9	62.0	42.8	60.6	49.4	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.1	34.7	21.4	52.1	29.7	29.7	53.9	62.0	42.8	60.6	49.4	29.7
LOS by Move:	E	C	C	D	C	C	D	E	D	E	D	C
HCM2k95thQ:	10	25	28	15	39	39	9	19	7	19	5	9

Note: Queue reported is the number of cars per lane.

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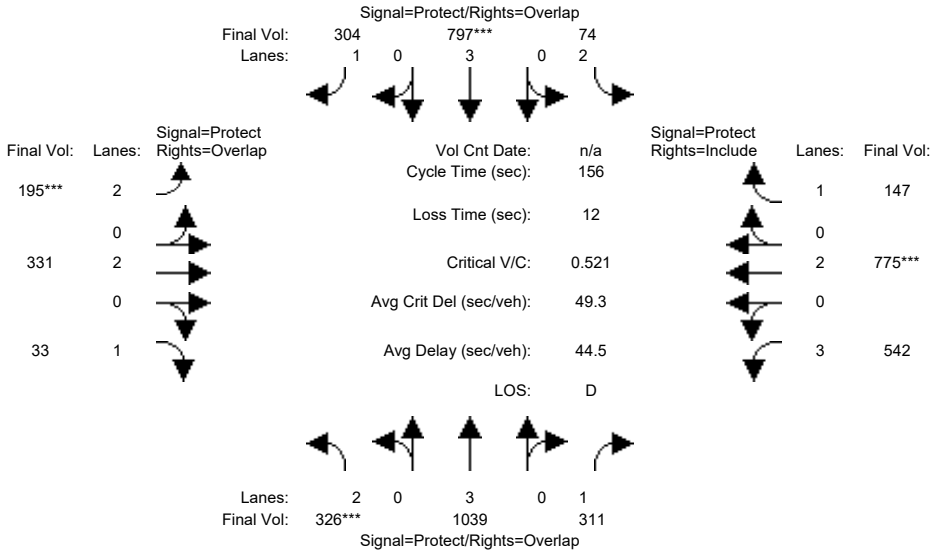
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	326	1039	311	74	797	304	195	331	33	542	775	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	1039	311	74	797	304	195	331	33	542	775	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	1039	311	74	797	304	195	331	33	542	775	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	1039	311	74	797	304	195	331	33	542	775	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	1039	311	74	797	304	195	331	33	542	775	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	1039	311	74	797	304	195	331	33	542	775	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5700	1900	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.16	0.02	0.14	0.16	0.05	0.09	0.02	0.10	0.20	0.08
Crit Moves:	****				****		****				****	
Green Time:	25.7	54.2	94.1	13.3	41.9	57.2	15.4	36.5	62.2	39.9	61.1	61.1
Volume/Cap:	0.52	0.52	0.27	0.23	0.52	0.44	0.52	0.37	0.04	0.37	0.52	0.20
Delay/Veh:	62.6	41.6	15.3	68.1	49.8	39.2	71.9	51.3	28.8	48.5	37.6	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.6	41.6	15.3	68.1	49.8	39.2	71.9	51.3	28.8	48.5	37.6	31.9
LOS by Move:	E	D	B	E	D	D	E	D	C	D	D	C
HCM2k95thQ:	13	22	13	4	19	19	9	12	2	13	23	9

Note: Queue reported is the number of cars per lane.

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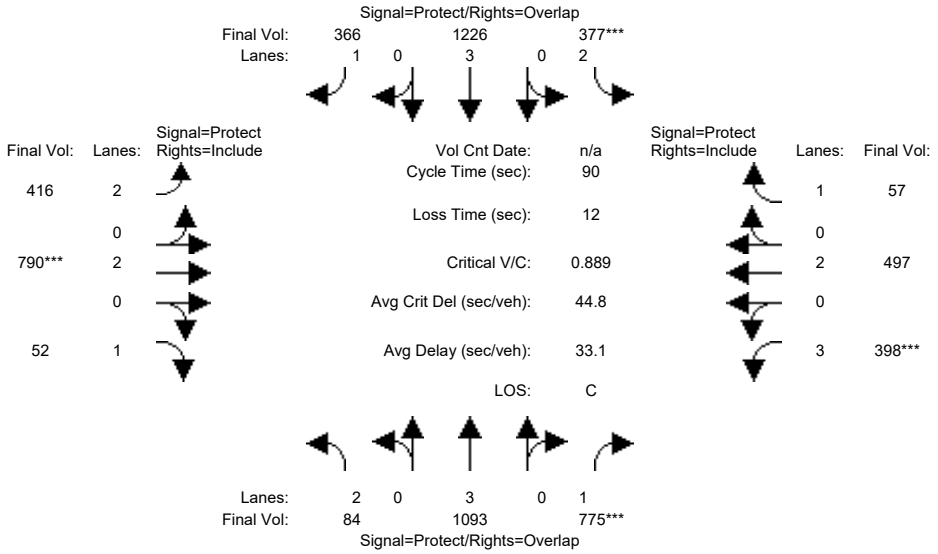
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	84	1093	775	377	1226	366	416	790	52	398	497	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	1093	775	377	1226	366	416	790	52	398	497	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	1093	775	377	1226	366	416	790	52	398	497	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	1093	775	377	1226	366	416	790	52	398	497	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	1093	775	377	1226	366	416	790	52	398	497	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	1093	775	377	1226	366	416	790	52	398	497	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.19	0.44	0.12	0.22	0.21	0.13	0.21	0.03	0.09	0.13	0.03
Crit Moves:			****	****				****		****		
Green Time:	12.8	36.0	44.8	12.1	35.3	50.3	15.0	21.0	21.0	8.9	14.9	14.9
Volume/Cap:	0.19	0.48	0.89	0.89	0.55	0.37	0.79	0.89	0.13	0.89	0.79	0.20
Delay/Veh:	34.2	20.2	31.5	58.2	21.4	11.3	44.0	44.3	27.4	59.2	42.8	32.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.2	20.2	31.5	58.2	21.4	11.3	44.0	44.3	27.4	59.2	42.8	32.7
LOS by Move:	C	C	C	E	C	B	D	D	C	E	D	C
HCM2k95thQ:	2	14	38	13	16	11	13	21	2	10	13	3

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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2000 HCM Operations (Future Volume Alternative)
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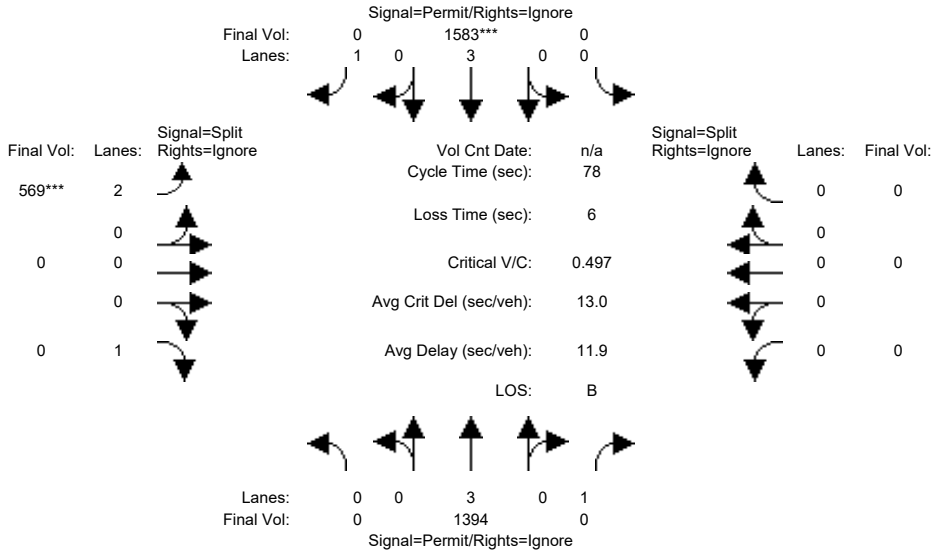
Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1394	256	0	1583	322	569	0	534	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1394	256	0	1583	322	569	0	534	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1394	256	0	1583	322	569	0	534	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1394	0	0	1583	0	569	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1394	0	0	1583	0	569	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1394	0	0	1583	0	569	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.00	0.00	0.28	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	0.0	43.6	0.0	0.0	43.6	0.0	28.4	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.44	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	10.1	0.0	0.0	10.6	0.0	19.6	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.1	0.0	0.0	10.6	0.0	19.6	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	B	A	A	B	A	B	A	A	A	A	A
HCM2k95thQ:	0	12	0	0	14	0	13	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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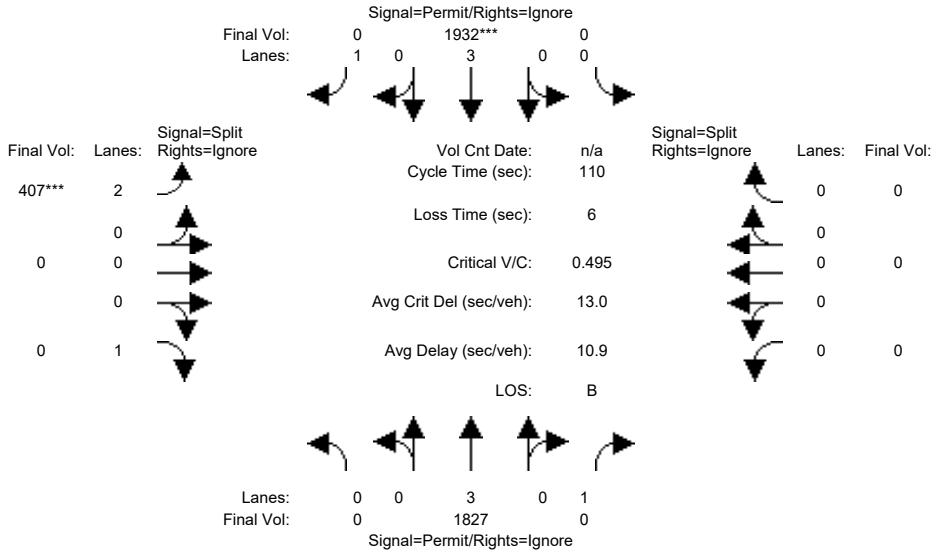
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1827	789	0	1932	713	407	0	280	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1827	789	0	1932	713	407	0	280	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1827	789	0	1932	713	407	0	280	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1827	0	0	1932	0	407	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1827	0	0	1932	0	407	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1827	0	0	1932	0	407	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.00	0.00	0.34	0.00	0.13	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	0.0	75.3	0.0	0.0	75.3	0.0	28.7	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.47	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.1	0.0	0.0	8.4	0.0	35.0	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.1	0.0	0.0	8.4	0.0	35.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	17	0	0	19	0	14	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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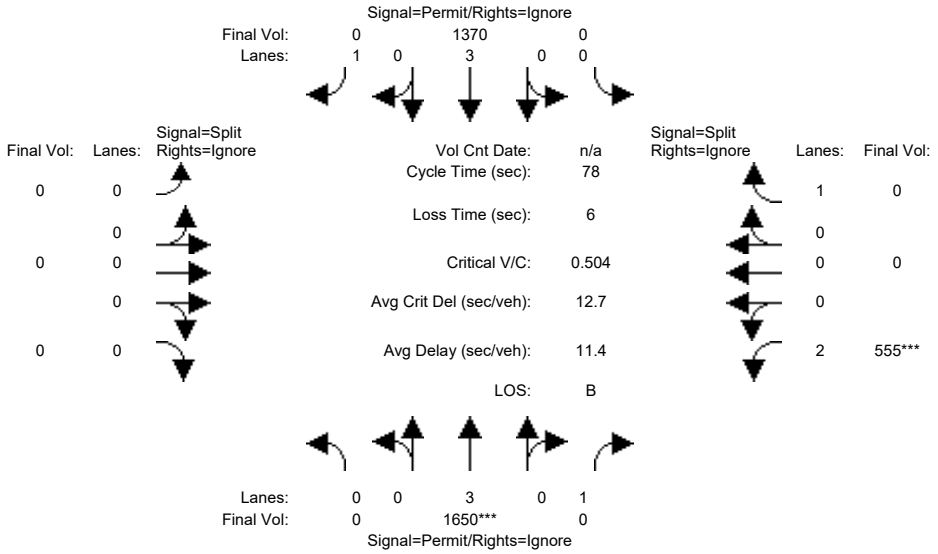
Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module:												
Base Vol:	0	1650	239	0	1370	450	0	0	0	555	0	1106
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1650	239	0	1370	450	0	0	0	555	0	1106
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1650	239	0	1370	450	0	0	0	555	0	1106
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1650	0	0	1370	0	0	0	0	555	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1650	0	0	1370	0	0	0	0	555	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1650	0	0	1370	0	0	0	0	555	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.18	0.00	0.00
Crit Moves:		****								****		
Green Time:	0.0	44.8	0.0	0.0	44.8	0.0	0.0	0.0	0.0	27.2	0.0	0.0
Volume/Cap:	0.00	0.50	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.50	0.00	0.00
Delay/Veh:	0.0	10.1	0.0	0.0	9.4	0.0	0.0	0.0	0.0	20.4	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.1	0.0	0.0	9.4	0.0	0.0	0.0	0.0	20.4	0.0	0.0
LOS by Move:	A	B	A	A	A	A	A	A	A	C	A	A
HCM2k95thQ:	0	15	0	0	12	0	0	0	0	13	0	0

Note: Queue reported is the number of cars per lane.

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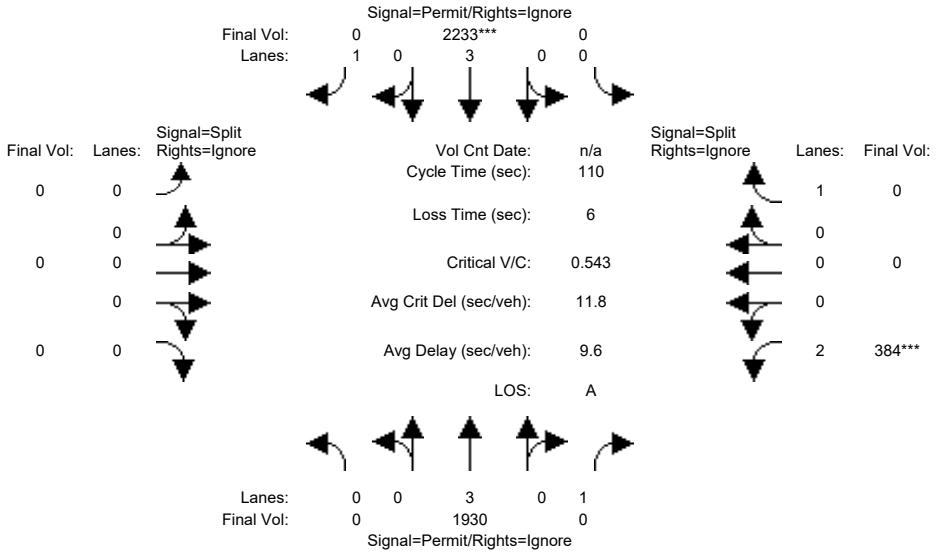
Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:5:00 - 6:00 PM												
Base Vol:	0	1930	344	0	2233	678	0	0	0	384	0	637
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1930	344	0	2233	678	0	0	0	384	0	637
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1930	344	0	2233	678	0	0	0	384	0	637
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1930	0	0	2233	0	0	0	0	384	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1930	0	0	2233	0	0	0	0	384	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1930	0	0	2233	0	0	0	0	384	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	79.3	0.0	0.0	79.3	0.0	0.0	0.0	0.0	24.7	0.0	0.0
Volume/Cap:	0.00	0.47	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.54	0.00	0.00
Delay/Veh:	0.0	6.6	0.0	0.0	7.2	0.0	0.0	0.0	0.0	38.6	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.6	0.0	0.0	7.2	0.0	0.0	0.0	0.0	38.6	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	17	0	0	21	0	0	0	0	14	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
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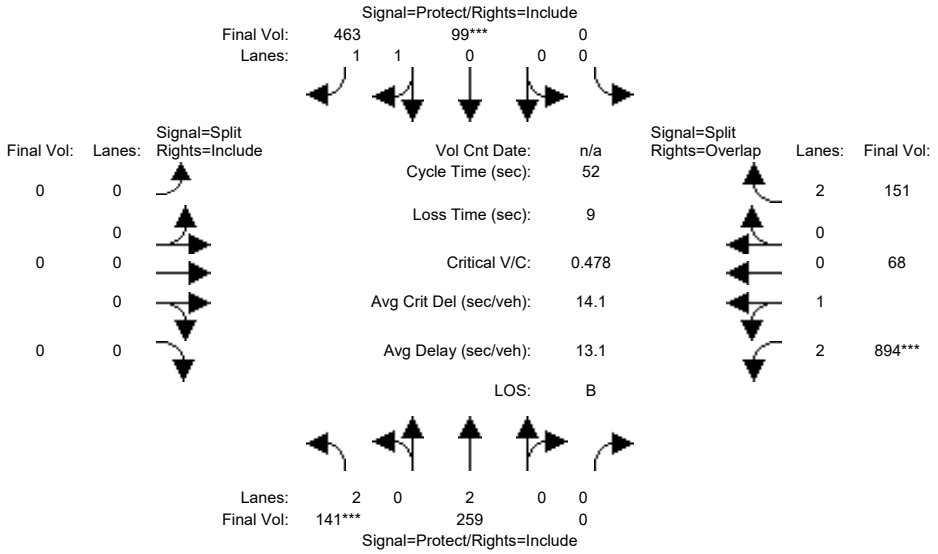
2030 NoProj AM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	141	259	0	0	99	463	0	0	0	894	68	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	141	259	0	0	99	463	0	0	0	894	68	151
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	141	259	0	0	99	463	0	0	0	894	68	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	141	259	0	0	99	463	0	0	0	894	68	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	259	0	0	99	463	0	0	0	894	68	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	259	0	0	99	463	0	0	0	894	68	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.86	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.35	1.65	0.00	0.00	0.00	2.81	0.19	2.00
Final Sat.:	3150	3800	0	0	634	2966	0	0	0	4597	350	3150
Capacity Analysis Module:												
Vol/Sat:	0.04	0.07	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.19	0.19	0.05
Crit Moves:	****				****					****		
Green Time:	7.0	23.0	0.0	0.0	16.0	16.0	0.0	0.0	0.0	20.0	20.0	20.0
Volume/Cap:	0.33	0.15	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.51	0.51	0.12
Delay/Veh:	20.8	8.7	0.0	0.0	15.1	15.1	0.0	0.0	0.0	12.5	12.5	10.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.8	8.7	0.0	0.0	15.1	15.1	0.0	0.0	0.0	12.5	12.5	10.4
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	B
HCM2k95thQ:	3	2	0	0	8	8	0	0	0	10	10	2

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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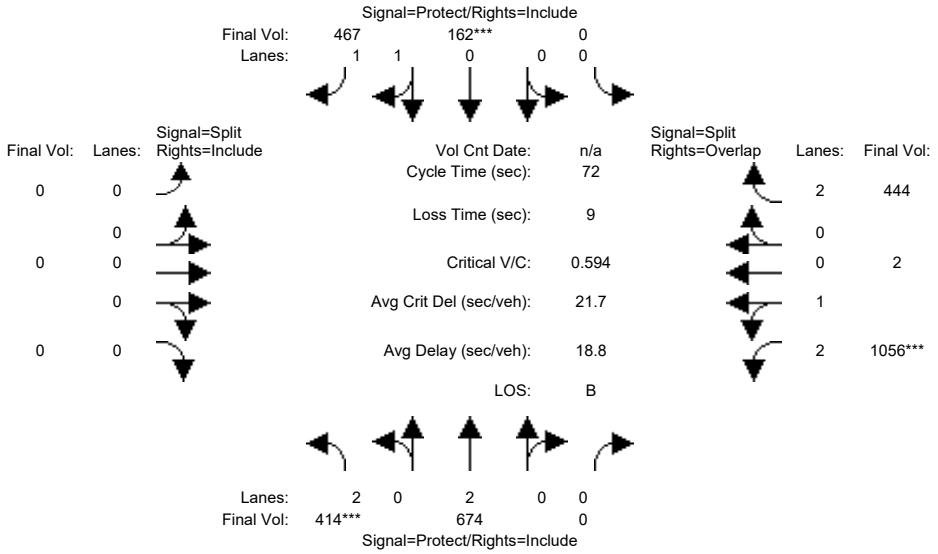
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	414	674	0	0	162	467	0	0	0	1056	2	444
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	414	674	0	0	162	467	0	0	0	1056	2	444
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	414	674	0	0	162	467	0	0	0	1056	2	444
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	414	674	0	0	162	467	0	0	0	1056	2	444
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	414	674	0	0	162	467	0	0	0	1056	2	444
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	414	674	0	0	162	467	0	0	0	1056	2	444
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.87	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.52	1.48	0.00	0.00	0.00	2.99	0.01	2.00
Final Sat.:	3150	3800	0	0	927	2673	0	0	0	4941	9	3150
Capacity Analysis Module:												
Vol/Sat:	0.13	0.18	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.21	0.21	0.14
Crit Moves:	****				****					****		
Green Time:	15.9	37.1	0.0	0.0	21.2	21.2	0.0	0.0	0.0	25.9	25.9	25.9
Volume/Cap:	0.59	0.34	0.00	0.00	0.59	0.59	0.00	0.00	0.00	0.59	0.59	0.39
Delay/Veh:	26.5	10.4	0.0	0.0	22.7	22.7	0.0	0.0	0.0	19.3	19.3	17.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.5	10.4	0.0	0.0	22.7	22.7	0.0	0.0	0.0	19.3	19.3	17.4
LOS by Move:	C	B	A	A	C	C	A	A	A	B	B	B
HCM2k95thQ:	10	8	0	0	12	12	0	0	0	15	15	9

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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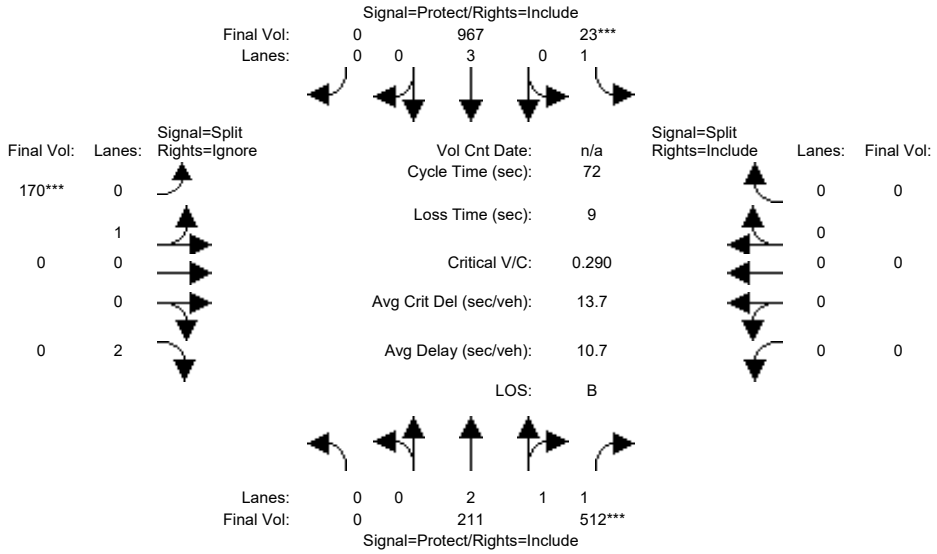
Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	211	512	23	967	0	170	0	797	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	211	512	23	967	0	170	0	797	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	211	512	23	967	0	170	0	797	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	211	512	23	967	0	170	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	211	512	23	967	0	170	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	211	512	23	967	0	170	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1800	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.15	0.01	0.17	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	34.0	34.0	7.0	41.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.12	0.31	0.14	0.30	0.00	0.31	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	10.6	11.8	30.1	8.1	0.0	19.5	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.6	11.8	30.1	8.1	0.0	19.5	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	C	A	A	B	A	A	A	A	A
HCM2k95thQ:	0	3	7	1	7	0	6	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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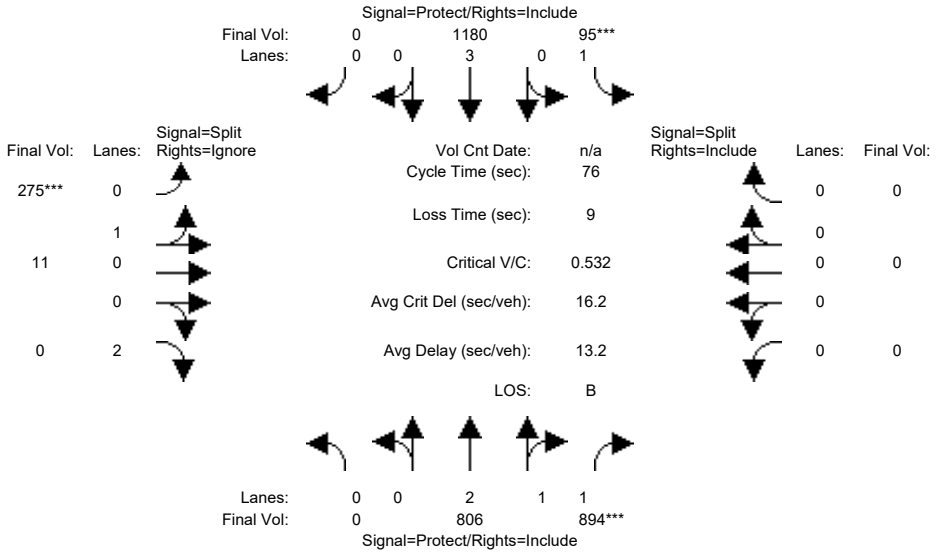
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	806	894	95	1180	0	275	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	806	894	95	1180	0	275	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	806	894	95	1180	0	275	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	806	894	95	1180	0	275	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	806	894	95	1180	0	275	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	806	894	95	1180	0	275	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	0.96	0.04	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1731	69	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.26	0.05	0.21	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	36.5	36.5	7.8	44.3	0.0	22.7	22.7	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.44	0.53	0.53	0.36	0.00	0.53	0.53	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	13.1	13.9	35.4	8.4	0.0	23.2	23.2	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.1	13.9	35.4	8.4	0.0	23.2	23.2	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	D	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	11	14	5	9	0	12	12	0	0	0	0

Note: Queue reported is the number of cars per lane.

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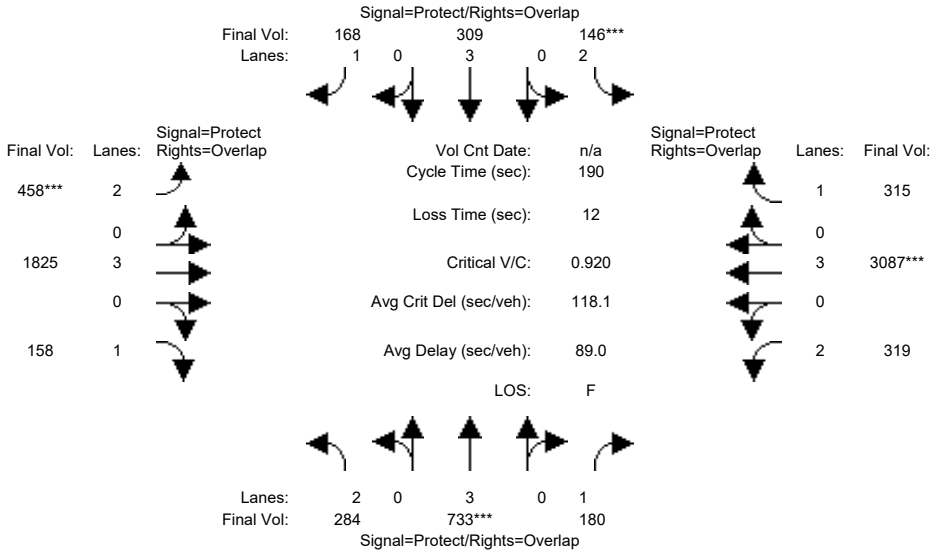
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	284	733	180	146	309	168	458	1825	158	319	3087	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	284	733	180	146	309	168	458	1825	158	319	3087	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	284	733	180	146	309	168	458	1825	158	319	3087	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	284	733	180	146	309	168	458	1825	158	319	3087	315
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	284	733	180	146	309	168	458	1825	158	319	3087	315
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	284	733	180	146	309	168	458	1825	158	319	3087	315
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.10	0.05	0.05	0.10	0.15	0.32	0.09	0.10	0.54	0.18
Crit Moves:		****		****			****				****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.78	0.58	0.32	0.59	0.29	0.27	0.86	0.60	0.14	0.96	1.16	0.33
Delay/Veh:	91.9	66.8	48.4	88.1	67.0	44.3	90.6	39.6	19.5	123.8	136	31.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	91.9	66.8	48.4	88.1	67.0	44.3	90.6	39.6	19.5	123.8	136	31.2
LOS by Move:	F	E	D	F	E	D	F	D	B	F	F	C
HCM2k95thQ:	18	22	15	10	10	14	31	45	11	26	117	24

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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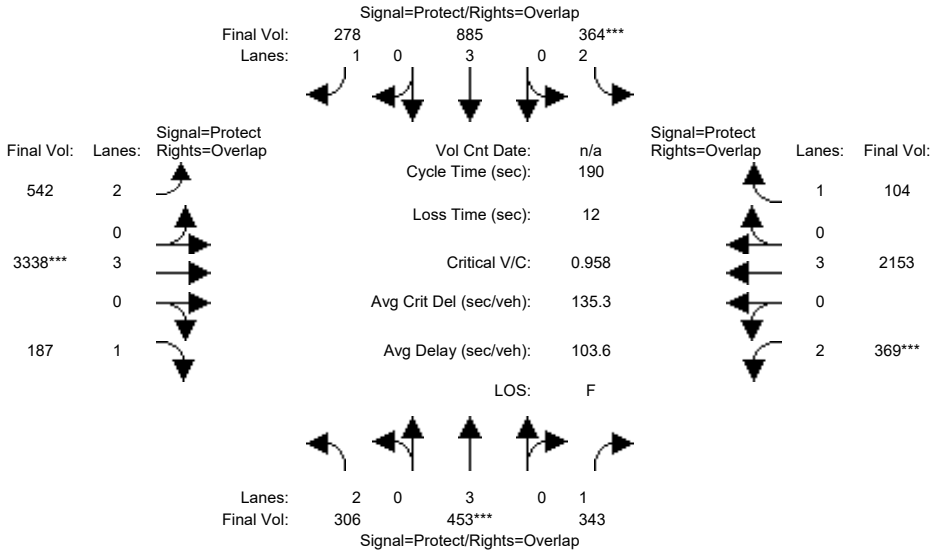
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	306	453	343	364	885	278	542	3338	187	369	2153	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	306	453	343	364	885	278	542	3338	187	369	2153	104
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	306	453	343	364	885	278	542	3338	187	369	2153	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	306	453	343	364	885	278	542	3338	187	369	2153	104
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	306	453	343	364	885	278	542	3338	187	369	2153	104
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	306	453	343	364	885	278	542	3338	187	369	2153	104
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.20	0.12	0.16	0.16	0.17	0.59	0.11	0.12	0.38	0.06
Crit Moves:		****		****				****		****		
Green Time:	18.5	39.0	58.9	19.6	40.1	64.5	24.4	99.5	118.0	19.9	95.0	114.6
Volume/Cap:	1.00	0.39	0.63	1.12	0.74	0.47	1.34	1.12	0.17	1.12	0.76	0.10
Delay/Veh:	136.2	65.4	58.7	171.0	72.4	49.9	260.4	137	32.0	170.5	30.5	9.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	136.2	65.4	58.7	171.0	72.4	49.9	260.4	137	32.0	170.5	30.5	9.1
LOS by Move:	F	E	E	F	E	D	F	F	C	F	C	A
HCM2k95thQ:	22	14	31	28	27	23	49	121	17	32	46	3

Note: Queue reported is the number of cars per lane.

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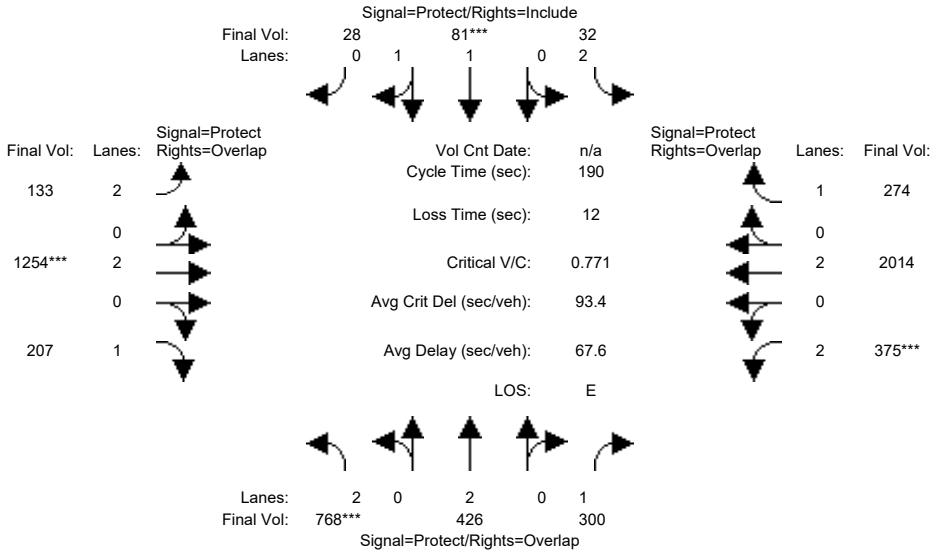
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	38	52	52	10	24	24	16	92	92	24	100	100
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	768	426	300	32	81	28	133	1458	207	375	2342	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	768	426	300	32	81	28	133	1458	207	375	2342	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	768	426	300	32	81	28	133	1458	207	375	2342	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	768	426	300	32	81	28	133	1254	207	375	2014	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	768	426	300	32	81	28	133	1254	207	375	2014	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	768	426	300	32	81	28	133	1254	207	375	2014	274
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.47	0.53	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	2749	950	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.11	0.17	0.01	0.03	0.03	0.04	0.33	0.12	0.12	0.53	0.16
Crit Moves:	****				****			****			****	
Green Time:	38.0	52.0	76.0	10.0	24.0	24.0	16.0	92.0	130.0	24.0	100	110.0
Volume/Cap:	1.22	0.41	0.43	0.19	0.23	0.23	0.50	0.68	0.17	0.94	1.01	0.27
Delay/Veh:	188.5	56.7	41.7	86.7	75.0	75.0	84.7	30.9	3.5	113.1	54.4	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	188.5	56.7	41.7	86.7	75.0	75.0	84.7	30.9	3.5	113.1	54.4	12.6
LOS by Move:	F	E	D	F	E	E	F	C	A	F	D	B
HCM2k95thQ:	59	18	23	2	6	6	10	38	3	22	87	9

Note: Queue reported is the number of cars per lane.

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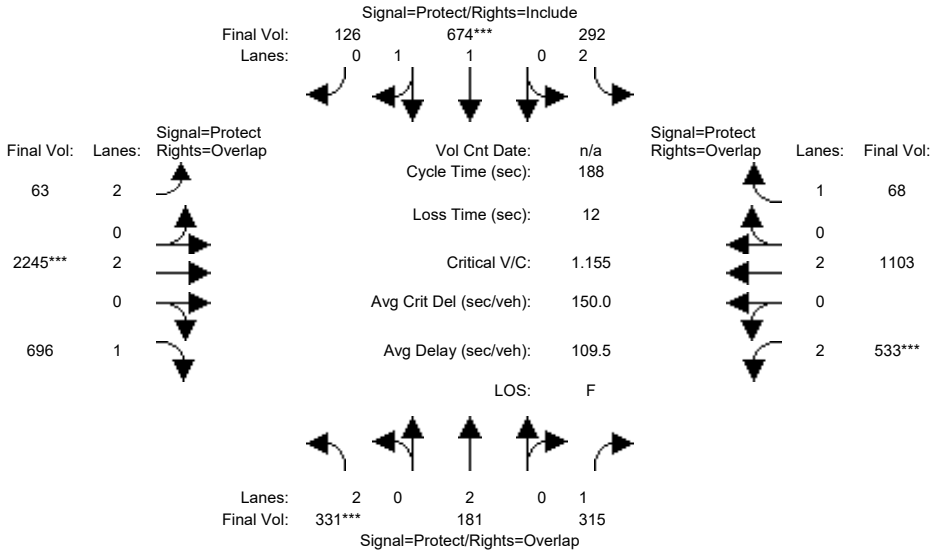
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	331	181	315	292	674	126	63	2878	696	533	1199	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	181	315	292	674	126	63	2878	696	533	1199	68
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	181	315	292	674	126	63	2878	696	533	1199	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	331	181	315	292	674	126	63	2245	696	533	1103	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	181	315	292	674	126	63	2245	696	533	1103	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	331	181	315	292	674	126	63	2245	696	533	1103	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.68	0.32	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3117	583	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.05	0.18	0.09	0.22	0.22	0.02	0.59	0.40	0.17	0.29	0.04
Crit Moves:	****				****			****			****	
Green Time:	18.0	39.0	66.4	14.0	35.0	35.0	13.2	95.6	113.6	27.4	110	123.8
Volume/Cap:	1.10	0.23	0.51	1.24	1.16	1.16	0.29	1.16	0.66	1.16	0.50	0.06
Delay/Veh:	165.5	62.1	48.7	227.7	165	164.7	83.7	137	35.8	174.7	14.2	4.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	165.5	62.1	48.7	227.7	165	164.7	83.7	137	35.8	174.7	14.2	4.7
LOS by Move:	F	E	D	F	F	F	F	F	D	F	B	A
HCM2k95thQ:	26	8	26	25	48	48	5	126	54	40	20	1

Note: Queue reported is the number of cars per lane.

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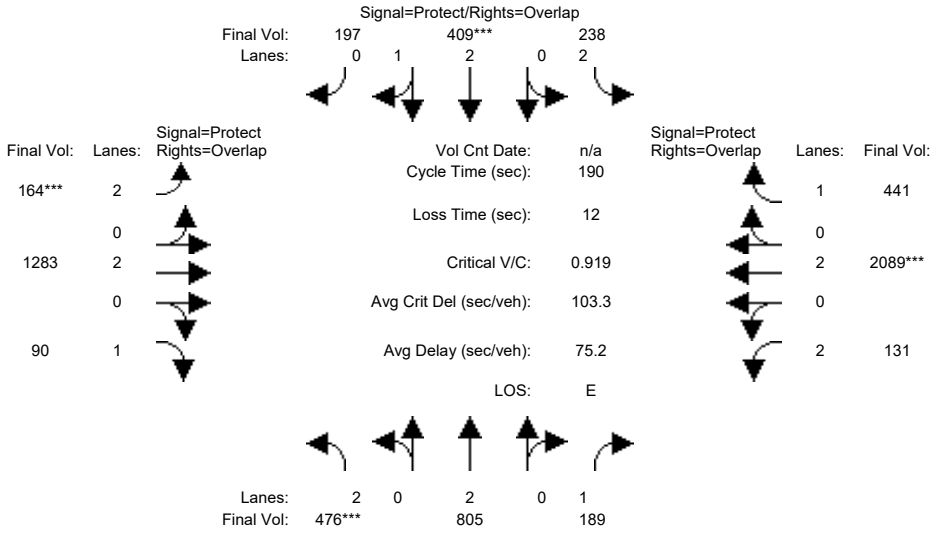
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	476	805	189	238	409	197	164	1492	90	131	2429	441
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	476	805	189	238	409	197	164	1492	90	131	2429	441
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	476	805	189	238	409	197	164	1492	90	131	2429	441
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	476	805	189	238	409	197	164	1283	90	131	2089	441
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	476	805	189	238	409	197	164	1283	90	131	2089	441
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	476	805	189	238	409	197	164	1283	90	131	2089	441
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3798	1800	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.21	0.11	0.08	0.11	0.11	0.05	0.34	0.05	0.04	0.55	0.25
Crit Moves:	****				****		****				****	
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.06	0.79	0.29	0.84	0.50	0.35	0.55	0.71	0.08	0.42	1.14	0.44
Delay/Veh:	141.9	68.7	42.7	105.4	65.8	50.8	84.3	32.3	7.5	81.2	107	14.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	141.9	68.7	42.7	105.4	65.8	50.8	84.3	32.3	7.5	81.2	107	14.9
LOS by Move:	F	E	D	F	E	D	F	C	A	F	F	B
HCM2k95thQ:	35	37	15	17	19	17	10	40	2	8	116	18

Note: Queue reported is the number of cars per lane.

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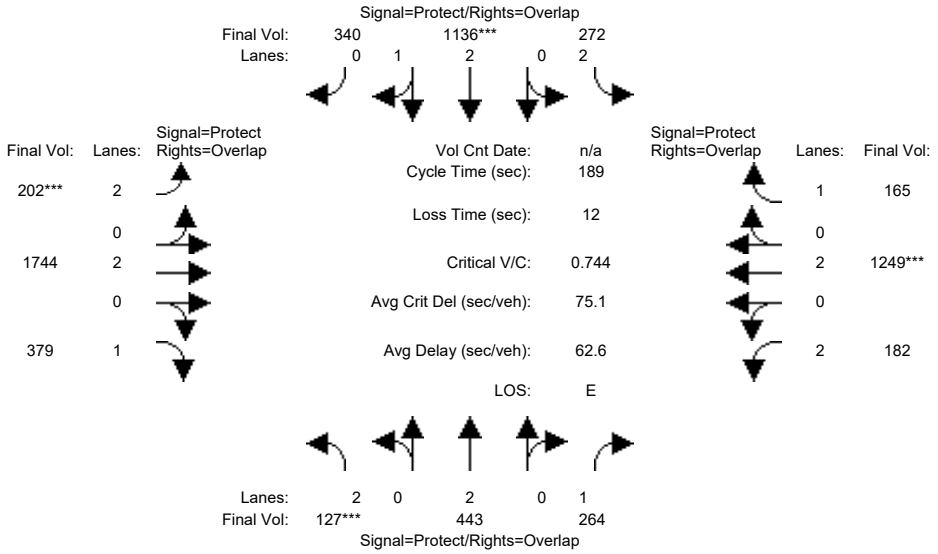
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module:												
Base Vol:	127	443	264	272	1136	340	202	2813	379	182	1358	165
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	443	264	272	1136	340	202	2813	379	182	1358	165
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	443	264	272	1136	340	202	2813	379	182	1358	165
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	127	443	264	272	1136	340	202	1744	379	182	1249	165
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	443	264	272	1136	340	202	1744	379	182	1249	165
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	443	264	272	1136	340	202	1744	379	182	1249	165
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.28	0.72	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	4308	1289	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.12	0.15	0.09	0.26	0.26	0.06	0.46	0.22	0.06	0.33	0.09
Crit Moves:	****				****		****				****	
Green Time:	13.0	36.6	52.6	24.4	48.0	61.0	13.0	100	113.0	16.0	103	127.4
Volume/Cap:	0.59	0.60	0.54	0.67	1.04	0.82	0.93	0.87	0.36	0.68	0.60	0.14
Delay/Veh:	89.5	71.0	59.2	82.7	105	61.9	130.1	53.8	27.3	91.1	29.7	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.5	71.0	59.2	82.7	105	61.9	130.1	53.8	27.3	91.1	29.7	11.1
LOS by Move:	F	E	E	F	F	E	F	D	C	F	C	B
HCM2k95thQ:	9	21	24	17	54	44	13	67	27	12	40	7

Note: Queue reported is the number of cars per lane.

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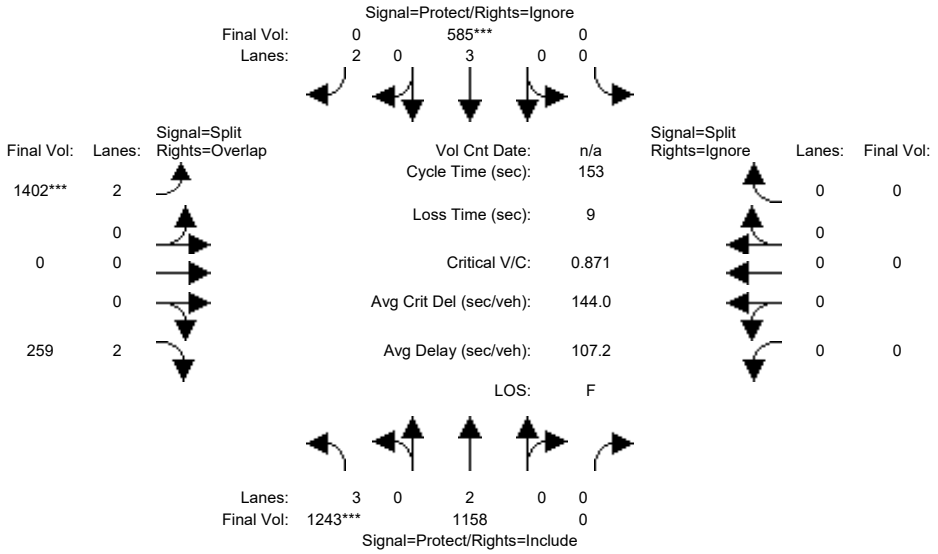
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	27	79	0		0	50	50		67	0	67		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	1243	1158	0		0	585	1867		1630	0	259		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1243	1158	0		0	585	1867		1630	0	259		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1243	1158	0		0	585	1867		1630	0	259		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	0.00		0.86	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1243	1158	0		0	585	0		1402	0	259		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1243	1158	0		0	585	0		1402	0	259		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1243	1158	0		0	585	0		1402	0	259		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.80	1.00	0.92		0.92	1.00	0.83		0.83	1.00	0.83		0.92	1.00	0.92	
Lanes:	3.00	2.00	0.00		0.00	3.00	2.00		2.00	0.00	2.00		0.00	0.00	0.00	
Final Sat.:	4551	3800	0		0	5700	3150		3150	0	3150		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.27	0.30	0.00		0.00	0.10	0.00		0.45	0.00	0.08		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green Time:	28.6	78.0	0.0		0.0	49.4	0.0		66.1	0.0	94.8		0.0	0.0	0.0	
Volume/Cap:	1.46	0.60	0.00		0.00	0.32	0.00		1.03	0.00	0.13		0.00	0.00	0.00	
Delay/Veh:	276.4	27.3	0.0		0.0	39.7	0.0		70.0	0.0	6.5		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	276.4	27.3	0.0		0.0	39.7	0.0		70.0	0.0	6.5		0.0	0.0	0.0	
LOS by Move:	F	C	A		A	D	A		E	A	A		A	A	A	
HCM2k95thQ:	71	33	0		0	13	0		71	0	3		0	0	0	

Note: Queue reported is the number of cars per lane.

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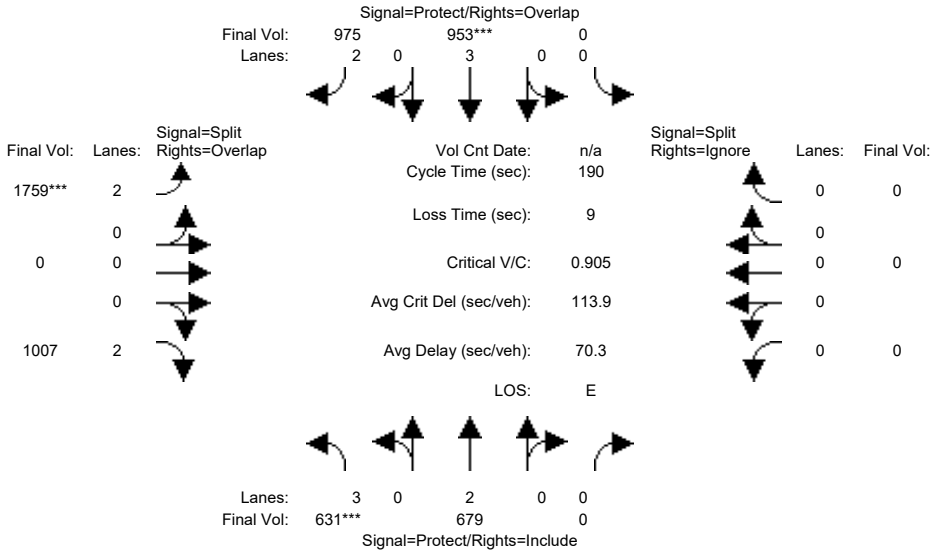
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	631	679	0	0	953	975	2513	0	1007	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	631	679	0	0	953	975	2513	0	1007	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	631	679	0	0	953	975	2513	0	1007	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.70	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	631	679	0	0	953	975	1759	0	1007	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	631	679	0	0	953	975	1759	0	1007	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	631	679	0	0	953	975	1759	0	1007	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	4551	3800	0	0	5700	3150	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.18	0.00	0.00	0.17	0.31	0.56	0.00	0.32	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	1.62	0.46	0.00	0.00	0.55	0.36	0.99	0.00	0.49	0.00	0.00	0.00
Delay/Veh:	382.9	45.0	0.0	0.0	57.8	2.5	47.8	0.0	8.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	382.9	45.0	0.0	0.0	57.8	2.5	47.8	0.0	8.2	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	D	A	A	A	A	A
HCM2k95thQ:	48	26	0	0	27	13	98	0	16	0	0	0

Note: Queue reported is the number of cars per lane.

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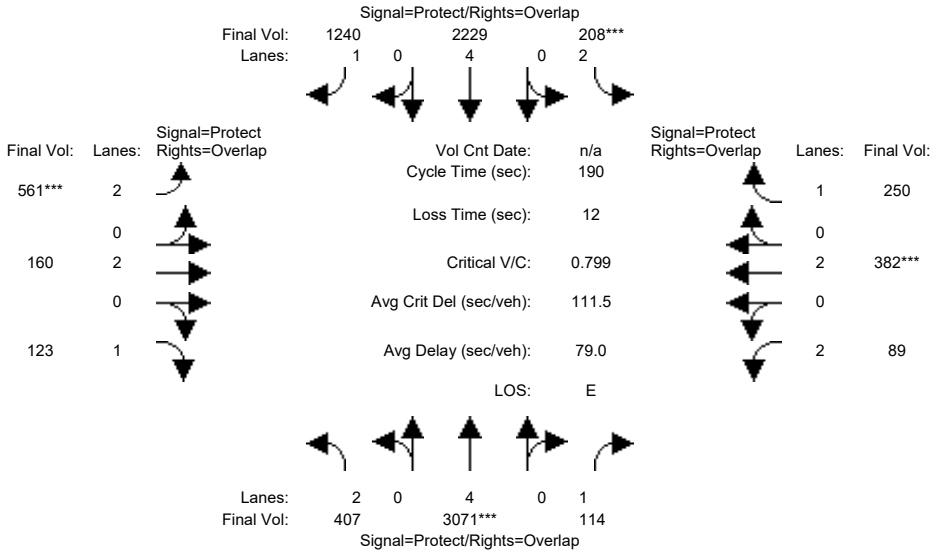
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	407	3071	114	208	2229	1240	561	160	123	89	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3071	114	208	2229	1240	561	160	123	89	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3071	114	208	2229	1240	561	160	123	89	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3071	114	208	2229	1240	561	160	123	89	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3071	114	208	2229	1240	561	160	123	89	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3071	114	208	2229	1240	561	160	123	89	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.07	0.07	0.29	0.71	0.18	0.04	0.07	0.03	0.10	0.14
Crit Moves:		****		****			****				****	
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.69	0.10	0.63	0.53	1.12	2.26	0.24	0.22	0.41	0.62	0.53
Delay/Veh:	102.6	16.6	4.9	85.2	18.3	84.4	665.4	67.9	48.0	86.1	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	16.6	4.9	85.2	18.3	84.4	665.4	67.9	48.0	86.1	75.8	60.5
LOS by Move:	F	B	A	F	B	F	F	E	D	F	E	E
HCM2k95thQ:	29	35	2	15	25	144	65	8	10	6	18	22

Note: Queue reported is the number of cars per lane.

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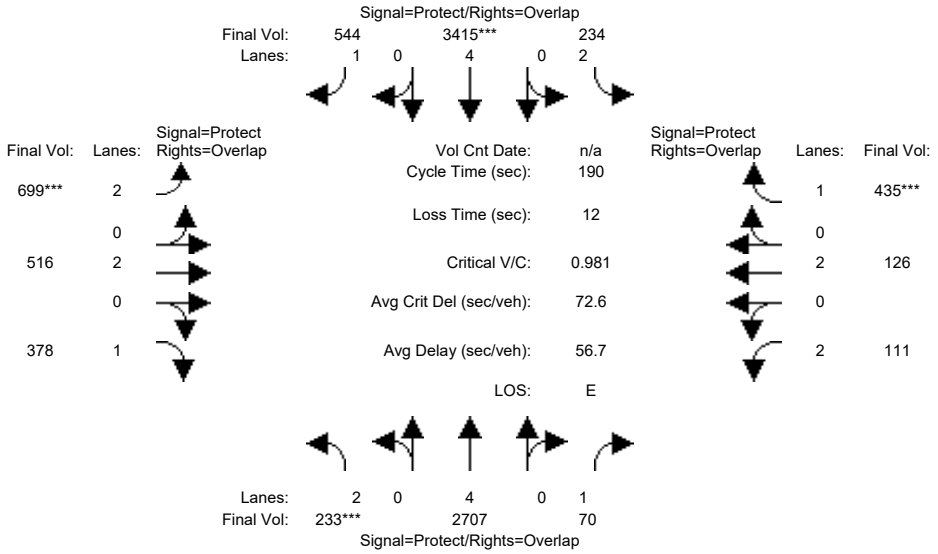
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module:												
Base Vol:	233	2707	70	234	3415	544	699	516	378	111	126	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	233	2707	70	234	3415	544	699	516	378	111	126	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	233	2707	70	234	3415	544	699	516	378	111	126	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	233	2707	70	234	3415	544	699	516	378	111	126	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	2707	70	234	3415	544	699	516	378	111	126	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	233	2707	70	234	3415	544	699	516	378	111	126	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.36	0.04	0.07	0.45	0.31	0.22	0.14	0.22	0.04	0.03	0.25
Crit Moves:	****				****		****					****
Green Time:	13.6	90.3	103.4	21.3	98.0	138.9	40.9	53.3	67.0	13.0	27.0	48.3
Volume/Cap:	1.03	0.75	0.07	0.66	0.87	0.43	1.03	0.48	0.61	0.51	0.23	0.98
Delay/Veh:	156.2	33.5	14.3	85.5	53.3	17.9	117.2	57.2	52.6	87.5	72.5	107.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	156.2	33.5	14.3	85.5	53.3	17.9	117.2	57.2	52.6	87.5	72.5	107.0
LOS by Move:	F	C	B	F	D	B	F	E	D	F	E	F
HCM2k95thQ:	21	45	3	17	73	35	45	21	32	7	6	48

Note: Queue reported is the number of cars per lane.

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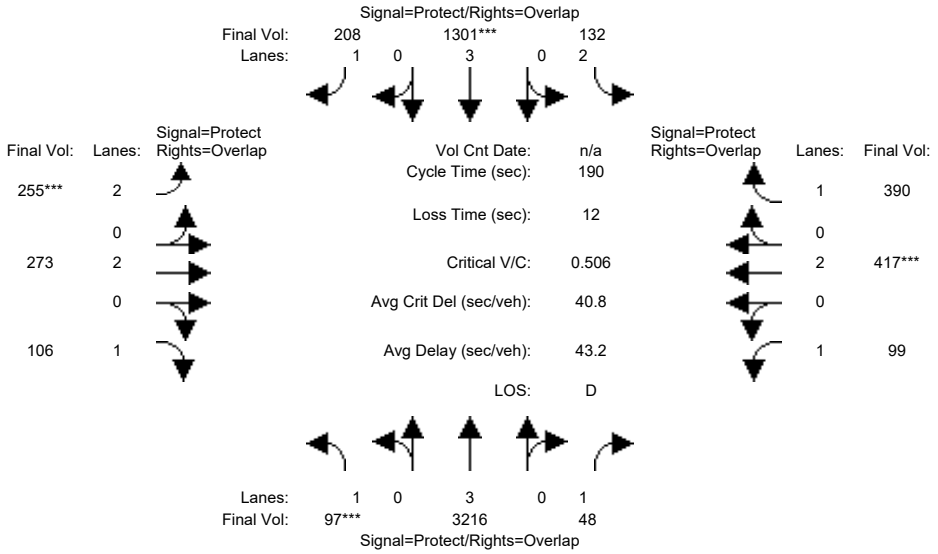
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	97	3784	48	132	1531	208	255	273	106	99	417	390
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	3784	48	132	1531	208	255	273	106	99	417	390
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	3784	48	132	1531	208	255	273	106	99	417	390
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	3216	48	132	1301	208	255	273	106	99	417	390
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	3216	48	132	1301	208	255	273	106	99	417	390
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	3216	48	132	1301	208	255	273	106	99	417	390
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.56	0.03	0.04	0.23	0.12	0.08	0.07	0.06	0.06	0.11	0.22
Crit Moves:	****				****		****				****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.62	0.98	0.04	0.66	0.42	0.18	0.77	0.35	0.21	0.60	0.56	0.86
Delay/Veh:	90.8	37.3	4.1	95.2	17.4	5.7	93.2	64.9	50.5	88.4	70.2	83.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.8	37.3	4.1	95.2	17.4	5.7	93.2	64.9	50.5	88.4	70.2	83.1
LOS by Move:	F	D	A	F	B	A	F	E	D	F	E	F
HCM2k95thQ:	10	88	1	9	18	4	19	13	9	13	20	42

Note: Queue reported is the number of cars per lane.

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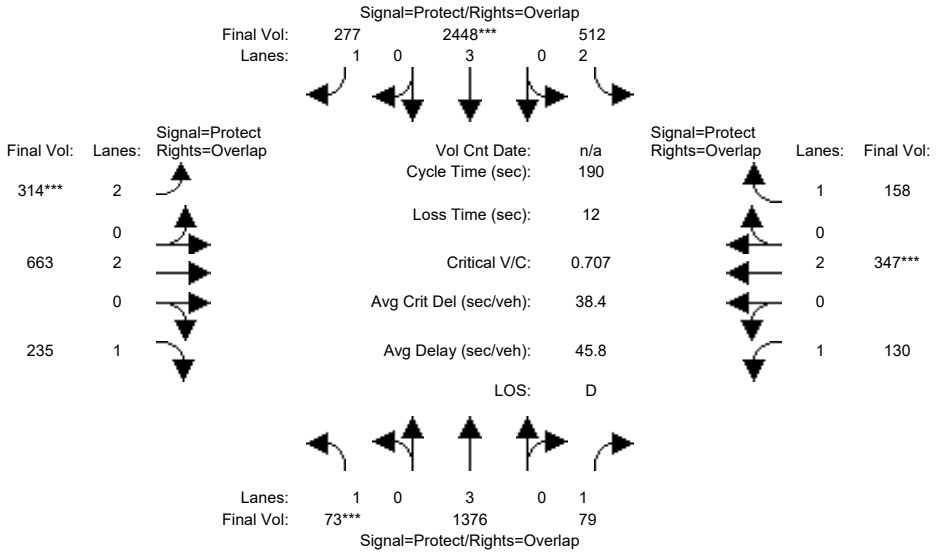
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	73	1911	79	512	3353	277	314	663	235	130	347	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	1911	79	512	3353	277	314	663	235	130	347	158
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	1911	79	512	3353	277	314	663	235	130	347	158
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	1376	79	512	2448	277	314	663	235	130	347	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	1376	79	512	2448	277	314	663	235	130	347	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	1376	79	512	2448	277	314	663	235	130	347	158
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.24	0.05	0.16	0.43	0.16	0.10	0.17	0.13	0.07	0.09	0.09
Crit Moves:	****				****		****				****	
Green Time:	11.0	79.4	95.5	34.6	103	127.0	23.9	47.8	58.8	16.1	40.0	74.6
Volume/Cap:	0.72	0.58	0.09	0.89	0.79	0.24	0.79	0.69	0.43	0.88	0.43	0.23
Delay/Veh:	110.1	37.4	18.8	91.9	25.7	4.8	91.0	66.6	52.8	126.4	65.5	38.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.1	37.4	18.8	91.9	25.7	4.8	91.0	66.6	52.8	126.4	65.5	38.7
LOS by Move:	F	D	B	F	C	A	F	E	D	F	E	D
HCM2k95thQ:	9	29	3	32	51	5	22	31	21	19	16	12

Note: Queue reported is the number of cars per lane.

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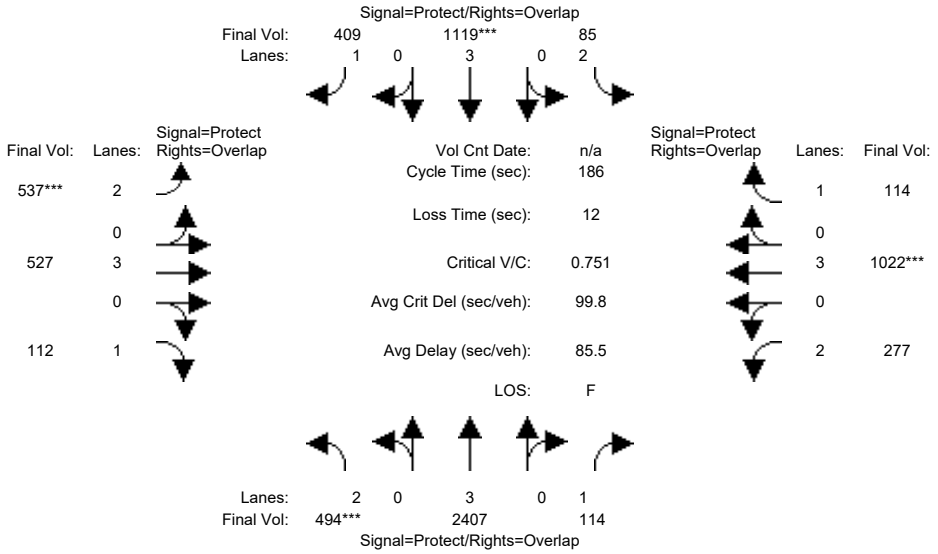
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	494	2832	114	85	1316	409	537	527	112	277	1022	114
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	494	2832	114	85	1316	409	537	527	112	277	1022	114
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	494	2832	114	85	1316	409	537	527	112	277	1022	114
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	494	2407	114	85	1119	409	537	527	112	277	1022	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	494	2407	114	85	1119	409	537	527	112	277	1022	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	494	2407	114	85	1119	409	537	527	112	277	1022	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.51	0.07	0.03	0.20	0.23	0.17	0.09	0.06	0.09	0.18	0.07
Crit Moves:	****				****		****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	1.08	0.98	0.10	0.33	0.43	0.39	1.22	0.48	0.19	0.63	0.93	0.24
Delay/Veh:	153.9	87.8	26.3	81.6	40.7	27.6	197.8	67.0	43.6	78.4	86.7	52.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	153.9	87.8	26.3	81.6	40.7	27.6	197.8	67.0	43.6	78.4	86.7	52.7
LOS by Move:	F	F	C	F	D	C	F	E	D	E	F	D
HCM2k95thQ:	36	77	10	5	28	30	43	16	9	17	35	10

Note: Queue reported is the number of cars per lane.

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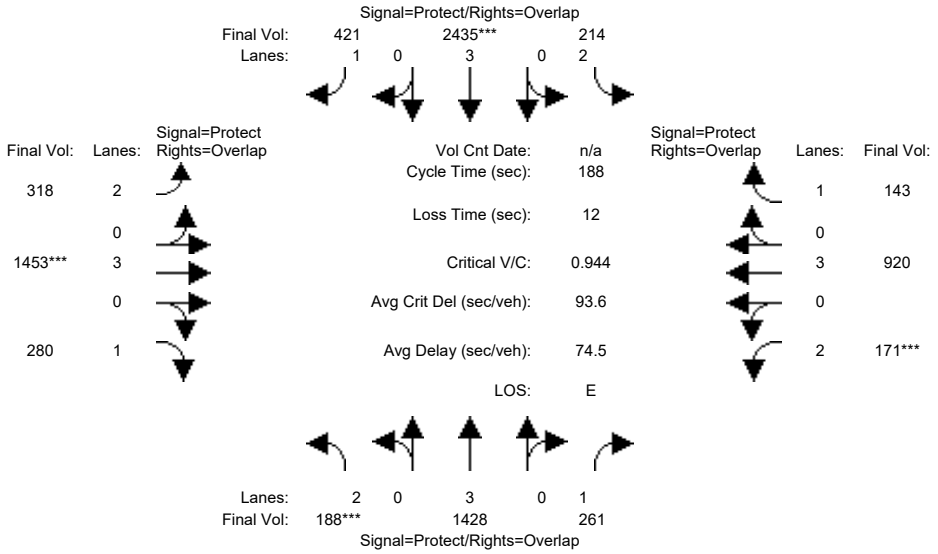
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	188	1700	261	214	2969	421	318	1453	280	171	920	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	1700	261	214	2969	421	318	1453	280	171	920	143
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	1700	261	214	2969	421	318	1453	280	171	920	143
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	188	1428	261	214	2435	421	318	1453	280	171	920	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	1428	261	214	2435	421	318	1453	280	171	920	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	188	1428	261	214	2435	421	318	1453	280	171	920	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.25	0.15	0.07	0.51	0.24	0.10	0.25	0.16	0.05	0.16	0.08
Crit Moves:	****				****			****			****	
Green Time:	13.0	84.5	100.5	22.5	94.0	117.0	23.0	53.0	66.0	16.0	46.0	68.5
Volume/Cap:	0.86	0.56	0.28	0.57	1.03	0.39	0.83	0.90	0.46	0.64	0.66	0.22
Delay/Veh:	114.6	45.3	31.0	87.2	105	37.3	94.1	72.7	47.7	88.3	65.1	41.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	114.6	45.3	31.0	87.2	105	37.3	94.1	72.7	47.7	88.3	65.1	41.5
LOS by Move:	F	D	C	F	F	D	F	E	D	F	E	D
HCM2k95thQ:	14	37	20	13	78	35	20	44	23	11	27	11

Note: Queue reported is the number of cars per lane.

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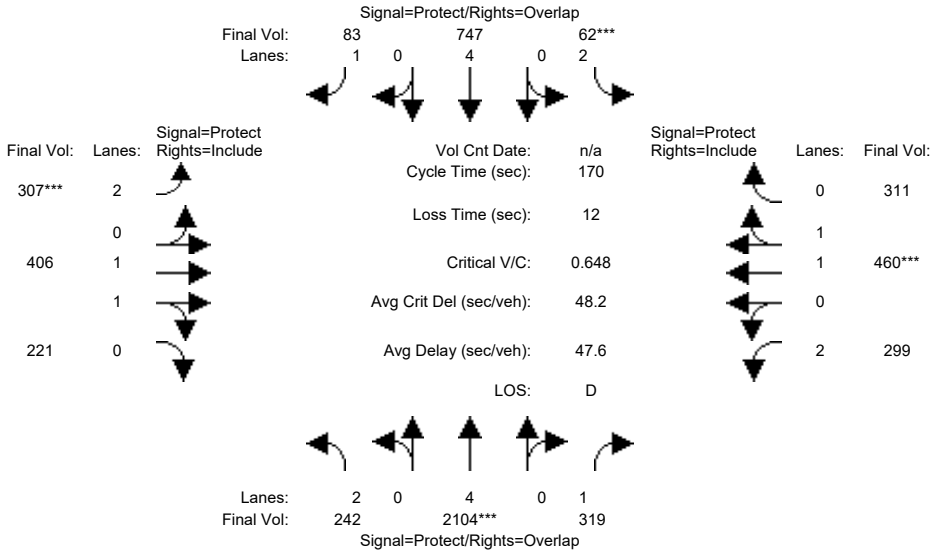
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	242	2104	319	62	747	83	307	406	221	299	460	311
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	2104	319	62	747	83	307	406	221	299	460	311
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	242	2104	319	62	747	83	307	406	221	299	460	311
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	2104	319	62	747	83	307	406	221	299	460	311
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	2104	319	62	747	83	307	406	221	299	460	311
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	2104	319	62	747	83	307	406	221	299	460	311
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.28	0.72	2.00	1.17	0.83
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2395	1304	3150	2206	1492
Capacity Analysis Module:												
Vol/Sat:	0.08	0.28	0.18	0.02	0.10	0.05	0.10	0.17	0.17	0.09	0.21	0.21
Crit Moves:		****			****			****			****	
Green Time:	18.4	73.0	99.0	16.0	70.6	93.6	23.0	43.0	43.0	26.0	46.0	46.0
Volume/Cap:	0.71	0.64	0.31	0.21	0.24	0.09	0.72	0.67	0.67	0.62	0.77	0.77
Delay/Veh:	80.0	38.7	18.3	71.5	32.3	18.1	76.3	59.0	59.0	69.8	60.9	60.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.0	38.7	18.3	71.5	32.3	18.1	76.3	59.0	59.0	69.8	60.9	60.9
LOS by Move:	E	D	B	E	C	B	E	E	E	E	E	E
HCM2k95thQ:	14	38	21	4	14	6	17	26	26	16	33	33

Note: Queue reported is the number of cars per lane.

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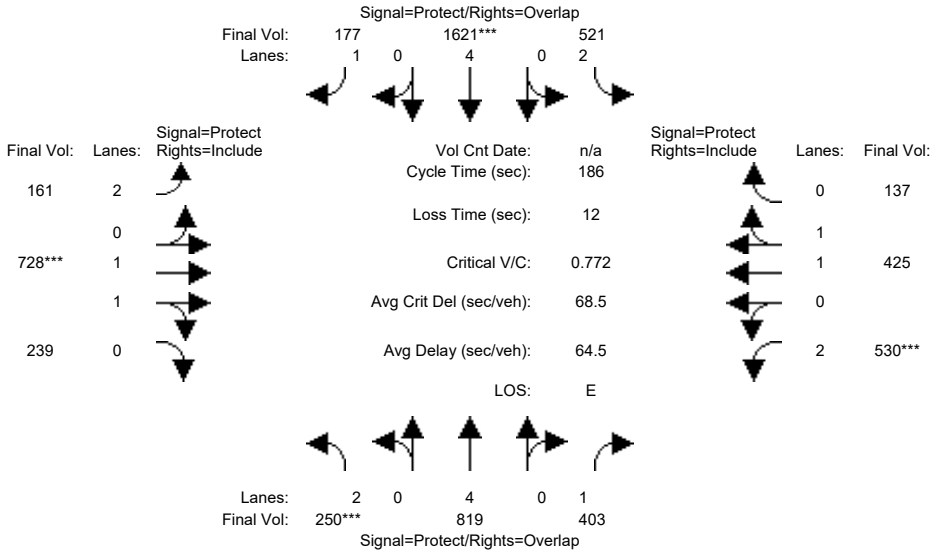
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	250	819	403	521	1621	177	161	728	239	530	425	137
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	250	819	403	521	1621	177	161	728	239	530	425	137
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	250	819	403	521	1621	177	161	728	239	530	425	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	250	819	403	521	1621	177	161	728	239	530	425	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	250	819	403	521	1621	177	161	728	239	530	425	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	250	819	403	521	1621	177	161	728	239	530	425	137
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.49	0.51	2.00	1.50	0.50
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2785	914	3150	2797	902
Capacity Analysis Module:												
Vol/Sat:	0.08	0.11	0.23	0.17	0.21	0.10	0.05	0.26	0.26	0.17	0.15	0.15
Crit Moves:	****				****			****		****		
Green Time:	19.0	54.7	91.7	32.3	68.0	108.9	40.9	50.0	50.0	37.0	46.1	46.1
Volume/Cap:	0.78	0.37	0.47	0.95	0.58	0.17	0.23	0.97	0.97	0.85	0.61	0.61
Delay/Veh:	92.8	52.1	31.5	102.7	47.9	17.9	59.8	89.3	89.3	82.1	63.3	63.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.8	52.1	31.5	102.7	47.9	17.9	59.8	89.3	89.3	82.1	63.3	63.3
LOS by Move:	F	D	C	F	D	B	E	F	F	F	E	E
HCM2k95thQ:	16	18	32	34	33	13	9	50	50	31	25	25

Note: Queue reported is the number of cars per lane.

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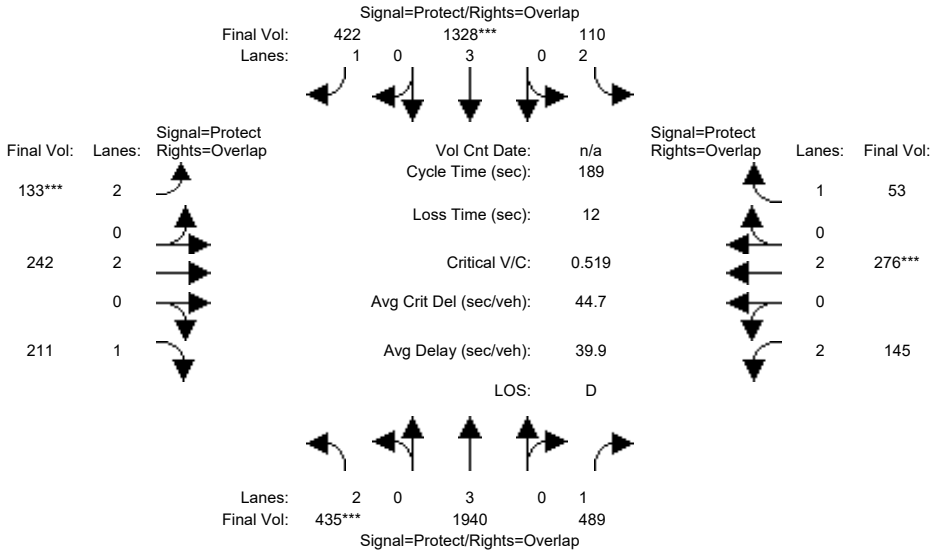
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	435	2230	489	110	1526	422	133	242	211	145	276	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	435	2230	489	110	1526	422	133	242	211	145	276	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	435	2230	489	110	1526	422	133	242	211	145	276	53
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	435	1940	489	110	1328	422	133	242	211	145	276	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	435	1940	489	110	1328	422	133	242	211	145	276	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	435	1940	489	110	1328	422	133	242	211	145	276	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.34	0.28	0.03	0.23	0.24	0.04	0.06	0.13	0.05	0.07	0.03
Crit Moves:	****				****		****				****	
Green Time:	38.0	111	124.8	18.9	92.0	107.0	15.0	33.3	71.3	13.7	32.0	50.9
Volume/Cap:	0.69	0.58	0.42	0.35	0.48	0.43	0.53	0.36	0.35	0.63	0.43	0.11
Delay/Veh:	73.7	33.6	23.4	80.0	25.7	15.5	85.8	68.8	42.6	91.0	70.8	52.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.7	33.6	23.4	80.0	25.7	15.5	85.8	68.8	42.6	91.0	70.8	52.1
LOS by Move:	E	C	C	E	C	B	F	E	D	F	E	D
HCM2k95thQ:	27	46	34	7	23	18	10	12	17	9	13	5

Note: Queue reported is the number of cars per lane.

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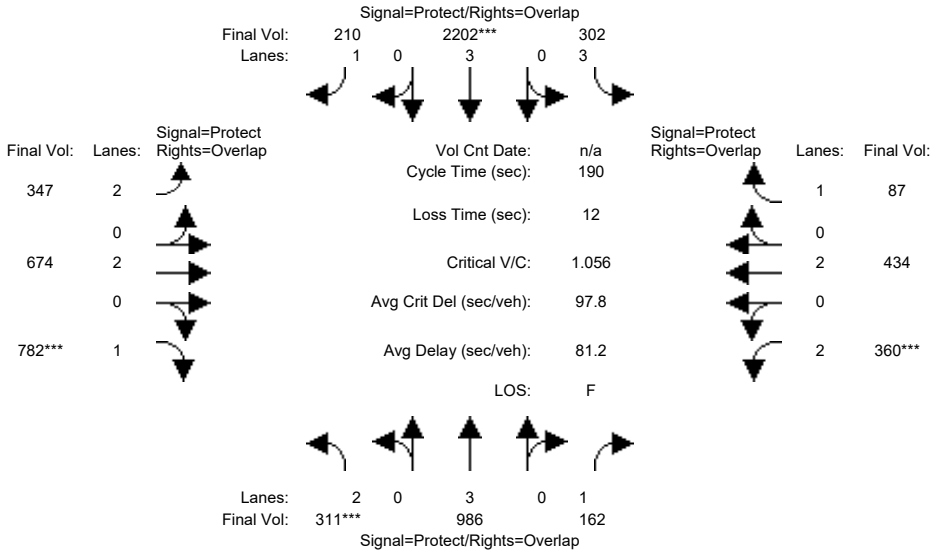
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	311	1472	162	302	2753	210	347	674	782	360	434	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	311	1472	162	302	2753	210	347	674	782	360	434	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	311	1472	162	302	2753	210	347	674	782	360	434	87
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	311	986	162	302	2202	210	347	674	782	360	434	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	311	986	162	302	2202	210	347	674	782	360	434	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	311	986	162	302	2202	210	347	674	782	360	434	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.56	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	3.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3186	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.17	0.09	0.09	0.39	0.12	0.11	0.18	0.49	0.11	0.11	0.05
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	0.85	0.38	0.16	1.20	0.93	0.21	0.74	0.64	1.24	0.90	0.45	0.15
Delay/Veh:	99.7	28.8	11.6	209.5	68.0	27.3	83.2	61.3	177.5	105.4	59.8	44.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.7	28.8	11.6	209.5	68.0	27.3	83.2	61.3	177.5	105.4	59.8	44.4
LOS by Move:	F	C	B	F	E	C	F	E	F	F	E	D
HCM2k95thQ:	23	18	5	19	68	16	23	30	105	23	18	7

Note: Queue reported is the number of cars per lane.

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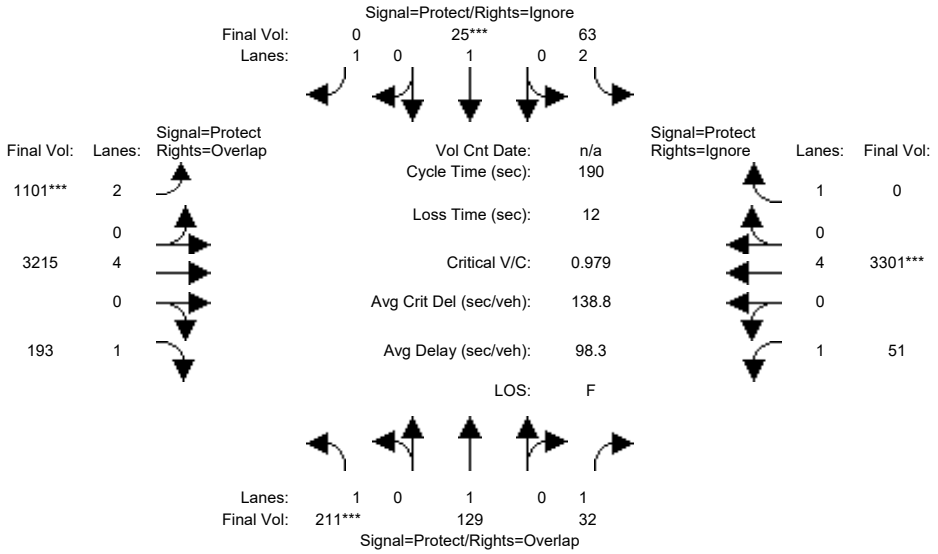
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	211	129	32	63	25	323	1101	3215	193	51	3301	633
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	129	32	63	25	323	1101	3215	193	51	3301	633
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	129	32	63	25	323	1101	3215	193	51	3301	633
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	211	129	32	63	25	0	1101	3215	193	51	3301	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	129	32	63	25	0	1101	3215	193	51	3301	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	211	129	32	63	25	0	1101	3215	193	51	3301	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.07	0.02	0.02	0.01	0.00	0.35	0.42	0.11	0.03	0.43	0.00
Crit Moves:	****				****		****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.72	0.40	0.08	0.32	0.21	0.00	1.11	0.66	0.14	0.46	1.12	0.00
Delay/Veh:	82.8	71.3	57.2	86.0	85.4	0.0	147.5	46.7	14.8	92.8	140	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	82.8	71.3	57.2	86.0	85.4	0.0	147.5	46.7	14.8	92.8	140	0.0
LOS by Move:	F	E	E	F	F	A	F	D	B	F	F	A
HCM2k95thQ:	24	13	3	5	3	0	75	64	16	7	92	0

Note: Queue reported is the number of cars per lane.

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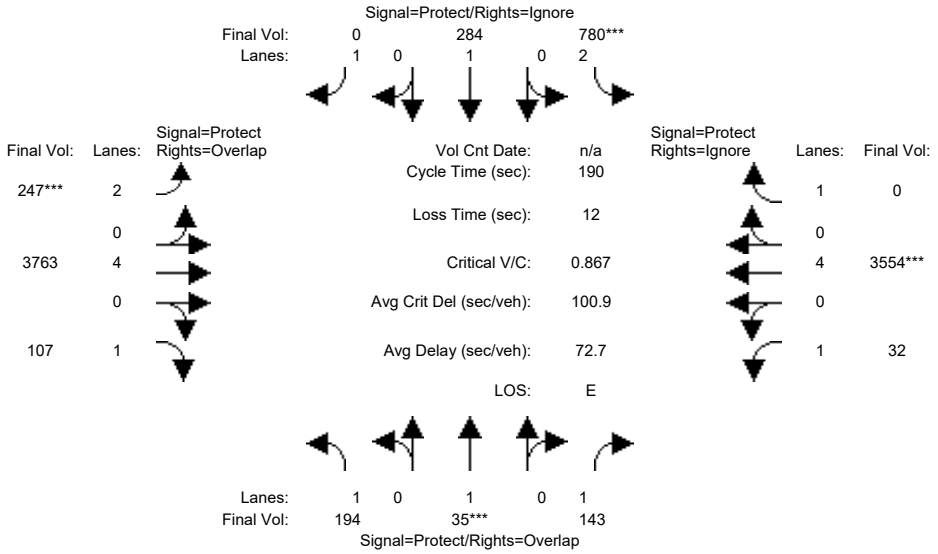
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	194	35	143	780	284	845	247	3763	107	32	3554	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	35	143	780	284	845	247	3763	107	32	3554	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	35	143	780	284	845	247	3763	107	32	3554	152
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	194	35	143	780	284	0	247	3763	107	32	3554	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	35	143	780	284	0	247	3763	107	32	3554	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	194	35	143	780	284	0	247	3763	107	32	3554	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.02	0.08	0.25	0.15	0.00	0.08	0.50	0.06	0.02	0.47	0.00
Crit Moves:		****		****			****				****	
Green Time:	28.1	26.0	35.3	44.3	42.2	0.0	24.0	98.4	126.5	9.3	83.7	0.0
Volume/Cap:	0.75	0.13	0.44	1.06	0.67	0.00	0.62	0.96	0.09	0.37	1.06	0.00
Delay/Veh:	89.0	72.3	69.5	123.6	71.8	0.0	81.7	39.2	4.4	90.2	97.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.0	72.3	69.5	123.6	71.8	0.0	81.7	39.2	4.4	90.2	97.5	0.0
LOS by Move:	F	E	E	F	E	A	F	D	A	F	F	A
HCM2k95thQ:	23	4	15	55	27	0	16	82	2	5	93	0

Note: Queue reported is the number of cars per lane.

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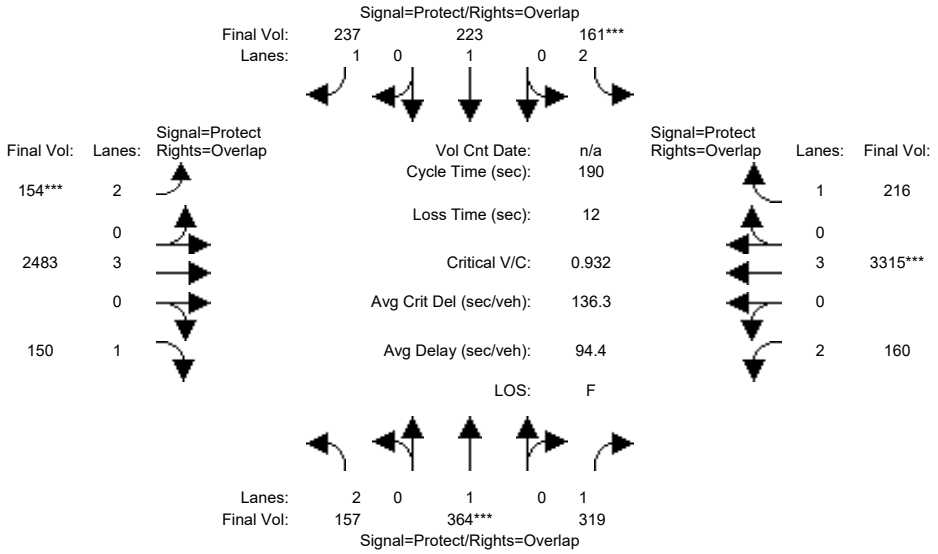
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	157	364	319	161	223	237	154	2854	150	160	3810	216
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	364	319	161	223	237	154	2854	150	160	3810	216
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	157	364	319	161	223	237	154	2854	150	160	3810	216
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	364	319	161	223	237	154	2483	150	160	3315	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	364	319	161	223	237	154	2483	150	160	3315	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	364	319	161	223	237	154	2483	150	160	3315	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.18	0.05	0.12	0.14	0.05	0.44	0.09	0.05	0.58	0.12
Crit Moves:		****			****			****			****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.39	0.74	0.54	0.74	0.60	0.48	0.58	0.91	0.14	0.65	1.23	0.23
Delay/Veh:	76.5	70.4	52.1	99.6	72.1	57.6	87.0	50.8	16.0	91.2	148	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.5	70.4	52.1	99.6	72.1	57.6	87.0	50.8	16.0	91.2	148	16.0
LOS by Move:	E	E	D	F	E	E	F	D	B	F	F	B
HCM2k95thQ:	10	35	31	13	23	25	11	72	8	12	133	9

Note: Queue reported is the number of cars per lane.

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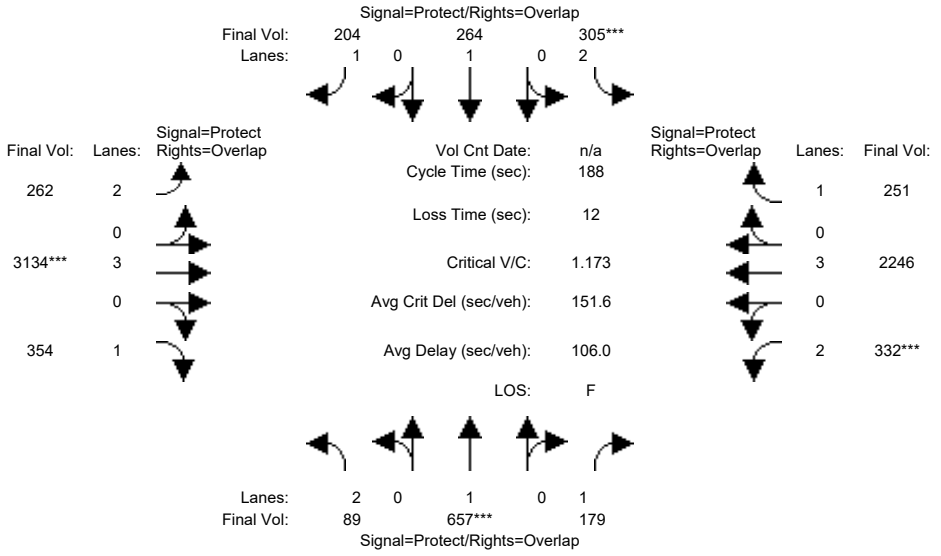
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	89	657	179	305	264	204	262	3918	354	332	3303	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	657	179	305	264	204	262	3918	354	332	3303	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	657	179	305	264	204	262	3918	354	332	3303	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	657	179	305	264	204	262	3134	354	332	2246	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	657	179	305	264	204	262	3134	354	332	2246	251
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	657	179	305	264	204	262	3134	354	332	2246	251
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.35	0.10	0.10	0.14	0.12	0.08	0.55	0.20	0.11	0.39	0.14
Crit Moves:		****		****				****		****		
Green Time:	14.3	49.0	71.0	20.0	54.7	76.7	22.0	85.0	99.3	22.0	85.0	105.0
Volume/Cap:	0.37	1.33	0.27	0.91	0.48	0.29	0.71	1.22	0.38	0.90	0.87	0.26
Delay/Veh:	83.6	230	40.8	110.8	55.5	37.5	86.3	144	19.2	106.1	58.8	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.6	230	40.8	110.8	55.5	37.5	86.3	144	19.2	106.1	58.8	28.4
LOS by Move:	F	F	D	F	E	D	F	F	B	F	E	C
HCM2k95thQ:	6	87	14	24	22	15	18	124	16	25	65	19

Note: Queue reported is the number of cars per lane.

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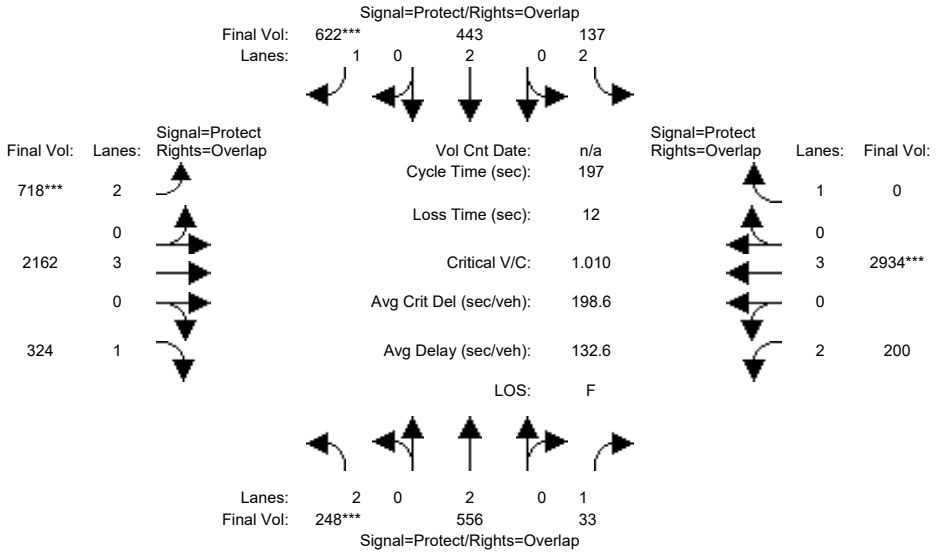
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	248	556	33	137	443	622	718	2485	324	200	3372	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	556	33	137	443	622	718	2485	324	200	3372	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	556	33	137	443	622	718	2485	324	200	3372	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	248	556	33	137	443	622	718	2162	324	200	2934	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	556	33	137	443	622	718	2162	324	200	2934	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	248	556	33	137	443	622	718	2162	324	200	2934	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.02	0.04	0.12	0.36	0.23	0.38	0.19	0.06	0.51	0.00
Crit Moves:	****					****	****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	0.96	0.68	0.07	0.38	0.48	0.85	1.32	0.78	0.32	0.98	1.35	0.00
Delay/Veh:	136.1	73.8	52.4	81.6	63.9	61.2	238.3	43.0	22.5	150.5	223	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	136.1	73.8	52.4	81.6	63.9	61.2	238.3	43.0	22.5	150.5	223	0.0
LOS by Move:	F	E	D	F	E	E	F	D	C	F	F	A
HCM2k95thQ:	19	27	3	9	20	59	60	56	19	14	130	0

Note: Queue reported is the number of cars per lane.

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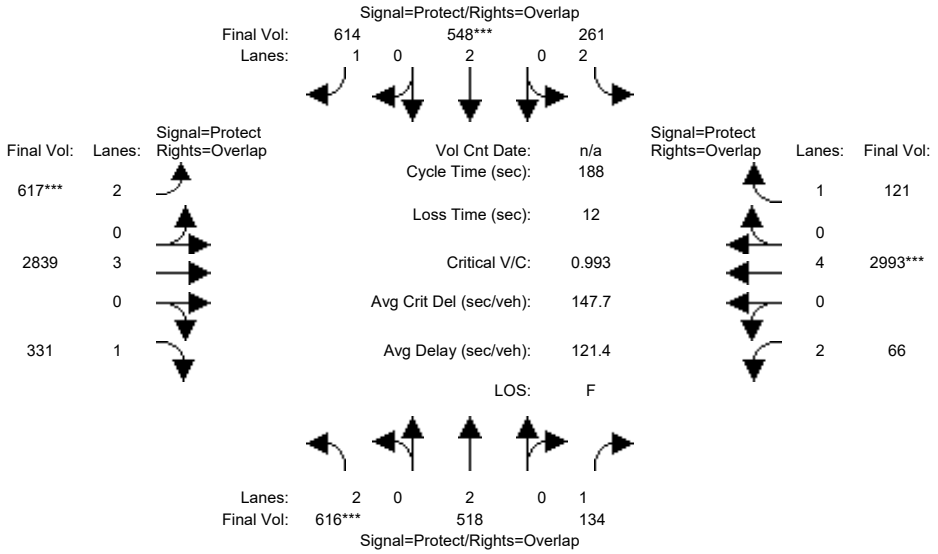
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	616	518	134	261	548	614	617	3687	331	66	2993	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	616	518	134	261	548	614	617	3687	331	66	2993	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	616	518	134	261	548	614	617	3687	331	66	2993	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	616	518	134	261	548	614	617	2839	331	66	2993	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	616	518	134	261	548	614	617	2839	331	66	2993	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	616	518	134	261	548	614	617	2839	331	66	2993	121
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.14	0.08	0.08	0.14	0.35	0.20	0.50	0.19	0.02	0.39	0.07
Crit Moves:	****				****		****				****	
Green Time:	31.5	43.1	53.1	36.3	48.0	79.5	31.5	86.5	118.0	10.0	65.0	101.3
Volume/Cap:	1.17	0.59	0.27	0.43	0.56	0.83	1.17	1.08	0.30	0.39	1.14	0.13
Delay/Veh:	172.9	65.7	52.7	67.2	61.7	56.0	183.3	124	34.3	90.8	151	38.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	172.9	65.7	52.7	67.2	61.7	56.0	183.3	124	34.3	90.8	151	38.3
LOS by Move:	F	E	D	E	E	E	F	F	C	F	F	D
HCM2k95thQ:	47	23	12	15	24	55	46	97	28	4	82	11

Note: Queue reported is the number of cars per lane.

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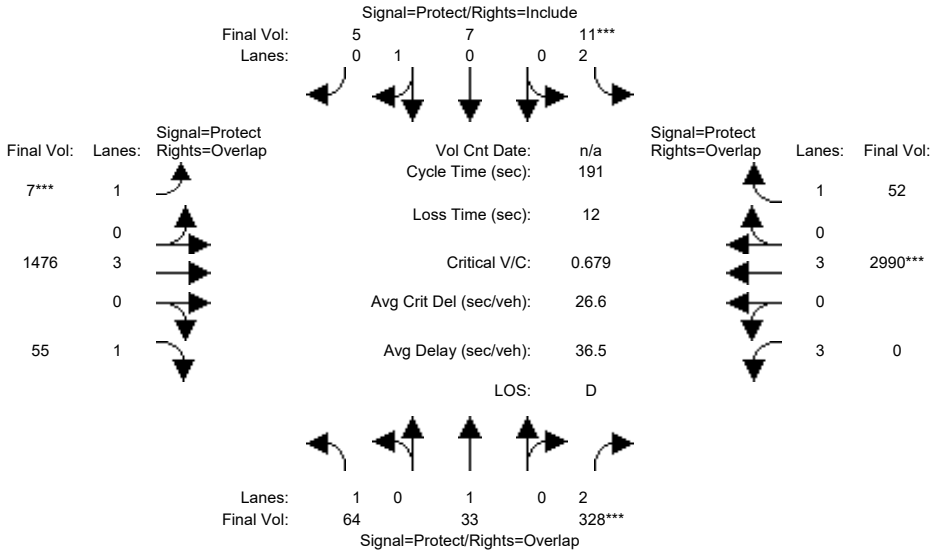
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	64	33	377	11	7	5	7	1696	55	0	3437	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	33	377	11	7	5	7	1696	55	0	3437	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	33	377	11	7	5	7	1696	55	0	3437	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	64	33	328	11	7	5	7	1476	55	0	2990	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	33	328	11	7	5	7	1476	55	0	2990	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	33	328	11	7	5	7	1476	55	0	2990	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.10	0.00	0.01	0.01	0.00	0.26	0.03	0.00	0.52	0.03
Crit Moves:			****	****			****				****	
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	0.41	0.15	0.22	0.11	0.09	0.09	0.08	0.75	0.07	0.00	0.81	0.04
Delay/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	56.5	31.3	0.0	25.9	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	56.5	31.3	0.0	25.9	10.0
LOS by Move:	F	E	C	F	F	F	F	E	C	A	C	A
HCM2k95thQ:	7	3	12	1	1	1	1	41	4	0	62	2

Note: Queue reported is the number of cars per lane.

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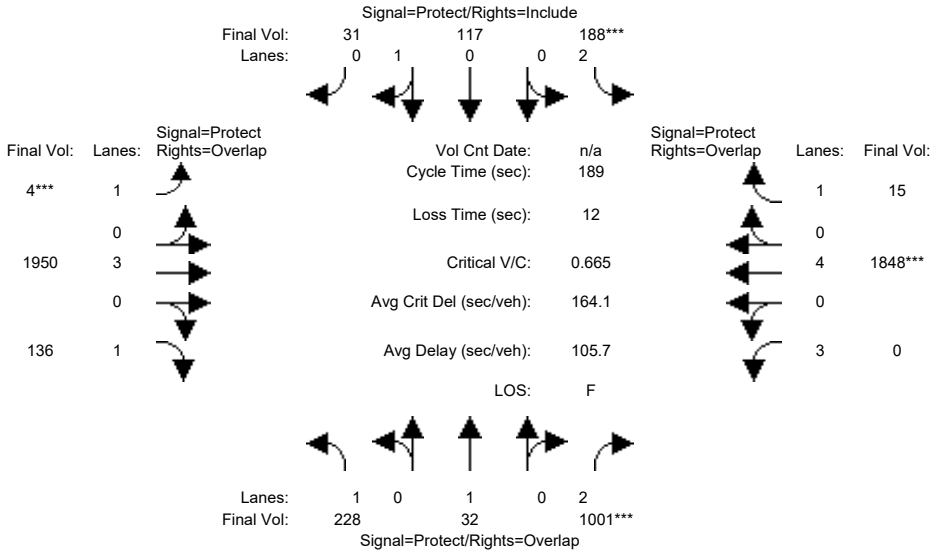
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	228	32	1221	188	117	31	4	2468	136	0	1848	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	228	32	1221	188	117	31	4	2468	136	0	1848	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	32	1221	188	117	31	4	2468	136	0	1848	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	32	1001	188	117	31	4	1950	136	0	1848	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	32	1001	188	117	31	4	1950	136	0	1848	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	32	1001	188	117	31	4	1950	136	0	1848	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.02	0.32	0.06	0.08	0.08	0.00	0.34	0.08	0.00	0.24	0.01
Crit Moves:			****	****			****				****	
Green Time:	24.0	34.0	34.0	25.0	35.0	35.0	7.0	118	142.0	0.0	111	136.0
Volume/Cap:	1.03	0.09	1.77	0.45	0.44	0.44	0.06	0.55	0.10	0.00	0.41	0.01
Delay/Veh:	149.8	64.8	429.8	76.4	69.3	69.3	88.2	20.5	6.4	0.0	29.2	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	149.8	64.8	429.8	76.4	69.3	69.3	88.2	20.5	6.4	0.0	29.2	12.9
LOS by Move:	F	E	F	E	E	E	F	C	A	A	C	B
HCM2k95thQ:	30	3	100	12	15	15	0	34	4	0	31	1

Note: Queue reported is the number of cars per lane.

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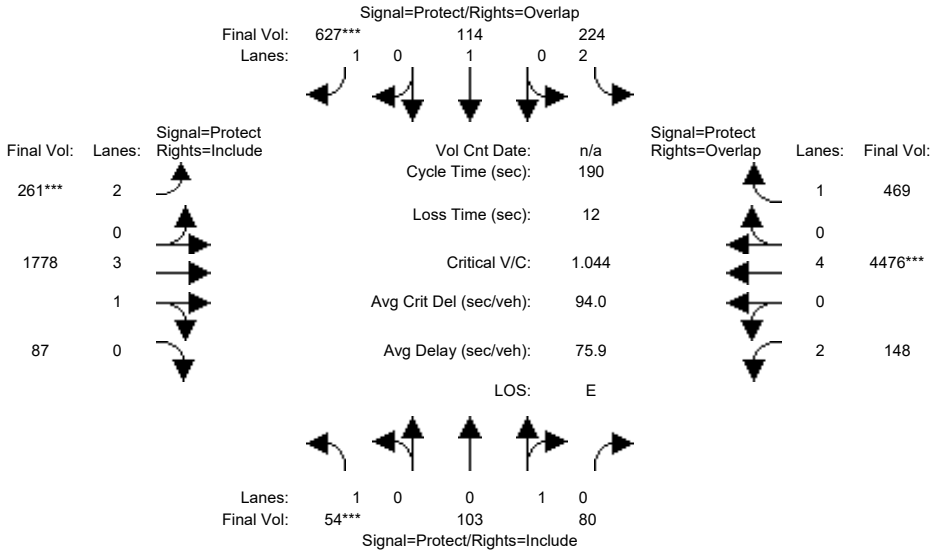
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:7:00-9:00												
Base Vol:	54	103	80	224	114	627	261	1778	87	148	4476	469
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	103	80	224	114	627	261	1778	87	148	4476	469
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	103	80	224	114	627	261	1778	87	148	4476	469
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	103	80	224	114	627	261	1778	87	148	4476	469
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	103	80	224	114	627	261	1778	87	148	4476	469
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	103	80	224	114	627	261	1778	87	148	4476	469
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.56	0.44	2.00	1.00	1.00	2.00	3.81	0.19	2.00	4.00	1.00
Final Sat.:	1750	1013	787	3150	1900	1750	3150	7150	350	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.07	0.06	0.36	0.08	0.25	0.25	0.05	0.59	0.27
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.44	0.67	0.67	1.14	0.41	1.45	0.81	0.43	0.43	0.55	1.04	0.43
Delay/Veh:	87.3	82.5	82.5	194.5	74.8	284.5	97.4	22.2	22.2	85.8	67.2	18.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.3	82.5	82.5	194.5	74.8	284.5	97.4	22.2	22.2	85.8	67.2	18.2
LOS by Move:	F	F	F	F	E	F	F	C	C	F	E	B
HCM2k95thQ:	7	21	21	19	11	97	17	25	25	11	112	25

Note: Queue reported is the number of cars per lane.

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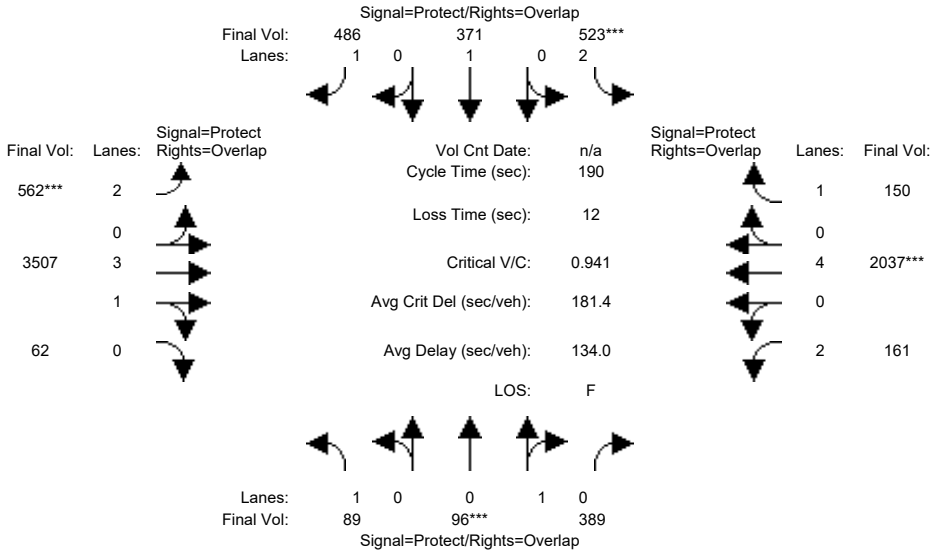
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	89	96	389	523	371	486	562	3507	62	161	2037	150
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	96	389	523	371	486	562	3507	62	161	2037	150
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	96	389	523	371	486	562	3507	62	161	2037	150
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	96	389	523	371	486	562	3507	62	161	2037	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	96	389	523	371	486	562	3507	62	161	2037	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	96	389	523	371	486	562	3507	62	161	2037	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.20	0.80	2.00	1.00	1.00	2.00	3.95	0.05	2.00	4.00	1.00
Final Sat.:	1750	356	1444	3150	1900	1750	3150	5552	98	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.17	0.20	0.28	0.18	0.63	0.63	0.05	0.27	0.09
Crit Moves:		****		****			****				****	
Green Time:	12.3	28.9	42.9	28.0	44.6	63.7	19.1	107	119.4	14.0	102	130.0
Volume/Cap:	0.79	1.77	1.19	1.13	0.83	0.83	1.77	1.12	1.01	0.69	0.50	0.13
Delay/Veh:	117.4	443	182.7	162.2	81.6	67.6	452.1	136	91.5	99.2	49.5	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	117.4	443	182.7	162.2	81.6	67.6	452.1	136	91.5	99.2	49.5	25.4
LOS by Move:	F	F	F	F	F	E	F	F	F	F	D	C
HCM2k95thQ:	14	87	65	40	36	47	58	98	114	13	42	13

Note: Queue reported is the number of cars per lane.

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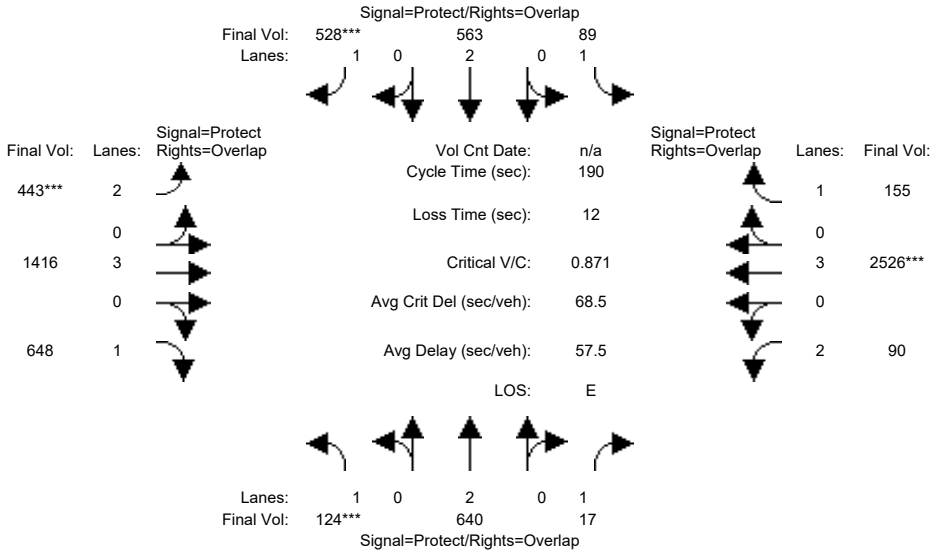
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj AM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	640	17	89	563	528	443	1628	648	90	2904	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	640	17	89	563	528	443	1628	648	90	2904	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	640	17	89	563	528	443	1628	648	90	2904	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	640	17	89	563	528	443	1416	648	90	2526	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	640	17	89	563	528	443	1416	648	90	2526	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	640	17	89	563	528	443	1416	648	90	2526	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.01	0.05	0.15	0.30	0.14	0.25	0.37	0.03	0.44	0.09
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.86	0.84	0.04	0.75	0.80	0.89	0.91	0.44	0.58	0.50	0.96	0.17
Delay/Veh:	124.2	81.6	53.0	110.8	80.5	74.6	100.5	24.7	20.2	89.3	58.9	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.2	81.6	53.0	110.8	80.5	74.6	100.5	24.7	20.2	89.3	58.9	23.1
LOS by Move:	F	F	D	F	F	E	F	C	C	F	E	C
HCM2k95thQ:	16	32	2	11	28	53	28	27	37	7	78	9

Note: Queue reported is the number of cars per lane.

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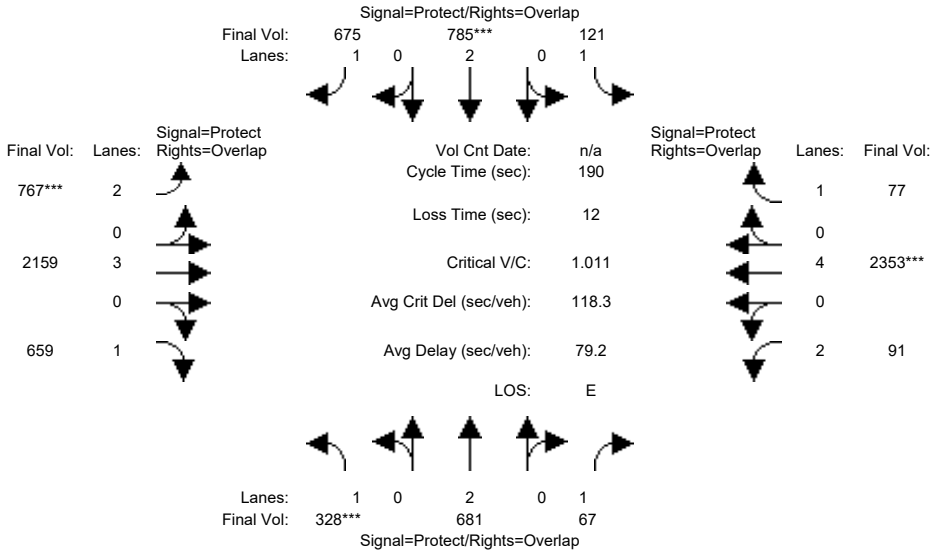
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 NoProj PM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	328	681	67	121	785	675	767	2665	659	91	2353	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	328	681	67	121	785	675	767	2665	659	91	2353	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	328	681	67	121	785	675	767	2665	659	91	2353	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	328	681	67	121	785	675	767	2159	659	91	2353	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	328	681	67	121	785	675	767	2159	659	91	2353	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	328	681	67	121	785	675	767	2159	659	91	2353	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.18	0.04	0.07	0.21	0.39	0.24	0.38	0.38	0.03	0.31	0.04
Crit Moves:	****				****		****				****	
Green Time:	25.7	52.3	63.8	14.3	41.0	74.3	33.3	99.9	125.6	11.4	78.0	92.3
Volume/Cap:	1.39	0.65	0.11	0.92	0.96	0.99	1.39	0.72	0.57	0.48	0.75	0.09
Delay/Veh:	280.6	62.2	43.7	140.9	95.2	88.0	263.8	25.8	7.8	88.3	55.9	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	280.6	62.2	43.7	140.9	95.2	88.0	263.8	25.8	7.8	88.3	55.9	32.2
LOS by Move:	F	E	D	F	F	F	F	C	A	F	E	C
HCM2k95thQ:	52	30	6	16	41	72	64	39	17	7	50	6

Note: Queue reported is the number of cars per lane.

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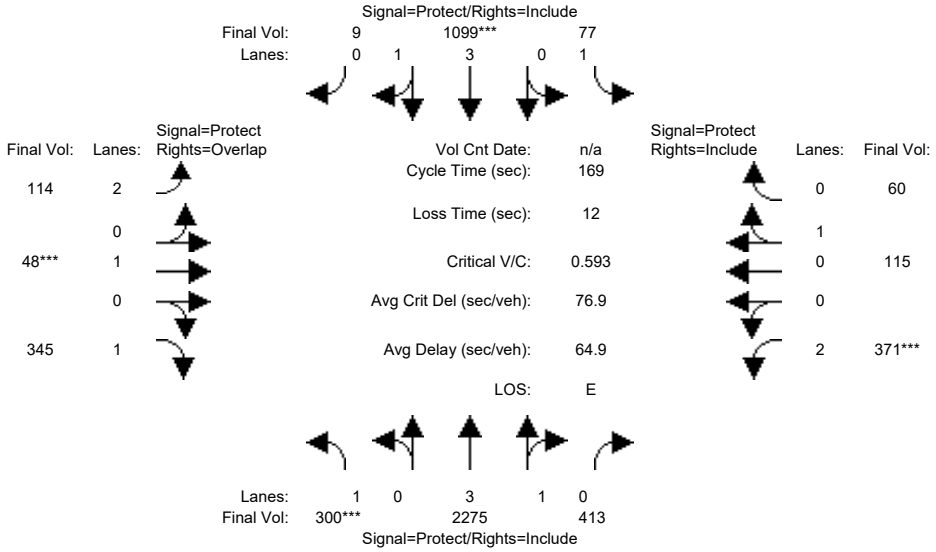
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2275	413	77	1099	9	114	48	345	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2275	413	77	1099	9	114	48	345	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2275	413	77	1099	9	114	48	345	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2275	413	77	1099	9	114	48	345	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2275	413	77	1099	9	114	48	345	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2275	413	77	1099	9	114	48	345	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.36	0.64	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	6346	1152	1750	7439	61	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.36	0.36	0.04	0.15	0.15	0.07	0.06	0.28	0.17	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	33.1	71.4	71.4	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	0.85	0.85	0.64	0.50	0.50	1.06	0.29	0.68	1.08	0.80	0.80
Delay/Veh:	87.6	53.2	53.2	87.2	52.7	52.7	184.1	56.3	44.3	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	53.2	53.2	87.2	52.7	52.7	184.1	56.3	44.3	143.4	72.2	72.2
LOS by Move:	F	D	D	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	54	54	9	22	22	12	5	28	29	20	20

Note: Queue reported is the number of cars per lane.

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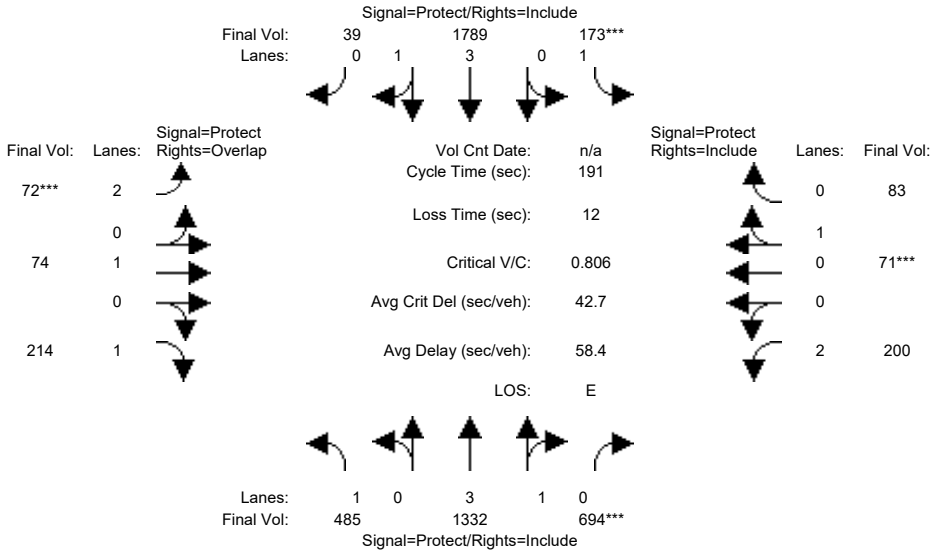
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1332	694	173	1789	39	72	74	214	200	71	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	694	173	1789	39	72	74	214	200	71	83
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	694	173	1789	39	72	74	214	200	71	83
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	694	173	1789	39	72	74	214	200	71	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	694	173	1789	39	72	74	214	200	71	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	694	173	1789	39	72	74	214	200	71	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.46	0.54
Final Sat.:	1750	5700	1750	1750	7340	160	1575	760	1225	2205	332	388
Capacity Analysis Module:												
Vol/Sat:	0.28	0.23	0.40	0.10	0.24	0.24	0.05	0.10	0.17	0.09	0.21	0.21
Crit Moves:			****	****			****				****	
Green Time:	58.6	89.1	100.8	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.50	0.75	0.68	0.81	0.81	0.68	0.61	0.38	0.86	1.09	1.09
Delay/Veh:	80.8	29.0	26.7	84.9	67.8	67.8	103.1	84.0	33.5	109.6	177	177.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	29.0	26.7	84.9	67.8	67.8	103.1	84.0	33.5	109.6	177	177.2
LOS by Move:	F	C	C	F	E	E	F	F	C	F	F	F
HCM2k95thQ:	49	25	45	19	42	42	7	10	16	17	25	25

Note: Queue reported is the number of cars per lane.

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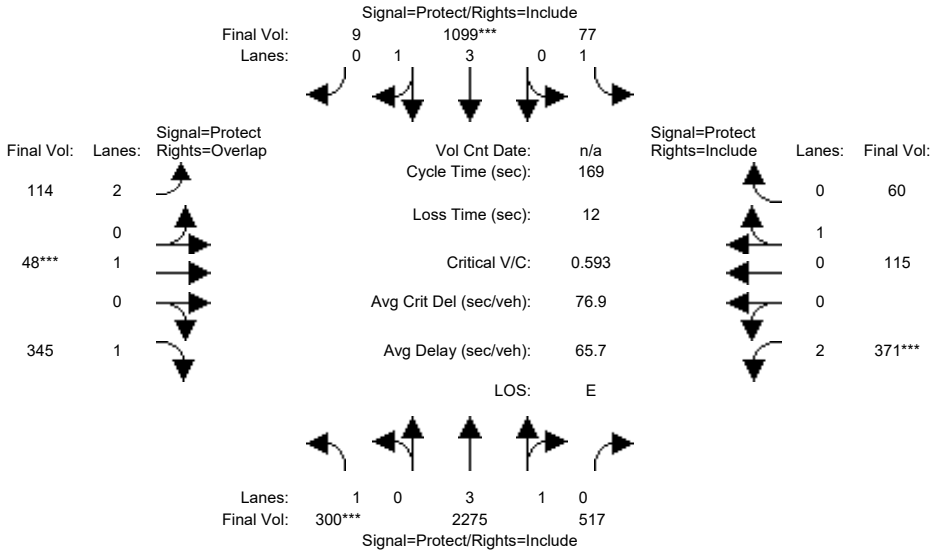
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2275	517	77	1099	9	114	48	345	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2275	517	77	1099	9	114	48	345	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2275	517	77	1099	9	114	48	345	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2275	517	77	1099	9	114	48	345	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2275	517	77	1099	9	114	48	345	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2275	517	77	1099	9	114	48	345	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.23	0.77	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	6109	1388	1750	7439	61	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.37	0.37	0.04	0.15	0.15	0.07	0.06	0.28	0.17	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	33.1	71.4	71.4	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	0.88	0.88	0.64	0.50	0.50	1.06	0.29	0.68	1.08	0.80	0.80
Delay/Veh:	87.6	55.2	55.2	87.2	52.7	52.7	184.1	56.3	44.3	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	55.2	55.2	87.2	52.7	52.7	184.1	56.3	44.3	143.4	72.2	72.2
LOS by Move:	F	E	E	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	57	57	9	22	22	12	5	28	29	20	20

Note: Queue reported is the number of cars per lane.

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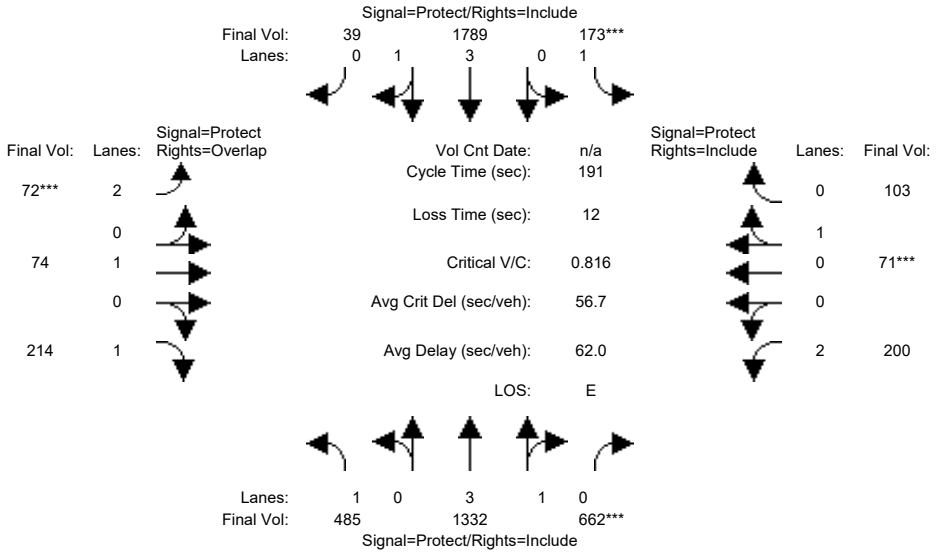
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1332	662	173	1789	39	72	74	214	200	71	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	662	173	1789	39	72	74	214	200	71	103
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	662	173	1789	39	72	74	214	200	71	103
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	662	173	1789	39	72	74	214	200	71	103
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	662	173	1789	39	72	74	214	200	71	103
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	662	173	1789	39	72	74	214	200	71	103
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.41	0.59
Final Sat.:	1750	5700	1750	1750	7340	160	1575	760	1225	2205	294	426
Capacity Analysis Module:												
Vol/Sat:	0.28	0.23	0.38	0.10	0.24	0.24	0.05	0.10	0.17	0.09	0.24	0.24
Crit Moves:			****	****			****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.50	0.81	0.68	0.81	0.81	0.68	0.61	0.38	0.86	1.23	1.23
Delay/Veh:	80.8	29.0	37.8	84.9	67.8	67.8	103.1	84.0	33.5	109.6	226	226.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	29.0	37.8	84.9	67.8	67.8	103.1	84.0	33.5	109.6	226	226.0
LOS by Move:	F	C	D	F	E	E	F	F	C	F	F	F
HCM2k95thQ:	49	25	52	19	42	42	7	10	16	17	30	30

Note: Queue reported is the number of cars per lane.

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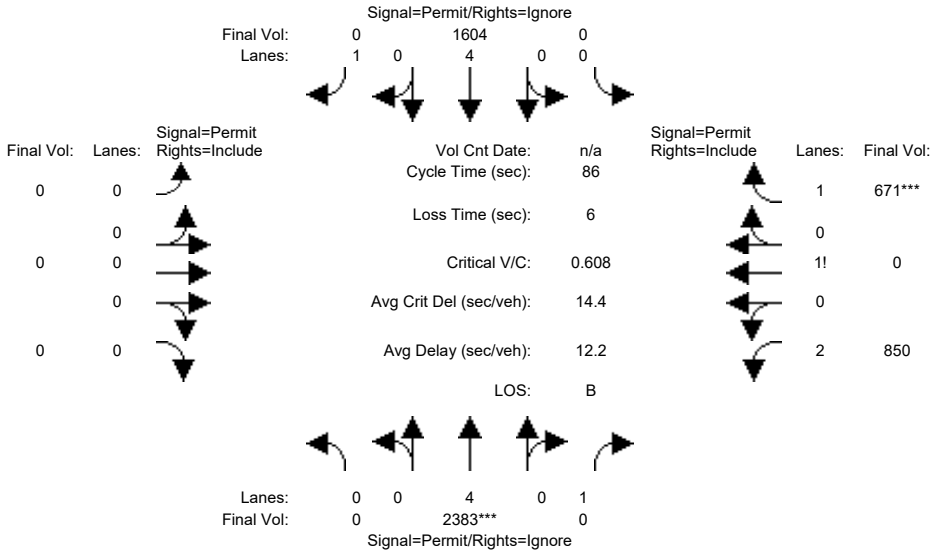
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2383	0	0	1604	505	0	0	0	850	0	671
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2383	0	0	1604	505	0	0	0	850	0	671
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2383	0	0	1604	505	0	0	0	850	0	671
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2383	0	0	1604	0	0	0	0	850	0	671
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2383	0	0	1604	0	0	0	0	850	0	671
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2383	0	0	1604	0	0	0	0	850	0	671
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.84	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.48	0.00	1.52
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	3954	0	2658
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.21	0.00	0.25
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.52	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.80	0.00	0.78
Delay/Veh:	0.0	5.6	0.0	0.0	4.8	0.0	0.0	0.0	0.0	32.0	0.0	28.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	5.6	0.0	0.0	4.8	0.0	0.0	0.0	0.0	32.0	0.0	28.3
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	10	0	0	6	0	0	0	0	22	0	24

Note: Queue reported is the number of cars per lane.

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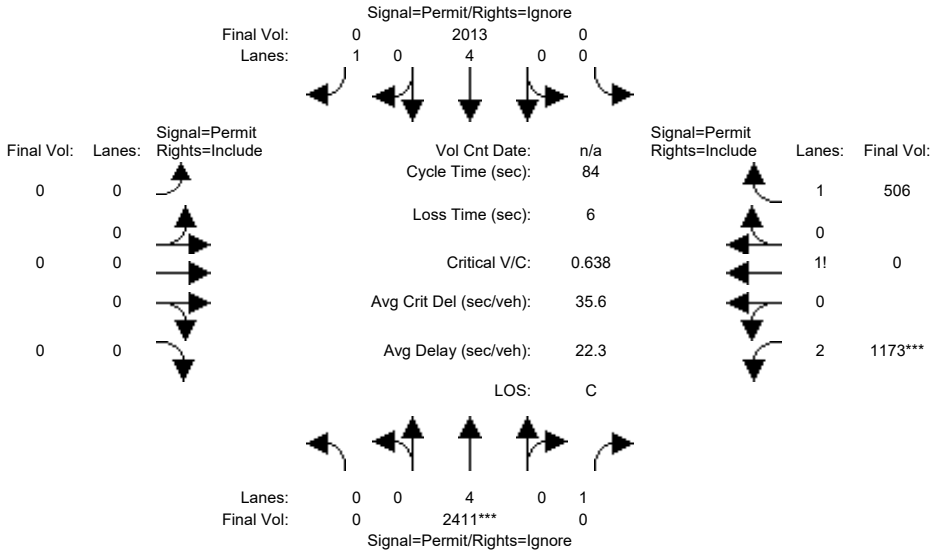
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2411	0	0	2013	349	0	0	0	1173	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2411	0	0	2013	349	0	0	0	1173	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2411	0	0	2013	349	0	0	0	1173	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2411	0	0	2013	0	0	0	0	1173	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2411	0	0	2013	0	0	0	0	1173	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2411	0	0	2013	0	0	0	0	1173	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.62	0.00	1.38
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4265	0	2407
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.28	0.00	0.21
Crit Moves:		****								****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.51	0.00	0.00	0.43	0.00	0.00	0.00	0.00	1.05	0.00	0.80
Delay/Veh:	0.0	13.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	68.0	0.0	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	68.0	0.0	31.3
LOS by Move:	A	B	A	A	A	A	A	A	A	E	A	C
HCM2k95thQ:	0	20	0	0	7	0	0	0	0	37	0	22

Note: Queue reported is the number of cars per lane.

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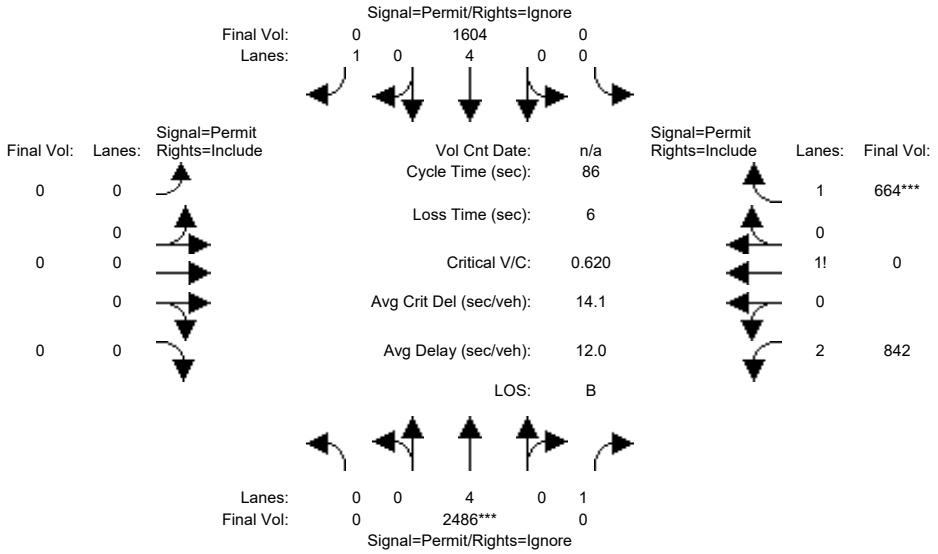
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2486	0	0	1604	505	0	0	0	842	0	664
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2486	0	0	1604	505	0	0	0	842	0	664
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2486	0	0	1604	505	0	0	0	842	0	664
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2486	0	0	1604	0	0	0	0	842	0	664
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2486	0	0	1604	0	0	0	0	842	0	664
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2486	0	0	1604	0	0	0	0	842	0	664
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.84	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.48	0.00	1.52
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	3954	0	2657
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.21	0.00	0.25
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.54	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.80	0.00	0.77
Delay/Veh:	0.0	5.7	0.0	0.0	4.8	0.0	0.0	0.0	0.0	31.8	0.0	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	5.7	0.0	0.0	4.8	0.0	0.0	0.0	0.0	31.8	0.0	28.1
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	11	0	0	6	0	0	0	0	22	0	23

Note: Queue reported is the number of cars per lane.

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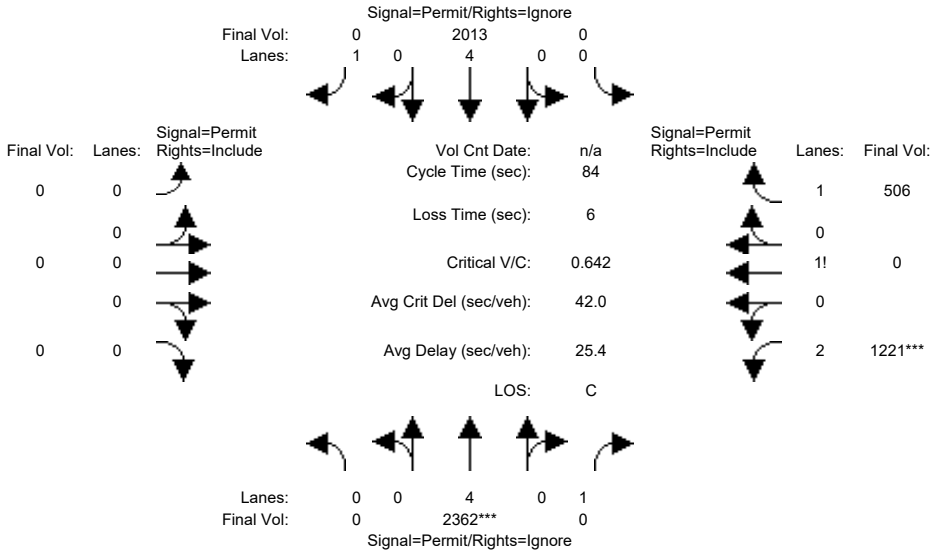
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2362	0	0	2013	349	0	0	0	1221	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2362	0	0	2013	349	0	0	0	1221	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2362	0	0	2013	349	0	0	0	1221	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2362	0	0	2013	0	0	0	0	1221	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2362	0	0	2013	0	0	0	0	1221	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2362	0	0	2013	0	0	0	0	1221	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.86	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.63	0.00	1.37
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4283	0	2391
Capacity Analysis Module:												
Vol/Sat:	0.00	0.31	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.29	0.00	0.21
Crit Moves:		****								****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.50	0.00	0.00	0.43	0.00	0.00	0.00	0.00	1.09	0.00	0.81
Delay/Veh:	0.0	12.9	0.0	0.0	4.5	0.0	0.0	0.0	0.0	81.7	0.0	31.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.9	0.0	0.0	4.5	0.0	0.0	0.0	0.0	81.7	0.0	31.4
LOS by Move:	A	B	A	A	A	A	A	A	A	F	A	C
HCM2k95thQ:	0	20	0	0	7	0	0	0	0	40	0	22

Note: Queue reported is the number of cars per lane.

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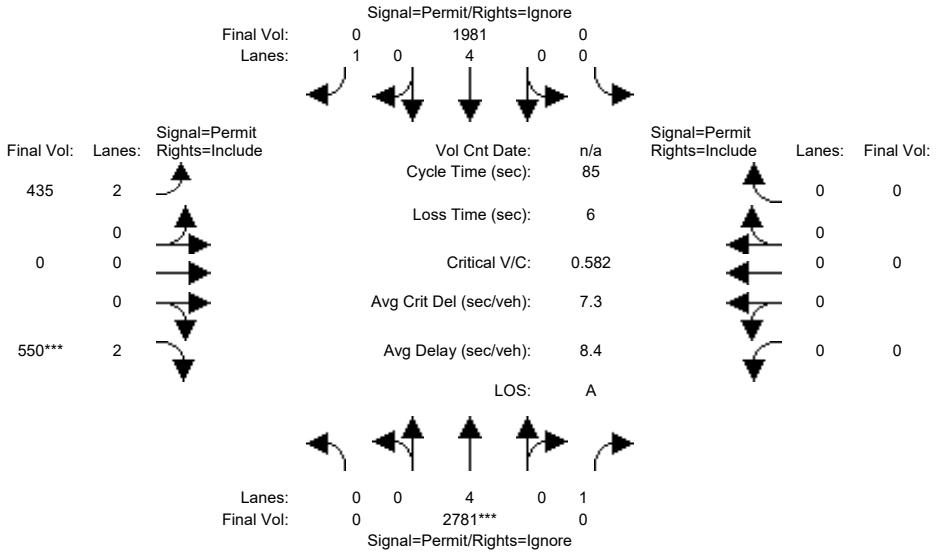
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	2781	853	0	1981	0	435	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2781	853	0	1981	0	435	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2781	853	0	1981	0	435	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2781	0	0	1981	0	435	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2781	0	0	1981	0	435	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2781	0	0	1981	0	435	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.26	0.00	0.14	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****							****			
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	18.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.52	0.00	0.00	0.37	0.00	0.87	0.00	0.79	0.00	0.00	0.00
Delay/Veh:	0.0	1.3	0.0	0.0	1.3	0.0	50.0	0.0	37.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	1.3	0.0	0.0	1.3	0.0	50.0	0.0	37.3	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	D	A	A	A
HCM2k95thQ:	0	5	0	0	3	0	18	0	19	0	0	0

Note: Queue reported is the number of cars per lane.

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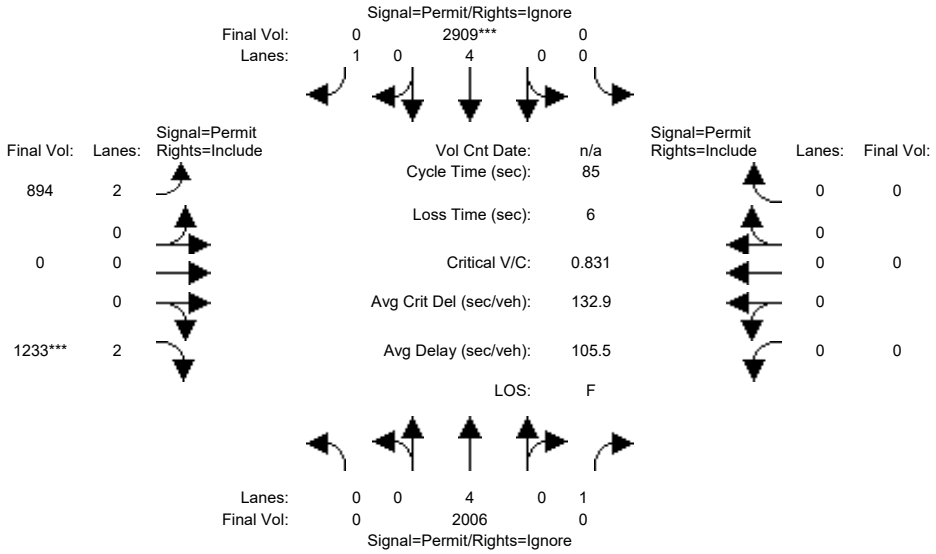
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	2006	498	0	2909	0	894	0	1233	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2006	498	0	2909	0	894	0	1233	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2006	498	0	2909	0	894	0	1233	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2006	0	0	2909	0	894	0	1233	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2006	0	0	2909	0	894	0	1233	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2006	0	0	2909	0	894	0	1233	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.38	0.00	0.28	0.00	0.39	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.35	0.00	0.00	0.51	0.00	1.38	0.00	1.90	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	214.8	0.0	446.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	214.8	0.0	446.2	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	2	0	55	0	97	0	0	0

Note: Queue reported is the number of cars per lane.

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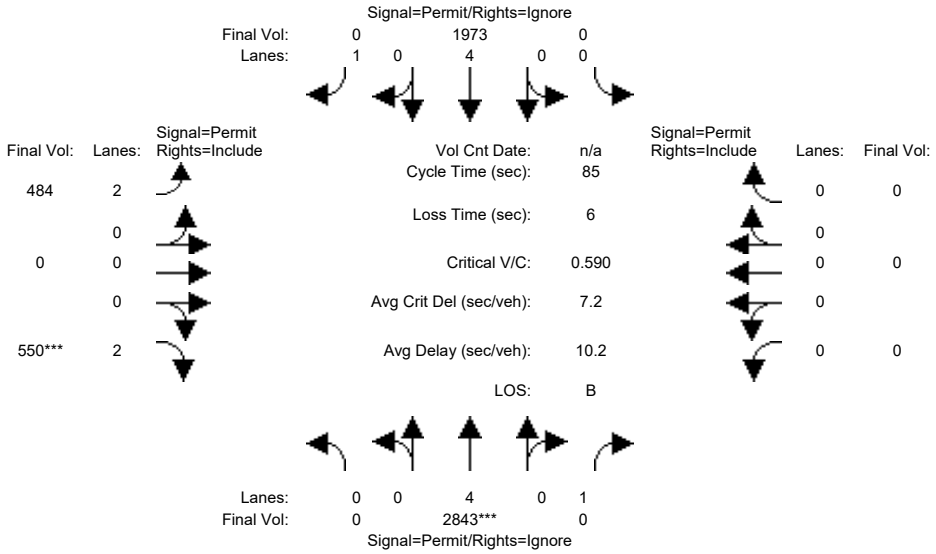
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	2843	850	0	1973	0	484	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2843	850	0	1973	0	484	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2843	850	0	1973	0	484	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2843	0	0	1973	0	484	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2843	0	0	1973	0	484	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2843	0	0	1973	0	484	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.26	0.00	0.15	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****							****			
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	18.8	0.0	0.0	0.0
Volume/Cap:	0.00	0.53	0.00	0.00	0.37	0.00	0.97	0.00	0.79	0.00	0.00	0.00
Delay/Veh:	0.0	1.4	0.0	0.0	1.3	0.0	67.5	0.0	37.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	1.4	0.0	0.0	1.3	0.0	67.5	0.0	37.3	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	E	A	D	A	A	A
HCM2k95thQ:	0	6	0	0	3	0	22	0	19	0	0	0

Note: Queue reported is the number of cars per lane.

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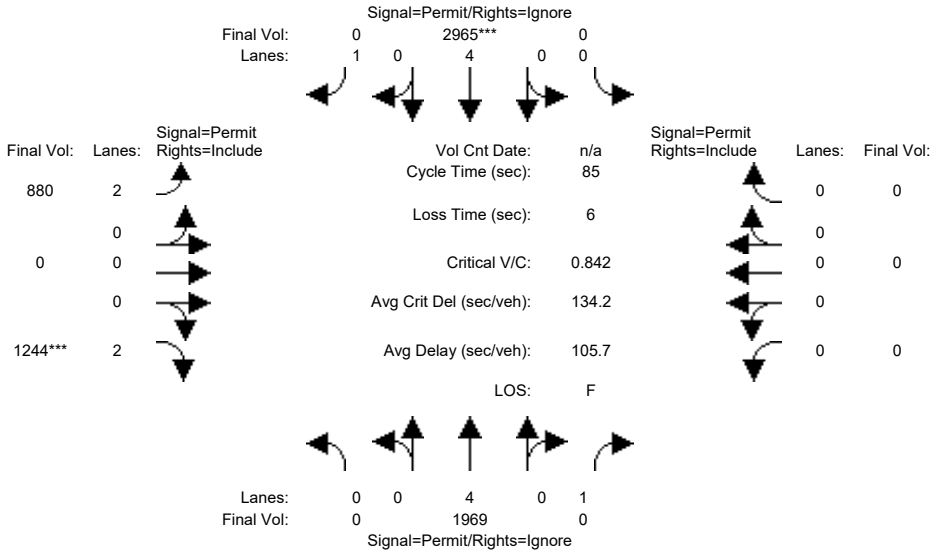
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1969	513	0	2965	0	880	0	1244	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1969	513	0	2965	0	880	0	1244	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1969	513	0	2965	0	880	0	1244	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1969	0	0	2965	0	880	0	1244	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1969	0	0	2965	0	880	0	1244	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1969	0	0	2965	0	880	0	1244	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.39	0.00	0.28	0.00	0.39	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.35	0.00	0.00	0.52	0.00	1.36	0.00	1.92	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	205.4	0.0	453.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.1	0.0	205.4	0.0	453.8	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	2	0	54	0	99	0	0	0

Note: Queue reported is the number of cars per lane.

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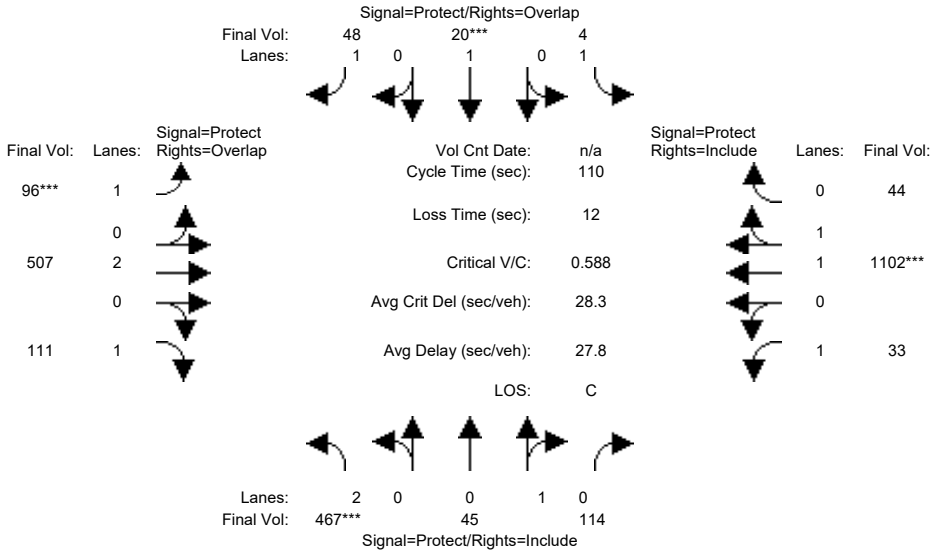
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	444	43	108	4	19	46	91	482	105	31	1047	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	444	43	108	4	19	46	91	482	105	31	1047	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	444	43	108	4	19	46	91	482	105	31	1047	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	467	45	114	4	20	48	96	507	111	33	1102	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	467	45	114	4	20	48	96	507	111	33	1102	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	467	45	114	4	20	48	96	507	111	33	1102	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.28	0.72	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	3150	513	1287	1750	1900	1750	1750	3800	1750	1750	3557	143
Capacity Analysis Module:												
Vol/Sat:	0.15	0.09	0.09	0.00	0.01	0.03	0.05	0.13	0.06	0.02	0.31	0.31
Crit Moves:	****				****		****				****	
Green Time:	26.0	21.0	21.0	13.0	8.0	17.6	9.6	41.7	67.8	22.2	54.4	54.4
Volume/Cap:	0.63	0.46	0.46	0.02	0.14	0.17	0.63	0.35	0.10	0.09	0.63	0.63
Delay/Veh:	39.3	40.4	40.4	42.9	48.3	40.2	56.5	24.6	8.7	35.8	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.3	40.4	40.4	42.9	48.3	40.2	56.5	24.6	8.7	35.8	21.1	21.1
LOS by Move:	D	D	D	D	D	D	E	C	A	D	C	C
HCM2k95thQ:	17	10	10	0	2	3	7	11	3	2	25	25

Note: Queue reported is the number of cars per lane.

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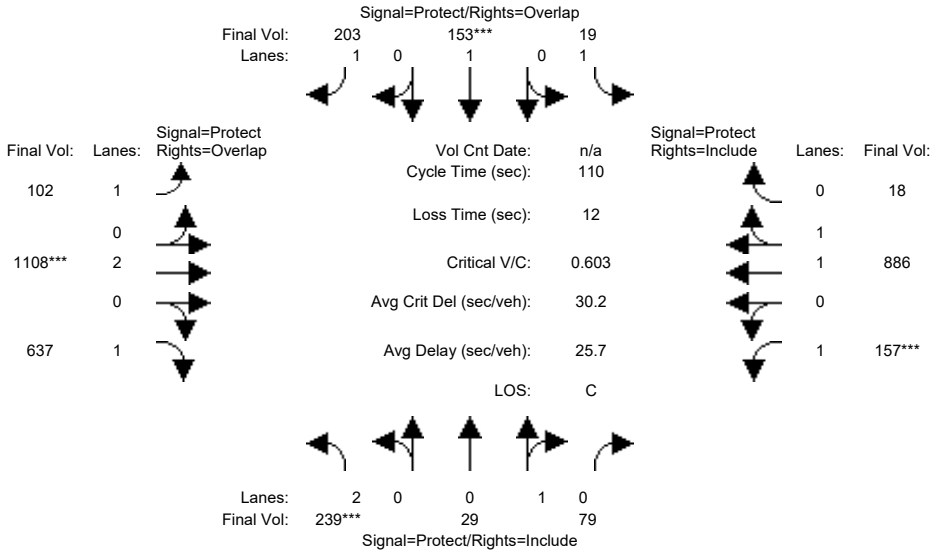
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	232	28	77	18	148	197	99	1075	618	152	859	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	28	77	18	148	197	99	1075	618	152	859	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	232	28	77	18	148	197	99	1075	618	152	859	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	239	29	79	19	153	203	102	1108	637	157	886	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	239	29	79	19	153	203	102	1108	637	157	886	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	239	29	79	19	153	203	102	1108	637	157	886	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.27	0.73	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	480	1320	1750	1900	1750	1750	3800	1750	1750	3628	72
Capacity Analysis Module:												
Vol/Sat:	0.08	0.06	0.06	0.01	0.08	0.12	0.06	0.29	0.36	0.09	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	13.8	16.3	16.3	12.2	14.6	30.6	16.0	53.2	67.0	16.3	53.6	53.6
Volume/Cap:	0.60	0.41	0.41	0.10	0.60	0.42	0.40	0.60	0.60	0.60	0.50	0.50
Delay/Veh:	48.1	43.5	43.5	44.1	49.0	33.0	43.7	21.3	14.1	47.8	19.4	19.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.1	43.5	43.5	44.1	49.0	33.0	43.7	21.3	14.1	47.8	19.4	19.4
LOS by Move:	D	D	D	D	D	C	D	C	B	D	B	B
HCM2k95thQ:	11	8	8	1	11	12	7	24	25	10	19	19

Note: Queue reported is the number of cars per lane.

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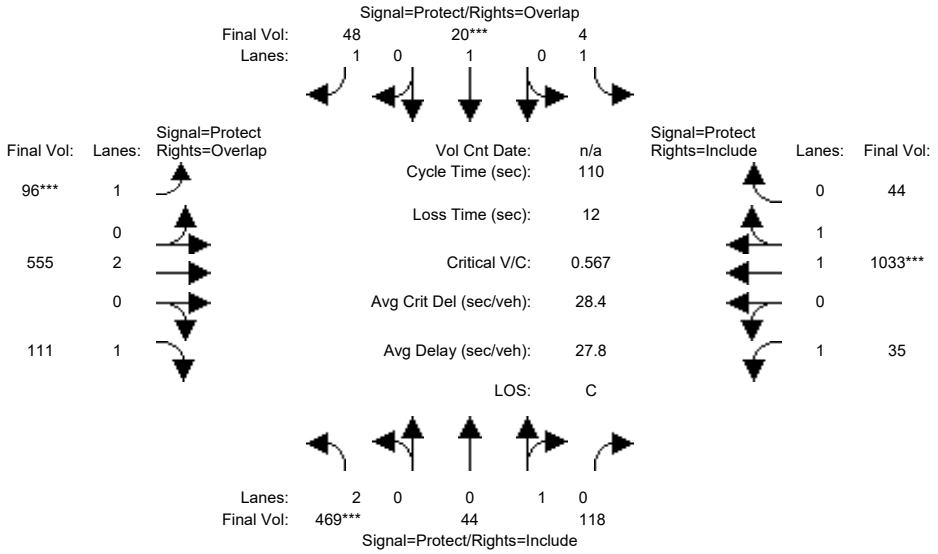
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	446	42	112	4	19	46	91	527	105	33	981	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	446	42	112	4	19	46	91	527	105	33	981	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	446	42	112	4	19	46	91	527	105	33	981	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	469	44	118	4	20	48	96	555	111	35	1033	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	469	44	118	4	20	48	96	555	111	35	1033	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	469	44	118	4	20	48	96	555	111	35	1033	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.27	0.73	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	3150	491	1309	1750	1900	1750	1750	3800	1750	1750	3548	152
Capacity Analysis Module:												
Vol/Sat:	0.15	0.09	0.09	0.00	0.01	0.03	0.05	0.15	0.06	0.02	0.29	0.29
Crit Moves:	****				****		****				****	
Green Time:	27.1	21.9	21.9	13.2	8.0	18.0	10.0	42.0	69.1	20.9	52.9	52.9
Volume/Cap:	0.60	0.45	0.45	0.02	0.14	0.17	0.60	0.38	0.10	0.10	0.60	0.60
Delay/Veh:	38.1	39.7	39.7	42.7	48.3	39.9	54.6	24.8	8.2	36.9	21.5	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.1	39.7	39.7	42.7	48.3	39.9	54.6	24.8	8.2	36.9	21.5	21.5
LOS by Move:	D	D	D	D	D	D	D	C	A	D	C	C
HCM2k95thQ:	17	11	11	0	2	3	7	13	3	2	24	24

Note: Queue reported is the number of cars per lane.

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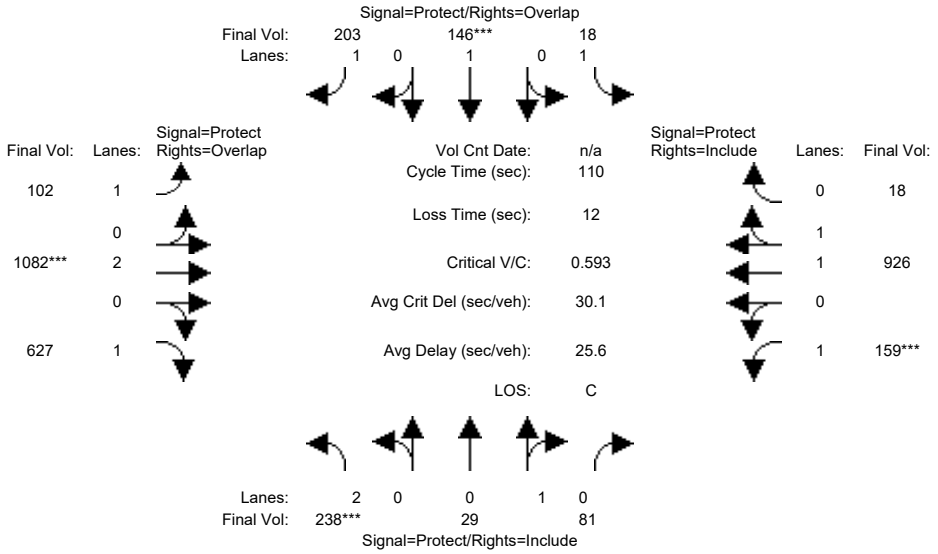
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	231	28	79	17	142	197	99	1050	608	154	898	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	231	28	79	17	142	197	99	1050	608	154	898	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	231	28	79	17	142	197	99	1050	608	154	898	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	238	29	81	18	146	203	102	1082	627	159	926	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	238	29	81	18	146	203	102	1082	627	159	926	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	238	29	81	18	146	203	102	1082	627	159	926	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.26	0.74	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	471	1329	1750	1900	1750	1750	3800	1750	1750	3631	69
Capacity Analysis Module:												
Vol/Sat:	0.08	0.06	0.06	0.01	0.08	0.12	0.06	0.28	0.36	0.09	0.25	0.25
Crit Moves:	****				****			****			****	
Green Time:	14.0	16.2	16.2	12.1	14.3	29.8	15.5	52.8	66.9	16.8	54.2	54.2
Volume/Cap:	0.59	0.42	0.42	0.09	0.59	0.43	0.41	0.59	0.59	0.59	0.52	0.52
Delay/Veh:	47.7	43.7	43.7	44.2	48.9	33.7	44.3	21.3	14.0	46.9	19.2	19.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.7	43.7	43.7	44.2	48.9	33.7	44.3	21.3	14.0	46.9	19.2	19.2
LOS by Move:	D	D	D	D	D	C	D	C	B	D	B	B
HCM2k95thQ:	11	8	8	1	11	12	7	23	25	10	20	20

Note: Queue reported is the number of cars per lane.

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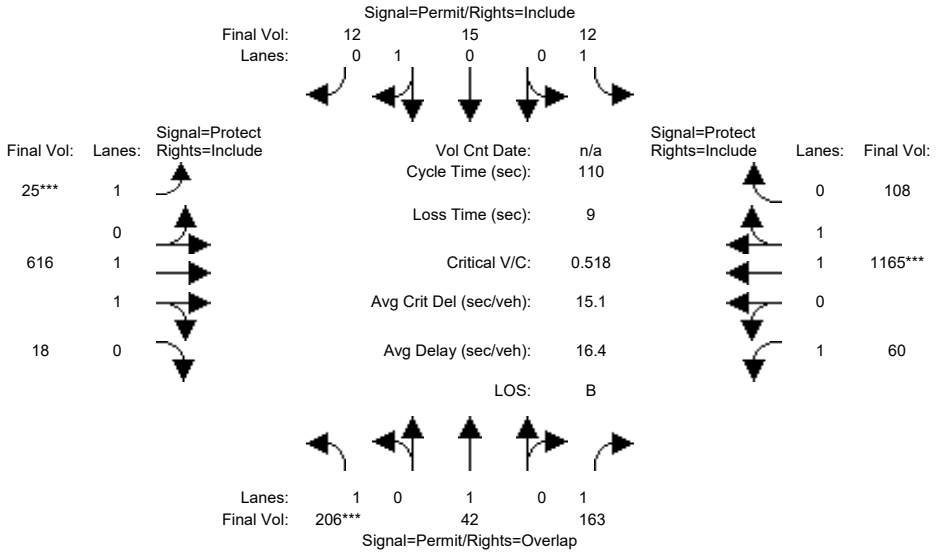
2030 PH1 AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	192	39	152	11	14	11	23	573	17	56	1083	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	39	152	11	14	11	23	573	17	56	1083	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	192	39	152	11	14	11	23	573	17	56	1083	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	206	42	163	12	15	12	25	616	18	60	1165	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	42	163	12	15	12	25	616	18	60	1165	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	42	163	12	15	12	25	616	18	60	1165	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.56	0.44	1.00	1.94	0.06	1.00	1.83	0.17
Final Sat.:	1750	1900	1750	1750	1008	792	1750	3593	107	1750	3387	313
Capacity Analysis Module:												
Vol/Sat:	0.12	0.02	0.09	0.01	0.01	0.01	0.01	0.17	0.17	0.03	0.34	0.34
Crit Moves:	****						****				****	
Green Time:	24.5	24.5	37.9	24.5	24.5	24.5	5.0	63.1	63.1	13.4	71.5	71.5
Volume/Cap:	0.53	0.10	0.27	0.03	0.07	0.07	0.31	0.30	0.30	0.28	0.53	0.53
Delay/Veh:	39.0	34.1	26.3	33.5	33.8	33.8	53.1	12.1	12.1	44.7	10.5	10.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.0	34.1	26.3	33.5	33.8	33.8	53.1	12.1	12.1	44.7	10.5	10.5
LOS by Move:	D	C	C	C	C	C	D	B	B	D	B	B
HCM2k95thQ:	14	2	8	1	2	2	2	11	11	4	21	21

Note: Queue reported is the number of cars per lane.

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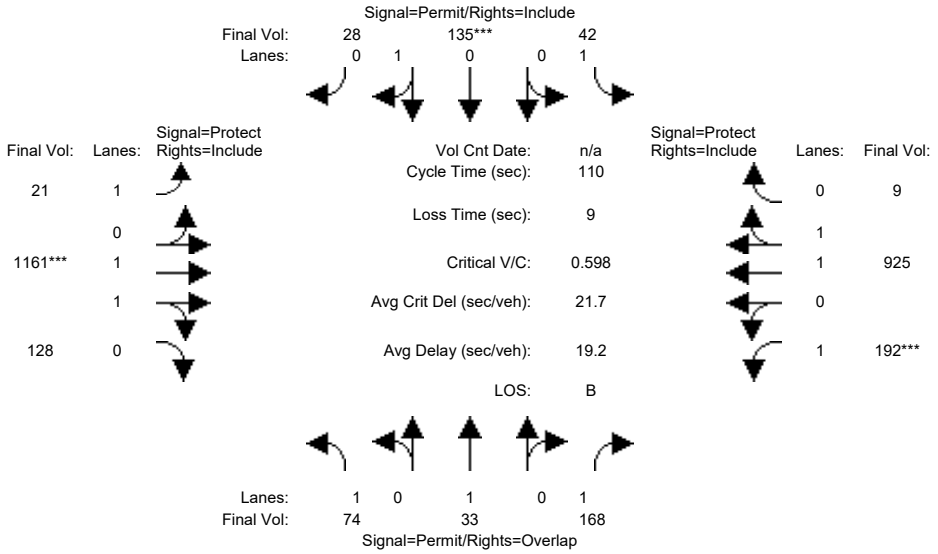
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	71	32	161	40	130	27	20	1115	123	184	888	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	71	32	161	40	130	27	20	1115	123	184	888	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	71	32	161	40	130	27	20	1115	123	184	888	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	74	33	168	42	135	28	21	1161	128	192	925	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	33	168	42	135	28	21	1161	128	192	925	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	33	168	42	135	28	21	1161	128	192	925	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.83	0.17	1.00	1.80	0.20	1.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1490	310	1750	3332	368	1750	3663	37
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.10	0.02	0.09	0.09	0.01	0.35	0.35	0.11	0.25	0.25
Crit Moves:					****			****		****		
Green Time:	16.7	16.7	36.9	16.7	16.7	16.7	12.9	64.1	64.1	20.2	71.4	71.4
Volume/Cap:	0.28	0.12	0.29	0.16	0.60	0.60	0.10	0.60	0.60	0.60	0.39	0.39
Delay/Veh:	41.9	40.4	27.2	40.8	47.1	47.1	43.6	15.1	15.1	44.3	9.2	9.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.9	40.4	27.2	40.8	47.1	47.1	43.6	15.1	15.1	44.3	9.2	9.2
LOS by Move:	D	D	C	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	5	2	9	3	12	12	1	25	25	12	13	13

Note: Queue reported is the number of cars per lane.

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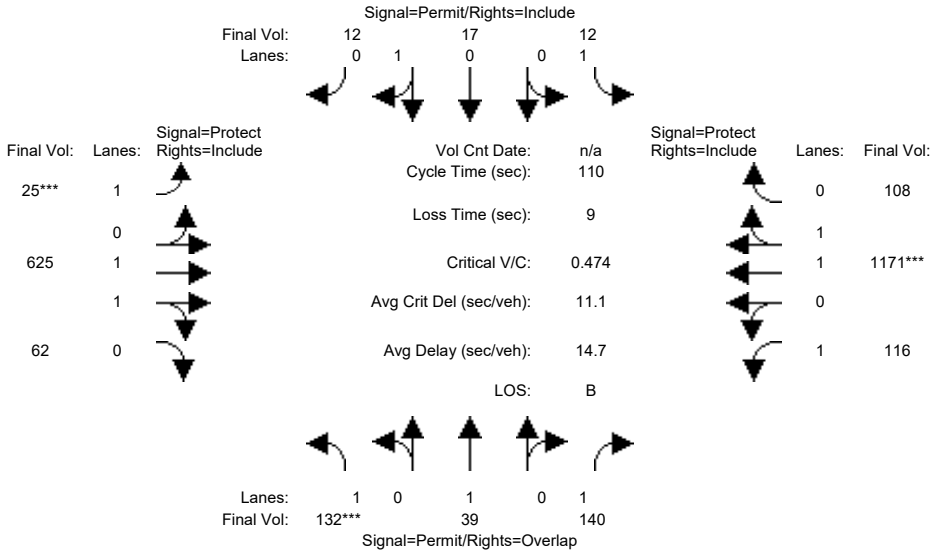
2030 PH2 AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	123	36	130	11	16	11	23	581	58	108	1089	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	36	130	11	16	11	23	581	58	108	1089	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	123	36	130	11	16	11	23	581	58	108	1089	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	132	39	140	12	17	12	25	625	62	116	1171	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	39	140	12	17	12	25	625	62	116	1171	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	132	39	140	12	17	12	25	625	62	116	1171	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.59	0.41	1.00	1.81	0.19	1.00	1.83	0.17
Final Sat.:	1750	1900	1750	1750	1067	733	1750	3364	336	1750	3389	311
Capacity Analysis Module:												
Vol/Sat:	0.08	0.02	0.08	0.01	0.02	0.02	0.01	0.19	0.19	0.07	0.35	0.35
Crit Moves:	****						****				****	
Green Time:	17.2	17.2	39.3	17.2	17.2	17.2	5.0	61.7	61.7	22.1	78.8	78.8
Volume/Cap:	0.48	0.13	0.22	0.04	0.10	0.10	0.31	0.33	0.33	0.33	0.48	0.48
Delay/Veh:	43.7	40.1	24.9	39.5	39.9	39.9	53.1	13.1	13.1	38.2	6.9	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	40.1	24.9	39.5	39.9	39.9	53.1	13.1	13.1	38.2	6.9	6.9
LOS by Move:	D	D	C	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	10	2	7	1	2	2	2	12	12	7	17	17

Note: Queue reported is the number of cars per lane.

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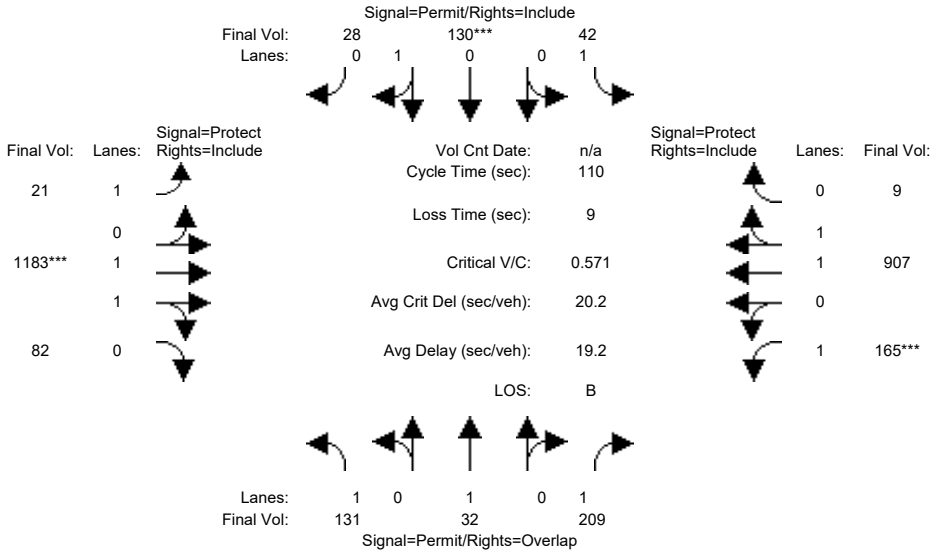
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	126	31	201	40	125	27	20	1136	79	158	871	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	126	31	201	40	125	27	20	1136	79	158	871	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	126	31	201	40	125	27	20	1136	79	158	871	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	131	32	209	42	130	28	21	1183	82	165	907	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	32	209	42	130	28	21	1183	82	165	907	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	32	209	42	130	28	21	1183	82	165	907	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.82	0.18	1.00	1.87	0.13	1.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1480	320	1750	3459	241	1750	3662	38
Capacity Analysis Module:												
Vol/Sat:	0.07	0.02	0.12	0.02	0.09	0.09	0.01	0.34	0.34	0.09	0.25	0.25
Crit Moves:					****			****		****		
Green Time:	17.0	17.0	35.1	17.0	17.0	17.0	13.0	65.9	65.9	18.1	71.0	71.0
Volume/Cap:	0.49	0.11	0.38	0.15	0.57	0.57	0.10	0.57	0.57	0.57	0.38	0.38
Delay/Veh:	43.9	40.2	29.4	40.6	46.0	46.0	43.5	13.8	13.8	45.1	9.3	9.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.9	40.2	29.4	40.6	46.0	46.0	43.5	13.8	13.8	45.1	9.3	9.3
LOS by Move:	D	D	C	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	10	2	12	3	12	12	1	23	23	10	13	13

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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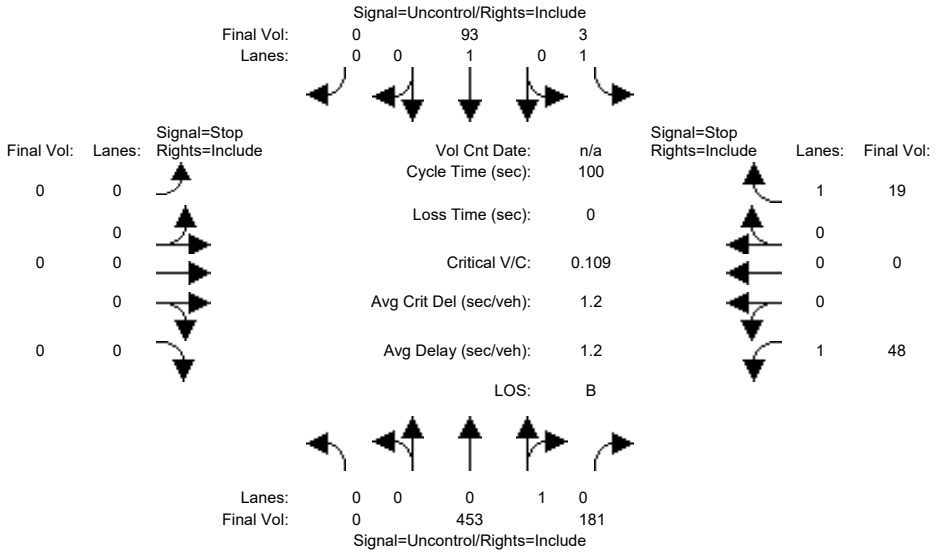
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2030 PH1 AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	408	163	3	84	0	0	0	0	43	0	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	408	163	3	84	0	0	0	0	43	0	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	408	163	3	84	0	0	0	0	43	0	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	453	181	3	93	0	0	0	0	48	0	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	453	181	3	93	0	0	0	0	48	0	19
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	634	xxxx	xxxxx	xxxx	xxxx	xxxxx	644	xxxx	544
Potent Cap.:	xxxx	xxxx	xxxxx	958	xxxx	xxxxx	xxxx	xxxx	xxxxx	441	xxxx	543
Move Cap.:	xxxx	xxxx	xxxxx	958	xxxx	xxxxx	xxxx	xxxx	xxxxx	439	xxxx	543
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.11	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	8.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	14.2	xxxx	11.9
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.5		
ApproachLOS:	*			*			*			B		

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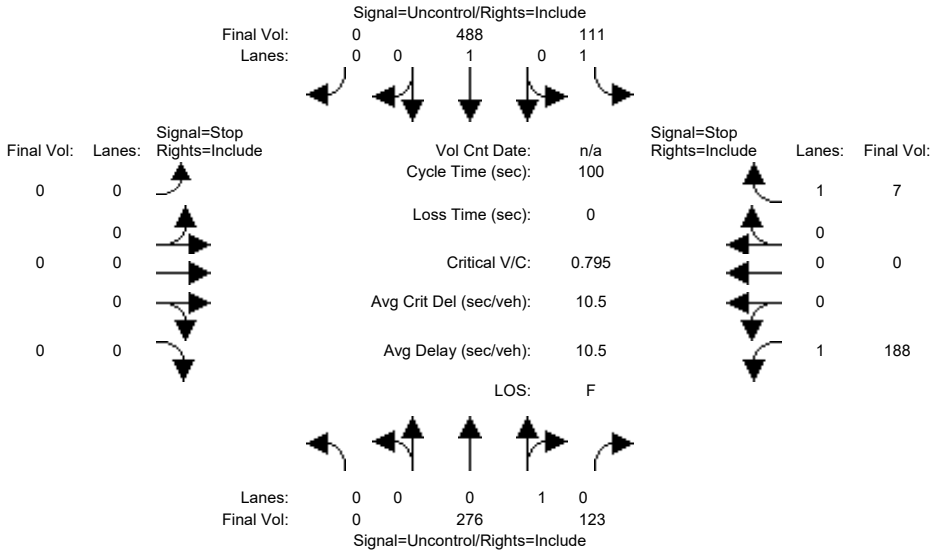
Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	248	111	100	439	0	0	0	0	169	0	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	248	111	100	439	0	0	0	0	169	0	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	248	111	100	439	0	0	0	0	169	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	276	123	111	488	0	0	0	0	188	0	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	276	123	111	488	0	0	0	0	188	0	7
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	399	xxxx	xxxxx	xxxx	xxxx	xxxxx	1047	xxxx	337
Potent Cap.:	xxxx	xxxx	xxxxx	1171	xxxx	xxxxx	xxxx	xxxx	xxxxx	255	xxxx	710
Move Cap.:	xxxx	xxxx	xxxxx	1171	xxxx	xxxxx	xxxx	xxxx	xxxxx	236	xxxx	710
Volume/Cap:	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	0.79	xxxx	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	5.9	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	61.1	xxxx	10.1
LOS by Move:	*	*	*	A	*	*	*	*	*	F	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			59.4		
ApproachLOS:	*			*			*			F		

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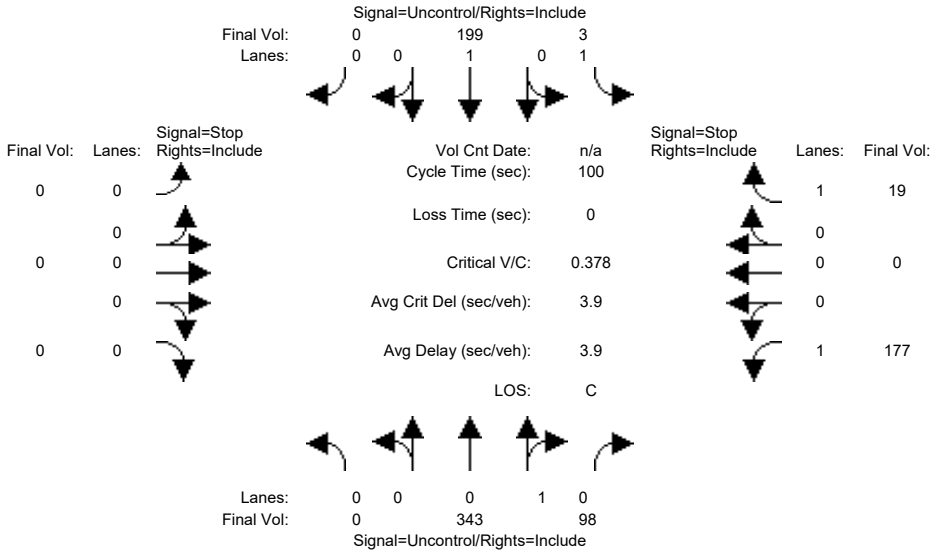
Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	309	88	3	179	0	0	0	0	159	0	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	309	88	3	179	0	0	0	0	159	0	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	309	88	3	179	0	0	0	0	159	0	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	343	98	3	199	0	0	0	0	177	0	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	343	98	3	199	0	0	0	0	177	0	19
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	441	xxxx	xxxxx	xxxx	xxxx	xxxxx	598	xxxx	392
Potent Cap.:	xxxx	xxxx	xxxxx	1130	xxxx	xxxxx	xxxx	xxxx	xxxxx	469	xxxx	661
Move Cap.:	xxxx	xxxx	xxxxx	1130	xxxx	xxxxx	xxxx	xxxx	xxxxx	468	xxxx	661
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.38	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.7	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	8.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	17.3	xxxx	10.6
LOS by Move:	*	*	*	A	*	*	*	*	*	C	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			16.7		
ApproachLOS:	*			*			*			C		

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2000 HCM Unsignalized (Future Volume Alternative)
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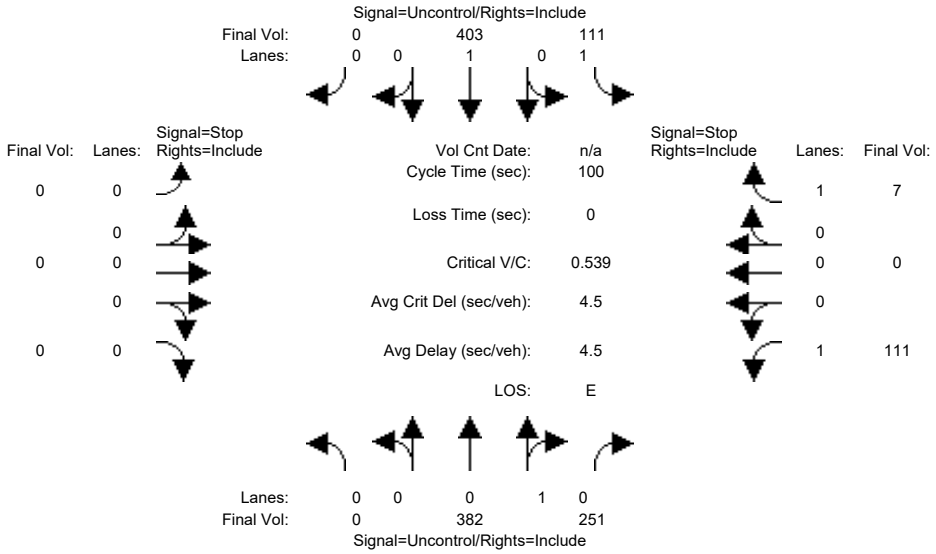
Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	344	226	100	363	0	0	0	0	100	0	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	344	226	100	363	0	0	0	0	100	0	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	344	226	100	363	0	0	0	0	100	0	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	382	251	111	403	0	0	0	0	111	0	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	382	251	111	403	0	0	0	0	111	0	7
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	633	xxxx	xxxxx	xxxx	xxxx	xxxxx	1133	xxxx	508
Potent Cap.:	xxxx	xxxx	xxxxx	959	xxxx	xxxxx	xxxx	xxxx	xxxxx	226	xxxx	569
Move Cap.:	xxxx	xxxx	xxxxx	959	xxxx	xxxxx	xxxx	xxxx	xxxxx	206	xxxx	569
Volume/Cap:	xxxx	xxxx	xxxx	0.12	xxxx	xxxx	xxxx	xxxx	xxxx	0.54	xxxx	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	2.8	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	41.2	xxxx	11.4
LOS by Move:	*	*	*	A	*	*	*	*	*	E	*	B
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			39.5		
ApproachLOS:	*			*			*			E		

Note: Queue reported is the number of cars per lane.

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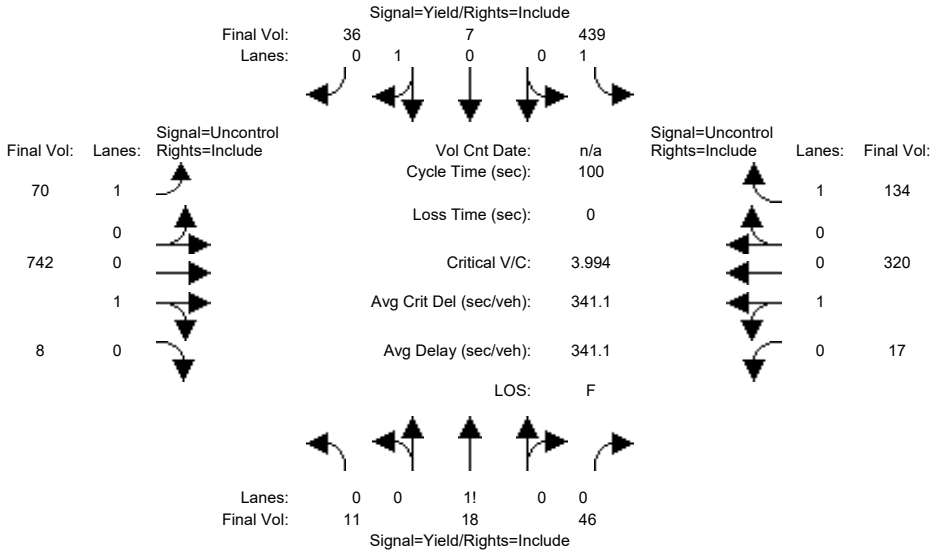
Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	10	16	41	395	6	32	63	668	7	15	288	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	16	41	395	6	32	63	668	7	15	288	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	16	41	395	6	32	63	668	7	15	288	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	11	18	46	439	7	36	70	742	8	17	320	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	18	46	439	7	36	70	742	8	17	320	134
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1328	1374	746	1271	1243	320	454	xxxx	xxxxx	750	xxxx	xxxxx
Potent Cap.:	134	147	417	146	176	725	1117	xxxx	xxxxx	868	xxxx	xxxxx
Move Cap.:	115	135	417	110	162	725	1117	xxxx	xxxxx	868	xxxx	xxxxx
Volume/Cap:	0.10	0.13	0.11	3.99	0.04	0.05	0.06	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	44.8	xxxx	xxxxx	0.2	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	1427	xxxx	xxxxx	8.4	xxxx	xxxxx	9.2	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	221	xxxxx	xxxx	xxxx	468	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.4	xxxxx	xxxxx	xxxx	0.3	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	29.4	xxxxx	xxxxx	xxxx	13.5	xxxxx	xxxx	xxxxx	9.2	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	B	*	*	*	A	*	*
ApproachDel:	29.4			1303.3			xxxxxx			xxxxxx		
ApproachLOS:	D			F			*			*		

Note: Queue reported is the number of cars per lane.

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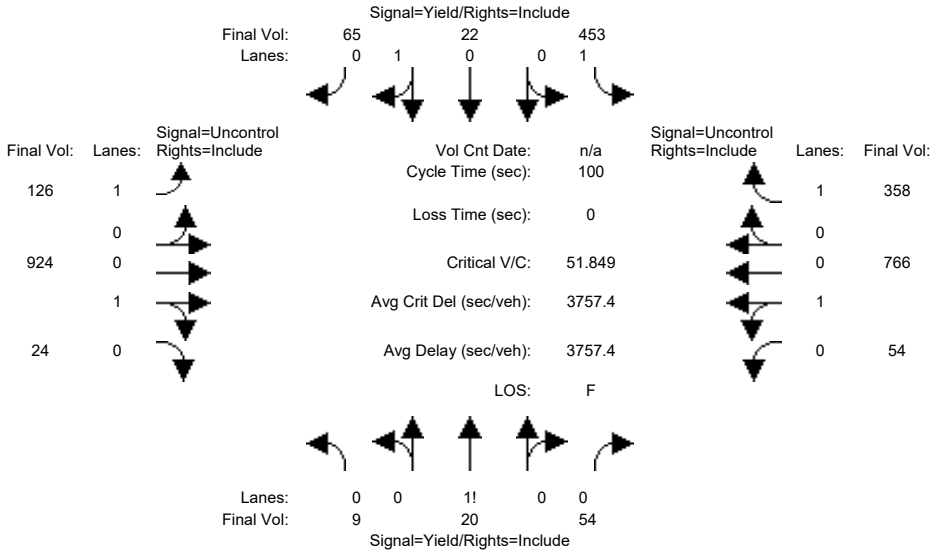
Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	8	18	50	417	20	60	116	850	22	50	705	329
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	18	50	417	20	60	116	850	22	50	705	329
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	18	50	417	20	60	116	850	22	50	705	329
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	9	20	54	453	22	65	126	924	24	54	766	358
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	9	20	54	453	22	65	126	924	24	54	766	358
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2285	2421	936	2100	2075	766	1124	xxxx	xxxxx	948	xxxx	xxxxx
Potent Cap.:	28	33	324	38	54	406	629	xxxx	xxxxx	732	xxxx	xxxxx
Move Cap.:	11	24	324	9	40	406	629	xxxx	xxxxx	732	xxxx	xxxxx
Volume/Cap:	0.78	0.81	0.17	51.85	0.54	0.16	0.20	xxxx	xxxx	0.07	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	58.5	xxxx	xxxxx	0.7	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	23711	xxxx	xxxxx	12.2	xxxx	xxxxx	10.3	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	47	xxxxx	xxxx	xxxx	124	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	8.2	xxxxx	xxxxx	xxxx	3.9	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Shrd ConDel:	xxxxx	552	xxxxx	xxxxx	xxxx	84.0	xxxxx	xxxx	xxxxx	10.3	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	B	*	*
ApproachDel:	551.6			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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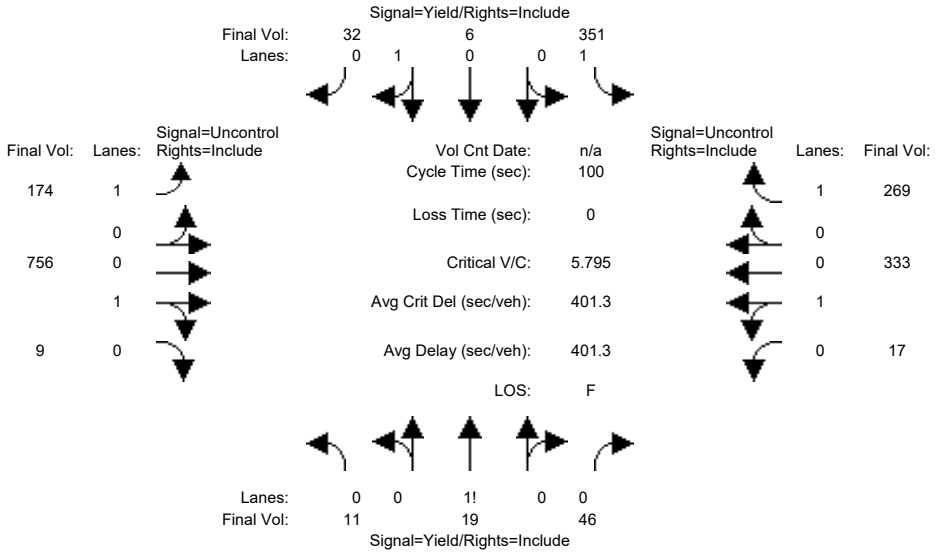
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2030 PH2 AM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	10	17	41	316	5	29	157	680	8	15	300	242
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	17	41	316	5	29	157	680	8	15	300	242
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	17	41	316	5	29	157	680	8	15	300	242
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	11	19	46	351	6	32	174	756	9	17	333	269
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	19	46	351	6	32	174	756	9	17	333	269
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1629	1744	760	1508	1480	333	602	xxxx	xxxxx	764	xxxx	xxxxx
Potent Cap.:	83	87	409	100	127	713	985	xxxx	xxxxx	858	xxxx	xxxxx
Move Cap.:	64	70	409	61	102	713	985	xxxx	xxxxx	858	xxxx	xxxxx
Volume/Cap:	0.17	0.27	0.11	5.79	0.05	0.05	0.18	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	39.6	xxxx	xxxxx	0.6	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	2292	xxxx	xxxxx	9.4	xxxx	xxxxx	9.3	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	137	xxxxx	xxxx	xxxx	380	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	2.7	xxxxx	xxxxx	xxxx	0.3	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	59.7	xxxxx	xxxxx	xxxx	15.5	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	C	*	*	*	A	*	*
ApproachDel:	59.7			2070.4			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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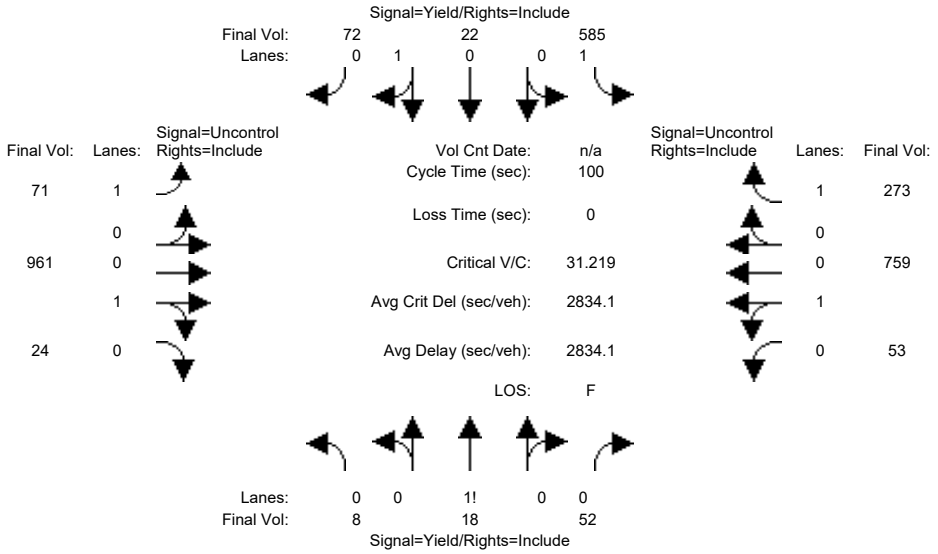
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2030 PH2 PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	7	17	48	538	20	66	65	884	22	49	698	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	17	48	538	20	66	65	884	22	49	698	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	17	48	538	20	66	65	884	22	49	698	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	8	18	52	585	22	72	71	961	24	53	759	273
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	18	52	585	22	72	71	961	24	53	759	273
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2163	2252	973	2015	1991	759	1032	xxxx	xxxxx	985	xxxx	xxxxx
Potent Cap.:	35	42	309	44	61	410	681	xxxx	xxxxx	709	xxxx	xxxxx
Move Cap.:	17	35	309	19	51	410	681	xxxx	xxxxx	709	xxxx	xxxxx
Volume/Cap:	0.46	0.53	0.17	31.22	0.43	0.18	0.10	xxxx	xxxx	0.08	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	73.7	xxxx	xxxxx	0.3	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	13992	xxxx	xxxxx	10.9	xxxx	xxxxx	10.5	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	68	xxxxx	xxxx	xxxx	155	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	6.1	xxxxx	xxxxx	xxxx	3.2	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Shrd ConDel:	xxxxx	264	xxxxx	xxxxx	xxxx	58.5	xxxxx	xxxx	xxxxx	10.5	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	B	*	*
ApproachDel:	263.7			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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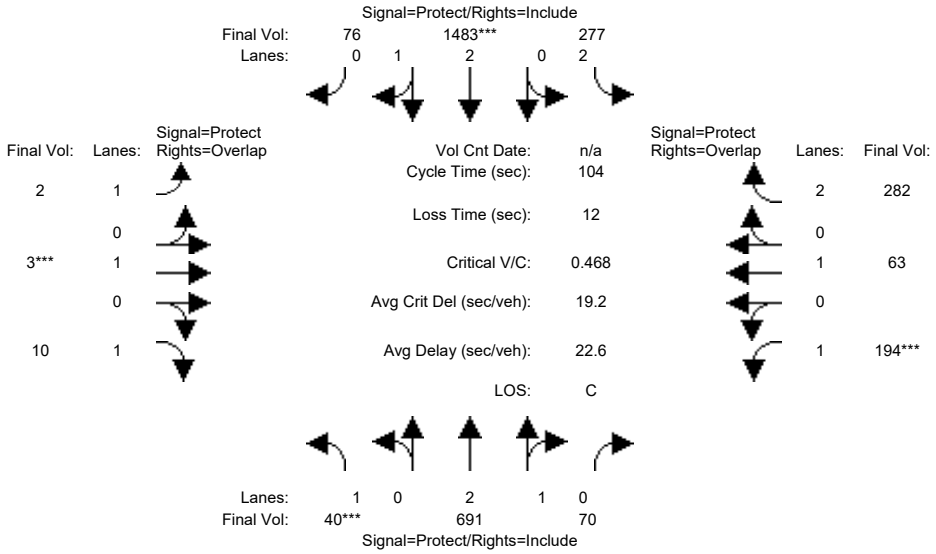
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	36	622	63	249	1335	68	2	3	9	175	57	254
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	622	63	249	1335	68	2	3	9	175	57	254
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	622	63	249	1335	68	2	3	9	175	57	254
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	691	70	277	1483	76	2	3	10	194	63	282
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	691	70	277	1483	76	2	3	10	194	63	282
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	691	70	277	1483	76	2	3	10	194	63	282
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.71	0.29	2.00	2.85	0.15	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	5084	515	3150	5328	271	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.02	0.14	0.14	0.09	0.28	0.28	0.00	0.00	0.01	0.11	0.03	0.09
Crit Moves:	****				****			****		****		
Green Time:	4.5	36.4	36.4	23.5	55.4	55.4	14.3	10.0	14.5	22.1	17.8	41.3
Volume/Cap:	0.52	0.39	0.39	0.39	0.52	0.52	0.01	0.02	0.04	0.52	0.19	0.23
Delay/Veh:	55.1	25.6	25.6	34.5	15.9	15.9	38.8	42.6	38.8	37.6	37.2	20.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.1	25.6	25.6	34.5	15.9	15.9	38.8	42.6	38.8	37.6	37.2	20.8
LOS by Move:	E	C	C	C	B	B	D	D	D	D	D	C
HCM2k95thQ:	3	12	12	9	20	20	0	0	1	12	4	7

Note: Queue reported is the number of cars per lane.

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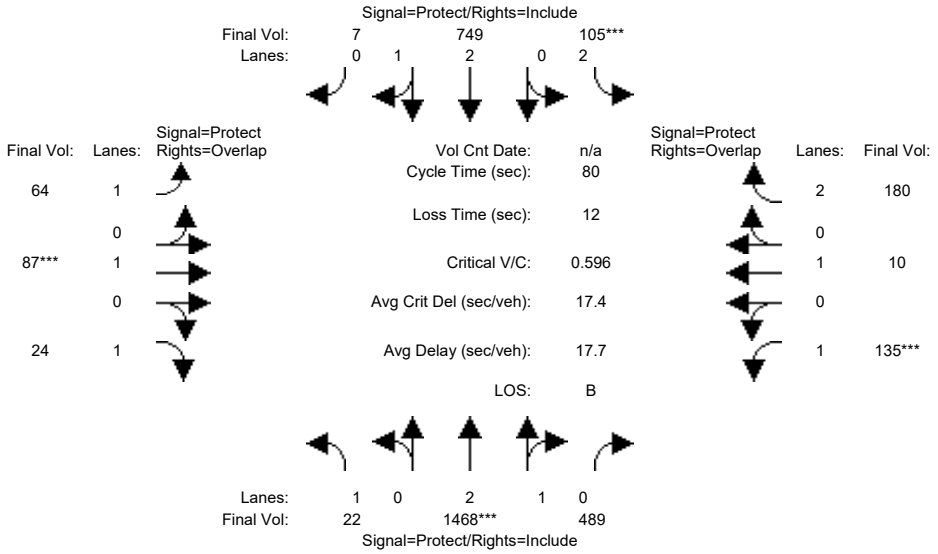
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	21	1380	460	99	704	7	60	82	23	127	9	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	1380	460	99	704	7	60	82	23	127	9	169
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	1380	460	99	704	7	60	82	23	127	9	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	1468	489	105	749	7	64	87	24	135	10	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1468	489	105	749	7	64	87	24	135	10	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	1468	489	105	749	7	64	87	24	135	10	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.22	0.78	2.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4198	1399	3150	5545	55	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.35	0.35	0.03	0.14	0.14	0.04	0.05	0.01	0.08	0.01	0.06
Crit Moves:		****		****				****		****		
Green Time:	13.1	42.6	42.6	6.0	35.5	35.5	8.6	10.0	23.1	9.4	10.8	16.8
Volume/Cap:	0.08	0.66	0.66	0.45	0.30	0.30	0.34	0.37	0.05	0.66	0.04	0.27
Delay/Veh:	28.4	14.0	14.0	36.7	14.4	14.4	34.1	33.1	20.5	41.3	30.2	26.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.4	14.0	14.0	36.7	14.4	14.4	34.1	33.1	20.5	41.3	30.2	26.7
LOS by Move:	C	B	B	D	B	B	C	C	C	D	C	C
HCM2k95thQ:	1	21	21	3	8	8	4	5	1	9	0	5

Note: Queue reported is the number of cars per lane.

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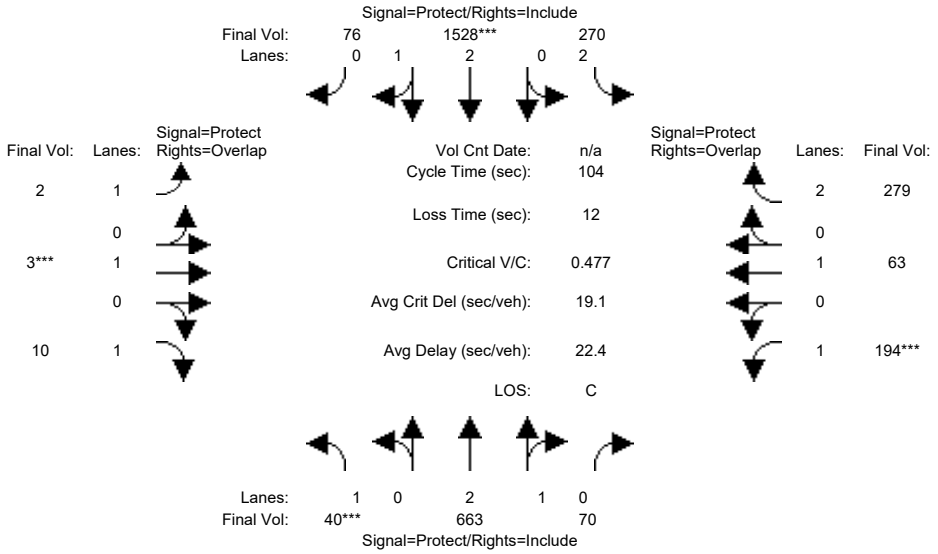
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	36	597	63	243	1375	68	2	3	9	175	57	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	597	63	243	1375	68	2	3	9	175	57	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	597	63	243	1375	68	2	3	9	175	57	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	663	70	270	1528	76	2	3	10	194	63	279
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	663	70	270	1528	76	2	3	10	194	63	279
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	663	70	270	1528	76	2	3	10	194	63	279
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.70	0.30	2.00	2.85	0.15	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	5065	534	3150	5336	264	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.09	0.29	0.29	0.00	0.00	0.01	0.11	0.03	0.09
Crit Moves:	****				****			****		****		
Green Time:	4.5	36.5	36.5	23.9	55.9	55.9	14.1	10.0	14.5	21.7	17.6	41.5
Volume/Cap:	0.53	0.37	0.37	0.37	0.53	0.53	0.01	0.02	0.04	0.53	0.20	0.22
Delay/Veh:	56.0	25.4	25.4	34.1	15.8	15.8	38.9	42.6	38.8	38.2	37.4	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.0	25.4	25.4	34.1	15.8	15.8	38.9	42.6	38.8	38.2	37.4	20.7
LOS by Move:	E	C	C	C	B	B	D	D	D	D	D	C
HCM2k95thQ:	3	11	11	8	20	20	0	0	1	13	4	7

Note: Queue reported is the number of cars per lane.

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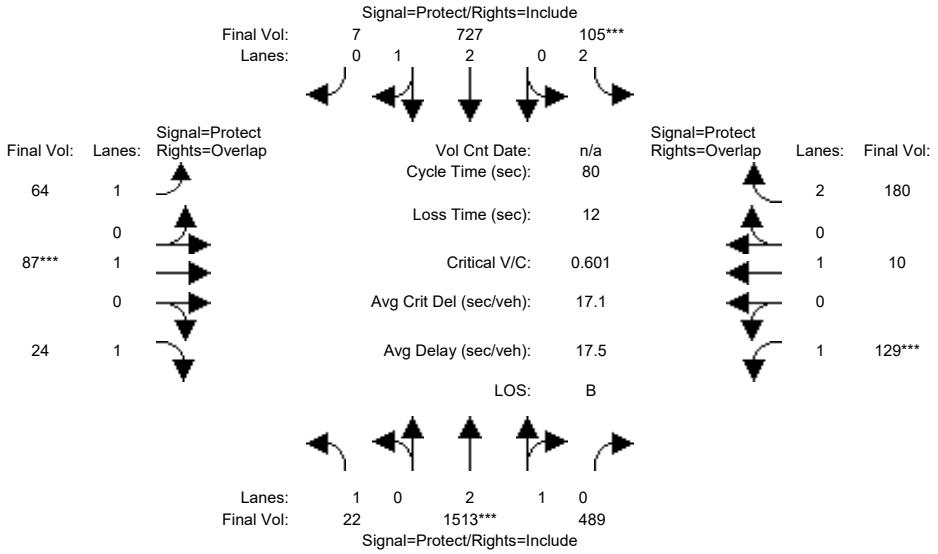
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	21	1422	460	99	683	7	60	82	23	121	9	169
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	1422	460	99	683	7	60	82	23	121	9	169
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	1422	460	99	683	7	60	82	23	121	9	169
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	1513	489	105	727	7	64	87	24	129	10	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1513	489	105	727	7	64	87	24	129	10	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	1513	489	105	727	7	64	87	24	129	10	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.24	0.76	2.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4229	1368	3150	5543	57	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.36	0.36	0.03	0.13	0.13	0.04	0.05	0.01	0.07	0.01	0.06
Crit Moves:		****		****				****		****		
Green Time:	13.6	43.1	43.1	6.0	35.6	35.6	8.4	10.0	23.6	8.9	10.5	16.5
Volume/Cap:	0.08	0.66	0.66	0.45	0.29	0.29	0.35	0.37	0.05	0.66	0.04	0.28
Delay/Veh:	28.0	13.8	13.8	36.7	14.3	14.3	34.4	33.1	20.2	42.5	30.4	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.0	13.8	13.8	36.7	14.3	14.3	34.4	33.1	20.2	42.5	30.4	27.0
LOS by Move:	C	B	B	D	B	B	C	C	C	D	C	C
HCM2k95thQ:	1	21	21	3	7	7	4	5	1	9	0	5

Note: Queue reported is the number of cars per lane.

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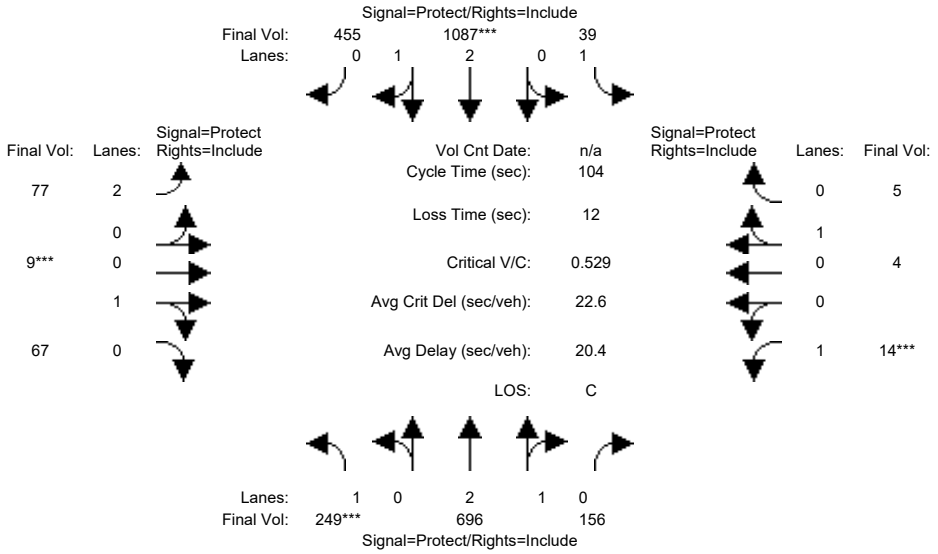
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	232	647	145	36	1011	423	72	8	62	13	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	232	647	145	36	1011	423	72	8	62	13	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	232	647	145	36	1011	423	72	8	62	13	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	249	696	156	39	1087	455	77	9	67	14	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	249	696	156	39	1087	455	77	9	67	14	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	249	696	156	39	1087	455	77	9	67	14	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.43	0.57	1.00	2.08	0.92	2.00	0.11	0.89	1.00	0.44	0.56
Final Sat.:	1750	4573	1025	1750	3946	1651	3150	206	1594	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.14	0.15	0.15	0.02	0.28	0.28	0.02	0.04	0.04	0.01	0.01	0.01
Crit Moves:	****				****			****			****	
Green Time:	26.3	58.5	58.5	18.5	50.7	50.7	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.56	0.27	0.27	0.12	0.56	0.56	0.48	0.43	0.43	0.17	0.06	0.06
Delay/Veh:	35.6	11.8	11.8	36.1	19.1	19.1	50.2	46.1	46.1	48.4	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.6	11.8	11.8	36.1	19.1	19.1	50.2	46.1	46.1	48.4	43.2	43.2
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2k95thQ:	14	9	9	2	21	21	4	6	6	1	1	1

Note: Queue reported is the number of cars per lane.

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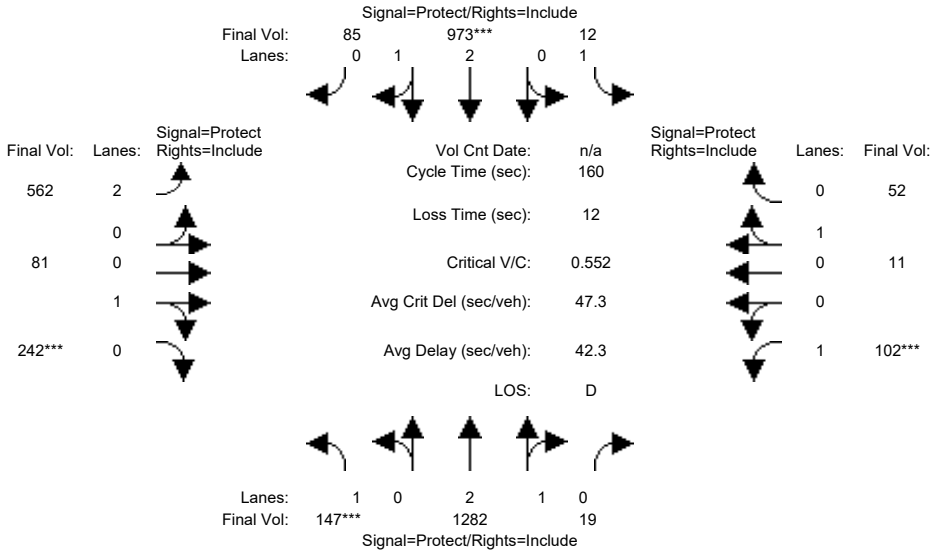
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	140	1218	18	11	924	81	534	77	230	97	10	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	1218	18	11	924	81	534	77	230	97	10	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	1218	18	11	924	81	534	77	230	97	10	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	147	1282	19	12	973	85	562	81	242	102	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	1282	19	12	973	85	562	81	242	102	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	1282	19	12	973	85	562	81	242	102	11	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.95	0.05	1.00	2.75	0.25	2.00	0.25	0.75	1.00	0.17	0.83
Final Sat.:	1750	5518	82	1750	5148	451	3150	451	1349	1750	305	1495
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.23	0.01	0.19	0.19	0.18	0.18	0.18	0.06	0.03	0.03
Crit Moves:	****				****				****	****		
Green Time:	24.4	69.7	69.7	9.4	54.7	54.7	52.4	52.0	52.0	16.9	16.5	16.5
Volume/Cap:	0.55	0.53	0.53	0.11	0.55	0.55	0.55	0.55	0.55	0.55	0.33	0.33
Delay/Veh:	65.3	33.4	33.4	71.9	43.1	43.1	44.7	45.6	45.6	71.5	67.7	67.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.3	33.4	33.4	71.9	43.1	43.1	44.7	45.6	45.6	71.5	67.7	67.7
LOS by Move:	E	C	C	E	D	D	D	D	D	E	E	E
HCM2k95thQ:	14	27	27	1	25	25	24	24	24	11	6	6

Note: Queue reported is the number of cars per lane.

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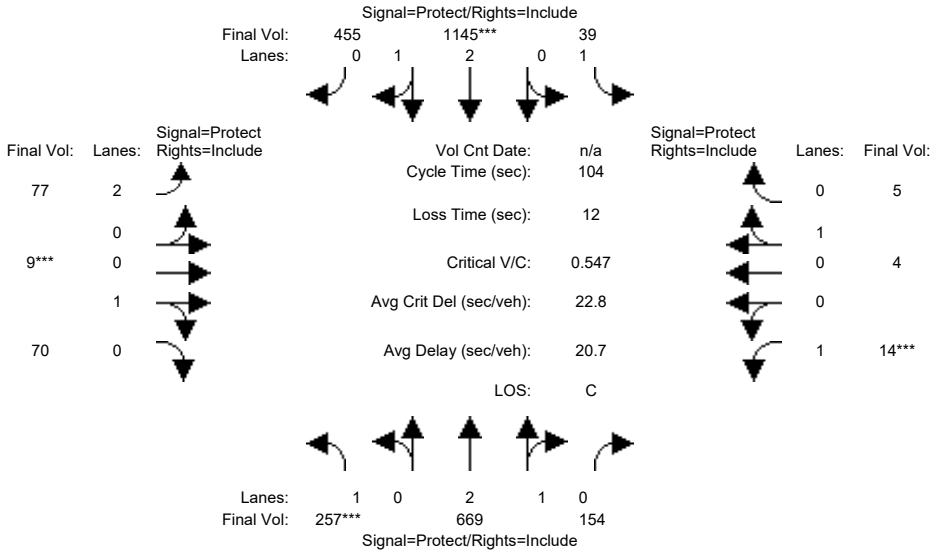
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	239	622	143	36	1065	423	72	8	65	13	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	239	622	143	36	1065	423	72	8	65	13	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	239	622	143	36	1065	423	72	8	65	13	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	257	669	154	39	1145	455	77	9	70	14	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	257	669	154	39	1145	455	77	9	70	14	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	257	669	154	39	1145	455	77	9	70	14	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.42	0.58	1.00	2.12	0.88	2.00	0.11	0.89	1.00	0.44	0.56
Final Sat.:	1750	4552	1046	1750	4006	1591	3150	197	1603	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.02	0.29	0.29	0.02	0.04	0.04	0.01	0.01	0.01
Crit Moves:	****				****			****			****	
Green Time:	26.1	58.0	58.0	19.0	50.9	50.9	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.58	0.26	0.26	0.12	0.58	0.58	0.48	0.45	0.45	0.17	0.06	0.06
Delay/Veh:	36.2	12.0	12.0	35.7	19.3	19.3	50.2	46.3	46.3	48.4	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.2	12.0	12.0	35.7	19.3	19.3	50.2	46.3	46.3	48.4	43.2	43.2
LOS by Move:	D	B	B	D	B	B	D	D	D	D	D	D
HCM2k95thQ:	15	9	9	2	22	22	4	6	6	1	1	1

Note: Queue reported is the number of cars per lane.

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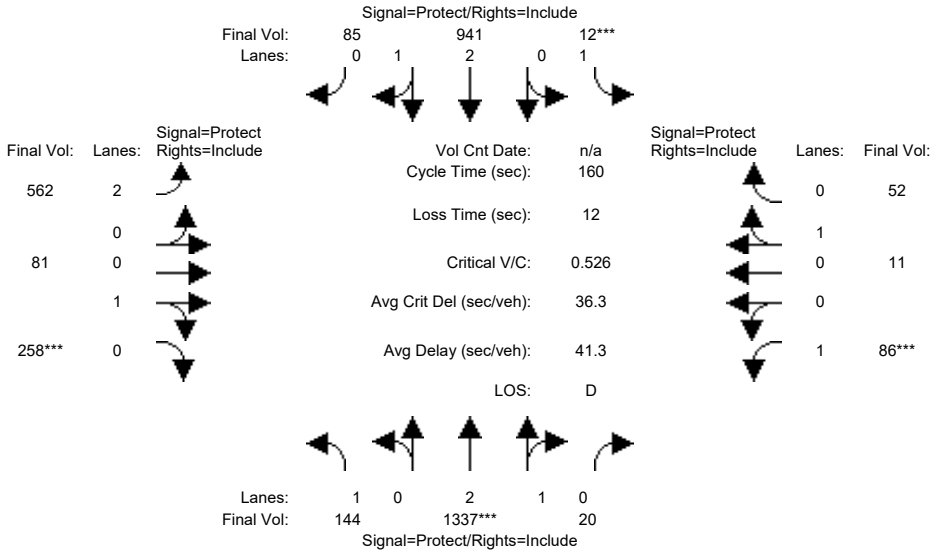
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	137	1270	19	11	894	81	534	77	245	82	10	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	1270	19	11	894	81	534	77	245	82	10	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	1270	19	11	894	81	534	77	245	82	10	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	144	1337	20	12	941	85	562	81	258	86	11	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	1337	20	12	941	85	562	81	258	86	11	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	144	1337	20	12	941	85	562	81	258	86	11	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.95	0.05	1.00	2.74	0.26	2.00	0.24	0.76	1.00	0.17	0.83
Final Sat.:	1750	5517	83	1750	5134	465	3150	430	1370	1750	305	1495
Capacity Analysis Module:												
Vol/Sat:	0.08	0.24	0.24	0.01	0.18	0.18	0.18	0.19	0.19	0.05	0.03	0.03
Crit Moves:		****		****					****	****		
Green Time:	23.9	72.2	72.2	5.0	53.3	53.3	53.8	56.1	56.1	14.7	17.0	17.0
Volume/Cap:	0.55	0.54	0.54	0.21	0.55	0.55	0.53	0.54	0.54	0.54	0.33	0.33
Delay/Veh:	65.6	32.0	32.0	77.5	44.0	44.0	43.4	42.5	42.5	73.0	67.2	67.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.6	32.0	32.0	77.5	44.0	44.0	43.4	42.5	42.5	73.0	67.2	67.2
LOS by Move:	E	C	C	E	D	D	D	D	D	E	E	E
HCM2k95thQ:	13	28	28	1	24	24	24	25	25	10	6	6

Note: Queue reported is the number of cars per lane.

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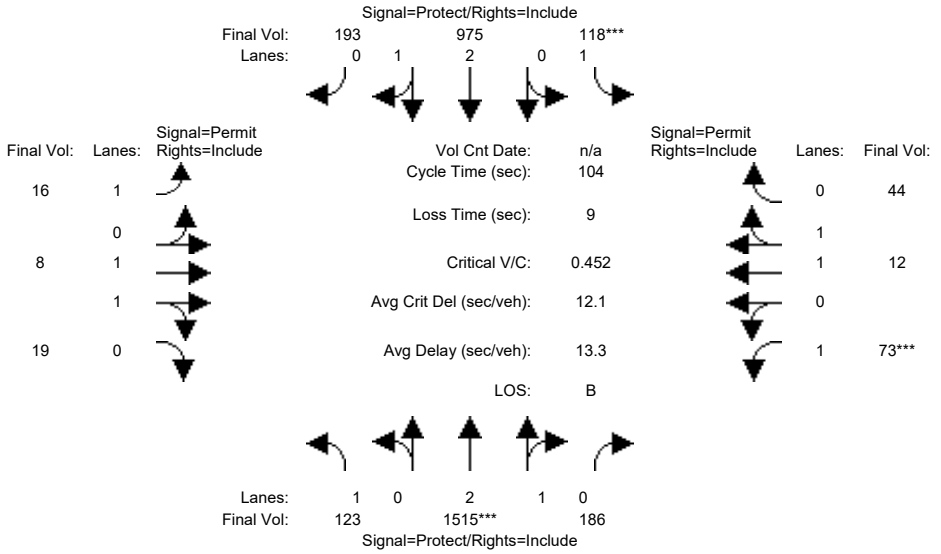
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	112	1379	169	107	887	176	15	7	17	66	11	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	1379	169	107	887	176	15	7	17	66	11	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	1379	169	107	887	176	15	7	17	66	11	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	1515	186	118	975	193	16	8	19	73	12	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	1515	186	118	975	193	16	8	19	73	12	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	1515	186	118	975	193	16	8	19	73	12	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.66	0.34	1.00	2.49	0.51	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4988	611	1750	4672	927	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.30	0.07	0.21	0.21	0.01	0.00	0.01	0.04	0.01	0.03
Crit Moves:		****		****						****		
Green Time:	21.2	68.8	68.8	15.2	62.8	62.8	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.35	0.46	0.46	0.46	0.35	0.35	0.09	0.04	0.10	0.39	0.06	0.24
Delay/Veh:	36.1	8.7	8.7	41.9	10.4	10.4	42.2	41.8	42.2	44.8	41.9	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.1	8.7	8.7	41.9	10.4	10.4	42.2	41.8	42.2	44.8	41.9	43.2
LOS by Move:	D	A	A	D	B	B	D	D	D	D	D	D
HCM2k95thQ:	7	16	16	7	12	12	1	1	1	6	1	3

Note: Queue reported is the number of cars per lane.

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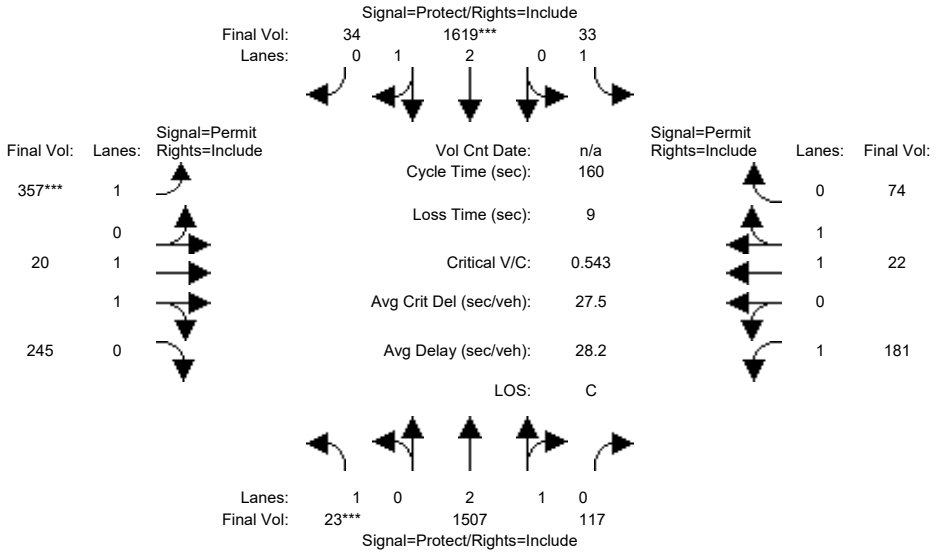
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	22	1447	112	32	1554	33	343	19	235	174	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1447	112	32	1554	33	343	19	235	174	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1447	112	32	1554	33	343	19	235	174	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	1507	117	33	1619	34	357	20	245	181	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	1507	117	33	1619	34	357	20	245	181	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	1507	117	33	1619	34	357	20	245	181	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.78	0.22	1.00	2.94	0.06	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5197	402	1750	5483	116	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.29	0.29	0.02	0.30	0.30	0.20	0.01	0.14	0.10	0.01	0.04
Crit Moves:	****				****		****					
Green Time:	4.0	83.7	83.7	7.2	86.9	86.9	60.1	60.1	60.1	60.1	60.1	60.1
Volume/Cap:	0.52	0.55	0.55	0.42	0.54	0.54	0.54	0.03	0.37	0.28	0.03	0.11
Delay/Veh:	88.2	25.9	25.9	78.0	23.9	23.9	40.1	31.5	36.6	35.0	31.6	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	88.2	25.9	25.9	78.0	23.9	23.9	40.1	31.5	36.6	35.0	31.6	32.6
LOS by Move:	F	C	C	E	C	C	D	C	D	D	C	C
HCM2k95thQ:	3	30	30	4	30	30	26	1	17	12	1	5

Note: Queue reported is the number of cars per lane.

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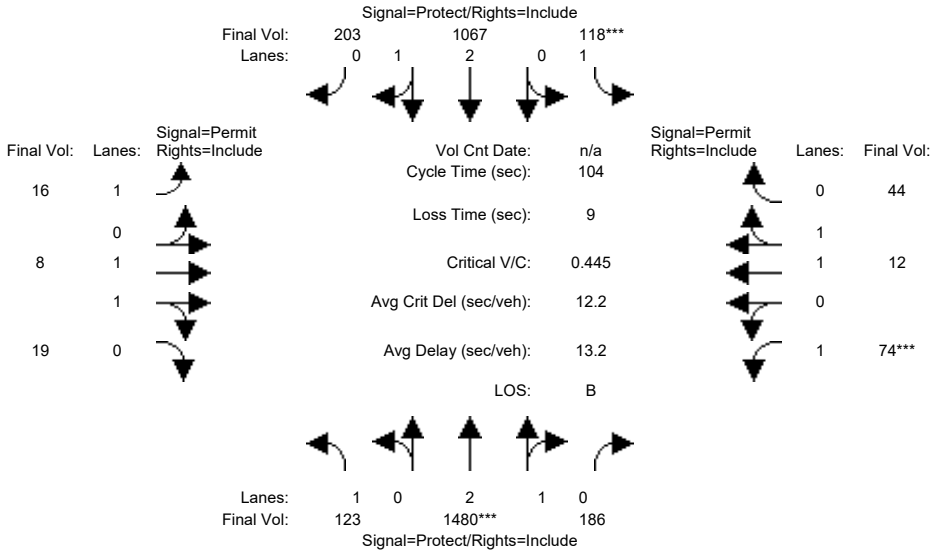
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	112	1347	169	107	971	185	15	7	17	67	11	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	1347	169	107	971	185	15	7	17	67	11	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	1347	169	107	971	185	15	7	17	67	11	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	1480	186	118	1067	203	16	8	19	74	12	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	1480	186	118	1067	203	16	8	19	74	12	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	1480	186	118	1067	203	16	8	19	74	12	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.65	0.35	1.00	2.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	4975	624	1750	4703	896	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.30	0.07	0.23	0.23	0.01	0.00	0.01	0.04	0.01	0.03
Crit Moves:		****		****						****		
Green Time:	19.9	68.5	68.5	15.5	64.1	64.1	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.37	0.45	0.45	0.45	0.37	0.37	0.09	0.04	0.10	0.40	0.06	0.24
Delay/Veh:	37.3	8.7	8.7	41.6	10.0	10.0	42.2	41.8	42.2	44.8	41.9	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.3	8.7	8.7	41.6	10.0	10.0	42.2	41.8	42.2	44.8	41.9	43.2
LOS by Move:	D	A	A	D	A	A	D	D	D	D	D	D
HCM2k95thQ:	7	16	16	7	13	13	1	1	1	6	1	3

Note: Queue reported is the number of cars per lane.

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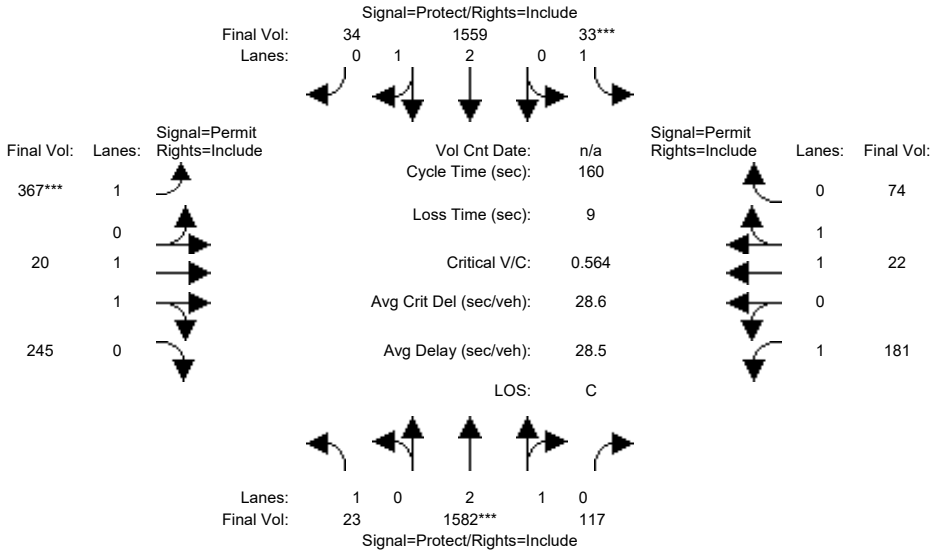
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	22	1519	112	32	1497	33	352	19	235	174	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1519	112	32	1497	33	352	19	235	174	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1519	112	32	1497	33	352	19	235	174	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	1582	117	33	1559	34	367	20	245	181	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	1582	117	33	1559	34	367	20	245	181	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	1582	117	33	1559	34	367	20	245	181	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.79	0.21	1.00	2.93	0.07	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5215	385	1750	5479	121	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.30	0.30	0.02	0.28	0.28	0.21	0.01	0.14	0.10	0.01	0.04
Crit Moves:		****		****			****					
Green Time:	7.4	86.1	86.1	5.4	84.1	84.1	59.5	59.5	59.5	59.5	59.5	59.5
Volume/Cap:	0.28	0.56	0.56	0.56	0.54	0.54	0.56	0.03	0.38	0.28	0.03	0.11
Delay/Veh:	75.7	24.7	24.7	88.1	25.3	25.3	41.1	31.9	37.1	35.5	32.0	33.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.7	24.7	24.7	88.1	25.3	25.3	41.1	31.9	37.1	35.5	32.0	33.0
LOS by Move:	E	C	C	F	C	C	D	C	D	D	C	C
HCM2k95thQ:	2	31	31	4	30	30	27	1	17	12	1	5

Note: Queue reported is the number of cars per lane.

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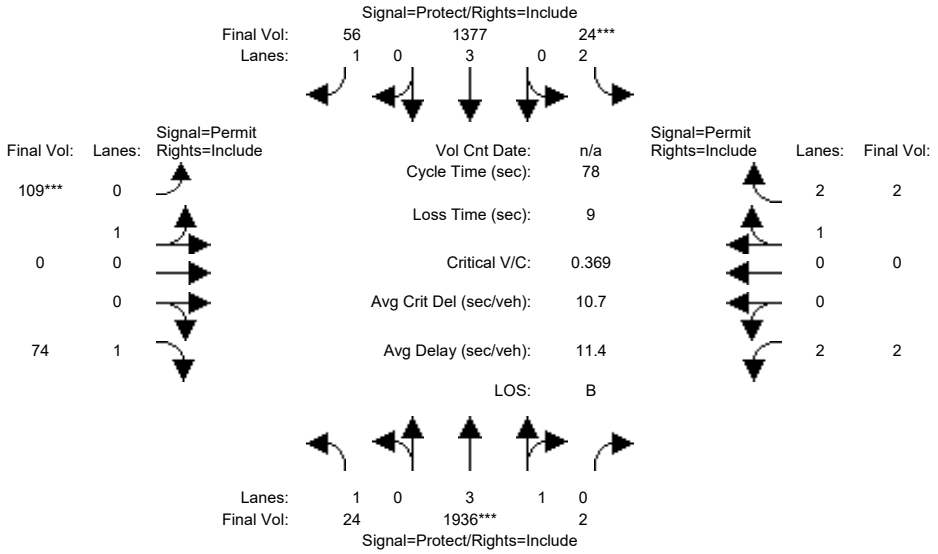
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	22	1742	2	22	1239	50	98	0	67	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1742	2	22	1239	50	98	0	67	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1742	2	22	1239	50	98	0	67	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	24	1936	2	24	1377	56	109	0	74	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	1936	2	24	1377	56	109	0	74	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	24	1936	2	24	1377	56	109	0	74	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7491	9	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.01	0.26	0.26	0.01	0.24	0.03	0.06	0.00	0.04	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green Time:	13.3	45.0	45.0	10.0	41.7	41.7	14.0	0.0	14.0	14.0	0.0	14.0
Volume/Cap:	0.08	0.45	0.45	0.06	0.45	0.06	0.34	0.00	0.24	0.00	0.00	0.00
Delay/Veh:	27.3	9.5	9.5	29.9	11.2	8.7	28.6	0.0	27.8	26.3	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.3	9.5	9.5	29.9	11.2	8.7	28.6	0.0	27.8	26.3	0.0	26.3
LOS by Move:	C	A	A	C	B	A	C	A	C	C	A	C
HCM2k95thQ:	1	13	13	1	13	1	5	0	4	0	0	0

Note: Queue reported is the number of cars per lane.

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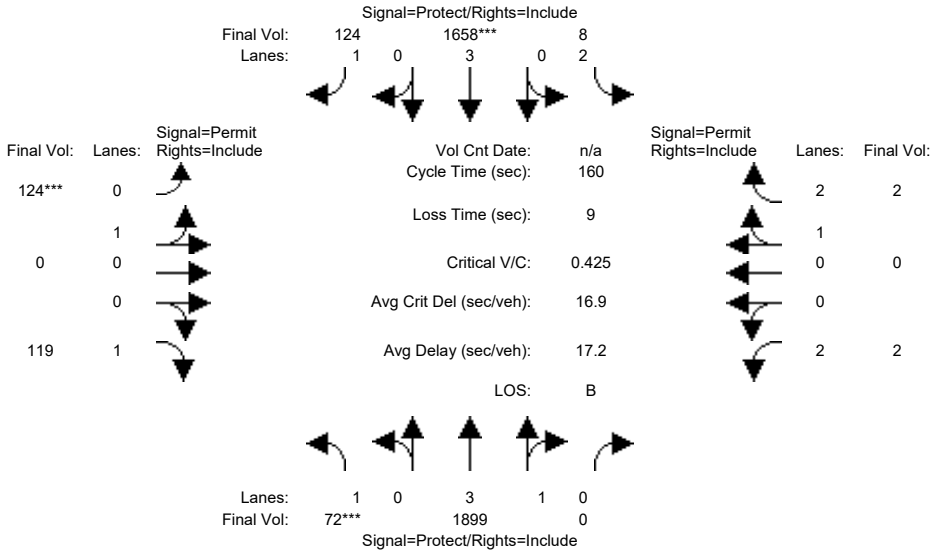
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	68	1804	0	8	1575	118	118	0	113	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	1804	0	8	1575	118	118	0	113	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	1804	0	8	1575	118	118	0	113	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	72	1899	0	8	1658	124	124	0	119	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	1899	0	8	1658	124	124	0	119	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	72	1899	0	8	1658	124	124	0	119	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.00	0.00	0.29	0.07	0.07	0.00	0.07	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	15.4	100	0.0	24.7	110	109.6	26.0	0.0	26.0	26.0	0.0	26.0
Volume/Cap:	0.42	0.40	0.00	0.02	0.42	0.10	0.42	0.00	0.42	0.00	0.00	0.00
Delay/Veh:	69.8	15.0	0.0	57.3	11.3	8.6	61.3	0.0	61.2	56.2	0.0	56.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.8	15.0	0.0	57.3	11.3	8.6	61.3	0.0	61.2	56.2	0.0	56.1
LOS by Move:	E	B	A	E	B	A	E	A	E	E	A	E
HCM2k95thQ:	7	21	0	0	21	4	12	0	11	0	0	0

Note: Queue reported is the number of cars per lane.

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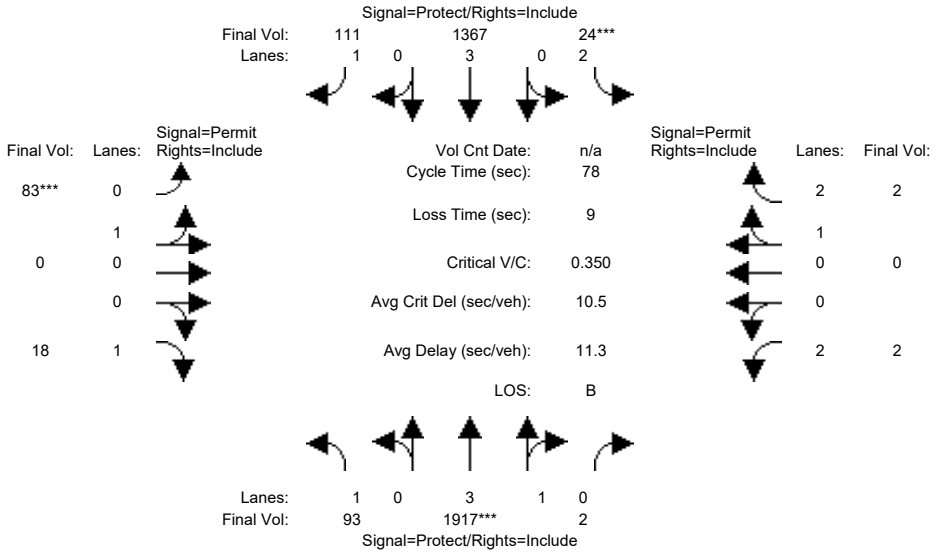
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	84	1725	2	22	1230	100	75	0	16	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	1725	2	22	1230	100	75	0	16	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	1725	2	22	1230	100	75	0	16	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	93	1917	2	24	1367	111	83	0	18	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1917	2	24	1367	111	83	0	18	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	93	1917	2	24	1367	111	83	0	18	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7491	9	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.05	0.26	0.26	0.01	0.24	0.06	0.05	0.00	0.01	0.00	0.00	0.00
Crit Moves:		****			****			****				
Green Time:	13.4	45.0	45.0	10.0	41.6	41.6	14.0	0.0	14.0	14.0	0.0	14.0
Volume/Cap:	0.31	0.44	0.44	0.06	0.45	0.12	0.26	0.00	0.06	0.00	0.00	0.00
Delay/Veh:	28.9	9.5	9.5	29.9	11.3	9.1	28.0	0.0	26.6	26.3	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.9	9.5	9.5	29.9	11.3	9.1	28.0	0.0	26.6	26.3	0.0	26.3
LOS by Move:	C	A	A	C	B	A	C	A	C	C	A	C
HCM2k95thQ:	4	12	12	1	13	3	4	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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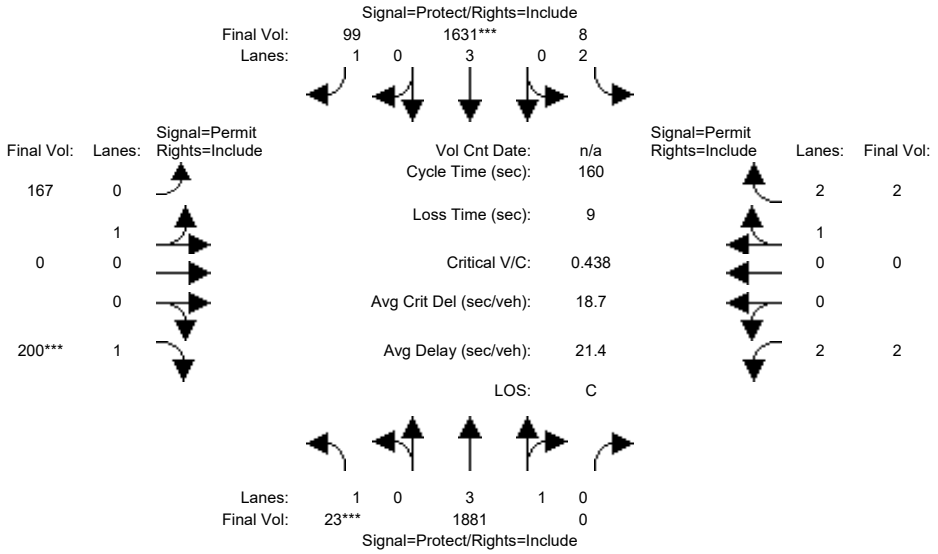
2030 PH2 PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	22	1787	0	8	1549	94	159	0	190	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	1787	0	8	1549	94	159	0	190	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1787	0	8	1549	94	159	0	190	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	23	1881	0	8	1631	99	167	0	200	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	1881	0	8	1631	99	167	0	200	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	1881	0	8	1631	99	167	0	200	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.01	0.25	0.00	0.00	0.29	0.06	0.09	0.00	0.11	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	6.0	87.7	0.0	21.9	104	103.6	41.4	0.0	41.4	41.4	0.0	41.4
Volume/Cap:	0.35	0.46	0.00	0.02	0.44	0.09	0.36	0.00	0.44	0.00	0.00	0.00
Delay/Veh:	78.4	21.9	0.0	59.8	14.0	10.6	48.9	0.0	50.3	44.0	0.0	44.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.4	21.9	0.0	59.8	14.0	10.6	48.9	0.0	50.3	44.0	0.0	44.0
LOS by Move:	E	C	A	E	B	B	D	A	D	D	A	D
HCM2k95thQ:	2	24	0	0	23	4	13	0	17	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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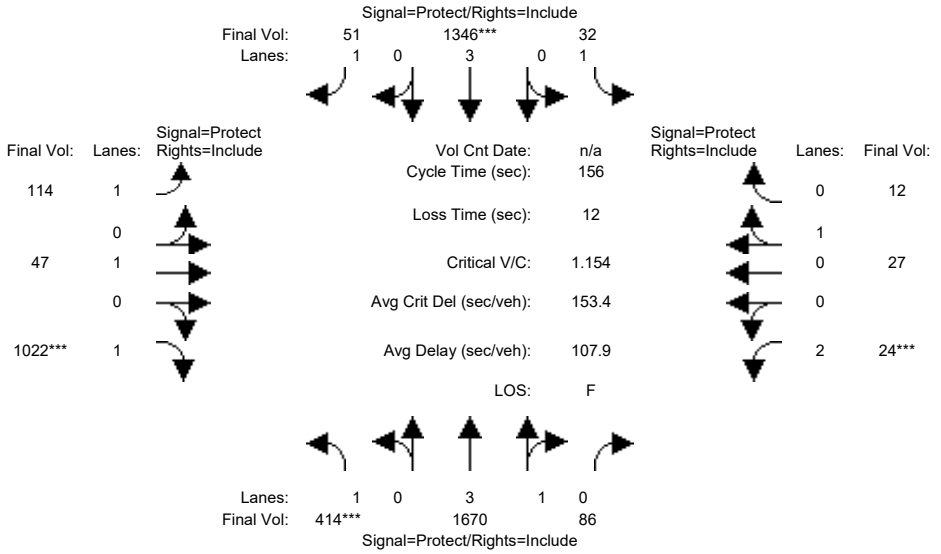
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	373	1503	77	29	1211	46	103	42	920	22	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	1503	77	29	1211	46	103	42	920	22	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	373	1503	77	29	1211	46	103	42	920	22	24	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	414	1670	86	32	1346	51	114	47	1022	24	27	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	414	1670	86	32	1346	51	114	47	1022	24	27	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	414	1670	86	32	1346	51	114	47	1022	24	27	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.80	0.20	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.69	0.31
Final Sat.:	1750	7134	365	1750	5700	1750	1750	1900	1750	3150	1234	566
Capacity Analysis Module:												
Vol/Sat:	0.24	0.23	0.23	0.02	0.24	0.03	0.07	0.02	0.58	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	30.9	53.0	53.0	8.7	30.8	30.8	37.8	76.3	76.3	6.0	44.5	44.5
Volume/Cap:	1.19	0.69	0.69	0.33	1.19	0.15	0.27	0.05	1.19	0.20	0.08	0.08
Delay/Veh:	175.0	45.2	45.2	72.8	159	51.9	48.3	20.9	139.0	73.5	40.8	40.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	175.0	45.2	45.2	72.8	159	51.9	48.3	20.9	139.0	73.5	40.8	40.8
LOS by Move:	F	D	D	E	F	D	D	C	F	E	D	D
HCM2k95thQ:	50	31	31	3	50	4	9	2	114	2	3	3

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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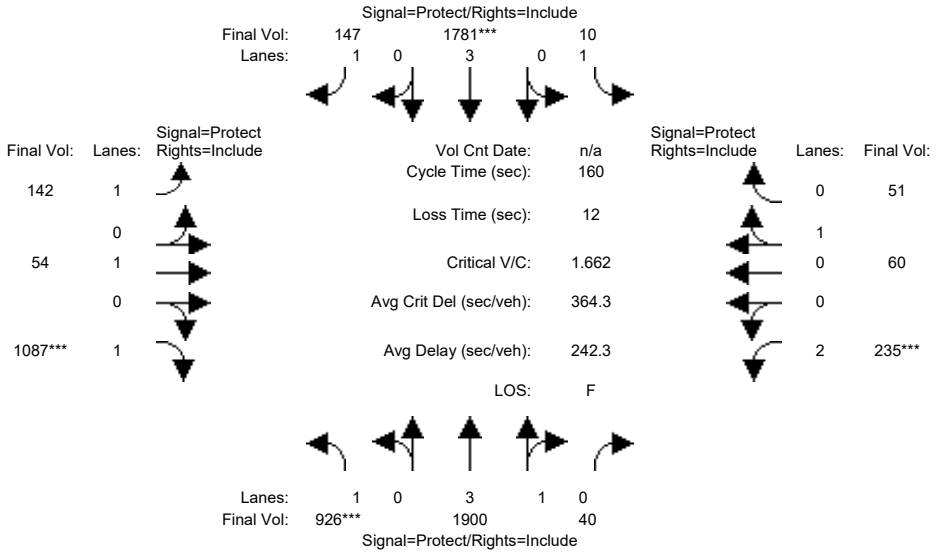
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	861	1767	37	9	1656	137	132	50	1011	219	56	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	861	1767	37	9	1656	137	132	50	1011	219	56	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	861	1767	37	9	1656	137	132	50	1011	219	56	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	926	1900	40	10	1781	147	142	54	1087	235	60	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	926	1900	40	10	1781	147	142	54	1087	235	60	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	926	1900	40	10	1781	147	142	54	1087	235	60	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.54	0.46
Final Sat.:	1750	7346	154	1750	5700	1750	1750	1900	1750	3150	979	821
Capacity Analysis Module:												
Vol/Sat:	0.53	0.26	0.26	0.01	0.31	0.08	0.08	0.03	0.62	0.07	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	50.9	70.7	70.7	10.3	30.1	30.1	34.8	59.8	59.8	7.2	32.2	32.2
Volume/Cap:	1.66	0.58	0.58	0.09	1.66	0.45	0.37	0.08	1.66	1.66	0.31	0.31
Delay/Veh:	360.4	33.9	33.9	70.8	367	58.6	53.9	32.3	354.8	403.4	54.9	54.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	360.4	33.9	33.9	70.8	367	58.6	53.9	32.3	354.8	403.4	54.9	54.9
LOS by Move:	F	C	C	E	F	E	D	C	F	F	D	D
HCM2k95thQ:	144	30	30	1	87	13	12	3	171	27	10	10

Note: Queue reported is the number of cars per lane.

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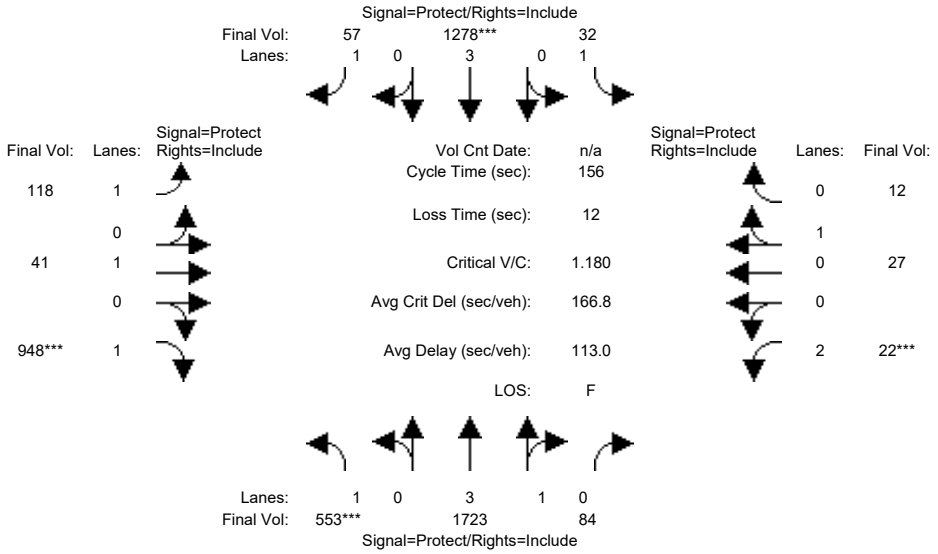
2030 PH2 AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	498	1551	76	29	1150	51	106	37	853	20	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	498	1551	76	29	1150	51	106	37	853	20	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	498	1551	76	29	1150	51	106	37	853	20	24	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	553	1723	84	32	1278	57	118	41	948	22	27	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	553	1723	84	32	1278	57	118	41	948	22	27	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	553	1723	84	32	1278	57	118	41	948	22	27	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.81	0.19	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.69	0.31
Final Sat.:	1750	7149	350	1750	5700	1750	1750	1900	1750	3150	1234	566
Capacity Analysis Module:												
Vol/Sat:	0.32	0.24	0.24	0.02	0.22	0.03	0.07	0.02	0.54	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	40.3	59.4	59.4	9.5	28.6	28.6	35.0	69.1	69.1	6.0	40.0	40.0
Volume/Cap:	1.22	0.63	0.63	0.30	1.22	0.18	0.30	0.05	1.22	0.18	0.08	0.08
Delay/Veh:	176.6	39.8	39.8	71.7	173	54.0	50.7	24.8	155.3	73.4	44.1	44.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	176.6	39.8	39.8	71.7	173	54.0	50.7	24.8	155.3	73.4	44.1	44.1
LOS by Move:	F	D	D	E	F	D	D	C	F	E	D	D
HCM2k95thQ:	66	30	30	3	49	5	10	2	110	2	3	3

Note: Queue reported is the number of cars per lane.

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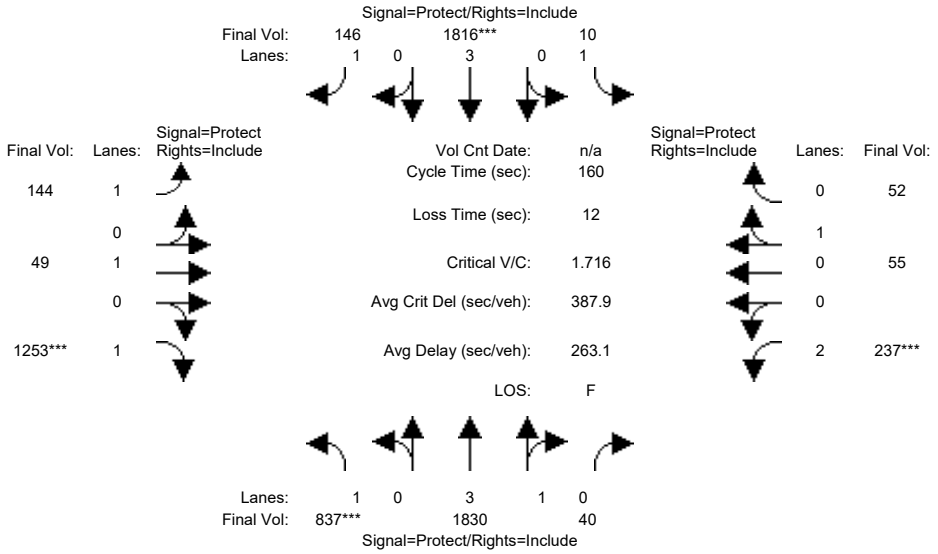
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	778	1702	37	9	1689	136	134	46	1165	220	51	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	778	1702	37	9	1689	136	134	46	1165	220	51	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	778	1702	37	9	1689	136	134	46	1165	220	51	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	837	1830	40	10	1816	146	144	49	1253	237	55	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	837	1830	40	10	1816	146	144	49	1253	237	55	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	837	1830	40	10	1816	146	144	49	1253	237	55	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.52	0.48
Final Sat.:	1750	7340	160	1750	5700	1750	1750	1900	1750	3150	927	873
Capacity Analysis Module:												
Vol/Sat:	0.48	0.25	0.25	0.01	0.32	0.08	0.08	0.03	0.72	0.08	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	44.6	64.6	64.6	9.7	29.7	29.7	38.6	66.7	66.7	7.0	35.1	35.1
Volume/Cap:	1.72	0.62	0.62	0.09	1.72	0.45	0.34	0.06	1.72	1.72	0.27	0.27
Delay/Veh:	388.7	38.3	38.3	71.4	392	58.9	50.7	27.9	374.8	427.6	52.1	52.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	388.7	38.3	38.3	71.4	392	58.9	50.7	27.9	374.8	427.6	52.1	52.1
LOS by Move:	F	D	D	E	F	E	D	C	F	F	D	D
HCM2k95thQ:	134	30	30	1	91	13	12	3	201	27	9	9

Note: Queue reported is the number of cars per lane.

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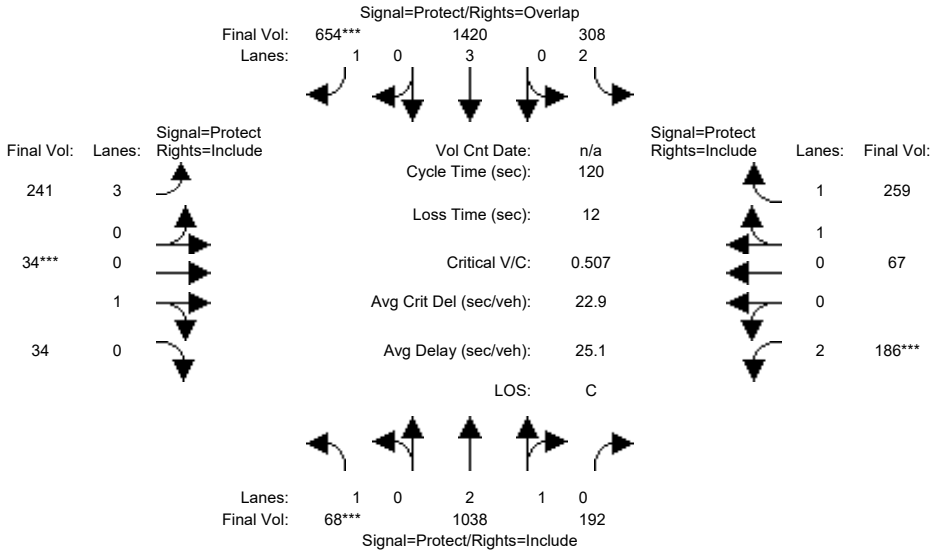
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	62	945	175	280	1292	595	219	31	31	169	61	236
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	945	175	280	1292	595	219	31	31	169	61	236
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	945	175	280	1292	595	219	31	31	169	61	236
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	68	1038	192	308	1420	654	241	34	34	186	67	259
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	1038	192	308	1420	654	241	34	34	186	67	259
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	1038	192	308	1420	654	241	34	34	186	67	259
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.51	0.49	2.00	3.00	1.00	3.00	0.50	0.50	2.00	0.41	1.59
Final Sat.:	1750	4724	875	3150	5700	1750	4551	900	900	3150	739	2861
Capacity Analysis Module:												
Vol/Sat:	0.04	0.22	0.22	0.10	0.25	0.37	0.05	0.04	0.04	0.06	0.09	0.09
Crit Moves:	****					****		****		****		
Green Time:	9.6	56.4	56.4	25.0	71.8	84.5	12.7	12.0	12.0	14.6	13.8	13.8
Volume/Cap:	0.49	0.47	0.47	0.47	0.42	0.53	0.50	0.38	0.38	0.49	0.79	0.79
Delay/Veh:	55.4	21.8	21.8	42.2	13.0	8.8	51.4	51.8	51.8	50.2	61.2	61.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.4	21.8	21.8	42.2	13.0	8.8	51.4	51.8	51.8	50.2	61.2	61.2
LOS by Move:	E	C	C	D	B	A	D	D	D	D	E	E
HCM2k95thQ:	5	18	18	11	17	22	8	6	6	9	15	15

Note: Queue reported is the number of cars per lane.

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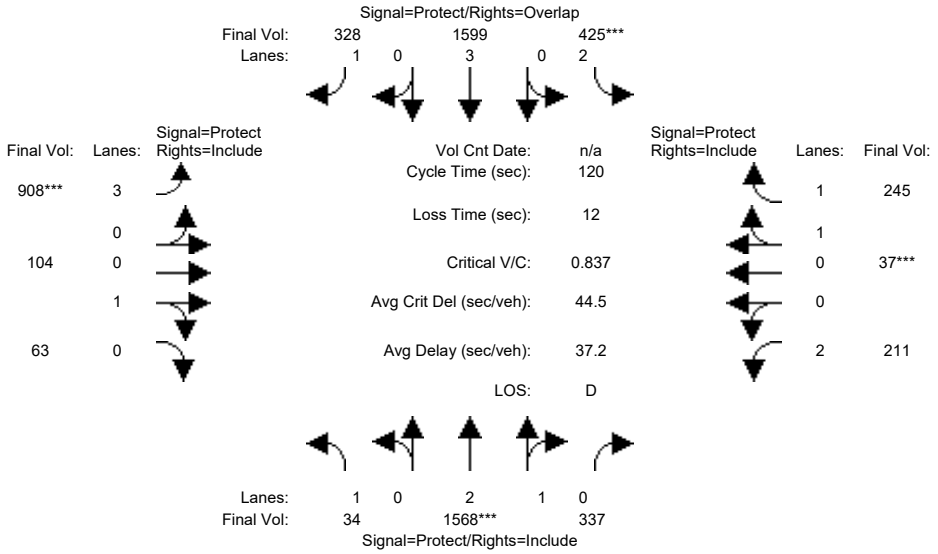
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	32	1490	320	404	1519	312	863	99	60	200	35	233
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	1490	320	404	1519	312	863	99	60	200	35	233
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	1490	320	404	1519	312	863	99	60	200	35	233
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	34	1568	337	425	1599	328	908	104	63	211	37	245
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	1568	337	425	1599	328	908	104	63	211	37	245
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	34	1568	337	425	1599	328	908	104	63	211	37	245
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.45	0.55	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.26	1.74
Final Sat.:	1750	4609	990	3150	5700	1750	4551	1121	679	3150	470	3130
Capacity Analysis Module:												
Vol/Sat:	0.02	0.34	0.34	0.14	0.28	0.19	0.20	0.09	0.09	0.07	0.08	0.08
Crit Moves:		****		****			****				****	
Green Time:	13.1	48.8	48.8	19.4	55.1	83.7	28.6	21.7	21.7	18.1	11.2	11.2
Volume/Cap:	0.18	0.84	0.84	0.84	0.61	0.27	0.84	0.51	0.51	0.44	0.84	0.84
Delay/Veh:	49.0	34.9	34.9	60.4	24.9	6.9	49.3	45.8	45.8	47.0	70.0	70.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.0	34.9	34.9	60.4	24.9	6.9	49.3	45.8	45.8	47.0	70.0	70.0
LOS by Move:	D	C	C	E	C	A	D	D	D	D	E	E
HCM2k95thQ:	2	36	36	18	25	9	27	12	12	9	15	15

Note: Queue reported is the number of cars per lane.

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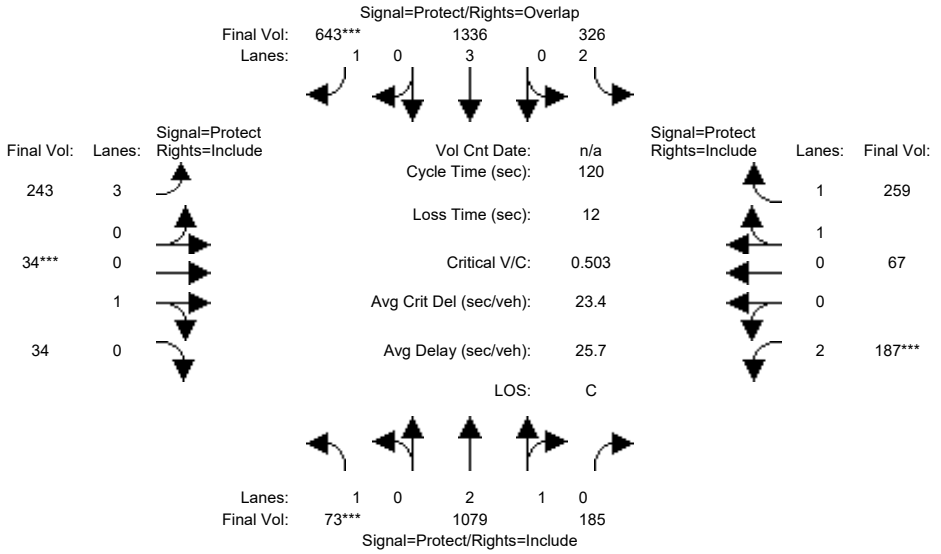
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	66	982	168	297	1216	585	221	31	31	170	61	236
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	66	982	168	297	1216	585	221	31	31	170	61	236
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	66	982	168	297	1216	585	221	31	31	170	61	236
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	73	1079	185	326	1336	643	243	34	34	187	67	259
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	1079	185	326	1336	643	243	34	34	187	67	259
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	1079	185	326	1336	643	243	34	34	187	67	259
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.55	0.45	2.00	3.00	1.00	3.00	0.50	0.50	2.00	0.41	1.59
Final Sat.:	1750	4781	818	3150	5700	1750	4551	900	900	3150	739	2861
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.23	0.10	0.23	0.37	0.05	0.04	0.04	0.06	0.09	0.09
Crit Moves:	****					****		****		****		
Green Time:	10.3	55.7	55.7	25.5	70.9	83.7	12.8	12.0	12.0	14.8	14.0	14.0
Volume/Cap:	0.48	0.49	0.49	0.49	0.40	0.53	0.50	0.38	0.38	0.48	0.78	0.78
Delay/Veh:	54.7	22.4	22.4	42.0	13.2	9.1	51.4	51.8	51.8	50.0	60.6	60.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.7	22.4	22.4	42.0	13.2	9.1	51.4	51.8	51.8	50.0	60.6	60.6
LOS by Move:	D	C	C	D	B	A	D	D	D	D	E	E
HCM2k95thQ:	5	19	19	12	16	22	8	6	6	9	15	15

Note: Queue reported is the number of cars per lane.

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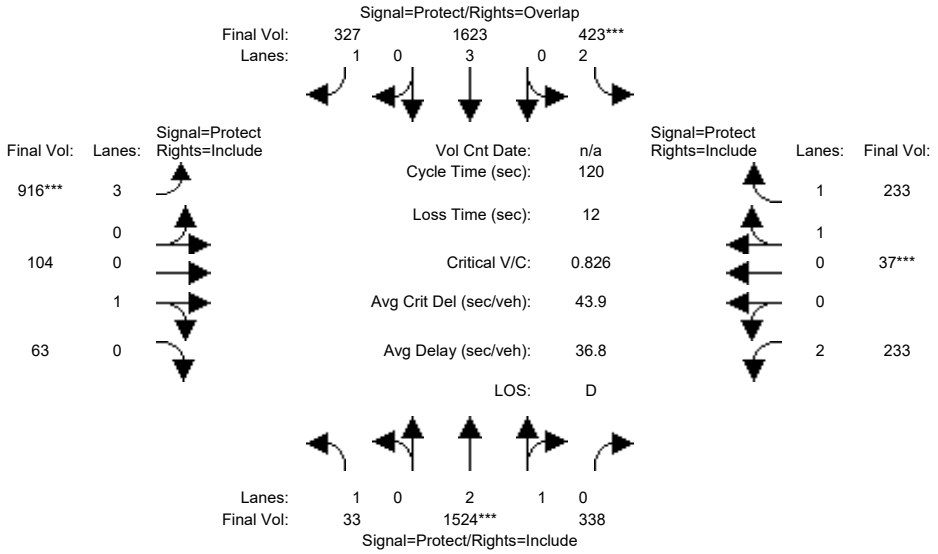
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	31	1448	321	402	1542	311	870	99	60	221	35	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	1448	321	402	1542	311	870	99	60	221	35	221
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	1448	321	402	1542	311	870	99	60	221	35	221
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	33	1524	338	423	1623	327	916	104	63	233	37	233
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	1524	338	423	1623	327	916	104	63	233	37	233
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	33	1524	338	423	1623	327	916	104	63	233	37	233
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.44	0.56	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.27	1.73
Final Sat.:	1750	4582	1016	3150	5700	1750	4551	1121	679	3150	492	3108
Capacity Analysis Module:												
Vol/Sat:	0.02	0.33	0.33	0.13	0.28	0.19	0.20	0.09	0.09	0.07	0.07	0.07
Crit Moves:		****		****			****				****	
Green Time:	12.9	48.3	48.3	19.5	55.0	84.2	29.2	21.9	21.9	18.2	10.9	10.9
Volume/Cap:	0.17	0.83	0.83	0.83	0.62	0.27	0.83	0.51	0.51	0.49	0.83	0.83
Delay/Veh:	49.2	34.7	34.7	59.2	25.1	6.7	48.2	45.6	45.6	47.4	69.3	69.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.2	34.7	34.7	59.2	25.1	6.7	48.2	45.6	45.6	47.4	69.3	69.3
LOS by Move:	D	C	C	E	C	A	D	D	D	D	E	E
HCM2k95thQ:	2	35	35	18	26	9	27	12	12	10	14	14

Note: Queue reported is the number of cars per lane.

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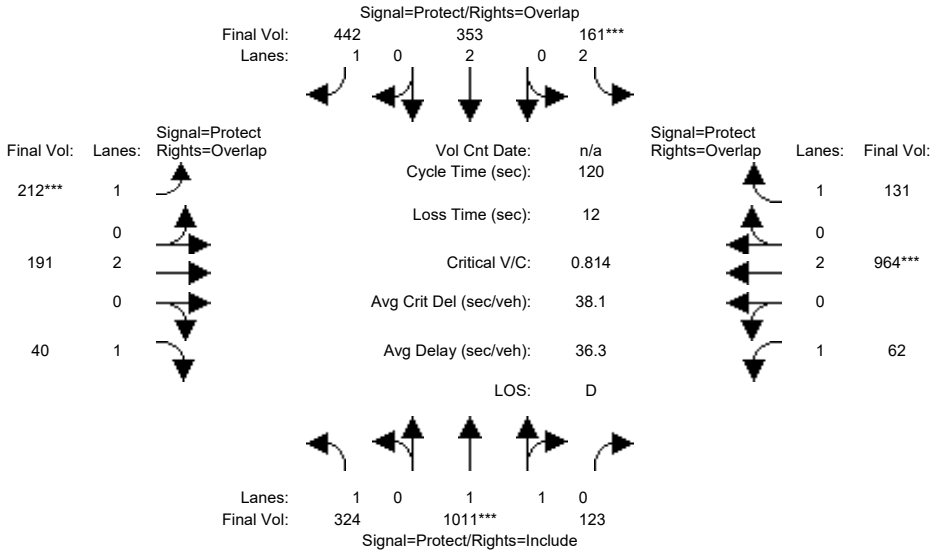
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	292	910	111	145	318	398	191	172	36	56	868	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	910	111	145	318	398	191	172	36	56	868	118
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	910	111	145	318	398	191	172	36	56	868	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1011	123	161	353	442	212	191	40	62	964	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1011	123	161	353	442	212	191	40	62	964	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1011	123	161	353	442	212	191	40	62	964	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.78	0.22	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3297	402	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.31	0.31	0.05	0.09	0.25	0.12	0.05	0.02	0.04	0.25	0.07
Crit Moves:		****		****			****				****	
Green Time:	31.0	45.0	45.0	8.0	22.0	39.8	17.8	30.1	61.1	24.9	37.2	45.2
Volume/Cap:	0.72	0.82	0.82	0.77	0.51	0.76	0.82	0.20	0.04	0.17	0.82	0.20
Delay/Veh:	36.6	24.2	24.2	68.1	38.2	30.0	67.6	35.6	14.8	39.3	42.9	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	24.2	24.2	68.1	38.2	30.0	67.6	35.6	14.8	39.3	42.9	25.3
LOS by Move:	D	C	C	E	D	C	E	D	B	D	D	C
HCM2k95thQ:	20	30	30	7	10	25	17	5	2	4	32	7

Note: Queue reported is the number of cars per lane.

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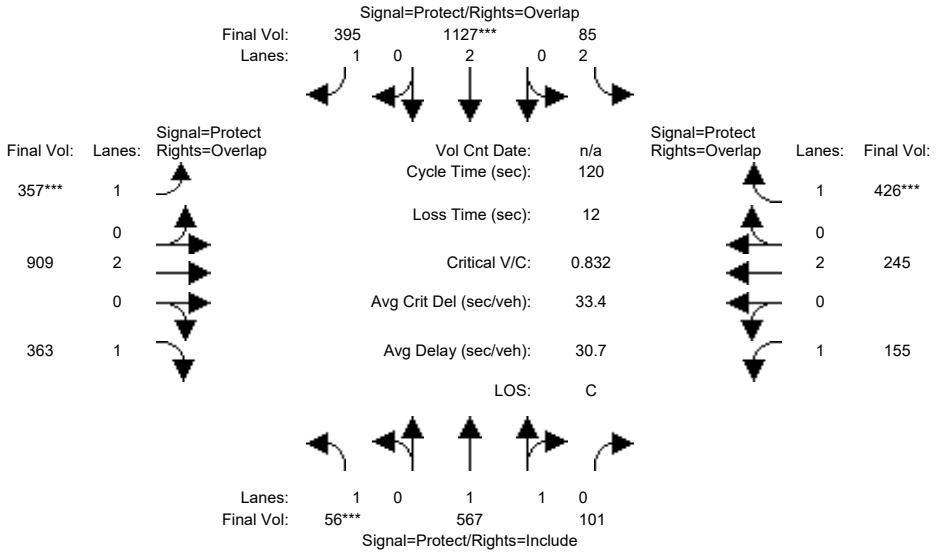
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	55	561	100	84	1116	391	353	900	359	153	243	422
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	561	100	84	1116	391	353	900	359	153	243	422
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	561	100	84	1116	391	353	900	359	153	243	422
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	56	567	101	85	1127	395	357	909	363	155	245	426
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	567	101	85	1127	395	357	909	363	155	245	426
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	567	101	85	1127	395	357	909	363	155	245	426
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.69	0.31	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3140	560	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.03	0.30	0.23	0.20	0.24	0.21	0.09	0.06	0.24
Crit Moves:	****				****		****					****
Green Time:	5.0	36.6	36.6	13.5	45.1	76.1	31.0	42.3	47.3	15.6	26.9	40.4
Volume/Cap:	0.76	0.59	0.59	0.24	0.79	0.36	0.79	0.68	0.53	0.68	0.29	0.72
Delay/Veh:	92.1	25.9	25.9	44.8	22.9	0.2	50.5	34.5	28.5	57.8	38.8	39.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.1	25.9	25.9	44.8	22.9	0.2	50.5	34.5	28.5	57.8	38.8	39.3
LOS by Move:	F	C	C	D	C	A	D	C	C	E	D	D
HCM2k95thQ:	5	17	17	3	27	1	25	25	20	14	8	28

Note: Queue reported is the number of cars per lane.

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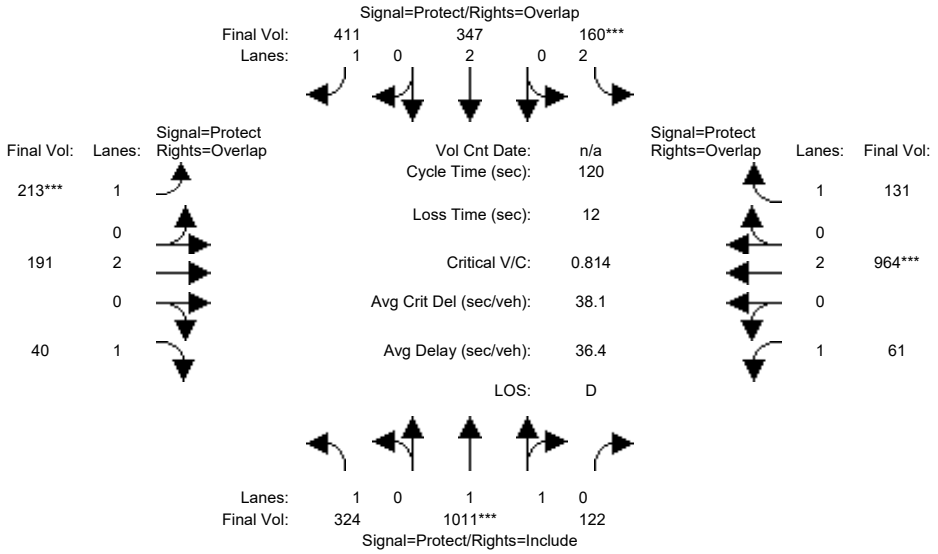
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	292	910	110	144	312	370	192	172	36	55	868	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	910	110	144	312	370	192	172	36	55	868	118
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	910	110	144	312	370	192	172	36	55	868	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1011	122	160	347	411	213	191	40	61	964	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1011	122	160	347	411	213	191	40	61	964	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1011	122	160	347	411	213	191	40	61	964	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.78	0.22	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3301	399	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.31	0.31	0.05	0.09	0.23	0.12	0.05	0.02	0.03	0.25	0.07
Crit Moves:		****		****			****				****	
Green Time:	32.9	44.9	44.9	8.0	20.0	37.9	17.9	30.1	63.0	25.0	37.2	45.2
Volume/Cap:	0.68	0.82	0.82	0.76	0.55	0.74	0.82	0.20	0.04	0.17	0.82	0.20
Delay/Veh:	32.9	24.3	24.3	67.5	40.7	30.8	67.6	35.5	13.9	39.2	42.9	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.9	24.3	24.3	67.5	40.7	30.8	67.6	35.5	13.9	39.2	42.9	25.3
LOS by Move:	C	C	C	E	D	C	E	D	B	D	D	C
HCM2k95thQ:	19	30	30	7	10	23	17	5	2	4	32	7

Note: Queue reported is the number of cars per lane.

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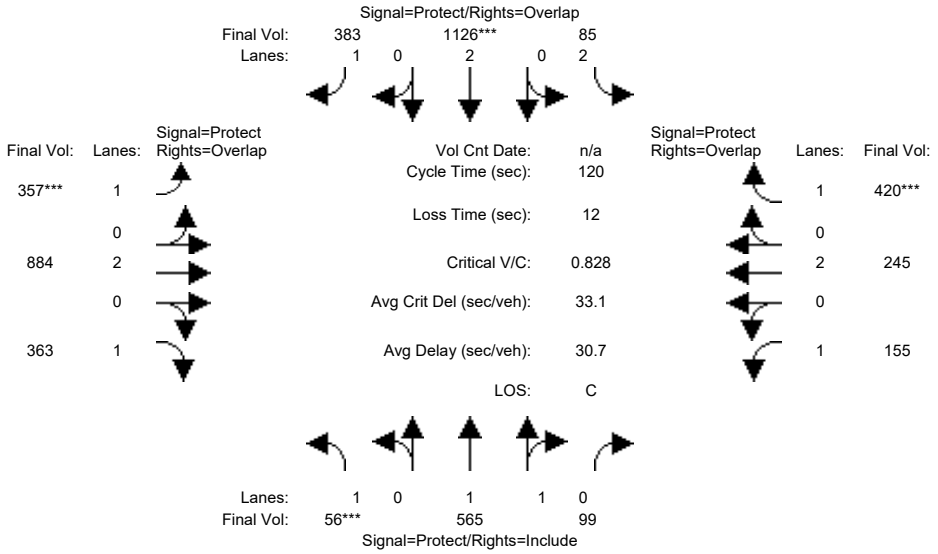
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	55	559	98	84	1115	379	353	875	359	153	243	416
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	559	98	84	1115	379	353	875	359	153	243	416
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	559	98	84	1115	379	353	875	359	153	243	416
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	56	565	99	85	1126	383	357	884	363	155	245	420
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	565	99	85	1126	383	357	884	363	155	245	420
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	565	99	85	1126	383	357	884	363	155	245	420
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.69	0.31	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3148	552	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.03	0.30	0.22	0.20	0.23	0.21	0.09	0.06	0.24
Crit Moves:	****				****		****					****
Green Time:	5.0	36.7	36.7	13.6	45.3	76.5	31.2	41.8	46.8	15.9	26.5	40.2
Volume/Cap:	0.76	0.59	0.59	0.24	0.78	0.34	0.78	0.67	0.53	0.67	0.29	0.72
Delay/Veh:	92.1	25.7	25.7	44.6	22.6	0.2	50.0	34.5	29.0	56.8	39.1	39.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.1	25.7	25.7	44.6	22.6	0.2	50.0	34.5	29.0	56.8	39.1	39.2
LOS by Move:	F	C	C	D	C	A	D	C	C	E	D	D
HCM2k95thQ:	5	16	16	3	27	1	24	24	20	13	8	27

Note: Queue reported is the number of cars per lane.

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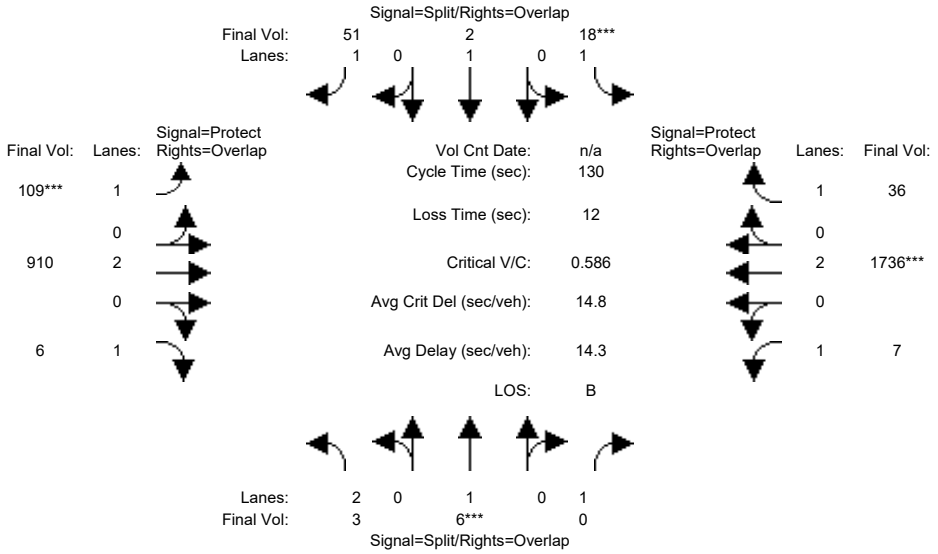
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	3	5	0	16	2	46	98	819	5	6	1562	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	16	2	46	98	819	5	6	1562	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	16	2	46	98	819	5	6	1562	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	18	2	51	109	910	6	7	1736	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	18	2	51	109	910	6	7	1736	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	18	2	51	109	910	6	7	1736	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.06	0.24	0.00	0.00	0.46	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	19.5	12.5	82.7	89.7	21.3	91.5	98.5
Volume/Cap:	0.02	0.05	0.00	0.19	0.02	0.20	0.65	0.38	0.00	0.02	0.65	0.03
Delay/Veh:	58.3	58.6	0.0	59.8	58.3	48.8	65.3	11.4	6.3	45.7	11.0	3.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.8	58.3	48.8	65.3	11.4	6.3	45.7	11.0	3.9
LOS by Move:	E	E	A	E	E	D	E	B	A	D	B	A
HCM2k95thQ:	0	1	0	2	0	4	9	16	0	0	32	1

Note: Queue reported is the number of cars per lane.

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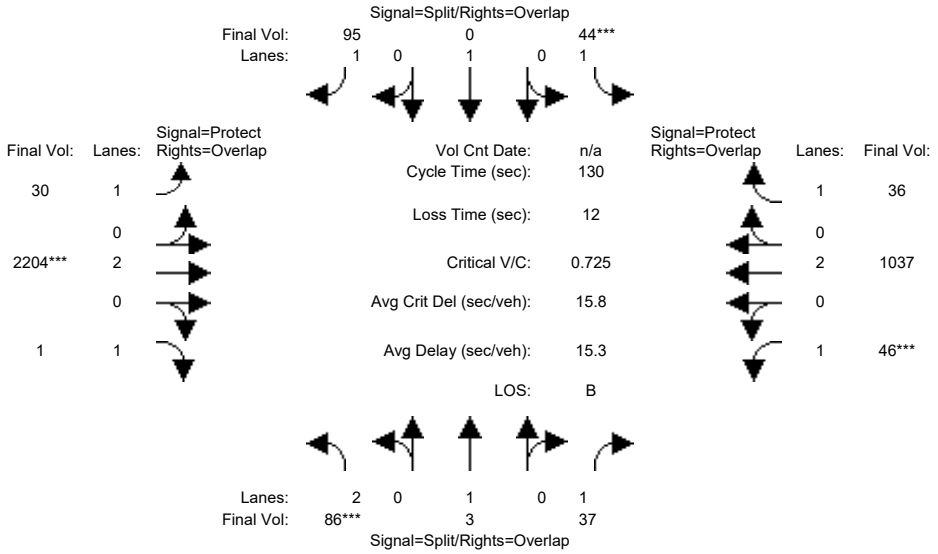
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	81	3	35	41	0	89	28	2072	1	43	975	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	89	28	2072	1	43	975	34
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	89	28	2072	1	43	975	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	95	30	2204	1	46	1037	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	95	30	2204	1	46	1037	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	95	30	2204	1	46	1037	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.05	0.02	0.58	0.00	0.03	0.27	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	22.0	15.0	96.0	103.0	8.0	89.0	96.0
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.32	0.15	0.79	0.00	0.42	0.40	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	48.0	52.0	12.1	2.8	61.5	9.0	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	48.0	52.0	12.1	2.8	61.5	9.0	4.6
LOS by Move:	E	E	D	E	A	D	D	B	A	E	A	A
HCM2k95thQ:	6	0	3	5	0	7	2	43	0	4	16	1

Note: Queue reported is the number of cars per lane.

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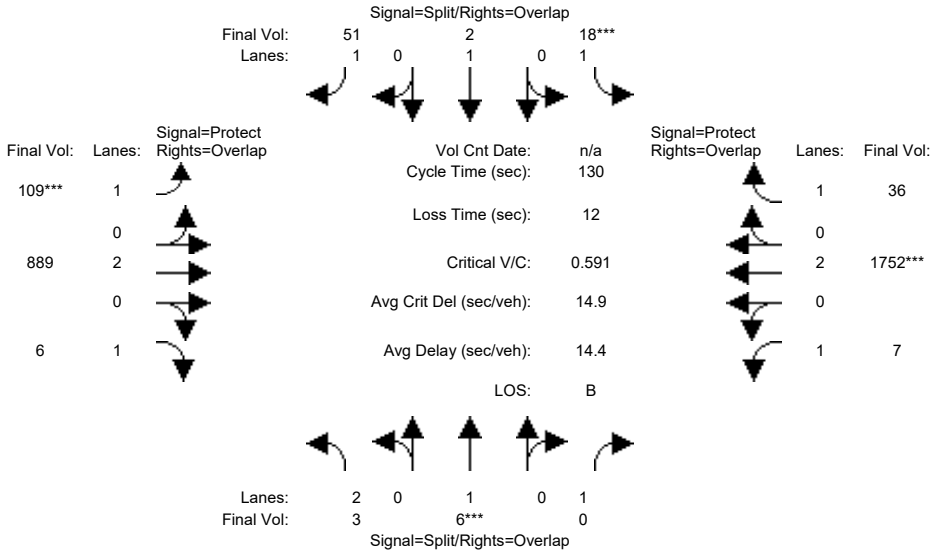
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	3	5	0	16	2	46	98	800	5	6	1577	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	16	2	46	98	800	5	6	1577	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	16	2	46	98	800	5	6	1577	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	18	2	51	109	889	6	7	1752	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	18	2	51	109	889	6	7	1752	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	18	2	51	109	889	6	7	1752	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.06	0.23	0.00	0.00	0.46	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	19.4	12.4	82.3	89.3	21.7	91.6	98.6
Volume/Cap:	0.02	0.05	0.00	0.19	0.02	0.20	0.65	0.37	0.00	0.02	0.65	0.03
Delay/Veh:	58.3	58.6	0.0	59.8	58.3	48.9	65.8	11.5	6.4	45.3	11.1	3.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.8	58.3	48.9	65.8	11.5	6.4	45.3	11.1	3.9
LOS by Move:	E	E	A	E	E	D	E	B	A	D	B	A
HCM2k95thQ:	0	1	0	2	0	4	9	15	0	0	33	1

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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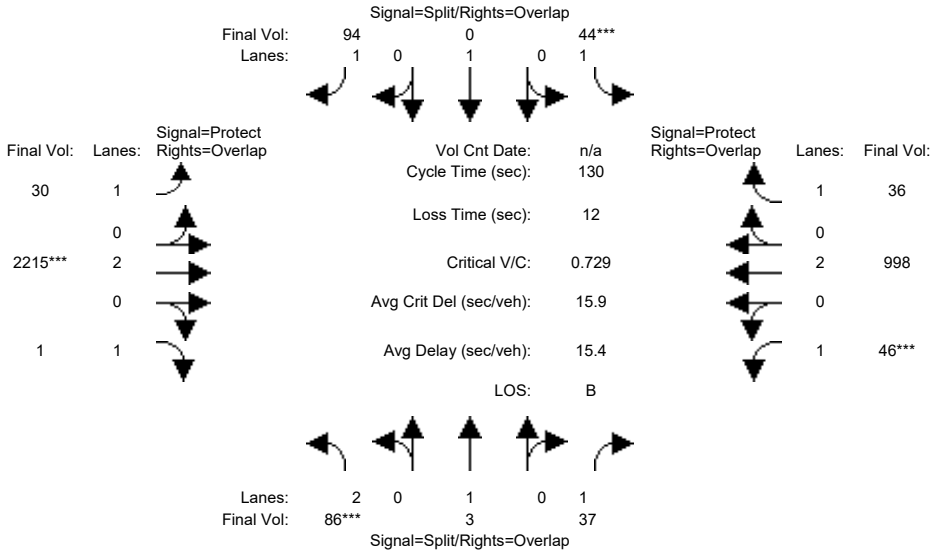
2030 PH2 PM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	81	3	35	41	0	88	28	2082	1	43	938	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	88	28	2082	1	43	938	34
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	88	28	2082	1	43	938	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	94	30	2215	1	46	998	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	94	30	2215	1	46	998	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	94	30	2215	1	46	998	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.05	0.02	0.58	0.00	0.03	0.26	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	22.5	15.5	96.0	103.0	8.0	88.5	95.5
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.31	0.14	0.79	0.00	0.42	0.39	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	47.5	51.6	12.2	2.8	61.5	9.1	4.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	47.5	51.6	12.2	2.8	61.5	9.1	4.7
LOS by Move:	E	E	D	E	A	D	D	B	A	E	A	A
HCM2k95thQ:	6	0	3	5	0	7	2	44	0	4	16	1

Note: Queue reported is the number of cars per lane.

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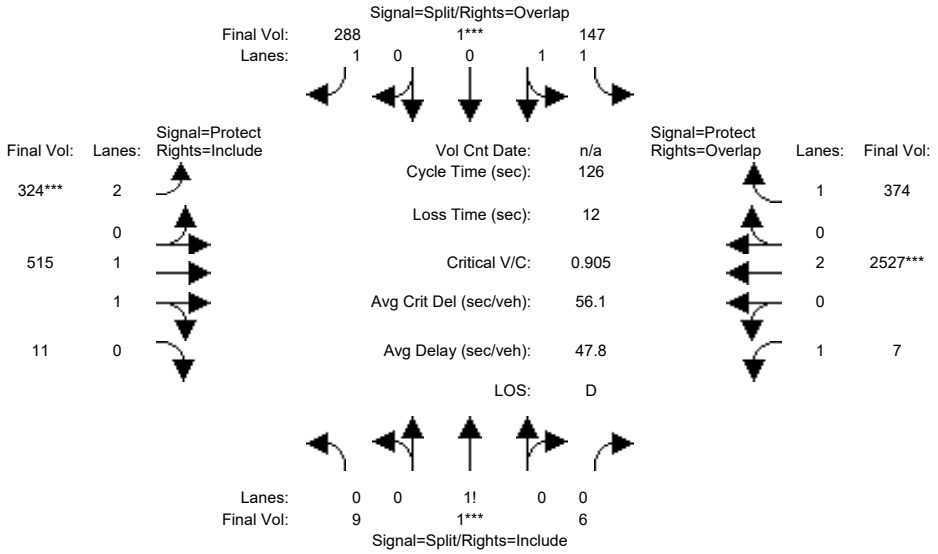
Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	9	1	6	141	1	276	311	494	11	7	2426	359
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1	6	141	1	276	311	494	11	7	2426	359
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1	6	141	1	276	311	494	11	7	2426	359
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	9	1	6	147	1	288	324	515	11	7	2527	374
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	6	147	1	288	324	515	11	7	2527	374
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	6	147	1	288	324	515	11	7	2527	374
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.57	0.06	0.37	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	984	109	656	3525	25	1750	3150	3619	81	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.04	0.04	0.16	0.10	0.14	0.14	0.00	0.67	0.21
Crit Moves:		****			****		****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	22.6	12.6	75.2	75.2	18.8	81.4	91.4
Volume/Cap:	0.12	0.12	0.12	0.53	0.53	0.92	1.03	0.24	0.24	0.03	1.03	0.29
Delay/Veh:	54.3	54.3	54.3	57.5	57.5	81.0	115.2	12.0	12.0	45.8	48.4	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.3	54.3	54.3	57.5	57.5	81.0	115.2	12.0	12.0	45.8	48.4	6.2
LOS by Move:	D	D	D	E	E	F	F	B	B	D	D	A
HCM2k95thQ:	2	2	2	7	7	27	18	9	9	1	90	10

Note: Queue reported is the number of cars per lane.

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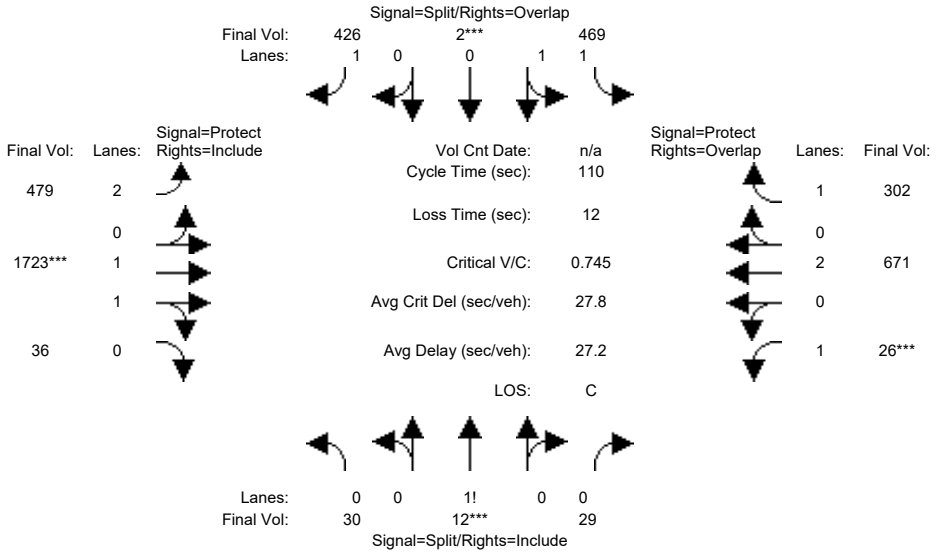
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	27	11	26	427	2	388	436	1568	33	24	611	275
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	27	11	26	427	2	388	436	1568	33	24	611	275
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	27	11	26	427	2	388	436	1568	33	24	611	275
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	30	12	29	469	2	426	479	1723	36	26	671	302
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	12	29	469	2	426	479	1723	36	26	671	302
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	30	12	29	469	2	426	479	1723	36	26	671	302
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.42	0.17	0.41	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	738	301	711	3533	17	1750	3150	3624	76	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.13	0.13	0.24	0.15	0.48	0.48	0.02	0.18	0.17
Crit Moves:		****			****			****			****	
Green Time:	10.0	10.0	10.0	18.1	18.1	50.0	31.8	64.9	64.9	5.0	38.0	56.2
Volume/Cap:	0.44	0.44	0.44	0.81	0.81	0.54	0.53	0.81	0.81	0.33	0.51	0.34
Delay/Veh:	49.3	49.3	49.3	52.3	52.3	22.4	33.3	19.9	19.9	53.3	28.9	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.3	49.3	49.3	52.3	52.3	22.4	33.3	19.9	19.9	53.3	28.9	16.1
LOS by Move:	D	D	D	D	D	C	C	B	B	D	C	B
HCM2k95thQ:	6	6	6	19	19	21	15	41	41	2	16	12

Note: Queue reported is the number of cars per lane.

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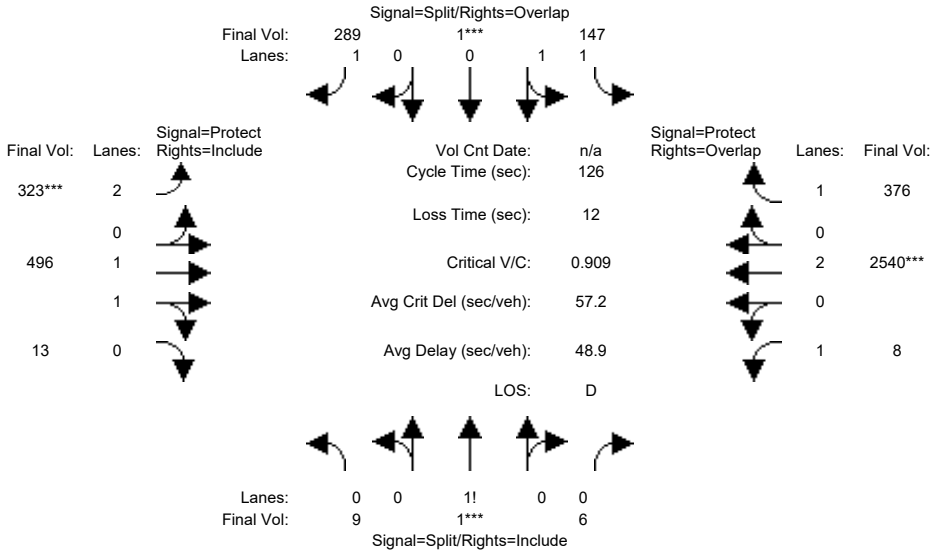
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	9	1	6	141	1	277	310	476	12	8	2438	361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	1	6	141	1	277	310	476	12	8	2438	361
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	1	6	141	1	277	310	476	12	8	2438	361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	9	1	6	147	1	289	323	496	13	8	2540	376
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	1	6	147	1	289	323	496	13	8	2540	376
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	1	6	147	1	289	323	496	13	8	2540	376
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.57	0.06	0.37	1.99	0.01	1.00	2.00	1.95	0.05	1.00	2.00	1.00
Final Sat.:	984	109	656	3525	25	1750	3150	3609	91	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.04	0.04	0.16	0.10	0.14	0.14	0.00	0.67	0.21
Crit Moves:		****			****		****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	22.5	12.5	75.2	75.2	18.8	81.5	91.5
Volume/Cap:	0.12	0.12	0.12	0.53	0.53	0.92	1.03	0.23	0.23	0.03	1.03	0.30
Delay/Veh:	54.3	54.3	54.3	57.5	57.5	82.6	116.5	11.9	11.9	45.9	49.6	6.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.3	54.3	54.3	57.5	57.5	82.6	116.5	11.9	11.9	45.9	49.6	6.1
LOS by Move:	D	D	D	E	E	F	F	B	B	D	D	A
HCM2k95thQ:	2	2	2	7	7	27	18	9	9	1	91	11

Note: Queue reported is the number of cars per lane.

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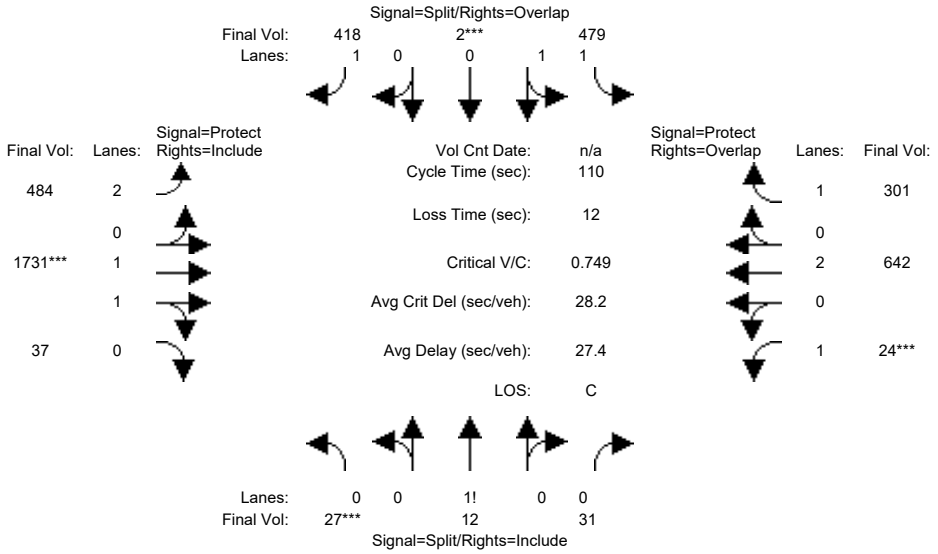
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	25	11	28	436	2	380	440	1575	34	22	584	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	11	28	436	2	380	440	1575	34	22	584	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	11	28	436	2	380	440	1575	34	22	584	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	27	12	31	479	2	418	484	1731	37	24	642	301
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	12	31	479	2	418	484	1731	37	24	642	301
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	12	31	479	2	418	484	1731	37	24	642	301
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.39	0.17	0.44	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	684	301	766	3534	16	1750	3150	3622	78	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.14	0.14	0.24	0.15	0.48	0.48	0.01	0.17	0.17
Crit Moves:	****				****			****			****	
Green Time:	10.0	10.0	10.0	18.3	18.3	50.2	31.9	64.7	64.7	5.0	37.8	56.1
Volume/Cap:	0.44	0.44	0.44	0.81	0.81	0.52	0.53	0.81	0.81	0.30	0.49	0.34
Delay/Veh:	49.3	49.3	49.3	52.6	52.6	22.0	33.4	20.4	20.4	53.0	28.8	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.3	49.3	49.3	52.6	52.6	22.0	33.4	20.4	20.4	53.0	28.8	16.2
LOS by Move:	D	D	D	D	D	C	C	C	C	D	C	B
HCM2k95thQ:	6	6	6	20	20	20	15	41	41	2	16	12

Note: Queue reported is the number of cars per lane.

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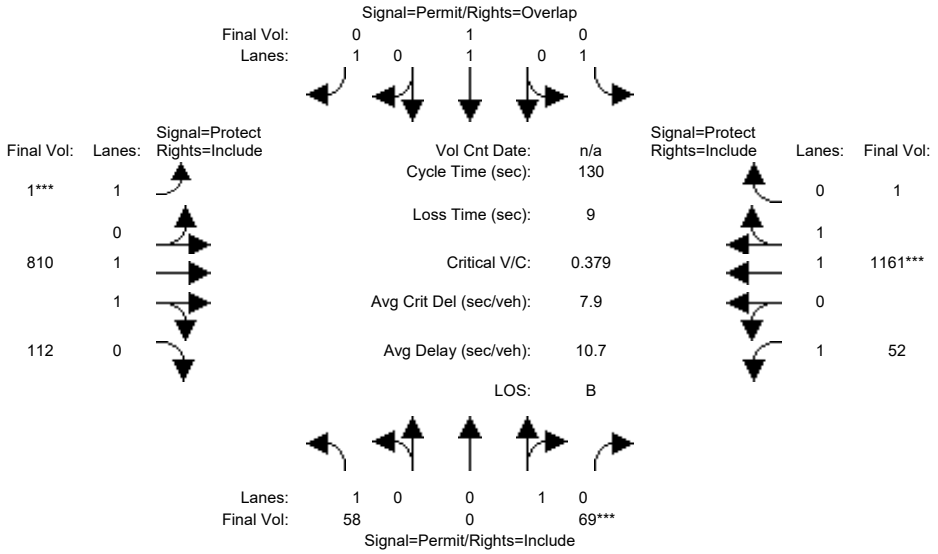
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	52	0	62	0	1	0	1	729	101	47	1045	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	52	0	62	0	1	0	1	729	101	47	1045	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	52	0	62	0	1	0	1	729	101	47	1045	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	58	0	69	0	1	0	1	810	112	52	1161	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	0	69	0	1	0	1	810	112	52	1161	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	0	69	0	1	0	1	810	112	52	1161	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.75	0.25	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3249	450	1750	3696	4
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.25	0.25	0.03	0.31	0.31
Crit Moves:			****				****				****	
Green Time:	12.3	0.0	12.3	0.0	12.3	0.0	8.0	87.2	87.2	21.5	101	100.7
Volume/Cap:	0.35	0.00	0.41	0.00	0.01	0.00	0.01	0.37	0.37	0.18	0.41	0.41
Delay/Veh:	56.4	0.0	57.0	0.0	53.4	0.0	57.3	9.5	9.5	46.9	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.4	0.0	57.0	0.0	53.4	0.0	57.3	9.5	9.5	46.9	4.9	4.9
LOS by Move:	E	A	E	A	D	A	E	A	A	D	A	A
HCM2k95thQ:	5	0	6	0	0	0	0	15	15	4	15	15

Note: Queue reported is the number of cars per lane.

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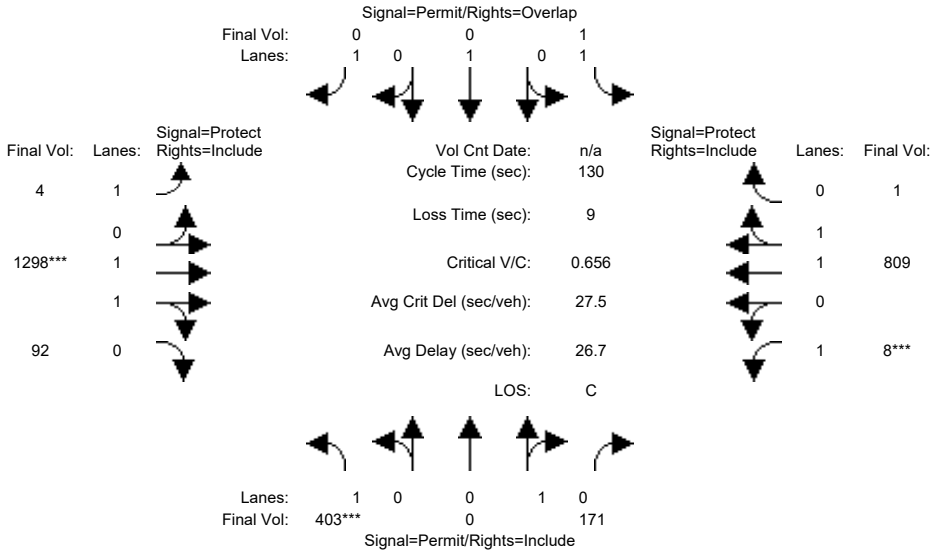
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	391	0	166	1	0	0	4	1259	89	8	785	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	391	0	166	1	0	0	4	1259	89	8	785	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	391	0	166	1	0	0	4	1259	89	8	785	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	403	0	171	1	0	0	4	1298	92	8	809	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	403	0	171	1	0	0	4	1298	92	8	809	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	403	0	171	1	0	0	4	1298	92	8	809	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.86	0.14	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3456	244	1750	3695	5
Capacity Analysis Module:												
Vol/Sat:	0.23	0.00	0.10	0.00	0.00	0.00	0.00	0.38	0.38	0.00	0.22	0.22
Crit Moves:	****							****		****		
Green Time:	43.0	0.0	43.0	43.0	0.0	0.0	17.1	70.0	70.0	8.0	60.9	60.9
Volume/Cap:	0.70	0.00	0.29	0.00	0.00	0.00	0.02	0.70	0.70	0.08	0.47	0.47
Delay/Veh:	41.6	0.0	32.5	29.2	0.0	0.0	49.2	23.2	23.2	57.8	23.7	23.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.6	0.0	32.5	29.2	0.0	0.0	49.2	23.2	23.2	57.8	23.7	23.7
LOS by Move:	D	A	C	C	A	A	D	C	C	E	C	C
HCM2k95thQ:	28	0	10	0	0	0	0	34	34	1	20	20

Note: Queue reported is the number of cars per lane.

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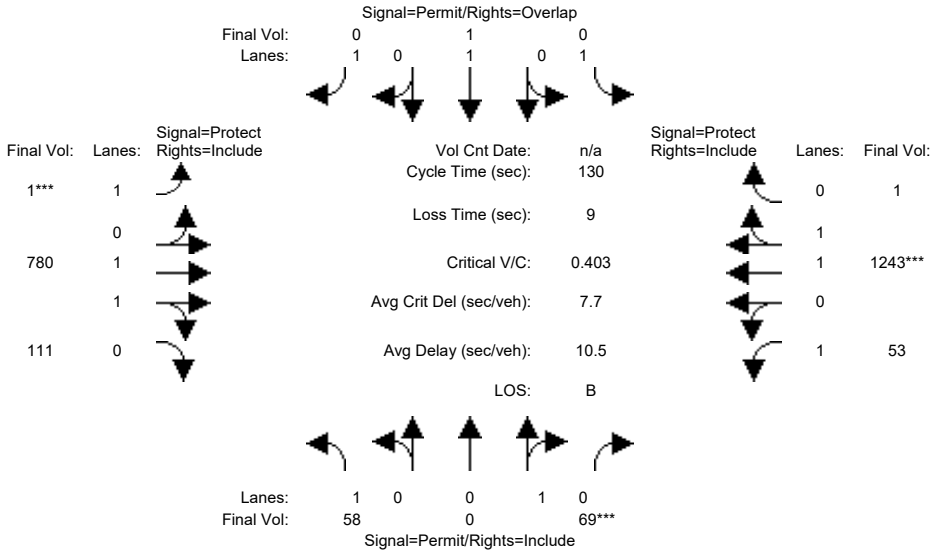
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	52	0	62	0	1	0	1	702	100	48	1119	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	52	0	62	0	1	0	1	702	100	48	1119	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	52	0	62	0	1	0	1	702	100	48	1119	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	58	0	69	0	1	0	1	780	111	53	1243	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	0	69	0	1	0	1	780	111	53	1243	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	58	0	69	0	1	0	1	780	111	53	1243	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.74	0.26	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3238	461	1750	3697	3
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.24	0.24	0.03	0.34	0.34
Crit Moves:			****				****				****	
Green Time:	11.5	0.0	11.5	0.0	11.5	0.0	8.0	87.2	87.2	22.3	101	101.5
Volume/Cap:	0.37	0.00	0.43	0.00	0.01	0.00	0.01	0.36	0.36	0.18	0.43	0.43
Delay/Veh:	57.3	0.0	58.0	0.0	54.0	0.0	57.3	9.4	9.4	46.3	4.8	4.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	0.0	58.0	0.0	54.0	0.0	57.3	9.4	9.4	46.3	4.8	4.8
LOS by Move:	E	A	E	A	D	A	E	A	A	D	A	A
HCM2k95thQ:	5	0	6	0	0	0	0	14	14	4	16	16

Note: Queue reported is the number of cars per lane.

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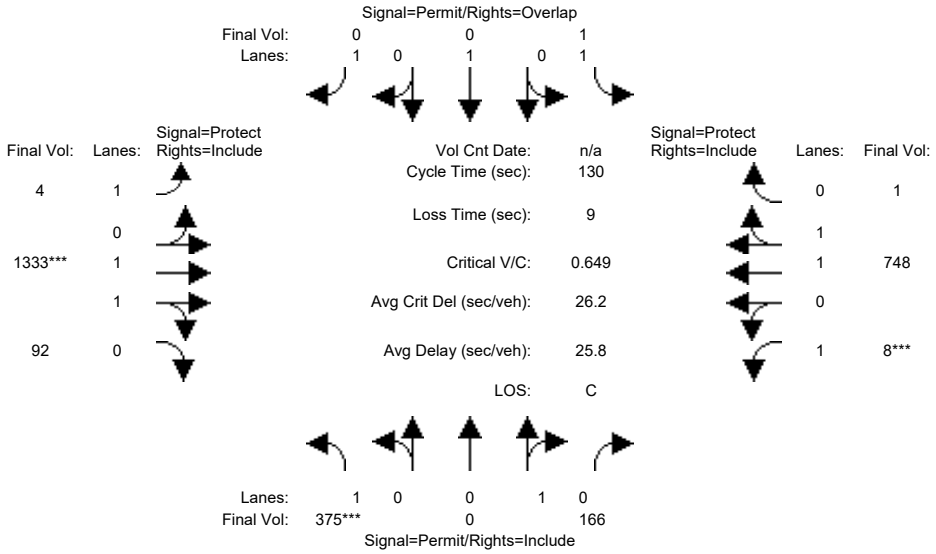
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	364	0	161	1	0	0	4	1293	89	8	726	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	364	0	161	1	0	0	4	1293	89	8	726	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	364	0	161	1	0	0	4	1293	89	8	726	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	375	0	166	1	0	0	4	1333	92	8	748	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	375	0	166	1	0	0	4	1333	92	8	748	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	375	0	166	1	0	0	4	1333	92	8	748	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.87	0.13	1.00	1.99	0.01
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3462	238	1750	3695	5
Capacity Analysis Module:												
Vol/Sat:	0.21	0.00	0.09	0.00	0.00	0.00	0.00	0.39	0.39	0.00	0.20	0.20
Crit Moves:	****							****		****		
Green Time:	40.4	0.0	40.4	40.4	0.0	0.0	18.8	72.6	72.6	8.0	61.8	61.8
Volume/Cap:	0.69	0.00	0.30	0.00	0.00	0.00	0.02	0.69	0.69	0.08	0.43	0.43
Delay/Veh:	43.0	0.0	34.3	30.9	0.0	0.0	47.7	21.6	21.6	57.8	22.6	22.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.0	0.0	34.3	30.9	0.0	0.0	47.7	21.6	21.6	57.8	22.6	22.6
LOS by Move:	D	A	C	C	A	A	D	C	C	E	C	C
HCM2k95thQ:	26	0	10	0	0	0	0	34	34	1	18	18

Note: Queue reported is the number of cars per lane.

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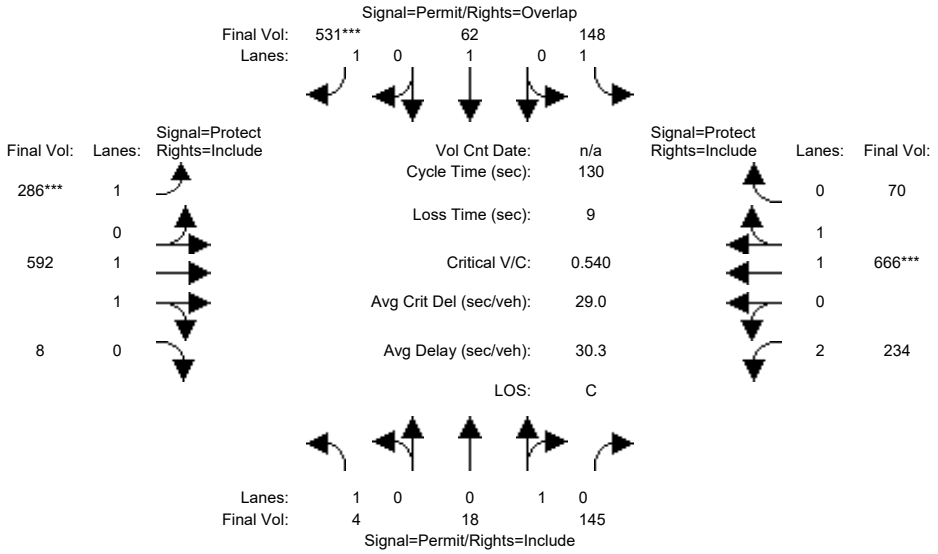
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	4	16	132	135	56	483	260	539	7	213	606	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	16	132	135	56	483	260	539	7	213	606	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	16	132	135	56	483	260	539	7	213	606	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	4	18	145	148	62	531	286	592	8	234	666	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	18	145	148	62	531	286	592	8	234	666	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	18	145	148	62	531	286	592	8	234	666	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.98	0.95
Lanes:	1.00	0.11	0.89	1.00	1.00	1.00	1.00	1.97	0.03	2.00	1.80	0.20
Final Sat.:	1750	195	1605	1750	1900	1750	1750	3653	47	3150	3346	353
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.09	0.08	0.03	0.30	0.16	0.16	0.16	0.07	0.20	0.20
Crit Moves:						****	****				****	
Green Time:	33.7	33.7	33.7	33.7	33.7	73.1	39.3	59.2	59.2	28.1	47.9	47.9
Volume/Cap:	0.01	0.35	0.35	0.33	0.12	0.54	0.54	0.36	0.36	0.34	0.54	0.54
Delay/Veh:	35.7	39.6	39.6	39.4	37.0	18.5	38.9	23.1	23.1	43.5	32.8	32.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.7	39.6	39.6	39.4	37.0	18.5	38.9	23.1	23.1	43.5	32.8	32.8
LOS by Move:	D	D	D	D	D	B	D	C	C	D	C	C
HCM2k95thQ:	0	11	11	10	4	25	19	15	15	9	21	21

Note: Queue reported is the number of cars per lane.

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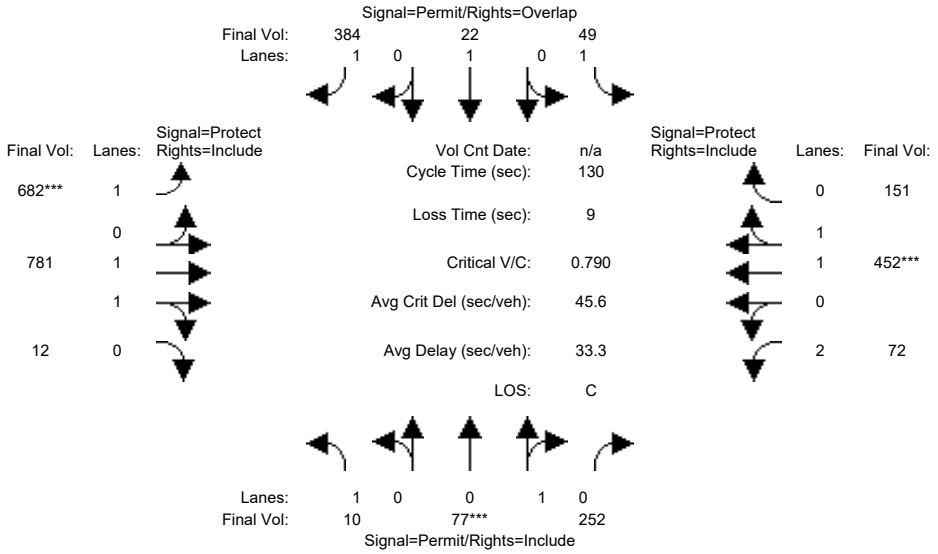
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	10	75	244	48	21	372	662	758	12	70	438	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	75	244	48	21	372	662	758	12	70	438	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	75	244	48	21	372	662	758	12	70	438	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	10	77	252	49	22	384	682	781	12	72	452	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	77	252	49	22	384	682	781	12	72	452	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	77	252	49	22	384	682	781	12	72	452	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.98	0.95
Lanes:	1.00	0.24	0.76	1.00	1.00	1.00	1.00	1.97	0.03	2.00	1.49	0.51
Final Sat.:	1750	423	1377	1750	1900	1750	1750	3642	58	3150	2774	925
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.03	0.01	0.22	0.39	0.21	0.21	0.02	0.16	0.16
Crit Moves:		****					****				****	
Green Time:	30.1	30.1	30.1	30.1	30.1	94.2	64.2	66.9	66.9	24.0	26.8	26.8
Volume/Cap:	0.03	0.79	0.79	0.12	0.05	0.30	0.79	0.42	0.42	0.12	0.79	0.79
Delay/Veh:	38.7	56.8	56.8	39.7	38.9	6.4	32.3	19.6	19.6	44.3	54.5	54.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.7	56.8	56.8	39.7	38.9	6.4	32.3	19.6	19.6	44.3	54.5	54.5
LOS by Move:	D	E	E	D	D	A	C	B	B	D	D	D
HCM2k95thQ:	1	26	26	3	1	11	41	18	18	3	22	22

Note: Queue reported is the number of cars per lane.

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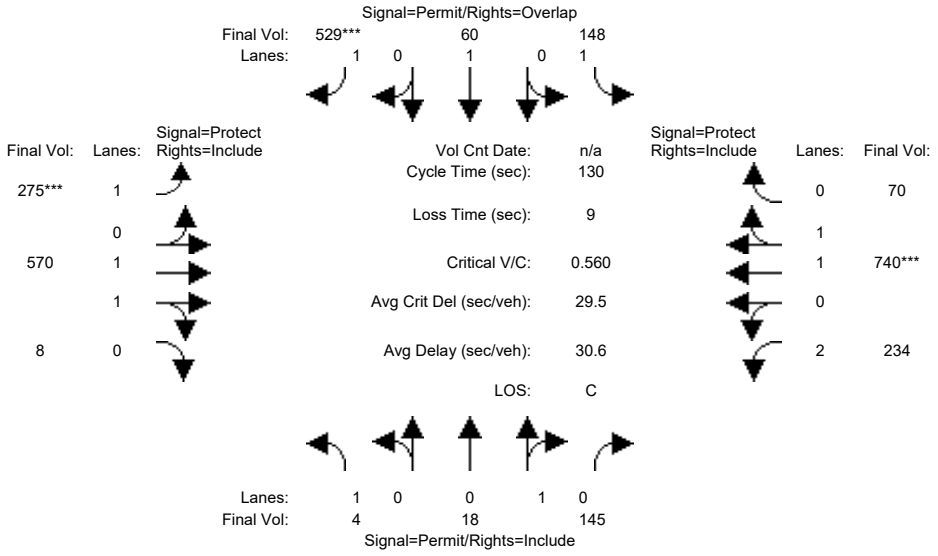
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	4	16	132	135	55	481	250	519	7	213	673	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	16	132	135	55	481	250	519	7	213	673	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	16	132	135	55	481	250	519	7	213	673	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	4	18	145	148	60	529	275	570	8	234	740	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	4	18	145	148	60	529	275	570	8	234	740	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	4	18	145	148	60	529	275	570	8	234	740	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.98	0.95
Lanes:	1.00	0.11	0.89	1.00	1.00	1.00	1.00	1.97	0.03	2.00	1.82	0.18
Final Sat.:	1750	195	1605	1750	1900	1750	1750	3651	49	3150	3378	321
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.09	0.08	0.03	0.30	0.16	0.16	0.16	0.07	0.22	0.22
Crit Moves:						****	****				****	
Green Time:	33.7	33.7	33.7	33.7	33.7	70.2	36.5	58.5	58.5	28.8	50.8	50.8
Volume/Cap:	0.01	0.35	0.35	0.33	0.12	0.56	0.56	0.35	0.35	0.34	0.56	0.56
Delay/Veh:	35.8	39.7	39.7	39.4	37.0	20.5	41.4	23.4	23.4	42.8	31.3	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.8	39.7	39.7	39.4	37.0	20.5	41.4	23.4	23.4	42.8	31.3	31.3
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	0	11	11	10	4	26	18	14	14	9	23	23

Note: Queue reported is the number of cars per lane.

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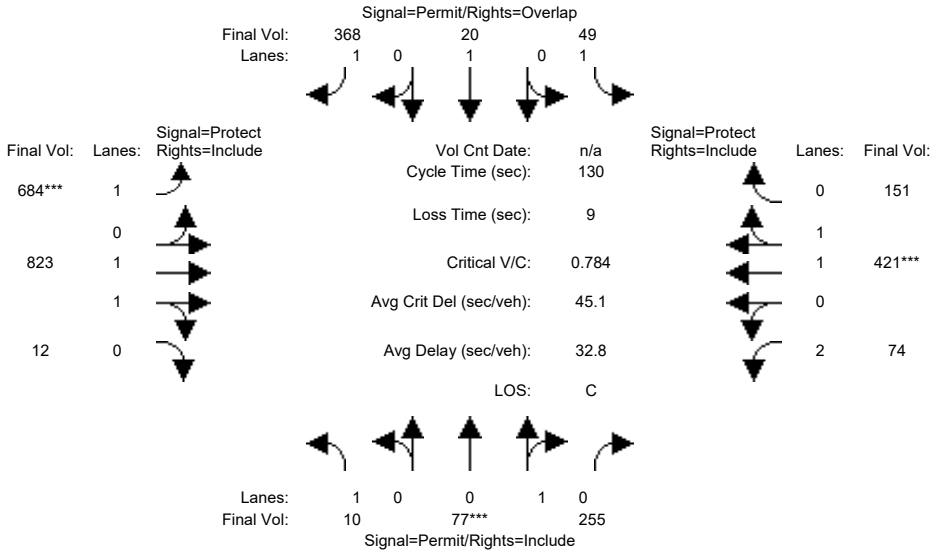
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	10	75	247	48	19	357	663	798	12	72	408	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	75	247	48	19	357	663	798	12	72	408	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	75	247	48	19	357	663	798	12	72	408	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	10	77	255	49	20	368	684	823	12	74	421	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	77	255	49	20	368	684	823	12	74	421	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	77	255	49	20	368	684	823	12	74	421	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.97	0.95	0.83	0.98	0.95
Lanes:	1.00	0.23	0.77	1.00	1.00	1.00	1.00	1.97	0.03	2.00	1.46	0.54
Final Sat.:	1750	419	1381	1750	1900	1750	1750	3645	55	3150	2724	975
Capacity Analysis Module:												
Vol/Sat:	0.01	0.18	0.18	0.03	0.01	0.21	0.39	0.23	0.23	0.02	0.15	0.15
Crit Moves:		****					****				****	
Green Time:	30.6	30.6	30.6	30.6	30.6	95.4	64.8	67.4	67.4	23.0	25.6	25.6
Volume/Cap:	0.03	0.78	0.78	0.12	0.04	0.29	0.78	0.44	0.44	0.13	0.78	0.78
Delay/Veh:	38.3	55.8	55.8	39.2	38.4	6.0	31.5	19.6	19.6	45.2	55.1	55.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.3	55.8	55.8	39.2	38.4	6.0	31.5	19.6	19.6	45.2	55.1	55.1
LOS by Move:	D	E	E	D	D	A	C	B	B	D	E	E
HCM2k95thQ:	1	26	26	3	1	10	41	19	19	3	21	21

Note: Queue reported is the number of cars per lane.

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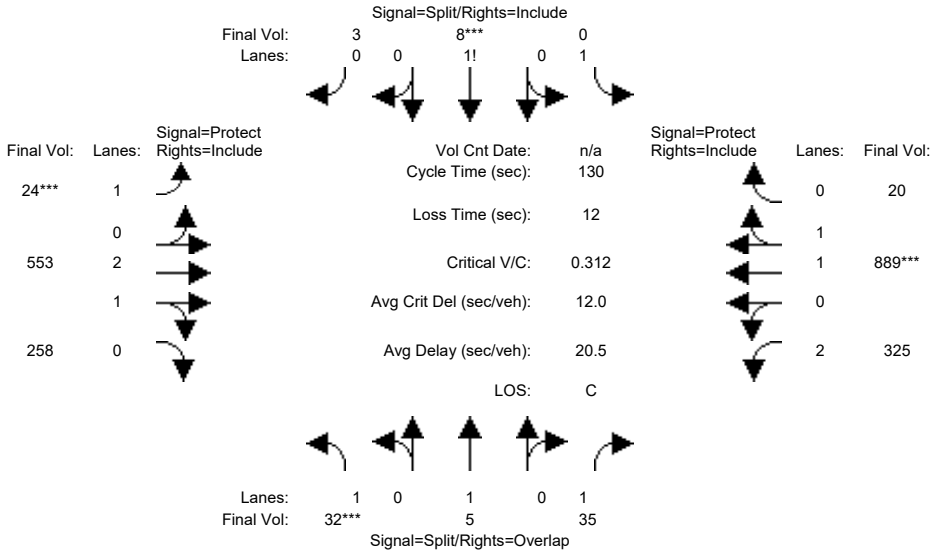
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	29	5	32	0	7	3	22	509	237	299	818	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	5	32	0	7	3	22	509	237	299	818	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	5	32	0	7	3	22	509	237	299	818	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	32	5	35	0	8	3	24	553	258	325	889	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	5	35	0	8	3	24	553	258	325	889	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	5	35	0	8	3	24	553	258	325	889	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.01	0.99	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1260	540	1750	3819	1778	3150	3620	80
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.02	0.00	0.01	0.01	0.01	0.14	0.14	0.10	0.25	0.25
Crit Moves:	****				****		****				****	
Green Time:	10.0	10.0	53.4	0.0	10.0	10.0	9.0	54.6	54.6	43.4	89.0	89.0
Volume/Cap:	0.23	0.04	0.05	0.00	0.08	0.08	0.20	0.35	0.35	0.31	0.36	0.36
Delay/Veh:	57.3	55.6	23.0	0.0	56.0	56.0	57.9	25.7	25.7	32.3	8.7	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	55.6	23.0	0.0	56.0	56.0	57.9	25.7	25.7	32.3	8.7	8.7
LOS by Move:	E	E	C	A	E	E	E	C	C	C	A	A
HCM2k95thQ:	3	0	2	0	1	1	2	14	14	11	14	14

Note: Queue reported is the number of cars per lane.

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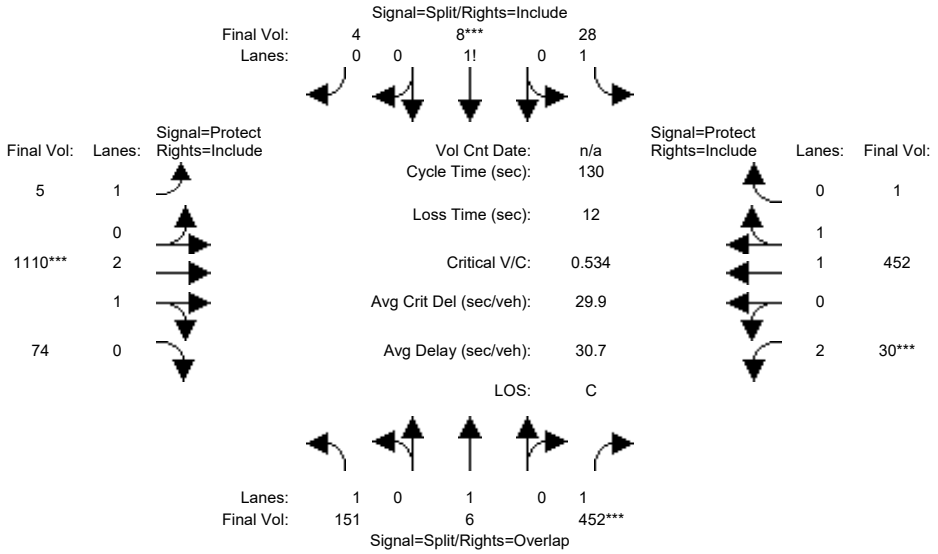
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	146	6	438	27	8	4	5	1077	72	29	438	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	146	6	438	27	8	4	5	1077	72	29	438	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	146	6	438	27	8	4	5	1077	72	29	438	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	151	6	452	28	8	4	5	1110	74	30	452	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	6	452	28	8	4	5	1110	74	30	452	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	6	452	28	8	4	5	1110	74	30	452	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.81	0.19	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	5249	351	3150	3692	8
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.26	0.01	0.02	0.02	0.00	0.21	0.21	0.01	0.12	0.12
Crit Moves:			****		****			****		****		
Green Time:	37.5	37.5	52.5	10.0	10.0	10.0	25.5	55.5	55.5	15.0	45.0	45.0
Volume/Cap:	0.30	0.01	0.64	0.14	0.20	0.20	0.02	0.50	0.50	0.08	0.35	0.35
Delay/Veh:	36.4	33.1	33.2	56.2	56.7	56.7	42.1	27.2	27.2	51.5	31.8	31.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.4	33.1	33.2	56.2	56.7	56.7	42.1	27.2	27.2	51.5	31.8	31.8
LOS by Move:	D	C	C	E	E	E	D	C	C	D	C	C
HCM2k95thQ:	10	0	28	2	2	2	0	20	20	1	13	13

Note: Queue reported is the number of cars per lane.

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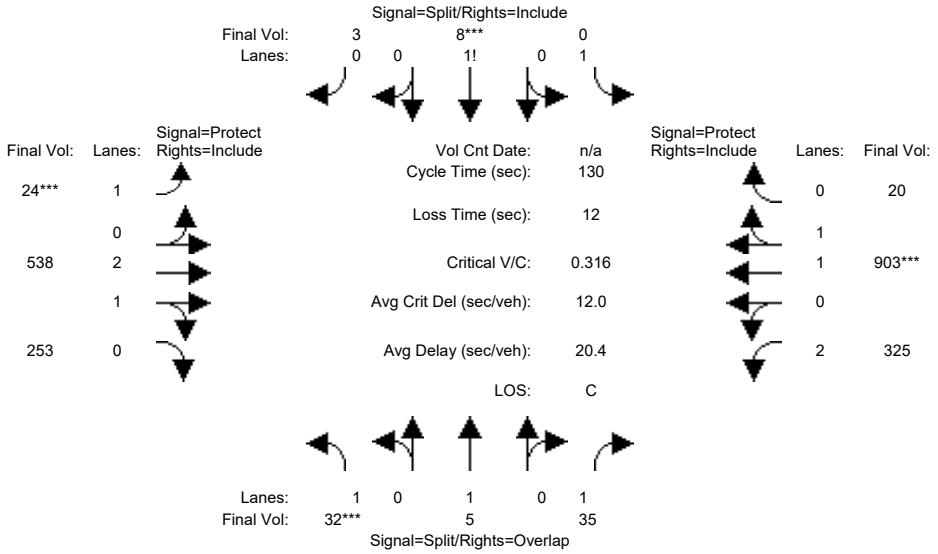
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	29	5	32	0	7	3	22	495	233	299	831	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	5	32	0	7	3	22	495	233	299	831	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	5	32	0	7	3	22	495	233	299	831	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	32	5	35	0	8	3	24	538	253	325	903	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	5	35	0	8	3	24	538	253	325	903	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	5	35	0	8	3	24	538	253	325	903	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.00	1.00	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1260	540	1750	3805	1791	3150	3621	78
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.02	0.00	0.01	0.01	0.01	0.14	0.14	0.10	0.25	0.25
Crit Moves:	****				****		****				****	
Green Time:	10.0	10.0	54.0	0.0	10.0	10.0	9.0	54.0	54.0	44.0	89.0	89.0
Volume/Cap:	0.23	0.04	0.05	0.00	0.08	0.08	0.20	0.34	0.34	0.30	0.36	0.36
Delay/Veh:	57.3	55.6	22.7	0.0	56.0	56.0	57.9	26.0	26.0	31.9	8.7	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	55.6	22.7	0.0	56.0	56.0	57.9	26.0	26.0	31.9	8.7	8.7
LOS by Move:	E	E	C	A	E	E	E	C	C	C	A	A
HCM2k95thQ:	3	0	2	0	1	1	2	13	13	11	14	14

Note: Queue reported is the number of cars per lane.

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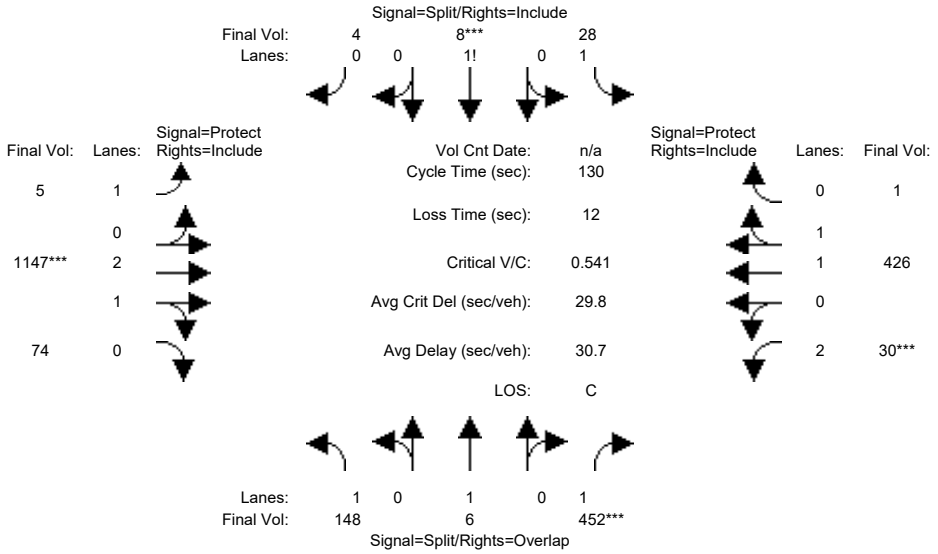
Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	144	6	438	27	8	4	5	1113	72	29	413	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	6	438	27	8	4	5	1113	72	29	413	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	6	438	27	8	4	5	1113	72	29	413	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	148	6	452	28	8	4	5	1147	74	30	426	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	6	452	28	8	4	5	1147	74	30	426	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	6	452	28	8	4	5	1147	74	30	426	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.98	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.81	0.19	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	5259	340	3150	3691	9
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.26	0.01	0.02	0.02	0.00	0.22	0.22	0.01	0.12	0.12
Crit Moves:			****		****			****		****		
Green Time:	36.8	36.8	51.8	10.0	10.0	10.0	26.7	56.2	56.2	15.0	44.5	44.5
Volume/Cap:	0.30	0.01	0.65	0.14	0.20	0.20	0.01	0.50	0.50	0.08	0.34	0.34
Delay/Veh:	36.9	33.6	33.9	56.2	56.7	56.7	41.2	26.9	26.9	51.5	31.9	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.9	33.6	33.9	56.2	56.7	56.7	41.2	26.9	26.9	51.5	31.9	31.9
LOS by Move:	D	C	C	E	E	E	D	C	C	D	C	C
HCM2k95thQ:	10	0	28	2	2	2	0	21	21	1	12	12

Note: Queue reported is the number of cars per lane.

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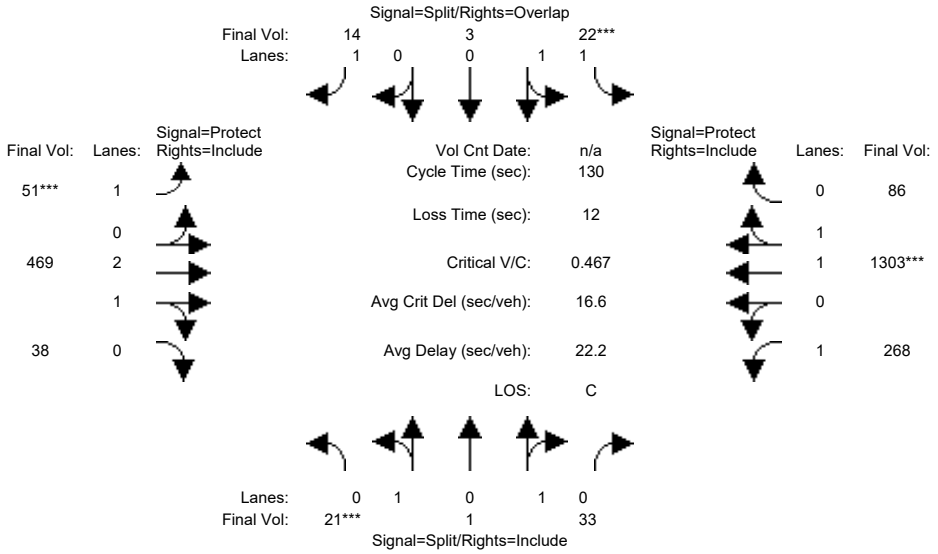
2030 PH1 AM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	19	1	30	20	3	13	46	422	34	241	1173	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	13	46	422	34	241	1173	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	13	46	422	34	241	1173	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	14	51	469	38	268	1303	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	14	51	469	38	268	1303	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	14	51	469	38	268	1303	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.77	0.23	1.00	1.87	0.13
Final Sat.:	1710	90	1800	3087	463	1750	1750	5182	417	1750	3472	228
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.09	0.09	0.15	0.38	0.38
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	35.3	35.3	59.7	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.05	0.38	0.33	0.33	0.33	0.57	0.57
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	38.1	38.1	22.7	12.8	12.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	38.1	38.1	22.7	12.8	12.8
LOS by Move:	D	D	D	D	D	D	E	D	D	C	B	B
HCM2k95thQ:	2	2	3	1	1	1	4	10	10	14	27	27

Note: Queue reported is the number of cars per lane.

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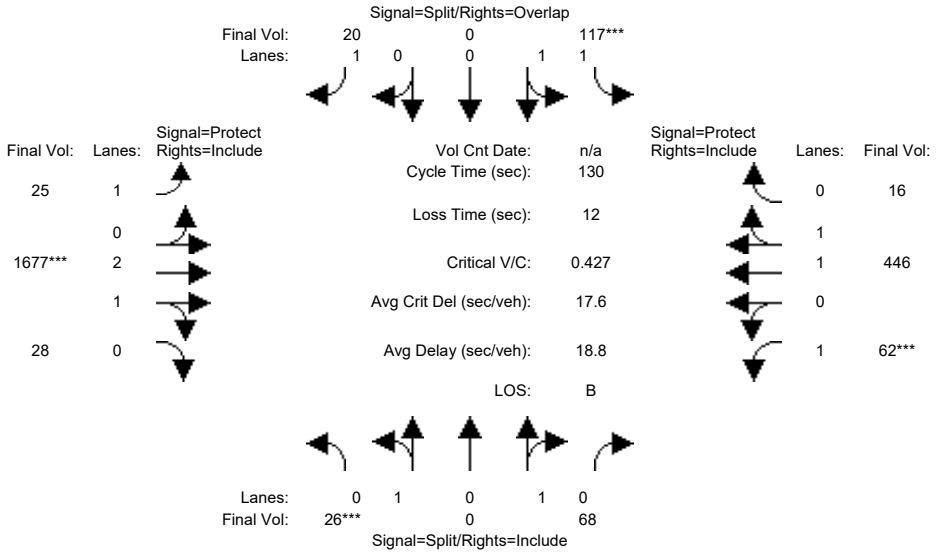
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	25	0	65	111	0	19	24	1593	27	59	424	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	19	24	1593	27	59	424	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	19	24	1593	27	59	424	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	20	25	1677	28	62	446	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	20	25	1677	28	62	446	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	20	25	1677	28	62	446	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.95	0.05	1.00	1.93	0.07
Final Sat.:	1800	0	1800	3550	0	1750	1750	5507	93	1750	3573	126
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.01	0.01	0.30	0.30	0.04	0.12	0.12
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	47.2	36.2	85.0	85.0	10.0	58.8	58.8
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.03	0.05	0.47	0.47	0.46	0.28	0.28
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	26.7	34.4	11.3	11.3	59.9	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	26.7	34.4	11.3	11.3	59.9	22.4	22.4
LOS by Move:	D	A	E	E	A	C	C	B	B	E	C	C
HCM2k95thQ:	2	0	6	6	0	1	2	20	20	6	11	11

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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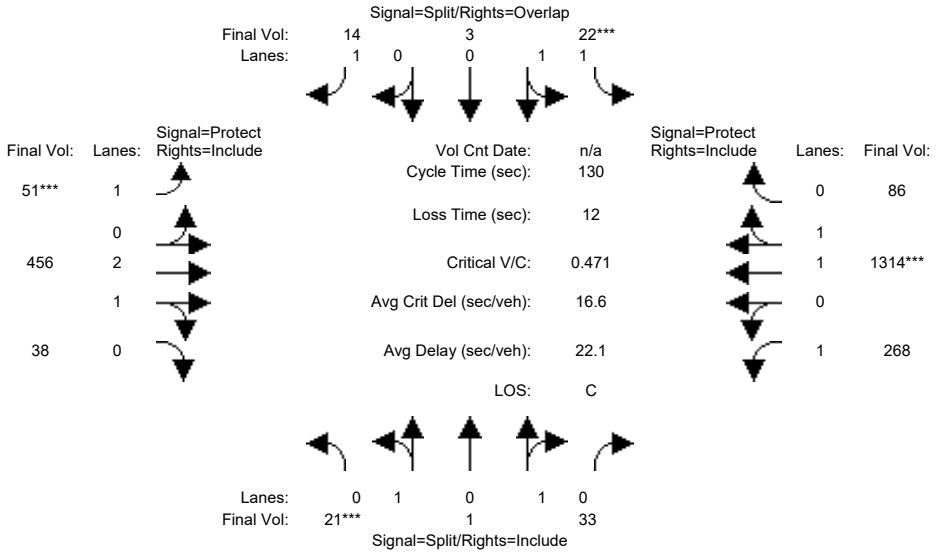
2030 PH2 AM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	19	1	30	20	3	13	46	410	34	241	1183	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	13	46	410	34	241	1183	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	13	46	410	34	241	1183	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	14	51	456	38	268	1314	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	14	51	456	38	268	1314	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	14	51	456	38	268	1314	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.76	0.24	1.00	1.87	0.13
Final Sat.:	1710	90	1800	3087	463	1750	1750	5171	429	1750	3474	226
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.09	0.09	0.15	0.38	0.38
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	34.7	34.7	60.3	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.05	0.38	0.33	0.33	0.33	0.58	0.58
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	38.4	38.4	22.3	12.9	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	38.4	38.4	22.3	12.9	12.9
LOS by Move:	D	D	D	D	D	D	E	D	D	C	B	B
HCM2k95thQ:	2	2	3	1	1	1	4	10	10	14	28	28

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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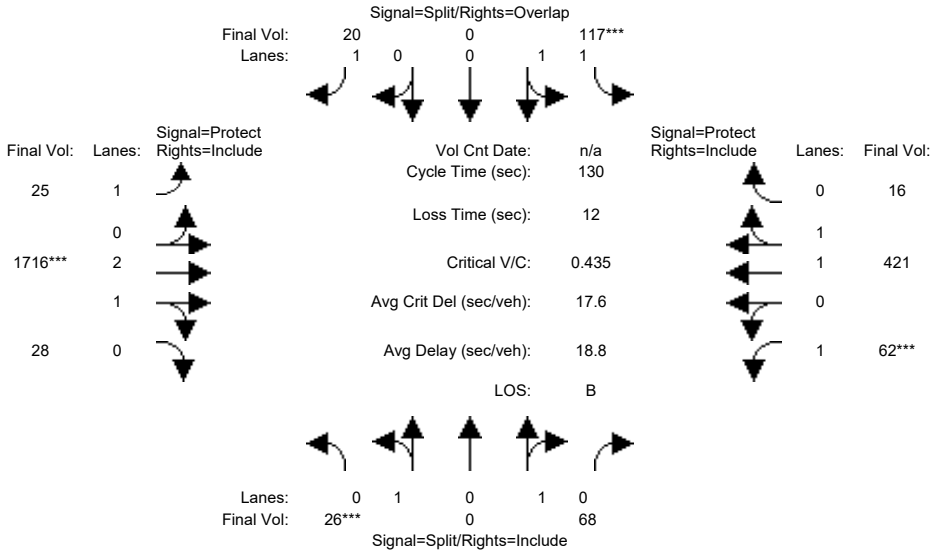
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	25	0	65	111	0	19	24	1630	27	59	400	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	19	24	1630	27	59	400	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	19	24	1630	27	59	400	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	20	25	1716	28	62	421	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	20	25	1716	28	62	421	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	20	25	1716	28	62	421	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.95	0.05	1.00	1.93	0.07
Final Sat.:	1800	0	1800	3550	0	1750	1750	5509	91	1750	3566	134
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.01	0.01	0.31	0.31	0.04	0.12	0.12
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	48.5	37.5	85.0	85.0	10.0	57.5	57.5
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.03	0.05	0.48	0.48	0.46	0.27	0.27
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	25.9	33.4	11.4	11.4	59.9	23.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	25.9	33.4	11.4	11.4	59.9	23.0	23.0
LOS by Move:	D	A	E	E	A	C	C	B	B	E	C	C
HCM2k95thQ:	2	0	6	6	0	1	2	21	21	6	11	11

Note: Queue reported is the number of cars per lane.

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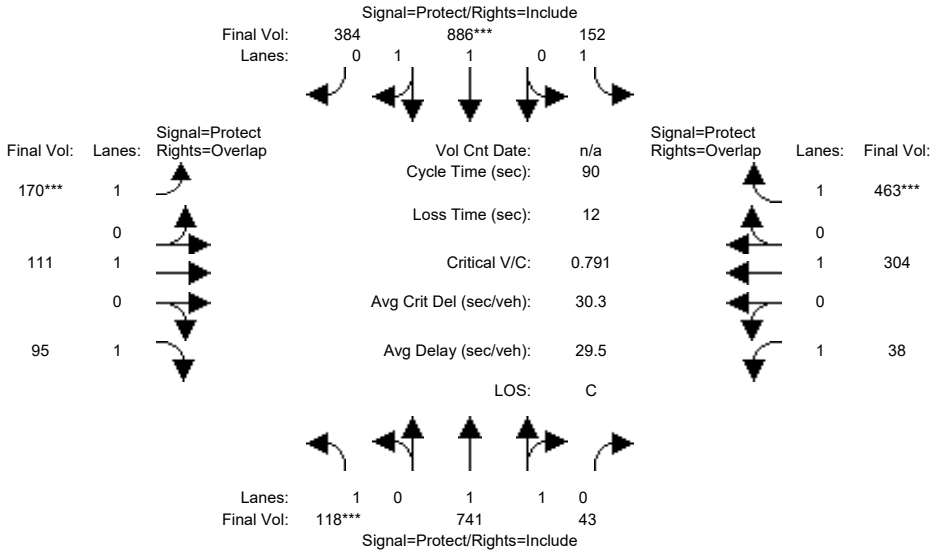
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	107	674	39	138	806	349	155	101	86	35	277	421
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	674	39	138	806	349	155	101	86	35	277	421
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	674	39	138	806	349	155	101	86	35	277	421
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	118	741	43	152	886	384	170	111	95	38	304	463
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	741	43	152	886	384	170	111	95	38	304	463
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	741	43	152	886	384	170	111	95	38	304	463
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.89	0.11	1.00	1.38	0.62	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3497	202	1750	2581	1118	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.21	0.09	0.34	0.34	0.10	0.06	0.05	0.02	0.16	0.26
Crit Moves:	****				****		****					****
Green Time:	8.0	33.7	33.7	13.1	38.9	38.9	11.0	20.8	28.8	10.4	20.1	33.3
Volume/Cap:	0.76	0.57	0.57	0.59	0.79	0.79	0.79	0.25	0.17	0.19	0.72	0.72
Delay/Veh:	58.9	22.9	22.9	39.6	25.0	25.0	56.7	28.6	22.2	36.5	38.1	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	22.9	22.9	39.6	25.0	25.0	56.7	28.6	22.2	36.5	38.1	28.1
LOS by Move:	E	C	C	D	C	C	E	C	C	D	D	C
HCM2k95thQ:	7	16	16	8	28	28	11	5	4	2	17	23

Note: Queue reported is the number of cars per lane.

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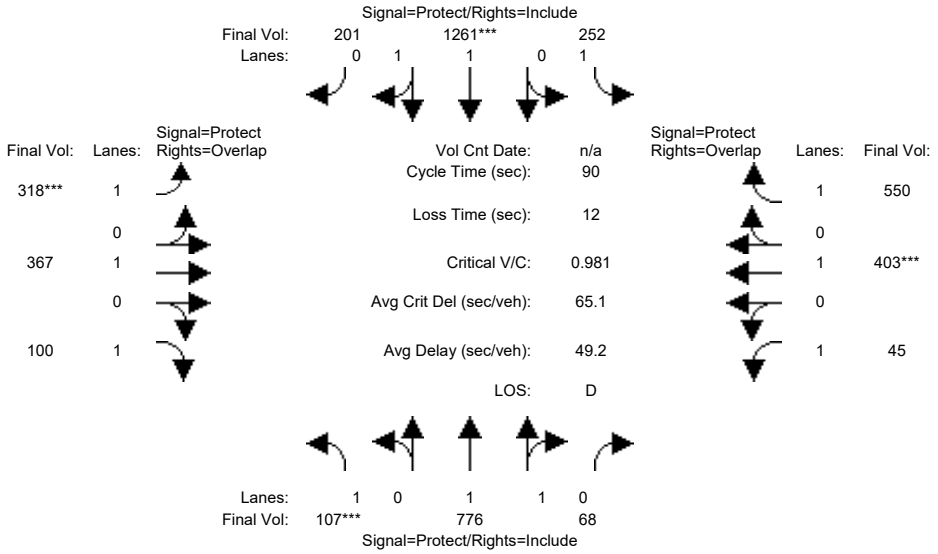
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	105	760	67	247	1236	197	312	360	98	44	395	539
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	760	67	247	1236	197	312	360	98	44	395	539
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	760	67	247	1236	197	312	360	98	44	395	539
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	776	68	252	1261	201	318	367	100	45	403	550
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	776	68	252	1261	201	318	367	100	45	403	550
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	776	68	252	1261	201	318	367	100	45	403	550
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.83	0.17	1.00	1.72	0.28	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3400	300	1750	3191	509	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.23	0.23	0.14	0.40	0.40	0.18	0.19	0.06	0.03	0.21	0.31
Crit Moves:	****				****		****				****	
Green Time:	8.0	26.4	26.4	16.7	35.1	35.1	16.1	28.4	36.4	6.5	18.8	35.5
Volume/Cap:	0.69	0.78	0.78	0.78	1.01	1.01	1.01	0.61	0.14	0.35	1.01	0.80
Delay/Veh:	52.1	32.8	32.8	46.2	54.9	54.9	91.6	28.0	17.0	41.4	84.5	30.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	32.8	32.8	46.2	54.9	54.9	91.6	28.0	17.0	41.4	84.5	30.6
LOS by Move:	D	C	C	D	D	D	F	C	B	D	F	C
HCM2k95thQ:	7	21	21	15	44	44	22	16	4	3	30	29

Note: Queue reported is the number of cars per lane.

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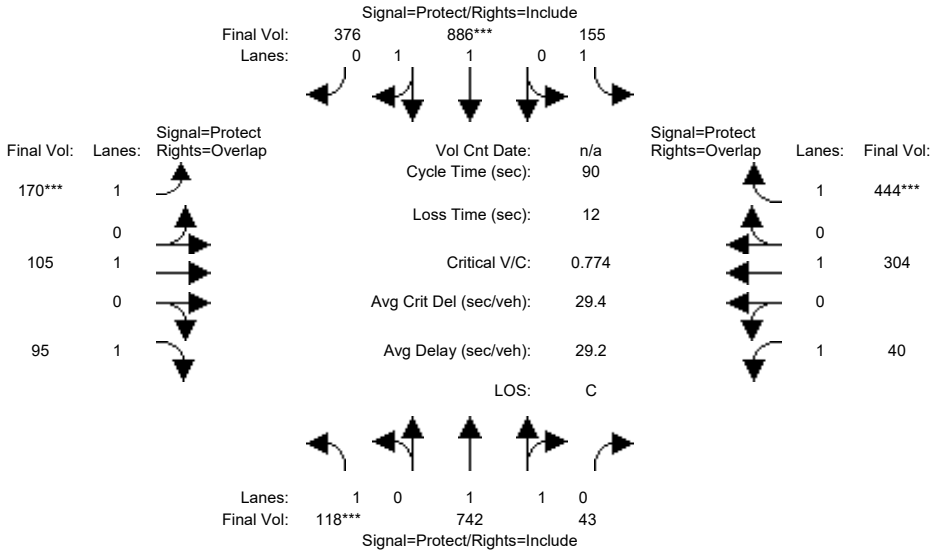
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	107	675	39	141	806	342	155	96	86	36	277	404
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	675	39	141	806	342	155	96	86	36	277	404
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	675	39	141	806	342	155	96	86	36	277	404
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	118	742	43	155	886	376	170	105	95	40	304	444
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	742	43	155	886	376	170	105	95	40	304	444
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	118	742	43	155	886	376	170	105	95	40	304	444
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.89	0.11	1.00	1.39	0.61	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3498	202	1750	2597	1102	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.21	0.09	0.34	0.34	0.10	0.06	0.05	0.02	0.16	0.25
Crit Moves:	****				****		****					****
Green Time:	8.0	34.0	34.0	13.5	39.6	39.6	11.3	20.3	28.3	10.1	19.2	32.7
Volume/Cap:	0.76	0.56	0.56	0.59	0.78	0.78	0.78	0.25	0.17	0.20	0.75	0.70
Delay/Veh:	58.9	22.6	22.6	39.1	23.9	23.9	54.0	28.9	22.5	36.7	41.0	27.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.9	22.6	22.6	39.1	23.9	23.9	54.0	28.9	22.5	36.7	41.0	27.9
LOS by Move:	E	C	C	D	C	C	D	C	C	D	D	C
HCM2k95thQ:	7	16	16	9	28	28	10	5	4	3	18	22

Note: Queue reported is the number of cars per lane.

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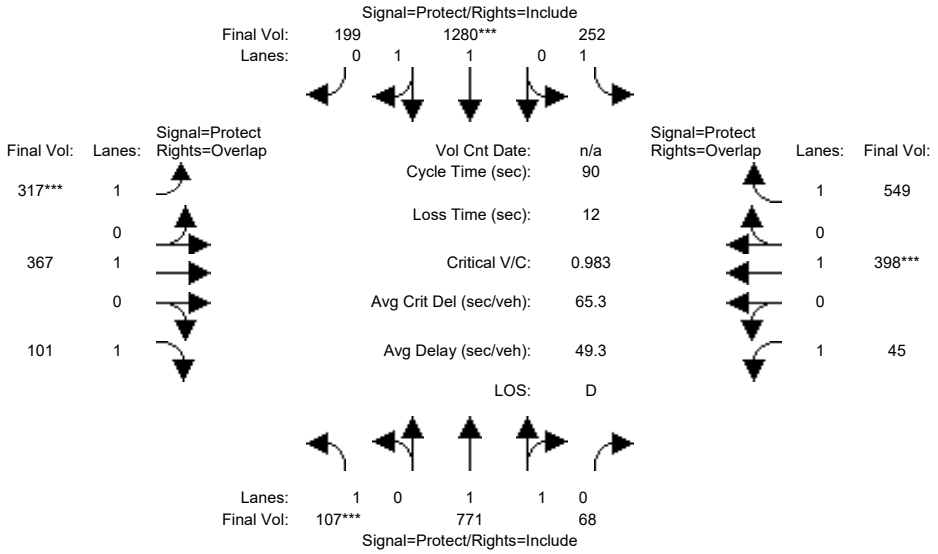
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	105	756	67	247	1254	195	311	360	99	44	390	538
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	756	67	247	1254	195	311	360	99	44	390	538
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	756	67	247	1254	195	311	360	99	44	390	538
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	771	68	252	1280	199	317	367	101	45	398	549
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	771	68	252	1280	199	317	367	101	45	398	549
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	771	68	252	1280	199	317	367	101	45	398	549
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.83	0.17	1.00	1.72	0.28	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3399	301	1750	3202	498	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.23	0.23	0.14	0.40	0.40	0.18	0.19	0.06	0.03	0.21	0.31
Crit Moves:	****				****		****				****	
Green Time:	8.0	26.5	26.5	16.8	35.4	35.4	16.1	28.1	36.1	6.5	18.5	35.4
Volume/Cap:	0.69	0.77	0.77	0.77	1.02	1.02	1.02	0.62	0.14	0.36	1.02	0.80
Delay/Veh:	52.1	32.3	32.3	45.3	55.0	55.0	92.1	28.3	17.2	41.5	85.4	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	32.3	32.3	45.3	55.0	55.0	92.1	28.3	17.2	41.5	85.4	30.7
LOS by Move:	D	C	C	D	E	E	F	C	B	D	F	C
HCM2k95thQ:	7	21	21	14	44	44	22	16	4	3	30	29

Note: Queue reported is the number of cars per lane.

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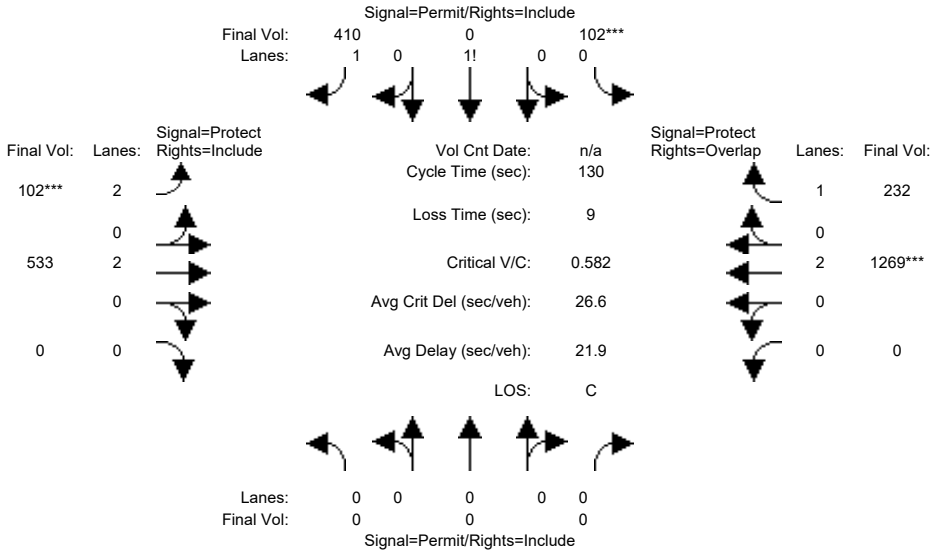
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	99	0	398	99	517	0	0	1231	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	398	99	517	0	0	1231	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	398	99	517	0	0	1231	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	410	102	533	0	0	1269	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	410	102	533	0	0	1269	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	410	102	533	0	0	1269	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.33	0.00	1.67	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	581	0	2919	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.14	0.03	0.14	0.00	0.00	0.33	0.13
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	38.9	0.0	38.9	8.0	82.1	0.0	0.0	74.1	74.1
Volume/Cap:	0.00	0.00	0.00	0.59	0.00	0.47	0.53	0.22	0.00	0.00	0.59	0.23
Delay/Veh:	0.0	0.0	0.0	39.7	0.0	37.4	61.8	10.3	0.0	0.0	18.5	14.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	39.7	0.0	37.4	61.8	10.3	0.0	0.0	18.5	14.0
LOS by Move:	A	A	A	D	A	D	E	B	A	A	B	B
HCM2k95thQ:	0	0	0	21	0	16	5	9	0	0	27	9

Note: Queue reported is the number of cars per lane.

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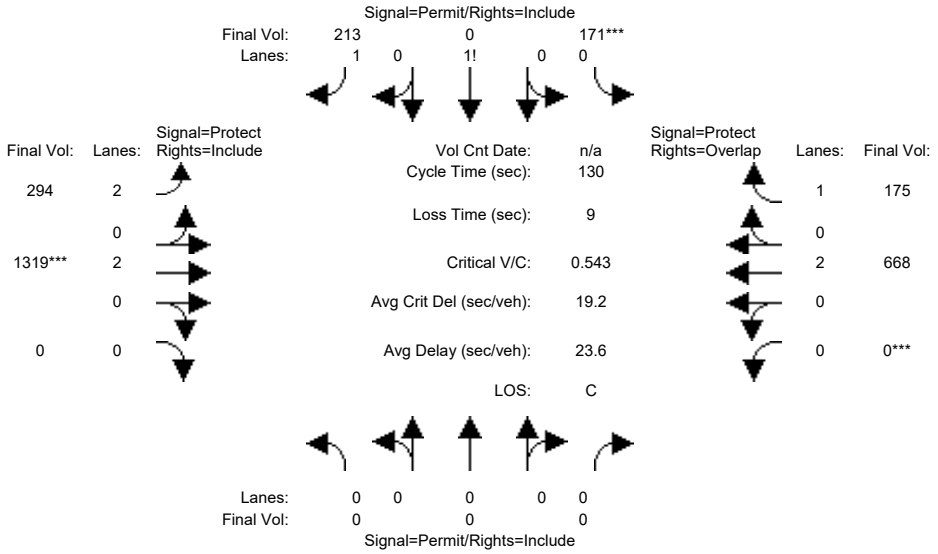
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	166	0	207	285	1279	0	0	648	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	207	285	1279	0	0	648	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	207	285	1279	0	0	648	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	213	294	1319	0	0	668	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	213	294	1319	0	0	668	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	213	294	1319	0	0	668	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.62	0.00	1.38	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1078	0	2422	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.09	0.09	0.35	0.00	0.00	0.18	0.10
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	38.0	0.0	38.0	28.8	83.0	0.0	0.0	54.2	54.2
Volume/Cap:	0.00	0.00	0.00	0.54	0.00	0.30	0.42	0.54	0.00	0.00	0.42	0.24
Delay/Veh:	0.0	0.0	0.0	39.6	0.0	35.8	43.9	13.3	0.0	0.0	27.0	24.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	39.6	0.0	35.8	43.9	13.3	0.0	0.0	27.0	24.7
LOS by Move:	A	A	A	D	A	D	D	B	A	A	C	C
HCM2k95thQ:	0	0	0	19	0	10	11	25	0	0	17	9

Note: Queue reported is the number of cars per lane.

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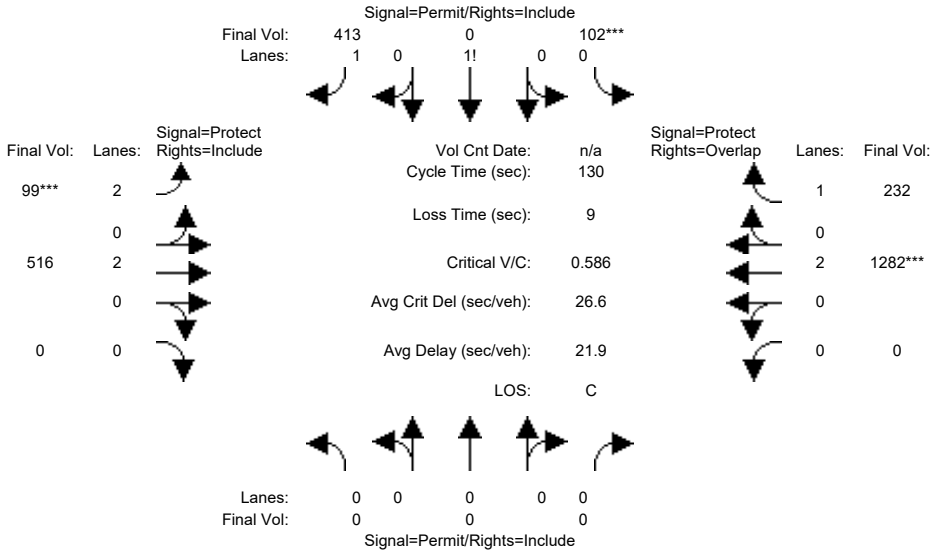
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	99	0	401	96	501	0	0	1244	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	401	96	501	0	0	1244	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	401	96	501	0	0	1244	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	413	99	516	0	0	1282	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	413	99	516	0	0	1282	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	413	99	516	0	0	1282	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.33	0.00	1.67	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	578	0	2922	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.14	0.03	0.14	0.00	0.00	0.34	0.13
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	38.8	0.0	38.8	8.0	82.2	0.0	0.0	74.2	74.2
Volume/Cap:	0.00	0.00	0.00	0.59	0.00	0.47	0.51	0.21	0.00	0.00	0.59	0.23
Delay/Veh:	0.0	0.0	0.0	39.9	0.0	37.6	61.4	10.2	0.0	0.0	18.5	13.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	39.9	0.0	37.6	61.4	10.2	0.0	0.0	18.5	13.9
LOS by Move:	A	A	A	D	A	D	E	B	A	A	B	B
HCM2k95thQ:	0	0	0	21	0	16	5	8	0	0	28	9

Note: Queue reported is the number of cars per lane.

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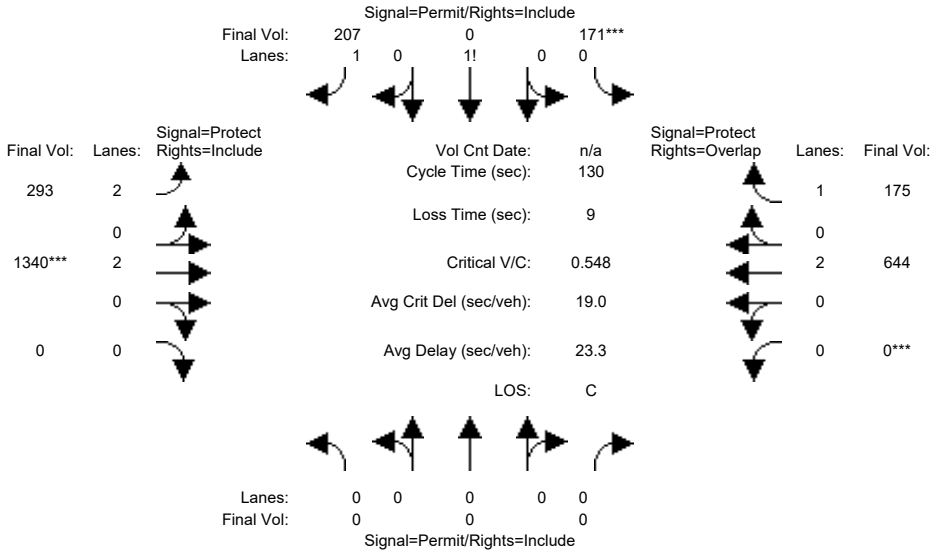
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	166	0	201	284	1300	0	0	625	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	201	284	1300	0	0	625	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	201	284	1300	0	0	625	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	207	293	1340	0	0	644	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	207	293	1340	0	0	644	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	207	293	1340	0	0	644	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.62	0.00	1.38	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1090	0	2410	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.16	0.00	0.09	0.09	0.35	0.00	0.00	0.17	0.10
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	37.3	0.0	37.3	29.6	83.7	0.0	0.0	54.1	54.1
Volume/Cap:	0.00	0.00	0.00	0.55	0.00	0.30	0.41	0.55	0.00	0.00	0.41	0.24
Delay/Veh:	0.0	0.0	0.0	40.2	0.0	36.3	43.1	13.0	0.0	0.0	26.9	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	40.2	0.0	36.3	43.1	13.0	0.0	0.0	26.9	24.8
LOS by Move:	A	A	A	D	A	D	D	B	A	A	C	C
HCM2k95thQ:	0	0	0	19	0	10	11	26	0	0	16	9

Note: Queue reported is the number of cars per lane.

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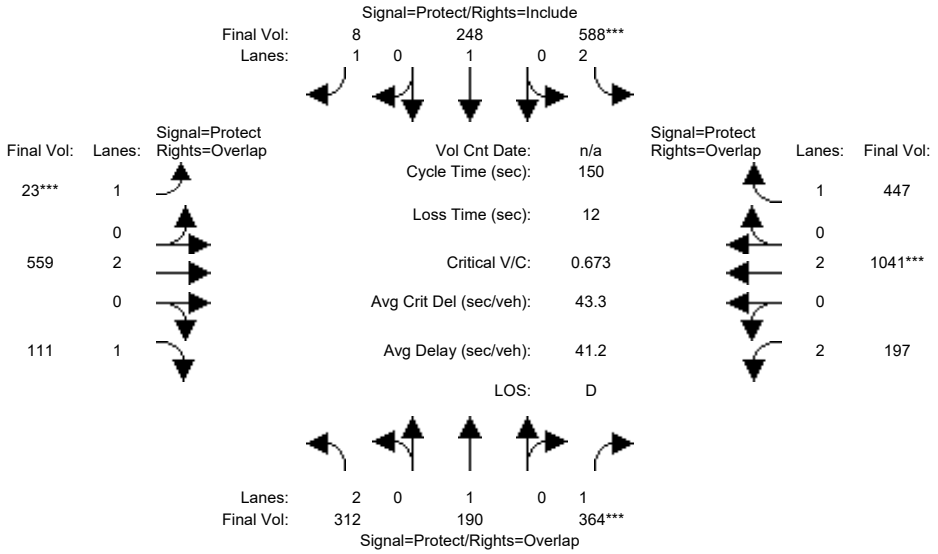
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	287	175	335	541	228	7	21	514	102	181	958	411
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	175	335	541	228	7	21	514	102	181	958	411
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	175	335	541	228	7	21	514	102	181	958	411
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	312	190	364	588	248	8	23	559	111	197	1041	447
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	190	364	588	248	8	23	559	111	197	1041	447
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	190	364	588	248	8	23	559	111	197	1041	447
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.21	0.19	0.13	0.00	0.01	0.15	0.06	0.06	0.27	0.26
Crit Moves:			****	****			****				****	
Green Time:	31.5	31.9	51.4	40.9	41.4	41.4	5.0	45.7	77.2	19.4	60.1	101.1
Volume/Cap:	0.47	0.47	0.61	0.68	0.47	0.02	0.39	0.48	0.12	0.48	0.68	0.38
Delay/Veh:	52.5	52.5	42.8	51.0	45.9	39.5	75.3	42.8	18.9	61.5	38.4	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.5	52.5	42.8	51.0	45.9	39.5	75.3	42.8	18.9	61.5	38.4	10.9
LOS by Move:	D	D	D	D	D	D	E	D	B	E	D	B
HCM2k95thQ:	14	14	26	27	18	1	2	19	5	10	33	17

Note: Queue reported is the number of cars per lane.

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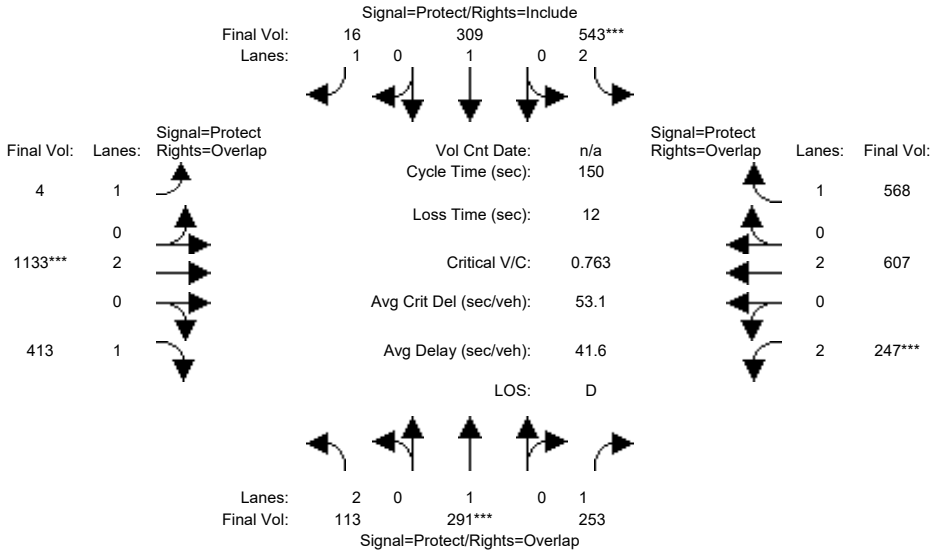
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	108	279	243	521	297	15	4	1088	396	237	583	545
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	279	243	521	297	15	4	1088	396	237	583	545
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	279	243	521	297	15	4	1088	396	237	583	545
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	113	291	253	543	309	16	4	1133	413	247	607	568
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	291	253	543	309	16	4	1133	413	247	607	568
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	291	253	543	309	16	4	1133	413	247	607	568
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.14	0.17	0.16	0.01	0.00	0.30	0.24	0.08	0.16	0.32
Crit Moves:		****		****				****		****		
Green Time:	18.6	30.1	45.5	33.9	45.4	45.4	12.8	58.6	77.2	15.4	61.3	95.1
Volume/Cap:	0.29	0.76	0.48	0.76	0.54	0.03	0.03	0.76	0.46	0.76	0.39	0.51
Delay/Veh:	60.1	65.4	43.2	59.2	44.6	36.8	63.0	42.0	23.5	75.8	31.4	15.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.1	65.4	43.2	59.2	44.6	36.8	63.0	42.0	23.5	75.8	31.4	15.2
LOS by Move:	E	E	D	E	D	D	E	D	C	E	C	B
HCM2k95thQ:	5	23	18	27	21	1	0	37	22	13	17	26

Note: Queue reported is the number of cars per lane.

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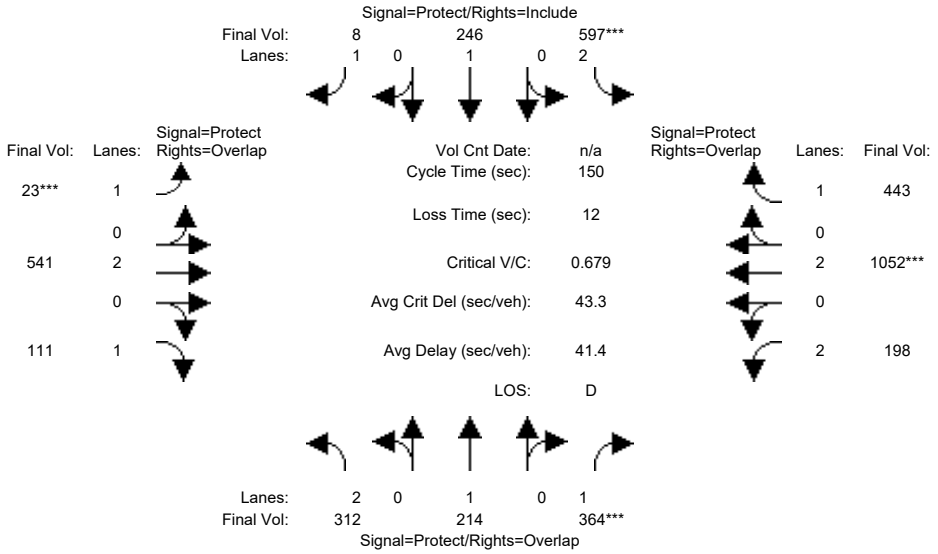
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	287	197	335	549	226	7	21	498	102	182	968	408
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	197	335	549	226	7	21	498	102	182	968	408
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	197	335	549	226	7	21	498	102	182	968	408
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	312	214	364	597	246	8	23	541	111	198	1052	443
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	312	214	364	597	246	8	23	541	111	198	1052	443
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	312	214	364	597	246	8	23	541	111	198	1052	443
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.11	0.21	0.19	0.13	0.00	0.01	0.14	0.06	0.06	0.28	0.25
Crit Moves:			****	****			****				****	
Green Time:	31.6	31.6	51.5	41.2	41.2	41.2	5.0	45.3	76.8	20.0	60.2	101.4
Volume/Cap:	0.47	0.54	0.61	0.69	0.47	0.02	0.39	0.47	0.12	0.47	0.69	0.37
Delay/Veh:	52.4	54.1	42.6	51.1	46.0	39.6	75.3	43.0	19.1	61.0	38.5	10.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	54.1	42.6	51.1	46.0	39.6	75.3	43.0	19.1	61.0	38.5	10.7
LOS by Move:	D	D	D	D	D	D	E	D	B	E	D	B
HCM2k95thQ:	14	16	26	27	17	1	2	18	6	10	33	17

Note: Queue reported is the number of cars per lane.

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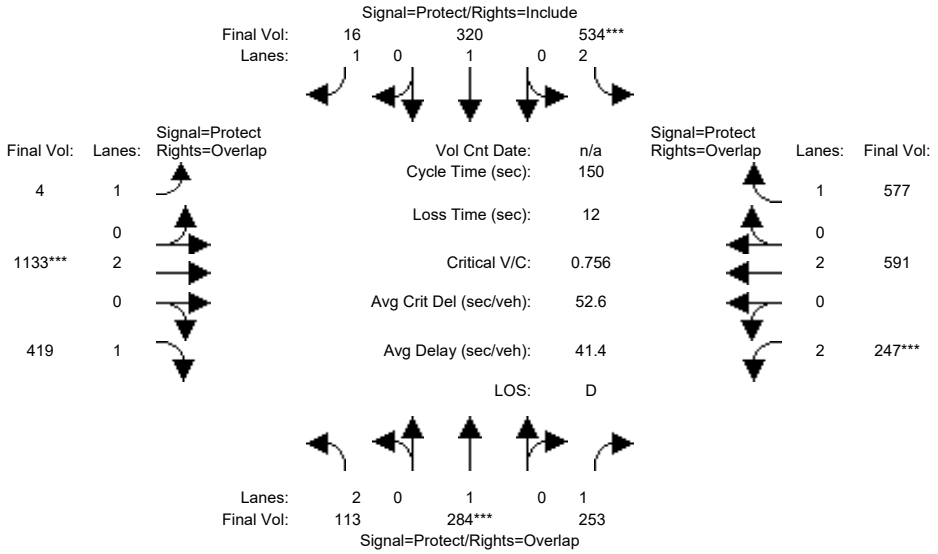
Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	108	273	243	513	307	15	4	1088	402	237	567	554
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	273	243	513	307	15	4	1088	402	237	567	554
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	273	243	513	307	15	4	1088	402	237	567	554
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	113	284	253	534	320	16	4	1133	419	247	591	577
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	284	253	534	320	16	4	1133	419	247	591	577
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	284	253	534	320	16	4	1133	419	247	591	577
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.14	0.17	0.17	0.01	0.00	0.30	0.24	0.08	0.16	0.33
Crit Moves:		****		****				****		****		
Green Time:	18.0	29.7	45.2	33.6	45.4	45.4	12.9	59.1	77.1	15.5	61.8	95.5
Volume/Cap:	0.30	0.76	0.48	0.76	0.56	0.03	0.03	0.76	0.47	0.76	0.38	0.52
Delay/Veh:	60.7	65.3	43.5	59.1	45.1	36.9	62.9	41.5	23.7	75.1	30.8	15.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.7	65.3	43.5	59.1	45.1	36.9	62.9	41.5	23.7	75.1	30.8	15.2
LOS by Move:	E	E	D	E	D	D	E	D	C	E	C	B
HCM2k95thQ:	6	23	18	27	22	1	0	37	23	13	17	27

Note: Queue reported is the number of cars per lane.

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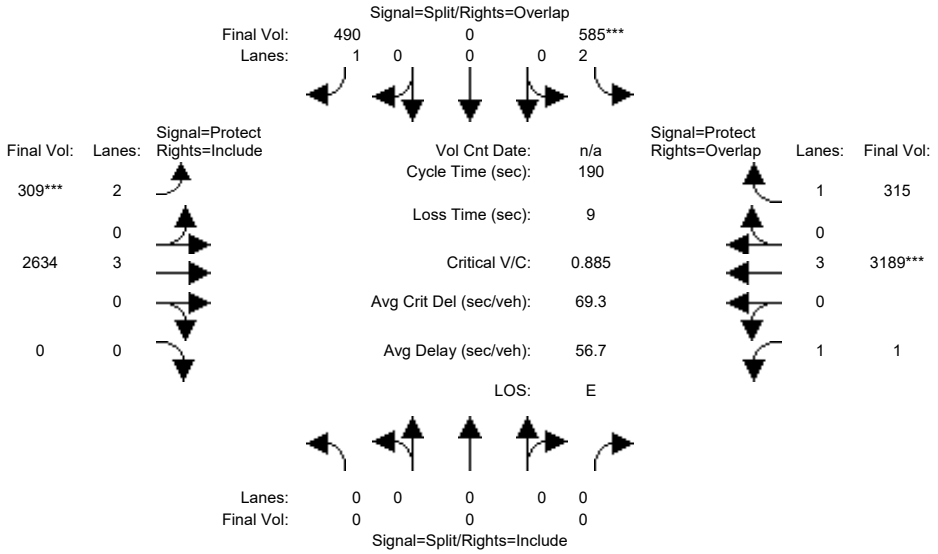
Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	585	0	490	309	3028	0	1	3665	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	585	0	490	309	3028	0	1	3665	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	585	0	490	309	3028	0	1	3665	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	585	0	490	309	2634	0	1	3189	315
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	585	0	490	309	2634	0	1	3189	315
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	585	0	490	309	2634	0	1	3189	315
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.19	0.00	0.28	0.10	0.46	0.00	0.00	0.56	0.18
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	1.39	0.00	1.26	1.10	0.65	0.00	0.01	0.81	0.22
Delay/Veh:	0.0	0.0	0.0	271.5	0.0	209.2	170.9	15.1	0.0	84.8	22.4	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	271.5	0.0	209.2	170.9	15.1	0.0	84.8	22.4	3.8
LOS by Move:	A	A	A	F	A	F	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	54	0	70	28	44	0	0	63	8

Note: Queue reported is the number of cars per lane.

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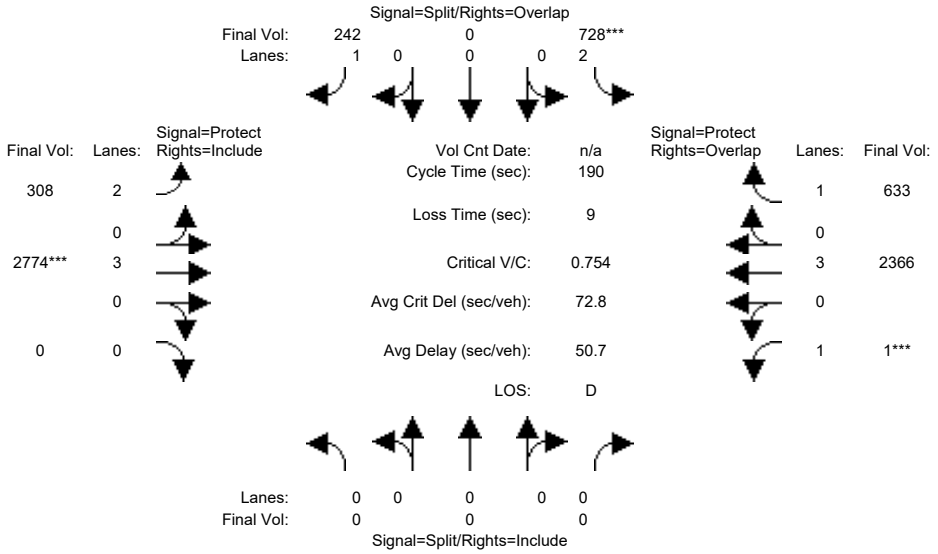
2030 PH1 PM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	728	0	242	308	3467	0	1	3480	633
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	728	0	242	308	3467	0	1	3480	633
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	728	0	242	308	3467	0	1	3480	633
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	728	0	242	308	2774	0	1	2366	633
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	728	0	242	308	2774	0	1	2366	633
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	728	0	242	308	2774	0	1	2366	633
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.00	0.14	0.10	0.49	0.00	0.00	0.42	0.36
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	1.42	0.00	0.51	0.88	0.70	0.00	0.01	0.65	0.45
Delay/Veh:	0.0	0.0	0.0	280.4	0.0	59.0	104.9	18.3	0.0	84.8	21.9	6.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	280.4	0.0	59.0	104.9	18.3	0.0	84.8	21.9	6.3
LOS by Move:	A	A	A	F	A	E	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	66	0	23	24	51	0	0	43	21

Note: Queue reported is the number of cars per lane.

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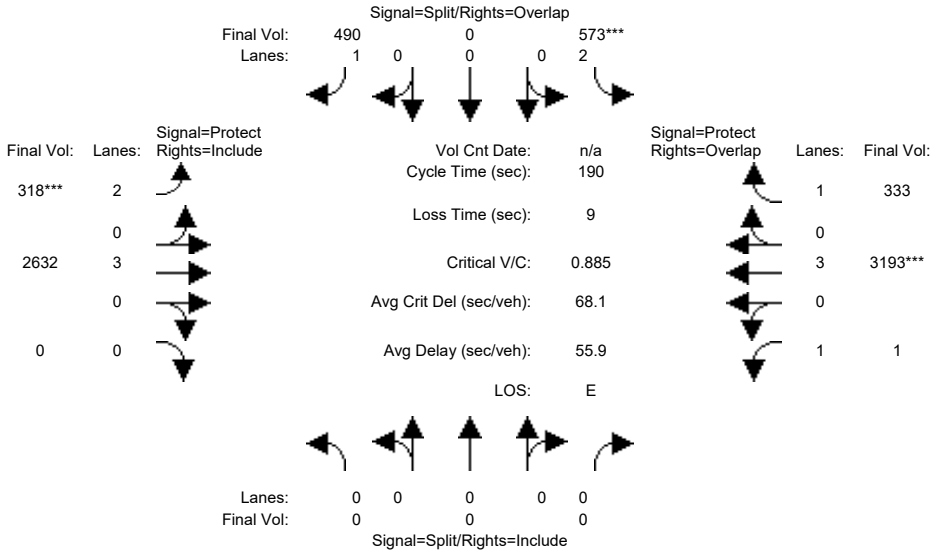
2030 PH2 AM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	573	0	490	318	3025	0	1	3670	333
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	573	0	490	318	3025	0	1	3670	333
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	573	0	490	318	3025	0	1	3670	333
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	573	0	490	318	2632	0	1	3193	333
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	573	0	490	318	2632	0	1	3193	333
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	573	0	490	318	2632	0	1	3193	333
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.28	0.10	0.46	0.00	0.00	0.56	0.19
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	1.36	0.00	1.26	1.14	0.65	0.00	0.01	0.81	0.23
Delay/Veh:	0.0	0.0	0.0	259.3	0.0	209.2	182.0	15.1	0.0	84.8	22.4	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	259.3	0.0	209.2	182.0	15.1	0.0	84.8	22.4	3.8
LOS by Move:	A	A	A	F	A	F	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	52	0	70	29	44	0	0	63	8

Note: Queue reported is the number of cars per lane.

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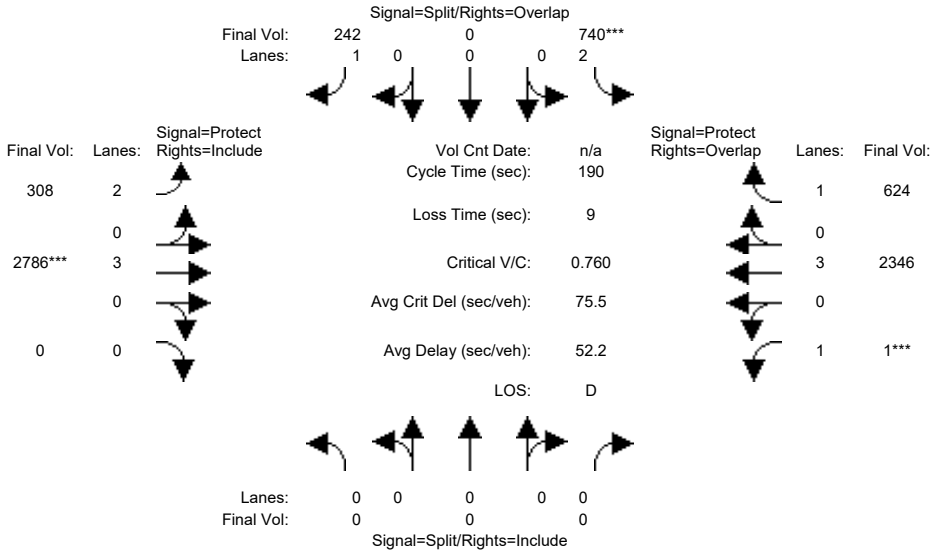
2030 PH2 PM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	0.0	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	740	0	242	308	3482	0	1	3450	624
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	740	0	242	308	3482	0	1	3450	624
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	740	0	242	308	3482	0	1	3450	624
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	740	0	242	308	2786	0	1	2346	624
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	740	0	242	308	2786	0	1	2346	624
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	740	0	242	308	2786	0	1	2346	624
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.00	0.14	0.10	0.49	0.00	0.00	0.41	0.36
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	1.44	0.00	0.51	0.88	0.71	0.00	0.01	0.65	0.45
Delay/Veh:	0.0	0.0	0.0	290.5	0.0	59.0	104.9	18.4	0.0	84.8	21.8	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	290.5	0.0	59.0	104.9	18.4	0.0	84.8	21.8	6.2
LOS by Move:	A	A	A	F	A	E	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	68	0	23	24	51	0	0	42	21

Note: Queue reported is the number of cars per lane.

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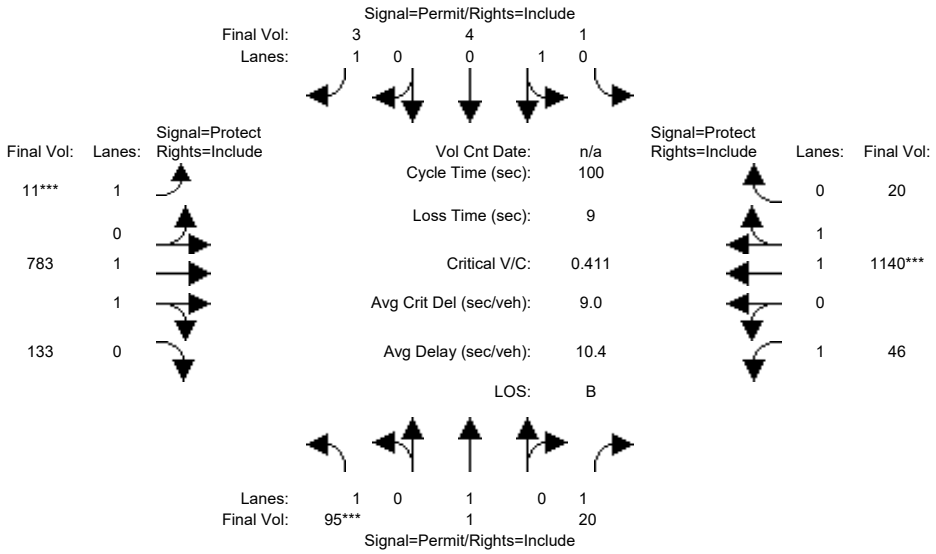
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	1	19	1	4	3	10	736	125	43	1072	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	1	19	1	4	3	10	736	125	43	1072	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	1	19	1	4	3	10	736	125	43	1072	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	95	1	20	1	4	3	11	783	133	46	1140	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	1	20	1	4	3	11	783	133	46	1140	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	1	20	1	4	3	11	783	133	46	1140	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.20	0.80	1.00	1.00	1.70	0.30	1.00	1.96	0.04
Final Sat.:	1750	1900	1750	360	1440	1750	1750	3162	537	1750	3636	64
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.01	0.00	0.00	0.00	0.01	0.25	0.25	0.03	0.31	0.31
Crit Moves:	****						****				****	
Green Time:	12.4	12.4	12.4	12.4	12.4	12.4	7.0	61.3	61.3	17.3	71.6	71.6
Volume/Cap:	0.44	0.00	0.09	0.02	0.02	0.01	0.09	0.40	0.40	0.15	0.44	0.44
Delay/Veh:	42.0	38.4	39.0	38.6	38.6	38.5	43.8	10.1	10.1	35.3	6.0	6.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.0	38.4	39.0	38.6	38.6	38.5	43.8	10.1	10.1	35.3	6.0	6.0
LOS by Move:	D	D	D	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	7	0	1	0	0	0	1	14	14	3	14	14

Note: Queue reported is the number of cars per lane.

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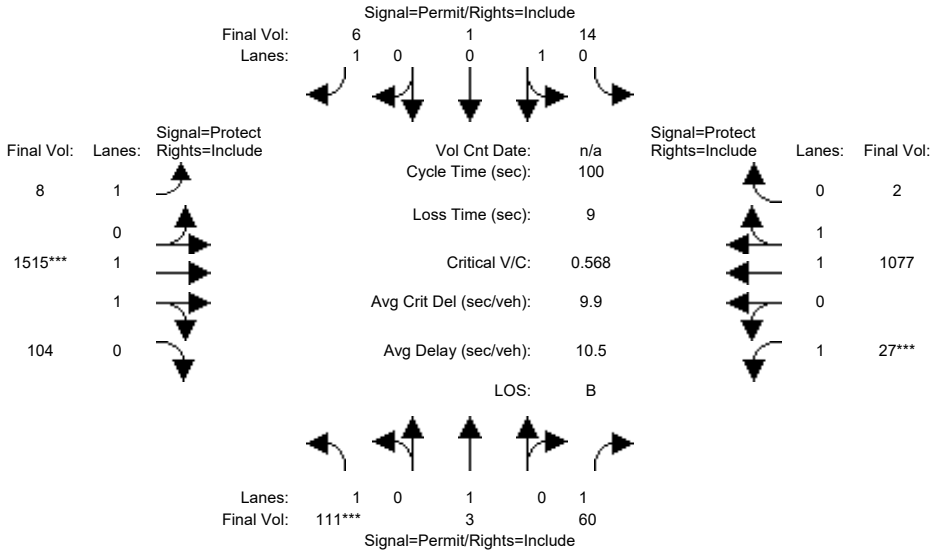
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	108	3	58	14	1	6	8	1470	101	26	1045	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	3	58	14	1	6	8	1470	101	26	1045	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	3	58	14	1	6	8	1470	101	26	1045	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	111	3	60	14	1	6	8	1515	104	27	1077	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	3	60	14	1	6	8	1515	104	27	1077	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	3	60	14	1	6	8	1515	104	27	1077	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.93	0.07	1.00	1.00	1.87	0.13	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1680	120	1750	1750	3462	238	1750	3693	7
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.01	0.01	0.00	0.00	0.44	0.44	0.02	0.29	0.29
Crit Moves:	****							****		****		
Green Time:	10.7	10.7	10.7	10.7	10.7	10.7	15.5	73.3	73.3	7.0	64.8	64.8
Volume/Cap:	0.60	0.02	0.32	0.08	0.08	0.03	0.03	0.60	0.60	0.22	0.45	0.45
Delay/Veh:	47.8	40.0	42.3	40.4	40.4	40.1	35.9	6.7	6.7	44.8	8.9	8.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.8	40.0	42.3	40.4	40.4	40.1	35.9	6.7	6.7	44.8	8.9	8.9
LOS by Move:	D	D	D	D	D	D	D	A	A	D	A	A
HCM2k95thQ:	9	0	4	1	1	0	0	21	21	2	16	16

Note: Queue reported is the number of cars per lane.

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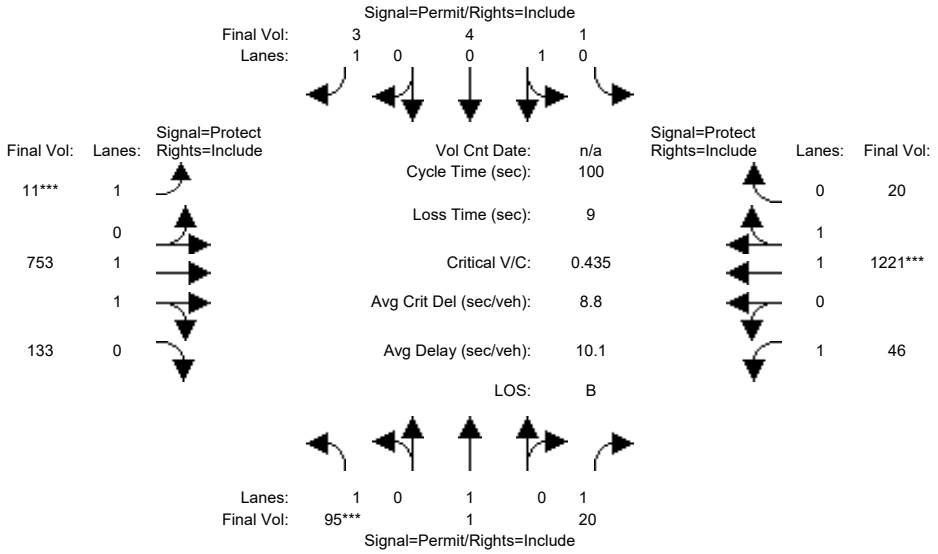
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	89	1	19	1	4	3	10	708	125	43	1148	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	1	19	1	4	3	10	708	125	43	1148	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	1	19	1	4	3	10	708	125	43	1148	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	95	1	20	1	4	3	11	753	133	46	1221	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	1	20	1	4	3	11	753	133	46	1221	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	1	20	1	4	3	11	753	133	46	1221	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.20	0.80	1.00	1.00	1.69	0.31	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	360	1440	1750	1750	3144	555	1750	3640	60
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.01	0.00	0.00	0.00	0.01	0.24	0.24	0.03	0.34	0.34
Crit Moves:	****						****				****	
Green Time:	11.7	11.7	11.7	11.7	11.7	11.7	7.0	61.4	61.4	17.9	72.3	72.3
Volume/Cap:	0.46	0.00	0.10	0.03	0.03	0.02	0.09	0.39	0.39	0.15	0.46	0.46
Delay/Veh:	42.9	39.0	39.7	39.2	39.2	39.1	43.8	9.9	9.9	34.8	5.9	5.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	39.0	39.7	39.2	39.2	39.1	43.8	9.9	9.9	34.8	5.9	5.9
LOS by Move:	D	D	D	D	D	D	D	A	A	C	A	A
HCM2k95thQ:	7	0	1	0	0	0	1	13	13	3	15	15

Note: Queue reported is the number of cars per lane.

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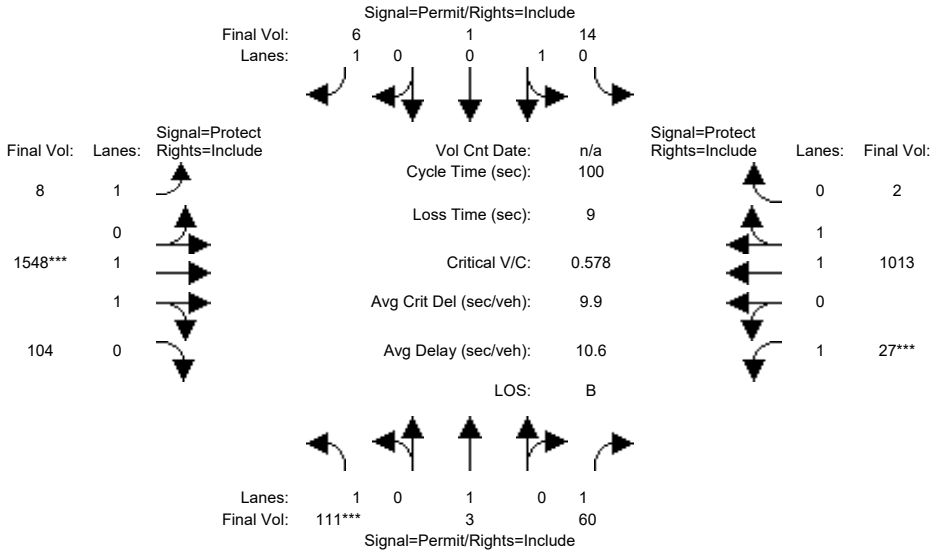
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	108	3	58	14	1	6	8	1502	101	26	983	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	3	58	14	1	6	8	1502	101	26	983	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	3	58	14	1	6	8	1502	101	26	983	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	111	3	60	14	1	6	8	1548	104	27	1013	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	3	60	14	1	6	8	1548	104	27	1013	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	3	60	14	1	6	8	1548	104	27	1013	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.93	0.07	1.00	1.00	1.87	0.13	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1680	120	1750	1750	3467	233	1750	3692	8
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.01	0.01	0.00	0.00	0.45	0.45	0.02	0.27	0.27
Crit Moves:	****							****		****		
Green Time:	10.5	10.5	10.5	10.5	10.5	10.5	16.4	73.5	73.5	7.0	64.2	64.2
Volume/Cap:	0.61	0.02	0.33	0.08	0.08	0.03	0.03	0.61	0.61	0.22	0.43	0.43
Delay/Veh:	48.6	40.2	42.5	40.6	40.6	40.3	35.2	6.7	6.7	44.8	9.0	9.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.6	40.2	42.5	40.6	40.6	40.3	35.2	6.7	6.7	44.8	9.0	9.0
LOS by Move:	D	D	D	D	D	D	D	A	A	D	A	A
HCM2k95thQ:	9	0	4	1	1	0	0	21	21	2	15	15

Note: Queue reported is the number of cars per lane.

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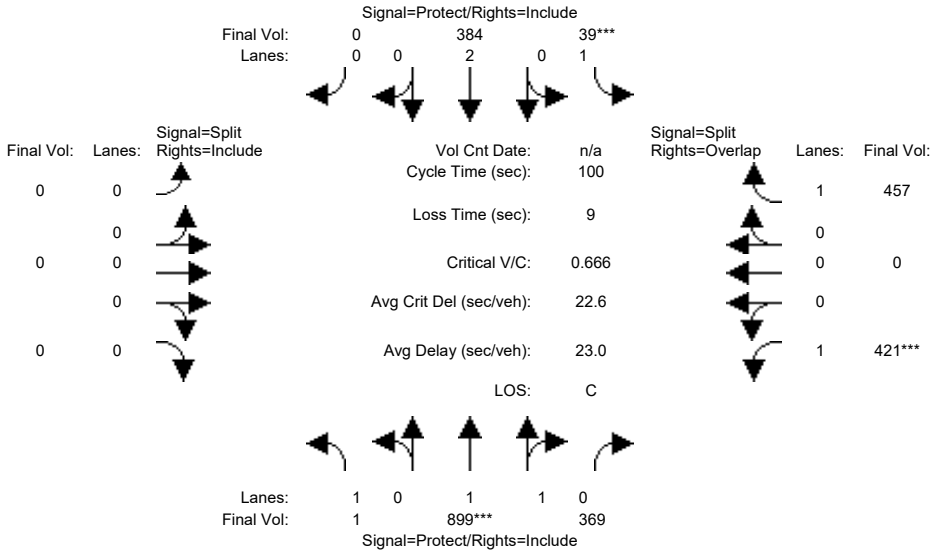
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	1	899	369	39	384	0	0	0	0	421	0	457
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	899	369	39	384	0	0	0	0	421	0	457
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	899	369	39	384	0	0	0	0	421	0	457
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	899	369	39	384	0	0	0	0	421	0	457
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	899	369	39	384	0	0	0	0	421	0	457
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	899	369	39	384	0	0	0	0	421	0	457
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.40	0.60	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1750	2622	1076	1750	3800	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.02	0.10	0.00	0.00	0.00	0.00	0.24	0.00	0.26
Crit Moves:		****		****						****		
Green Time:	15.6	51.1	51.1	4.0	39.5	0.0	0.0	0.0	0.0	35.9	0.0	39.9
Volume/Cap:	0.00	0.67	0.67	0.56	0.26	0.00	0.00	0.00	0.00	0.67	0.00	0.65
Delay/Veh:	35.6	19.1	19.1	56.7	20.5	0.0	0.0	0.0	0.0	29.9	0.0	26.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.6	19.1	19.1	56.7	20.5	0.0	0.0	0.0	0.0	29.9	0.0	26.7
LOS by Move:	D	B	B	E	C	A	A	A	A	C	A	C
HCM2k95thQ:	0	26	26	4	8	0	0	0	0	23	0	23

Note: Queue reported is the number of cars per lane.

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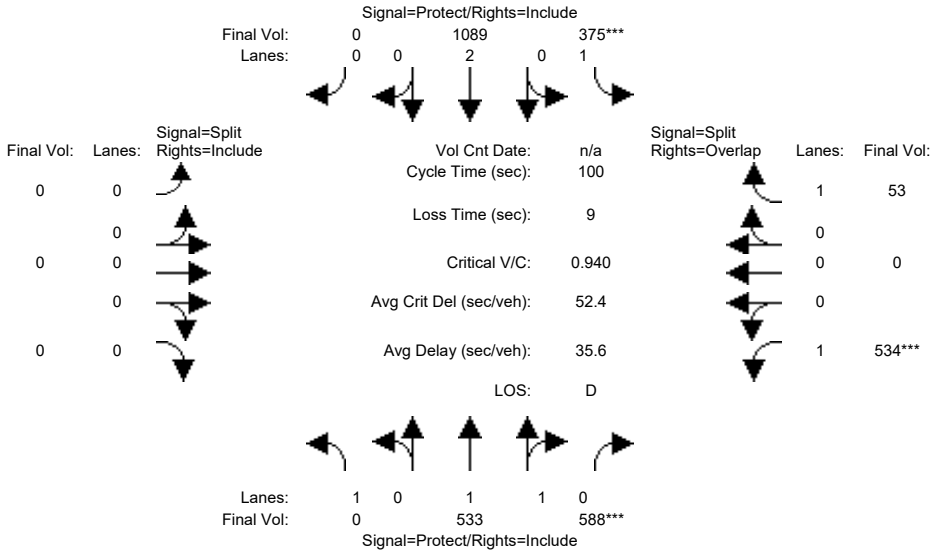
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	5.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	0	533	588	375	1089	0	0	0	0	534	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	533	588	375	1089	0	0	0	0	534	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	533	588	375	1089	0	0	0	0	534	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	533	588	375	1089	0	0	0	0	534	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	533	588	375	1089	0	0	0	0	534	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	533	588	375	1089	0	0	0	0	534	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1750	1900	1750	1750	3800	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.34	0.21	0.29	0.00	0.00	0.00	0.00	0.31	0.00	0.03
Crit Moves:			****	****						****		
Green Time:	0.0	35.7	35.7	22.8	58.5	0.0	0.0	0.0	0.0	32.5	0.0	55.3
Volume/Cap:	0.00	0.78	0.94	0.94	0.49	0.00	0.00	0.00	0.00	0.94	0.00	0.05
Delay/Veh:	0.0	31.6	45.2	68.1	12.2	0.0	0.0	0.0	0.0	56.7	0.0	10.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	31.6	45.2	68.1	12.2	0.0	0.0	0.0	0.0	56.7	0.0	10.3
LOS by Move:	A	C	D	E	B	A	A	A	A	E	A	B
HCM2k95thQ:	0	27	37	29	18	0	0	0	0	37	0	2

Note: Queue reported is the number of cars per lane.

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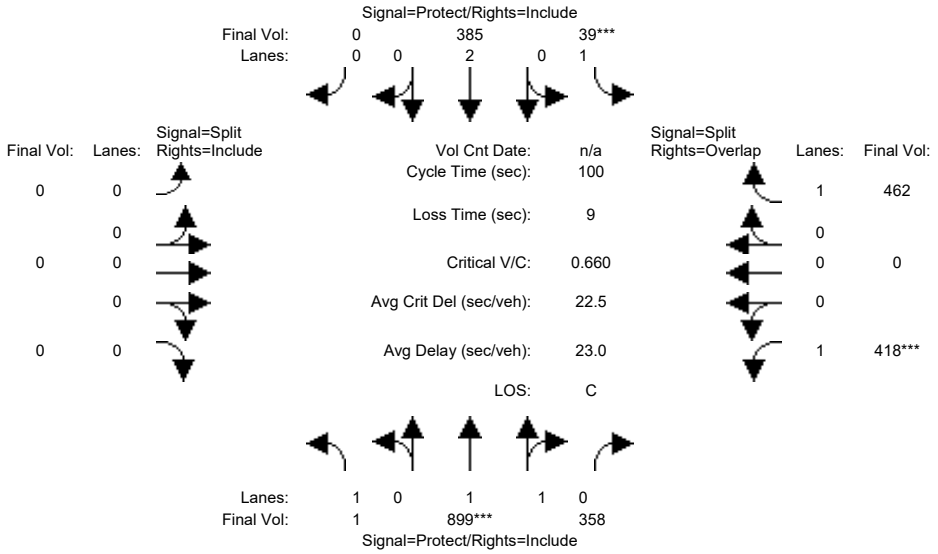
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	1	899	358	39	385	0	0	0	0	418	0	462
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	899	358	39	385	0	0	0	0	418	0	462
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	899	358	39	385	0	0	0	0	418	0	462
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	899	358	39	385	0	0	0	0	418	0	462
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	899	358	39	385	0	0	0	0	418	0	462
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	899	358	39	385	0	0	0	0	418	0	462
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.41	0.59	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1750	2645	1053	1750	3800	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.02	0.10	0.00	0.00	0.00	0.00	0.24	0.00	0.26
Crit Moves:		****		****						****		
Green Time:	15.6	51.1	51.1	4.0	39.5	0.0	0.0	0.0	0.0	35.9	0.0	39.9
Volume/Cap:	0.00	0.67	0.67	0.56	0.26	0.00	0.00	0.00	0.00	0.67	0.00	0.66
Delay/Veh:	35.6	19.0	19.0	56.7	20.5	0.0	0.0	0.0	0.0	29.7	0.0	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.6	19.0	19.0	56.7	20.5	0.0	0.0	0.0	0.0	29.7	0.0	26.9
LOS by Move:	D	B	B	E	C	A	A	A	A	C	A	C
HCM2k95thQ:	0	26	26	4	8	0	0	0	0	22	0	24

Note: Queue reported is the number of cars per lane.

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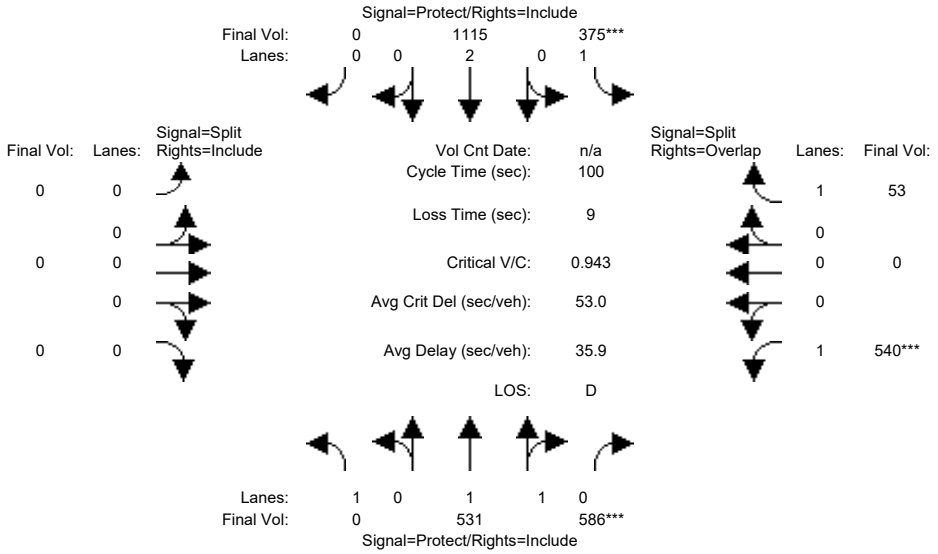
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	0	531	586	375	1115	0	0	0	0	540	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	531	586	375	1115	0	0	0	0	540	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	531	586	375	1115	0	0	0	0	540	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	531	586	375	1115	0	0	0	0	540	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	531	586	375	1115	0	0	0	0	540	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	531	586	375	1115	0	0	0	0	540	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1750	1900	1750	1750	3800	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.33	0.21	0.29	0.00	0.00	0.00	0.00	0.31	0.00	0.03
Crit Moves:			****	****						****		
Green Time:	0.0	35.5	35.5	22.7	58.3	0.0	0.0	0.0	0.0	32.7	0.0	55.5
Volume/Cap:	0.00	0.79	0.94	0.94	0.50	0.00	0.00	0.00	0.00	0.94	0.00	0.05
Delay/Veh:	0.0	31.8	45.7	68.8	12.5	0.0	0.0	0.0	0.0	56.9	0.0	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	31.8	45.7	68.8	12.5	0.0	0.0	0.0	0.0	56.9	0.0	10.2
LOS by Move:	A	C	D	E	B	A	A	A	A	E	A	B
HCM2k95thQ:	0	27	37	29	19	0	0	0	0	38	0	2

Note: Queue reported is the number of cars per lane.

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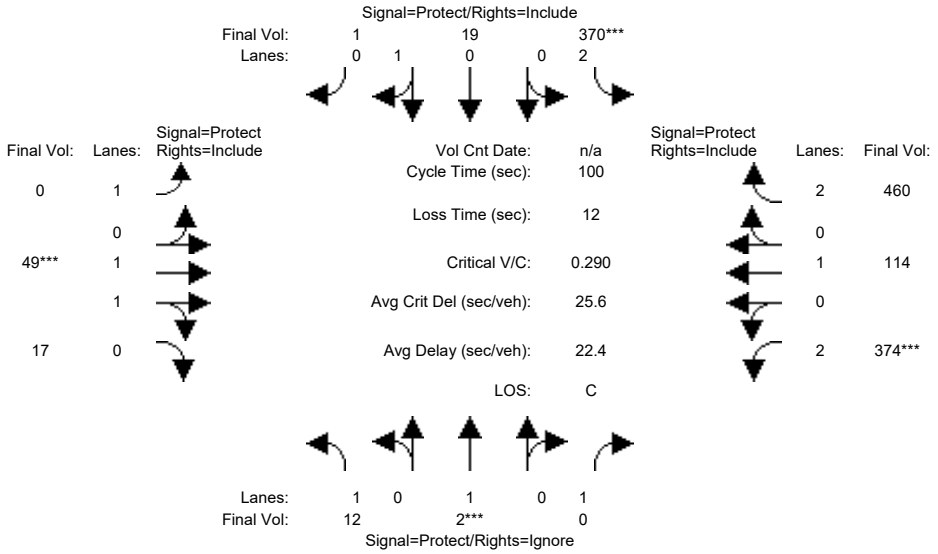
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	91	333	17	1	0	44	15	337	103	414
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	91	333	17	1	0	44	15	337	103	414
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	91	333	17	1	0	44	15	337	103	414
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	370	19	1	0	49	17	374	114	460
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	370	19	1	0	49	17	374	114	460
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	370	19	1	0	49	17	374	114	460
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.94	0.06	1.00	1.48	0.52	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1700	100	1750	2759	940	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.12	0.01	0.01	0.00	0.02	0.02	0.12	0.06	0.15
Crit Moves:		****		****				****		****		
Green Time:	21.4	8.0	0.0	34.8	21.4	21.4	0.0	10.0	10.0	35.2	45.2	45.2
Volume/Cap:	0.03	0.01	0.00	0.34	0.05	0.05	0.00	0.18	0.18	0.34	0.13	0.32
Delay/Veh:	31.1	42.4	0.0	24.3	31.3	31.3	0.0	41.5	41.5	24.0	16.0	17.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	42.4	0.0	24.3	31.3	31.3	0.0	41.5	41.5	24.0	16.0	17.7
LOS by Move:	C	D	A	C	C	C	A	D	D	C	B	B
HCM2k95thQ:	1	0	0	10	1	1	0	2	2	10	4	10

Note: Queue reported is the number of cars per lane.

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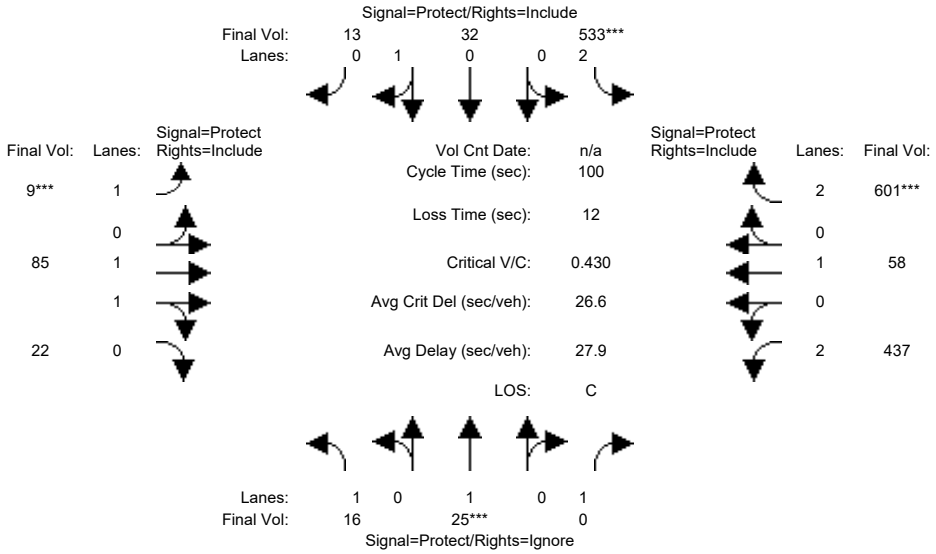
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	24	560	506	30	12	9	81	21	415	55	571
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	24	560	506	30	12	9	81	21	415	55	571
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	24	560	506	30	12	9	81	21	415	55	571
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	25	0	533	32	13	9	85	22	437	58	601
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	25	0	533	32	13	9	85	22	437	58	601
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	25	0	533	32	13	9	85	22	437	58	601
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.71	0.29	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1286	514	1750	2938	762	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.17	0.02	0.02	0.01	0.03	0.03	0.14	0.03	0.19
Crit Moves:		****		****			****					****
Green Time:	20.4	8.0	0.0	32.9	20.4	20.4	10.0	18.8	18.8	28.3	37.1	37.1
Volume/Cap:	0.04	0.17	0.00	0.51	0.12	0.12	0.05	0.15	0.15	0.49	0.08	0.51
Delay/Veh:	32.0	43.4	0.0	27.5	32.6	32.6	40.8	34.0	34.0	30.3	20.4	24.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	43.4	0.0	27.5	32.6	32.6	40.8	34.0	34.0	30.3	20.4	24.8
LOS by Move:	C	D	A	C	C	C	D	C	C	C	C	C
HCM2k95thQ:	1	2	0	15	2	2	1	3	3	13	2	16

Note: Queue reported is the number of cars per lane.

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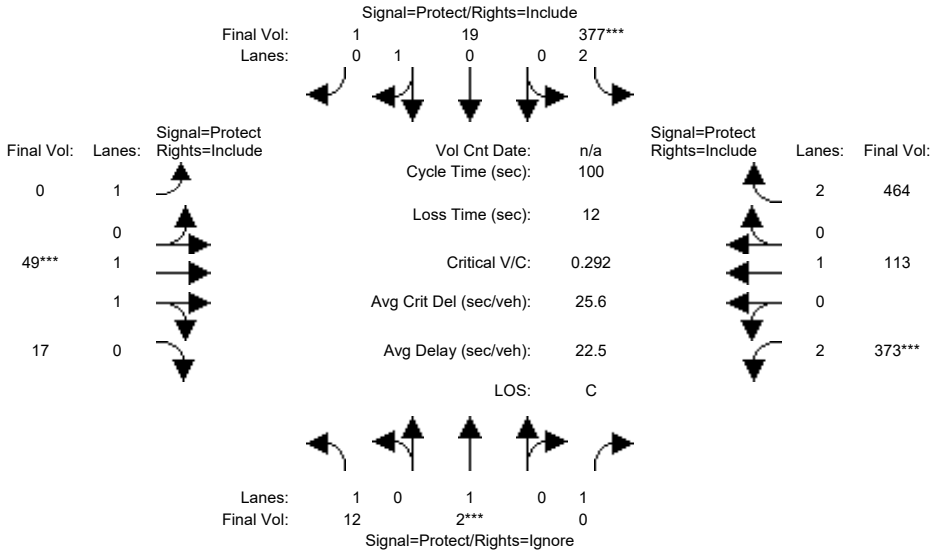
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	91	339	17	1	0	44	15	336	102	418
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	91	339	17	1	0	44	15	336	102	418
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	91	339	17	1	0	44	15	336	102	418
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	377	19	1	0	49	17	373	113	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	377	19	1	0	49	17	373	113	464
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	377	19	1	0	49	17	373	113	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.94	0.06	1.00	1.48	0.52	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1700	100	1750	2759	940	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.12	0.01	0.01	0.00	0.02	0.02	0.12	0.06	0.15
Crit Moves:		****		****				****		****		
Green Time:	21.6	8.0	0.0	35.2	21.6	21.6	0.0	10.0	10.0	34.8	44.8	44.8
Volume/Cap:	0.03	0.01	0.00	0.34	0.05	0.05	0.00	0.18	0.18	0.34	0.13	0.33
Delay/Veh:	31.0	42.4	0.0	24.1	31.2	31.2	0.0	41.5	41.5	24.3	16.2	18.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.0	42.4	0.0	24.1	31.2	31.2	0.0	41.5	41.5	24.3	16.2	18.0
LOS by Move:	C	D	A	C	C	C	A	D	D	C	B	B
HCM2k95thQ:	1	0	0	10	1	1	0	2	2	10	4	10

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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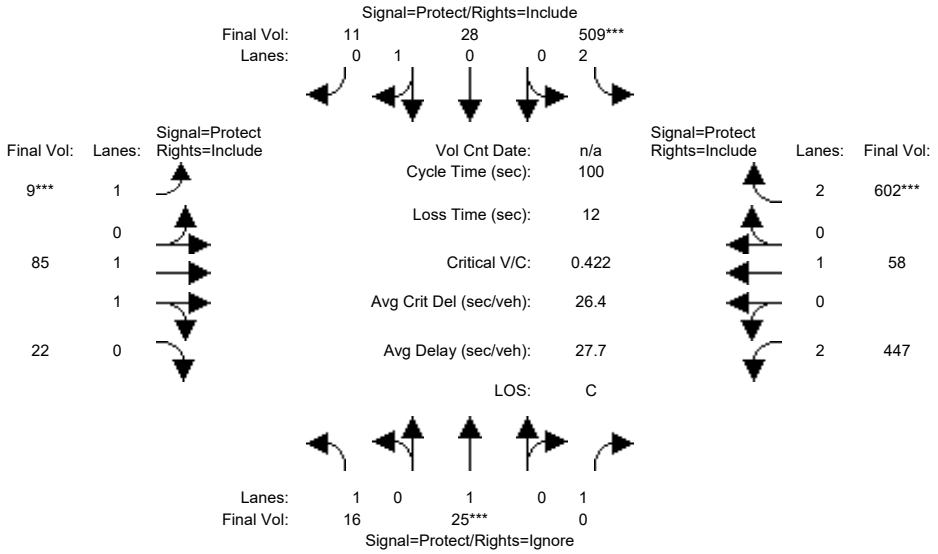
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	24	558	484	27	10	9	81	21	425	55	572
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	24	558	484	27	10	9	81	21	425	55	572
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	24	558	484	27	10	9	81	21	425	55	572
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	25	0	509	28	11	9	85	22	447	58	602
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	25	0	509	28	11	9	85	22	447	58	602
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	25	0	509	28	11	9	85	22	447	58	602
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1314	486	1750	2938	762	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.16	0.02	0.02	0.01	0.03	0.03	0.14	0.03	0.19
Crit Moves:		****		****			****					****
Green Time:	20.0	8.0	0.0	32.1	20.0	20.0	10.0	19.2	19.2	28.8	37.9	37.9
Volume/Cap:	0.05	0.17	0.00	0.50	0.11	0.11	0.05	0.15	0.15	0.49	0.08	0.50
Delay/Veh:	32.3	43.4	0.0	27.9	32.8	32.8	40.8	33.7	33.7	30.0	19.9	24.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.3	43.4	0.0	27.9	32.8	32.8	40.8	33.7	33.7	30.0	19.9	24.2
LOS by Move:	C	D	A	C	C	C	D	C	C	C	B	C
HCM2k95thQ:	1	2	0	15	2	2	1	3	3	13	2	16

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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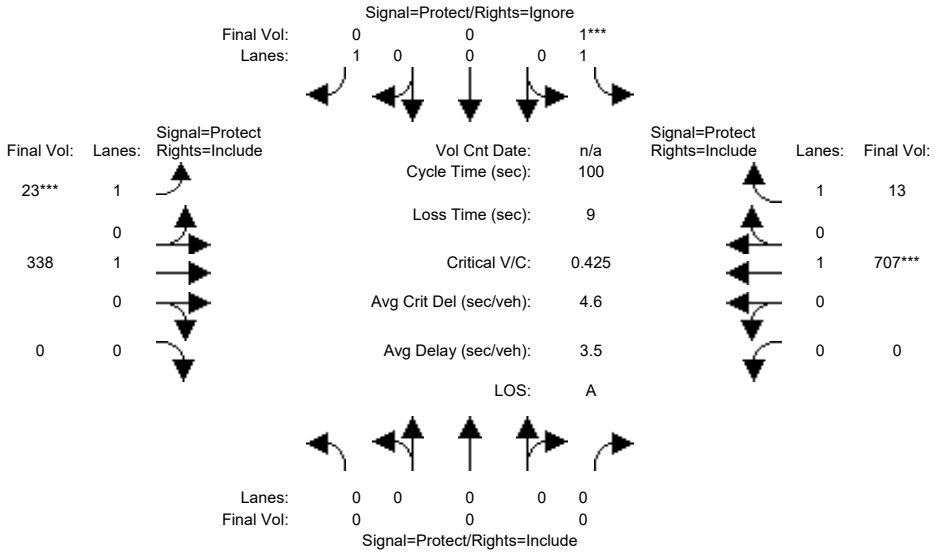
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	1	0	9	22	318	0	0	665	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1	0	9	22	318	0	0	665	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1	0	9	22	318	0	0	665	12
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	1	0	0	23	338	0	0	707	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1	0	0	23	338	0	0	707	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1	0	0	23	338	0	0	707	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.18	0.00	0.00	0.37	0.01
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.01	0.00	0.00	0.27	0.21	0.00	0.00	0.46	0.01
Delay/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.4	1.3	0.0	0.0	3.1	1.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.4	1.3	0.0	0.0	3.1	1.8
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	0	0	0	2	4	0	0	12	0

Note: Queue reported is the number of cars per lane.

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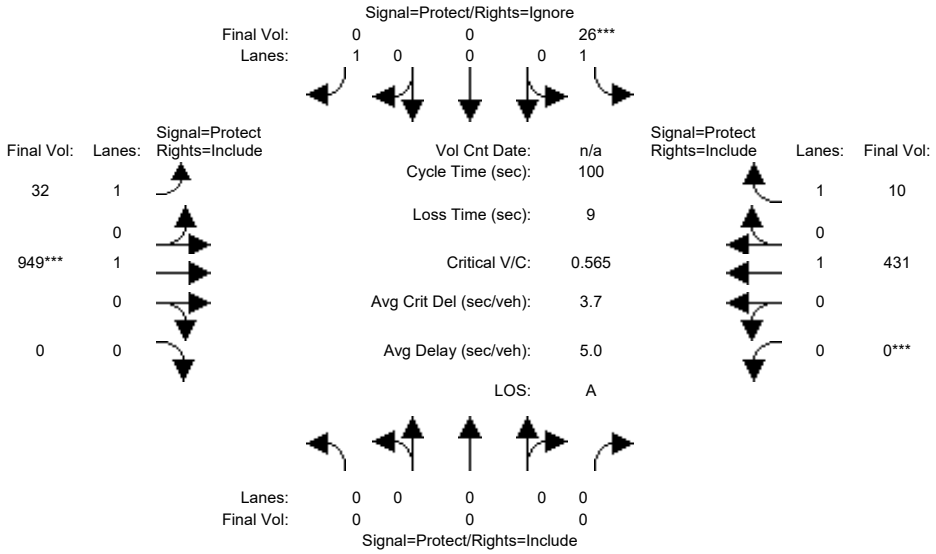
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	23	0	53	29	854	0	0	388	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	23	0	53	29	854	0	0	388	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	23	0	53	29	854	0	0	388	9
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	26	0	0	32	949	0	0	431	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	26	0	0	32	949	0	0	431	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	26	0	0	32	949	0	0	431	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.50	0.00	0.00	0.23	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	15.5	86.0	0.0	0.0	70.5	70.5
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.00	0.12	0.58	0.00	0.00	0.32	0.01
Delay/Veh:	0.0	0.0	0.0	47.7	0.0	0.0	36.5	2.5	0.0	0.0	5.8	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.7	0.0	0.0	36.5	2.5	0.0	0.0	5.8	4.4
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	2	0	0	2	16	0	0	9	0

Note: Queue reported is the number of cars per lane.

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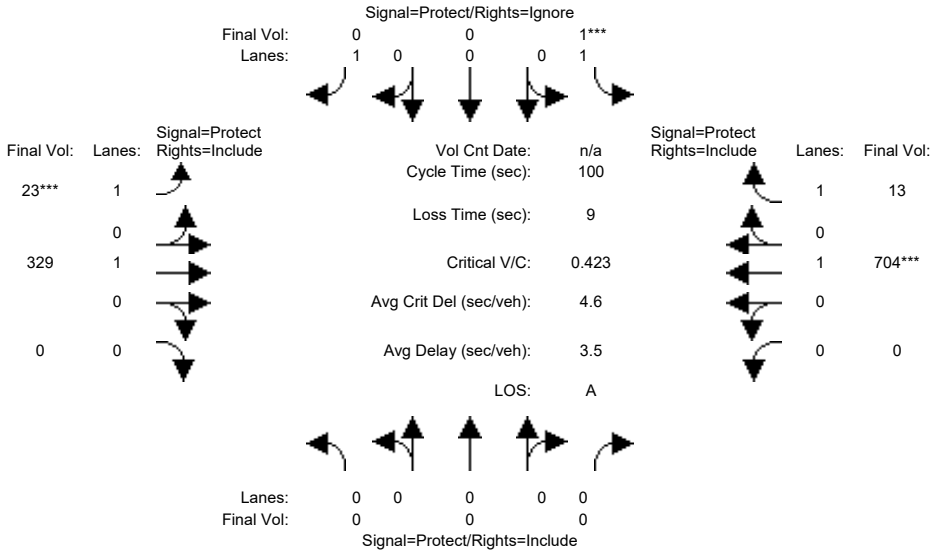
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	1	0	9	22	309	0	0	662	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1	0	9	22	309	0	0	662	12
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1	0	9	22	309	0	0	662	12
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	1	0	0	23	329	0	0	704	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1	0	0	23	329	0	0	704	13
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1	0	0	23	329	0	0	704	13
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.17	0.00	0.00	0.37	0.01
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.01	0.00	0.00	0.27	0.20	0.00	0.00	0.46	0.01
Delay/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.4	1.2	0.0	0.0	3.1	1.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.2	0.0	0.0	47.4	1.2	0.0	0.0	3.1	1.8
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	0	0	0	2	4	0	0	12	0

Note: Queue reported is the number of cars per lane.

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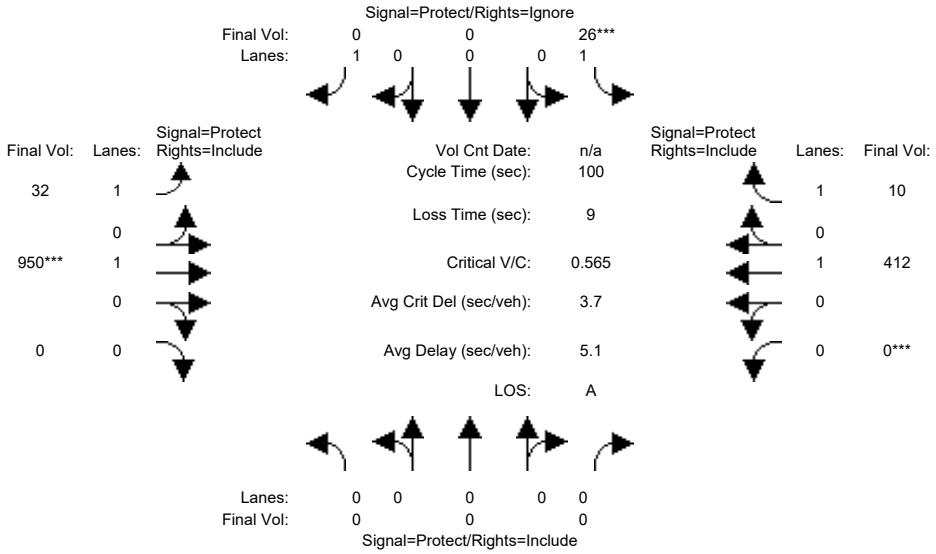
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	23	0	53	29	855	0	0	371	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	23	0	53	29	855	0	0	371	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	23	0	53	29	855	0	0	371	9
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	26	0	0	32	950	0	0	412	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	26	0	0	32	950	0	0	412	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	26	0	0	32	950	0	0	412	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.50	0.00	0.00	0.22	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	16.1	86.0	0.0	0.0	69.9	69.9
Volume/Cap:	0.00	0.00	0.00	0.29	0.00	0.00	0.11	0.58	0.00	0.00	0.31	0.01
Delay/Veh:	0.0	0.0	0.0	47.7	0.0	0.0	36.0	2.5	0.0	0.0	5.9	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	47.7	0.0	0.0	36.0	2.5	0.0	0.0	5.9	4.6
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	2	0	0	2	16	0	0	9	0

Note: Queue reported is the number of cars per lane.

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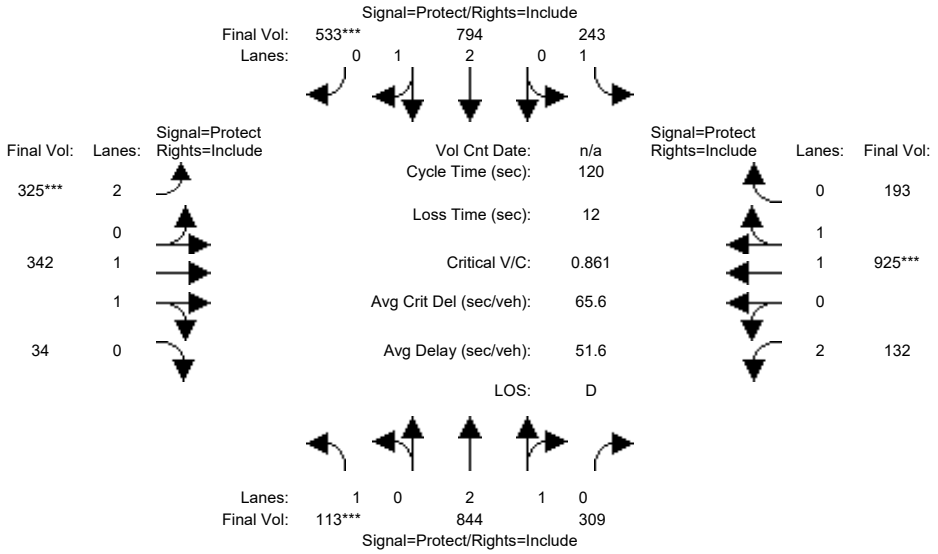
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module:												
Base Vol:	113	844	309	243	794	533	325	342	34	132	925	193
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	113	844	309	243	794	533	325	342	34	132	925	193
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	844	309	243	794	533	325	342	34	132	925	193
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	844	309	243	794	533	325	342	34	132	925	193
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	844	309	243	794	533	325	342	34	132	925	193
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	844	309	243	794	533	325	342	34	132	925	193
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.17	0.83	1.00	2.00	1.00	2.00	1.81	0.19	2.00	1.65	0.35
Final Sat.:	1750	4097	1500	1750	3800	1750	3150	3365	335	3150	3061	639
Capacity Analysis Module:												
Vol/Sat:	0.06	0.21	0.21	0.14	0.21	0.30	0.10	0.10	0.10	0.04	0.30	0.30
Crit Moves:	****					****	****				****	
Green Time:	20.0	34.0	34.0	22.7	36.6	36.6	15.0	29.3	29.3	22.0	36.4	36.4
Volume/Cap:	0.39	0.73	0.73	0.74	0.68	1.00	0.83	0.42	0.42	0.23	1.00	1.00
Delay/Veh:	45.4	40.6	40.6	54.2	37.6	65.7	64.5	38.4	38.4	42.0	68.0	68.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	40.6	40.6	54.2	37.6	65.7	64.5	38.4	38.4	42.0	68.0	68.0
LOS by Move:	D	D	D	D	D	E	E	D	D	D	E	E
HCM2k95thQ:	8	23	23	17	23	42	14	11	11	5	41	41

Note: Queue reported is the number of cars per lane.

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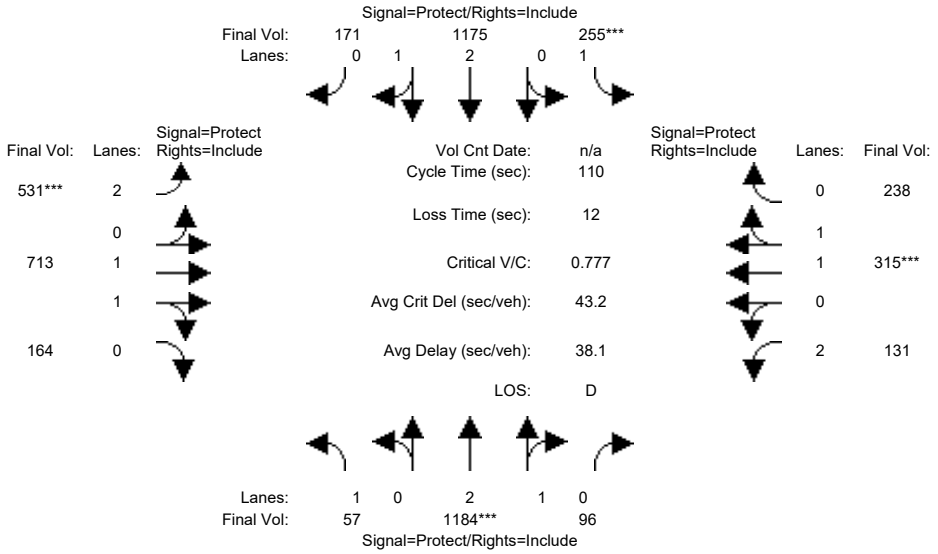
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	1184	96	255	1175	171	531	713	164	131	315	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	1184	96	255	1175	171	531	713	164	131	315	238
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	1184	96	255	1175	171	531	713	164	131	315	238
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	1184	96	255	1175	171	531	713	164	131	315	238
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	1184	96	255	1175	171	531	713	164	131	315	238
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	57	1184	96	255	1175	171	531	713	164	131	315	238
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	1.00	2.77	0.23	1.00	2.60	0.40	2.00	1.62	0.38	2.00	1.12	0.88
Final Sat.:	1750	5179	420	1750	4888	711	3150	3008	692	3150	2106	1592
Capacity Analysis Module:												
Vol/Sat:	0.03	0.23	0.23	0.15	0.24	0.24	0.17	0.24	0.24	0.04	0.15	0.15
Crit Moves:		****		****			****				****	
Green Time:	11.1	32.4	32.4	20.6	41.9	41.9	23.9	35.5	35.5	9.5	21.2	21.2
Volume/Cap:	0.32	0.78	0.78	0.78	0.63	0.63	0.78	0.73	0.73	0.48	0.78	0.78
Delay/Veh:	47.0	37.9	37.9	53.7	28.4	28.4	46.2	35.5	35.5	49.2	47.6	47.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.0	37.9	37.9	53.7	28.4	28.4	46.2	35.5	35.5	49.2	47.6	47.6
LOS by Move:	D	D	D	D	C	C	D	D	D	D	D	D
HCM2k95thQ:	4	24	24	17	22	22	19	24	24	5	18	18

Note: Queue reported is the number of cars per lane.

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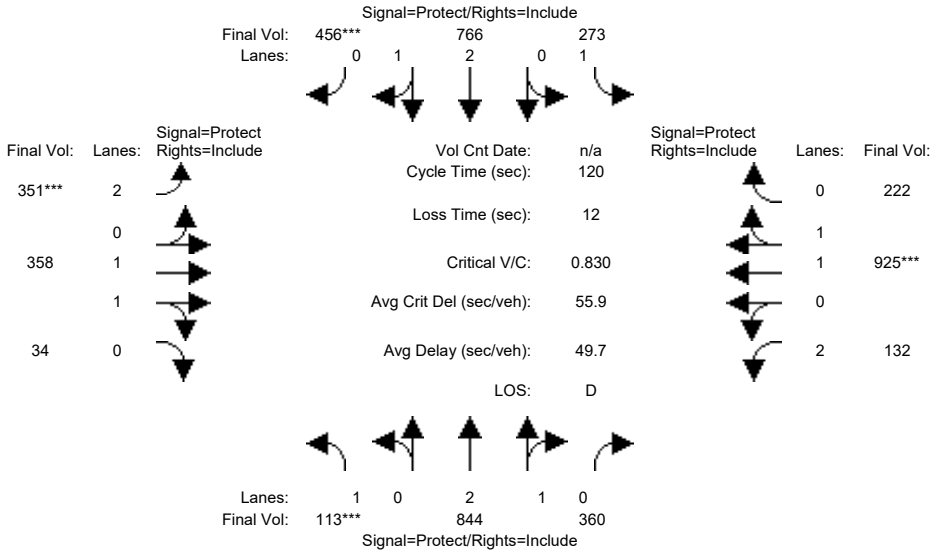
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module:												
Base Vol:	113	844	360	273	766	456	351	358	34	132	925	222
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	113	844	360	273	766	456	351	358	34	132	925	222
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	844	360	273	766	456	351	358	34	132	925	222
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	844	360	273	766	456	351	358	34	132	925	222
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	844	360	273	766	456	351	358	34	132	925	222
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	844	360	273	766	456	351	358	34	132	925	222
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.07	0.93	1.00	2.00	1.00	2.00	1.82	0.18	2.00	1.60	0.40
Final Sat.:	1750	3923	1673	1750	3800	1750	3150	3379	321	3150	2983	716
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.22	0.16	0.20	0.26	0.11	0.11	0.11	0.04	0.31	0.31
Crit Moves:	****					****	****				****	
Green Time:	20.0	32.0	32.0	21.3	33.3	33.3	15.0	31.2	31.2	23.4	39.7	39.7
Volume/Cap:	0.39	0.81	0.81	0.88	0.73	0.94	0.89	0.41	0.41	0.21	0.94	0.94
Delay/Veh:	45.4	44.5	44.5	71.4	40.8	55.2	73.2	37.0	37.0	40.7	52.5	52.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	44.5	44.5	71.4	40.8	55.2	73.2	37.0	37.0	40.7	52.5	52.5
LOS by Move:	D	D	D	E	D	E	E	D	D	D	D	D
HCM2k95thQ:	8	25	25	21	23	34	16	11	11	5	38	38

Note: Queue reported is the number of cars per lane.

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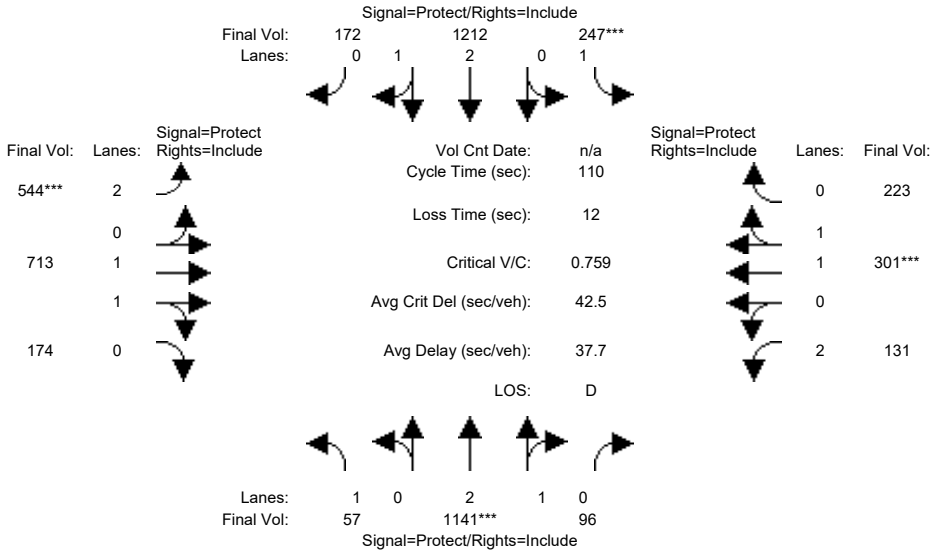
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	1141	96	247	1212	172	544	713	174	131	301	223
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	1141	96	247	1212	172	544	713	174	131	301	223
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	1141	96	247	1212	172	544	713	174	131	301	223
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	57	1141	96	247	1212	172	544	713	174	131	301	223
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	1141	96	247	1212	172	544	713	174	131	301	223
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	57	1141	96	247	1212	172	544	713	174	131	301	223
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	1.00	2.76	0.24	1.00	2.61	0.39	2.00	1.60	0.40	2.00	1.13	0.87
Final Sat.:	1750	5165	435	1750	4903	696	3150	2974	726	3150	2124	1574
Capacity Analysis Module:												
Vol/Sat:	0.03	0.22	0.22	0.14	0.25	0.25	0.17	0.24	0.24	0.04	0.14	0.14
Crit Moves:		****		****			****				****	
Green Time:	10.7	32.0	32.0	20.4	41.7	41.7	25.0	36.0	36.0	9.6	20.5	20.5
Volume/Cap:	0.33	0.76	0.76	0.76	0.65	0.65	0.76	0.73	0.73	0.48	0.76	0.76
Delay/Veh:	47.4	37.6	37.6	52.4	28.9	28.9	44.4	35.1	35.1	49.2	47.3	47.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	37.6	37.6	52.4	28.9	28.9	44.4	35.1	35.1	49.2	47.3	47.3
LOS by Move:	D	D	D	D	C	C	D	D	D	D	D	D
HCM2k95thQ:	4	24	24	16	23	23	19	24	24	5	17	17

Note: Queue reported is the number of cars per lane.

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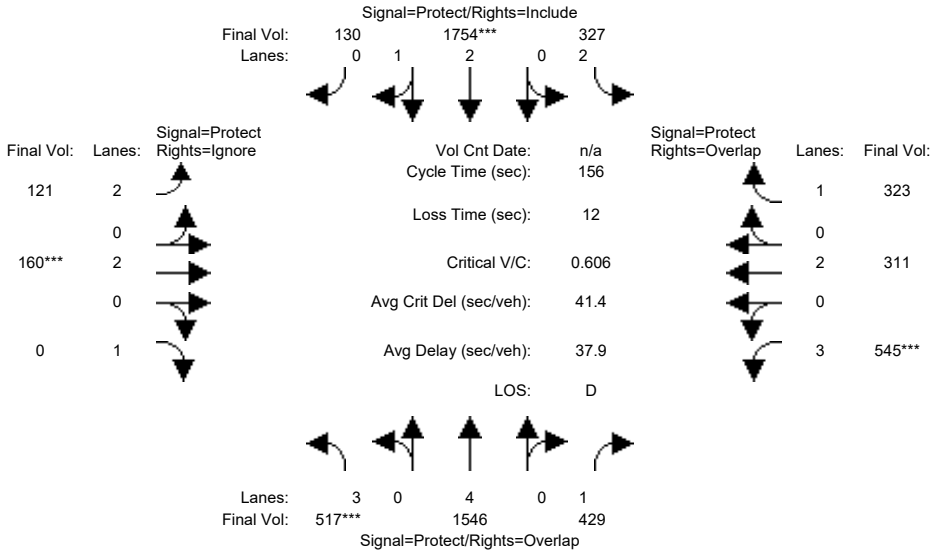
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	517	1546	429	327	1754	130	121	160	309	545	311	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	517	1546	429	327	1754	130	121	160	309	545	311	323
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	517	1546	429	327	1754	130	121	160	309	545	311	323
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	517	1546	429	327	1754	130	121	160	0	545	311	323
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	517	1546	429	327	1754	130	121	160	0	545	311	323
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	517	1546	429	327	1754	130	121	160	0	545	311	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.79	0.21	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5307	393	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.23	0.09	0.33	0.33	0.03	0.04	0.00	0.10	0.08	0.17
Crit Moves:	****				****			****		****		
Green Time:	23.4	76.3	100.9	32.3	85.2	85.2	9.8	10.8	0.0	24.6	25.7	58.0
Volume/Cap:	0.61	0.42	0.35	0.42	0.61	0.61	0.51	0.61	0.00	0.61	0.50	0.46
Delay/Veh:	65.2	25.9	13.4	55.3	24.9	24.9	78.4	80.4	0.0	64.2	62.0	39.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.2	25.9	13.4	55.3	24.9	24.9	78.4	80.4	0.0	64.2	62.0	39.2
LOS by Move:	E	C	B	E	C	C	E	F	A	E	E	D
HCM2k95thQ:	14	20	17	12	30	30	6	8	0	15	13	20

Note: Queue reported is the number of cars per lane.

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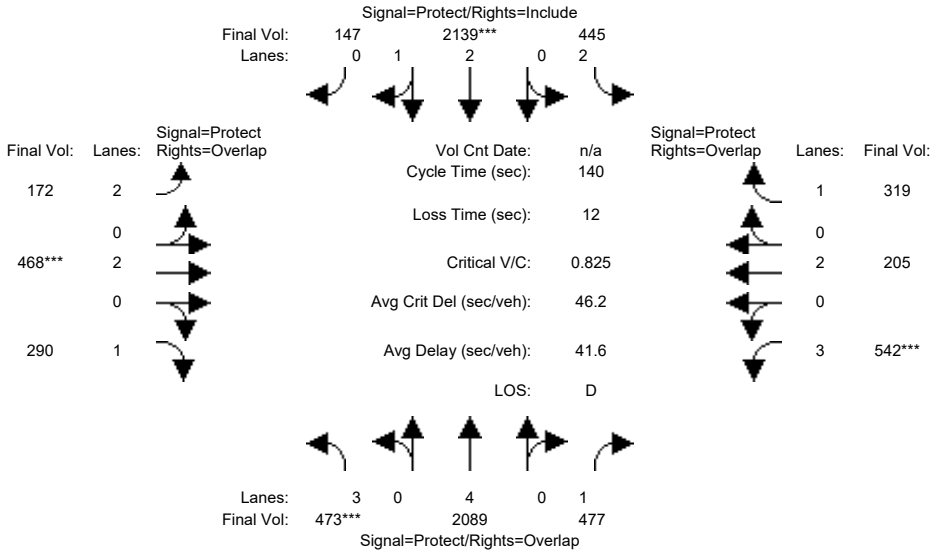
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	473	2089	477	445	2139	147	172	468	290	542	205	319
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	473	2089	477	445	2139	147	172	468	290	542	205	319
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	473	2089	477	445	2139	147	172	468	290	542	205	319
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	473	2089	477	445	2139	147	172	468	290	542	205	319
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	473	2089	477	445	2139	147	172	468	290	542	205	319
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	473	2089	477	445	2139	147	172	468	290	542	205	319
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.80	0.20	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5239	360	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.27	0.14	0.41	0.41	0.05	0.12	0.17	0.12	0.05	0.18
Crit Moves:	****				****			****		****		
Green Time:	17.6	57.4	77.6	29.5	69.3	69.3	17.8	20.9	38.5	20.2	23.3	52.8
Volume/Cap:	0.83	0.67	0.49	0.67	0.83	0.83	0.43	0.83	0.60	0.83	0.32	0.48
Delay/Veh:	69.2	34.2	19.5	53.5	32.3	32.3	57.1	67.4	46.2	66.6	51.7	33.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.2	34.2	19.5	53.5	32.3	32.3	57.1	67.4	46.2	66.6	51.7	33.8
LOS by Move:	E	C	B	D	C	C	E	E	D	E	D	C
HCM2k95thQ:	17	31	24	18	43	43	8	19	21	18	7	20

Note: Queue reported is the number of cars per lane.

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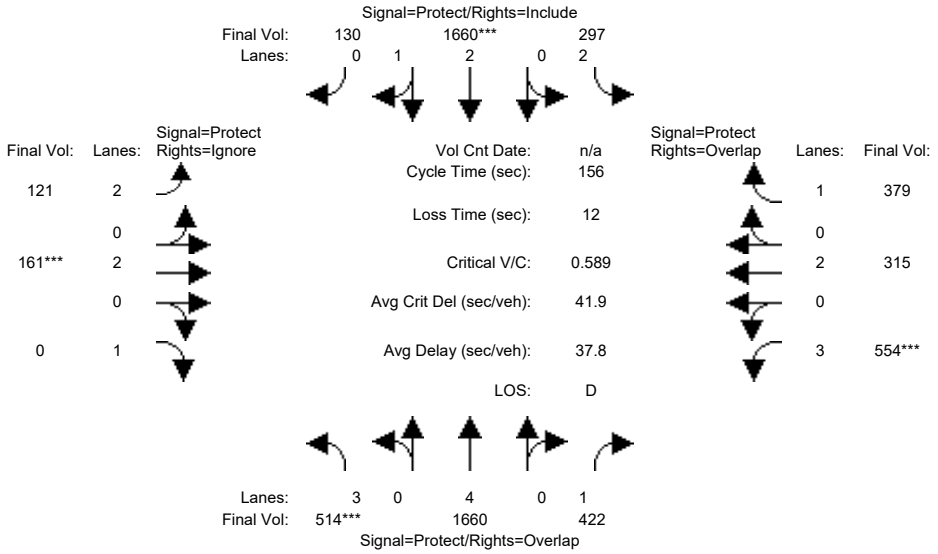
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	514	1660	422	297	1660	130	121	161	314	554	315	379
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	514	1660	422	297	1660	130	121	161	314	554	315	379
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	514	1660	422	297	1660	130	121	161	314	554	315	379
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	514	1660	422	297	1660	130	121	161	0	554	315	379
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	514	1660	422	297	1660	130	121	161	0	554	315	379
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	514	1660	422	297	1660	130	121	161	0	554	315	379
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.78	0.22	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5286	414	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.22	0.22	0.08	0.31	0.31	0.03	0.04	0.00	0.10	0.08	0.20
Crit Moves:	****				****			****		****		
Green Time:	23.9	78.8	104.6	28.2	83.2	83.2	7.7	11.2	0.0	25.7	29.3	57.5
Volume/Cap:	0.59	0.43	0.33	0.43	0.59	0.59	0.65	0.59	0.00	0.59	0.44	0.54
Delay/Veh:	64.4	24.8	11.6	58.8	25.6	25.6	88.8	79.2	0.0	62.9	58.1	41.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.4	24.8	11.6	58.8	25.6	25.6	88.8	79.2	0.0	62.9	58.1	41.8
LOS by Move:	E	C	B	E	C	C	F	E	A	E	E	D
HCM2k95thQ:	14	21	15	11	29	29	7	8	0	15	12	24

Note: Queue reported is the number of cars per lane.

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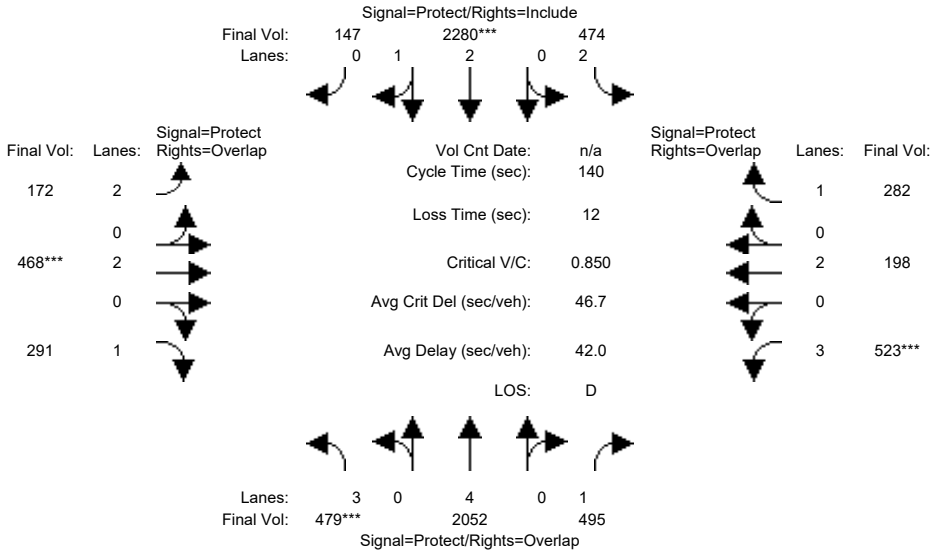
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	479	2052	495	474	2280	147	172	468	291	523	198	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	479	2052	495	474	2280	147	172	468	291	523	198	282
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	479	2052	495	474	2280	147	172	468	291	523	198	282
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	479	2052	495	474	2280	147	172	468	291	523	198	282
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	2052	495	474	2280	147	172	468	291	523	198	282
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	2052	495	474	2280	147	172	468	291	523	198	282
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.81	0.19	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5260	339	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.27	0.28	0.15	0.43	0.43	0.05	0.12	0.17	0.11	0.05	0.16
Crit Moves:	****				****			****		****		
Green Time:	17.3	57.0	75.9	31.8	71.4	71.4	17.0	20.3	37.6	18.9	22.2	54.0
Volume/Cap:	0.85	0.66	0.52	0.66	0.85	0.85	0.45	0.85	0.62	0.85	0.33	0.42
Delay/Veh:	71.7	34.3	21.0	51.6	32.2	32.2	58.0	70.3	47.4	70.0	52.6	31.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.7	34.3	21.0	51.6	32.2	32.2	58.0	70.3	47.4	70.0	52.6	31.9
LOS by Move:	E	C	C	D	C	C	E	E	D	E	D	C
HCM2k95thQ:	17	30	25	19	46	46	8	19	21	18	7	17

Note: Queue reported is the number of cars per lane.

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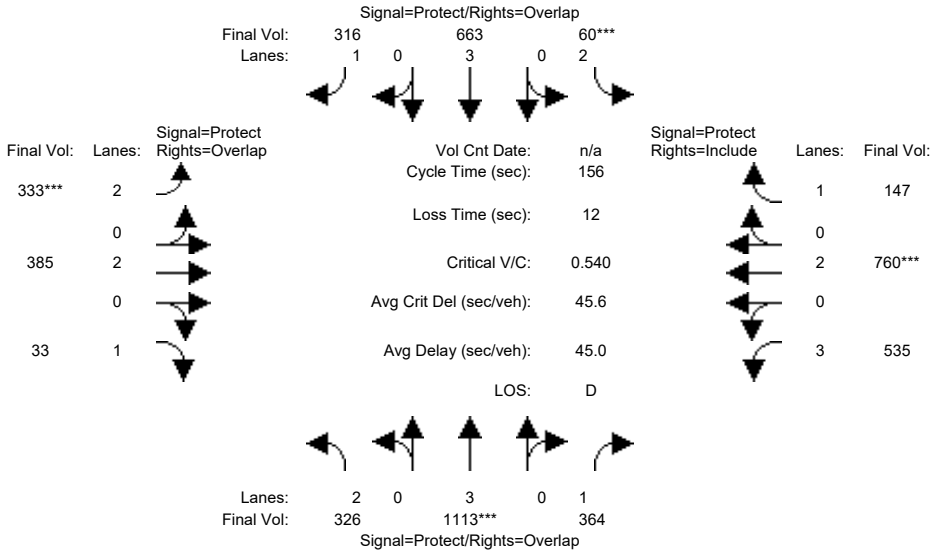
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	326	1113	364	60	663	316	333	385	33	535	760	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	1113	364	60	663	316	333	385	33	535	760	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	1113	364	60	663	316	333	385	33	535	760	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	1113	364	60	663	316	333	385	33	535	760	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	1113	364	60	663	316	333	385	33	535	760	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	1113	364	60	663	316	333	385	33	535	760	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5700	1900	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.20	0.19	0.02	0.12	0.17	0.09	0.10	0.02	0.09	0.20	0.08
Crit Moves:		****		****			****				****	
Green Time:	26.5	55.4	94.6	7.0	35.9	60.8	24.9	42.4	68.8	39.2	56.7	56.7
Volume/Cap:	0.51	0.55	0.32	0.35	0.51	0.43	0.55	0.37	0.04	0.37	0.55	0.21
Delay/Veh:	61.6	41.4	15.6	77.9	53.7	36.7	64.0	47.1	24.9	49.0	41.1	34.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.6	41.4	15.6	77.9	53.7	36.7	64.0	47.1	24.9	49.0	41.1	34.9
LOS by Move:	E	D	B	E	D	D	E	D	C	D	D	C
HCM2k95thQ:	13	24	15	3	16	19	14	13	2	13	24	9

Note: Queue reported is the number of cars per lane.

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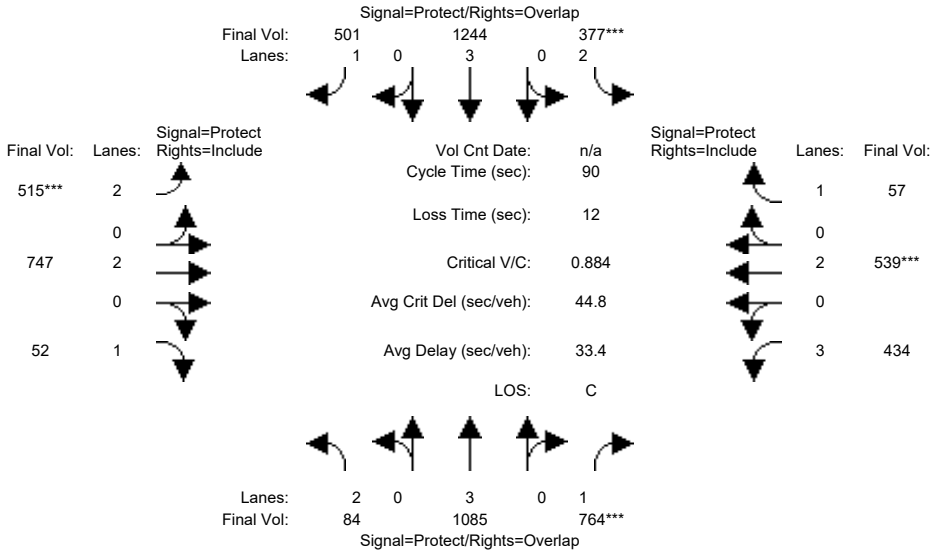
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	84	1085	764	377	1244	501	515	747	52	434	539	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	1085	764	377	1244	501	515	747	52	434	539	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	1085	764	377	1244	501	515	747	52	434	539	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	1085	764	377	1244	501	515	747	52	434	539	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	1085	764	377	1244	501	515	747	52	434	539	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	1085	764	377	1244	501	515	747	52	434	539	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.19	0.44	0.12	0.22	0.29	0.16	0.20	0.03	0.10	0.14	0.03
Crit Moves:			****	****			****				****	
Green Time:	12.3	34.7	44.9	12.2	34.6	51.2	16.6	20.9	20.9	10.2	14.4	14.4
Volume/Cap:	0.19	0.49	0.88	0.88	0.57	0.50	0.88	0.85	0.13	0.85	0.88	0.20
Delay/Veh:	34.7	21.1	29.9	57.4	22.2	12.1	50.7	40.5	27.5	51.4	51.3	33.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.7	21.1	29.9	57.4	22.2	12.1	50.7	40.5	27.5	51.4	51.3	33.1
LOS by Move:	C	C	C	E	C	B	D	D	C	D	D	C
HCM2k95thQ:	2	14	37	13	16	16	17	19	2	11	16	3

Note: Queue reported is the number of cars per lane.

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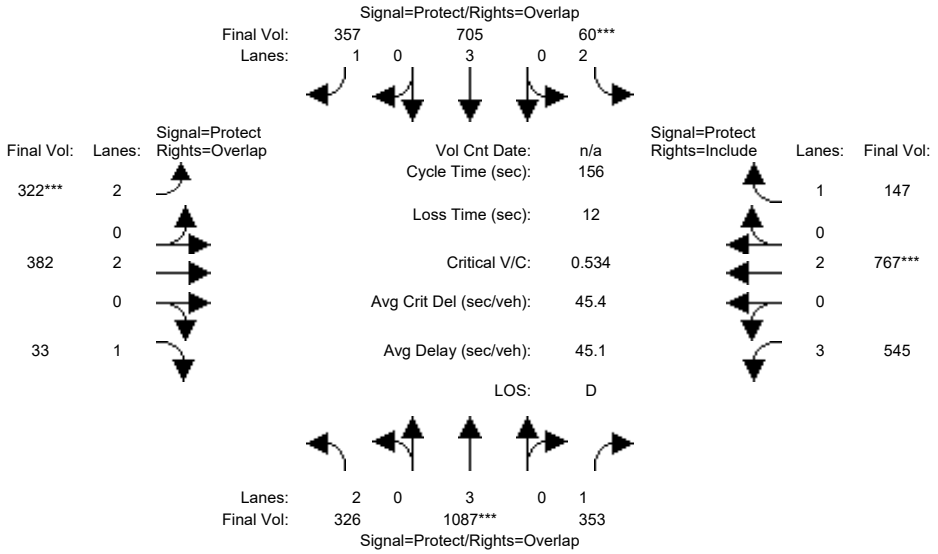
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	326	1087	353	60	705	357	322	382	33	545	767	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	1087	353	60	705	357	322	382	33	545	767	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	1087	353	60	705	357	322	382	33	545	767	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	1087	353	60	705	357	322	382	33	545	767	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	1087	353	60	705	357	322	382	33	545	767	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	1087	353	60	705	357	322	382	33	545	767	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5700	1900	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.19	0.02	0.12	0.19	0.08	0.10	0.02	0.10	0.20	0.08
Crit Moves:		****		****			****				****	
Green Time:	25.3	54.7	94.8	7.0	36.5	60.8	24.3	42.2	67.4	40.1	57.9	57.9
Volume/Cap:	0.53	0.54	0.31	0.35	0.53	0.48	0.54	0.37	0.04	0.37	0.54	0.21
Delay/Veh:	63.1	41.7	15.4	77.9	53.8	38.0	64.3	47.2	25.7	48.3	40.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	63.1	41.7	15.4	77.9	53.8	38.0	64.3	47.2	25.7	48.3	40.1	34.1
LOS by Move:	E	D	B	E	D	D	E	D	C	D	D	C
HCM2k95thQ:	13	23	15	3	17	21	13	13	2	13	24	9

Note: Queue reported is the number of cars per lane.

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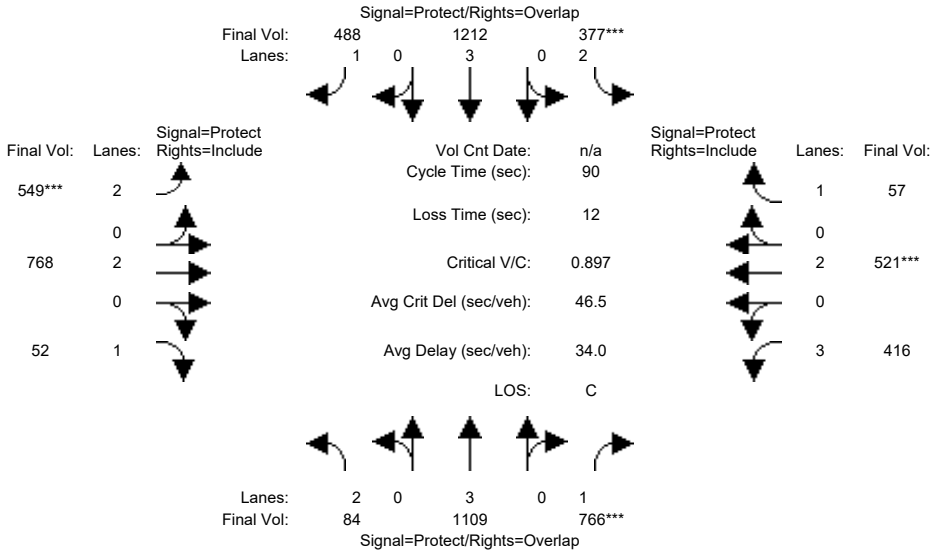
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	84	1109	766	377	1212	488	549	768	52	416	521	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	84	1109	766	377	1212	488	549	768	52	416	521	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	84	1109	766	377	1212	488	549	768	52	416	521	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	84	1109	766	377	1212	488	549	768	52	416	521	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	84	1109	766	377	1212	488	549	768	52	416	521	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	84	1109	766	377	1212	488	549	768	52	416	521	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.19	0.44	0.12	0.21	0.28	0.17	0.20	0.03	0.09	0.14	0.03
Crit Moves:			****	****			****				****	
Green Time:	12.5	34.7	44.5	12.0	34.2	51.7	17.5	21.5	21.5	9.7	13.8	13.8
Volume/Cap:	0.19	0.50	0.89	0.90	0.56	0.49	0.90	0.85	0.12	0.85	0.90	0.21
Delay/Veh:	34.5	21.2	31.4	59.7	22.3	11.7	51.3	40.0	27.0	52.1	54.0	33.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.5	21.2	31.4	59.7	22.3	11.7	51.3	40.0	27.0	52.1	54.0	33.8
LOS by Move:	C	C	C	E	C	B	D	D	C	D	D	C
HCM2k95thQ:	2	14	38	14	16	16	18	20	2	10	15	3

Note: Queue reported is the number of cars per lane.

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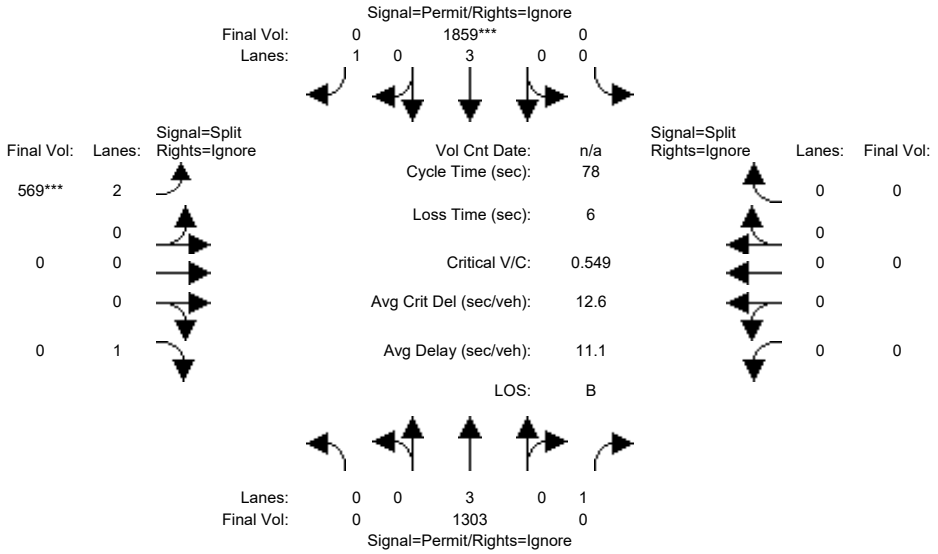
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1303	252	0	1859	571	569	0	549	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1303	252	0	1859	571	569	0	549	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1303	252	0	1859	571	569	0	549	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1303	0	0	1859	0	569	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1303	0	0	1859	0	569	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1303	0	0	1859	0	569	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.23	0.00	0.00	0.33	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	0.0	46.3	0.0	0.0	46.3	0.0	25.7	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.38	0.00	0.00	0.55	0.00	0.55	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.4	0.0	0.0	9.7	0.0	22.1	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.4	0.0	0.0	9.7	0.0	22.1	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	10	0	0	16	0	14	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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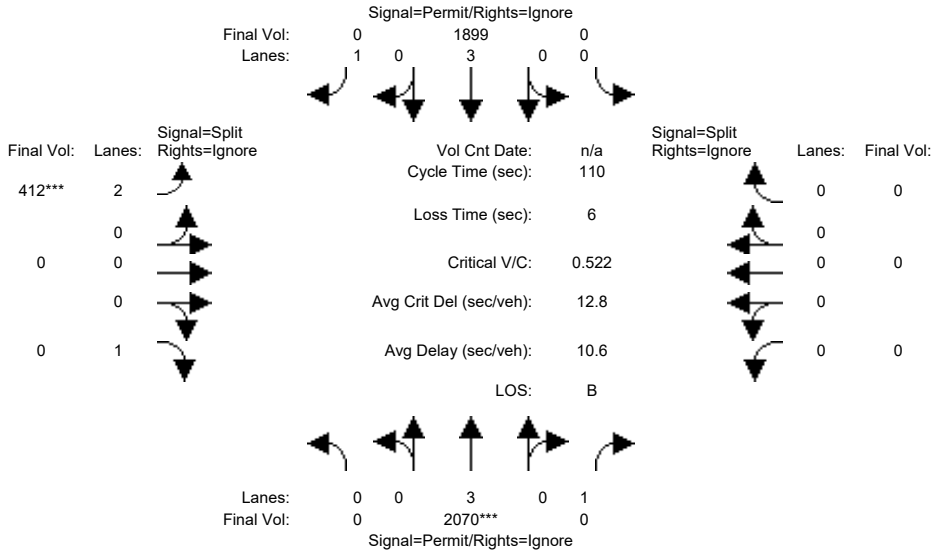
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	2070	789	0	1899	762	412	0	275	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2070	789	0	1899	762	412	0	275	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2070	789	0	1899	762	412	0	275	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2070	0	0	1899	0	412	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2070	0	0	1899	0	412	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2070	0	0	1899	0	412	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.00	0.00	0.33	0.00	0.13	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	0.0	76.5	0.0	0.0	76.5	0.0	27.5	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.52	0.00	0.00	0.48	0.00	0.52	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.2	0.0	0.0	7.8	0.0	36.2	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.2	0.0	0.0	7.8	0.0	36.2	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	19	0	0	18	0	14	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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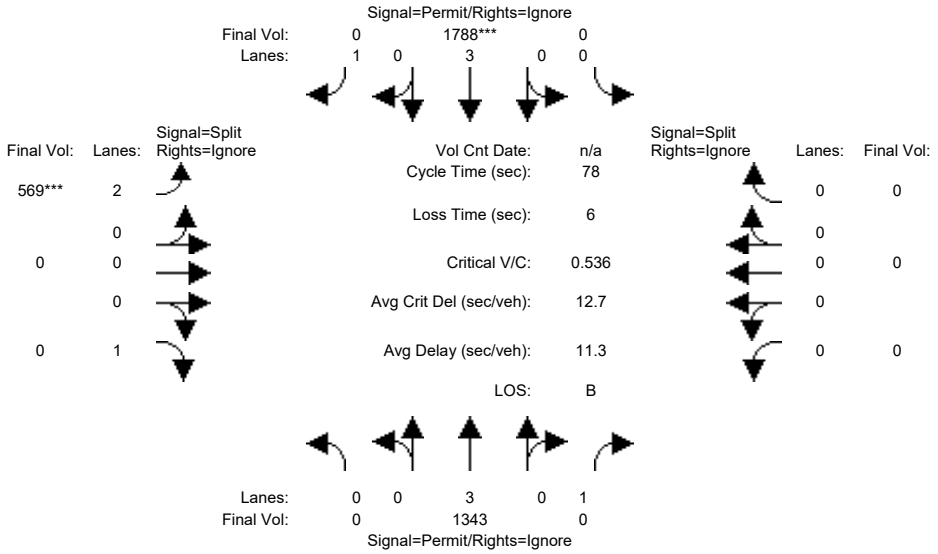
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1343	251	0	1788	549	569	0	543	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1343	251	0	1788	549	569	0	543	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1343	251	0	1788	549	569	0	543	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1343	0	0	1788	0	569	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1343	0	0	1788	0	569	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1343	0	0	1788	0	569	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.00	0.00	0.31	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	0.0	45.7	0.0	0.0	45.7	0.0	26.3	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.40	0.00	0.00	0.54	0.00	0.54	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.8	0.0	0.0	9.9	0.0	21.4	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.8	0.0	0.0	9.9	0.0	21.4	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	11	0	0	16	0	14	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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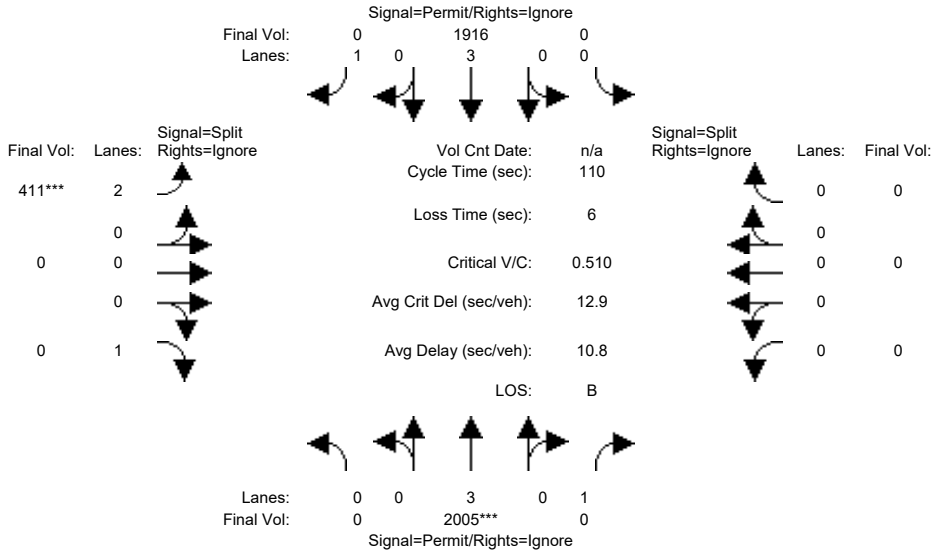
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	2005	789	0	1916	801	411	0	278	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2005	789	0	1916	801	411	0	278	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2005	789	0	1916	801	411	0	278	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2005	0	0	1916	0	411	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2005	0	0	1916	0	411	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2005	0	0	1916	0	411	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5700	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.00	0.00	0.34	0.00	0.13	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	0.0	75.9	0.0	0.0	75.9	0.0	28.1	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.51	0.00	0.00	0.49	0.00	0.51	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.3	0.0	0.0	8.1	0.0	35.6	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.3	0.0	0.0	8.1	0.0	35.6	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	19	0	0	18	0	14	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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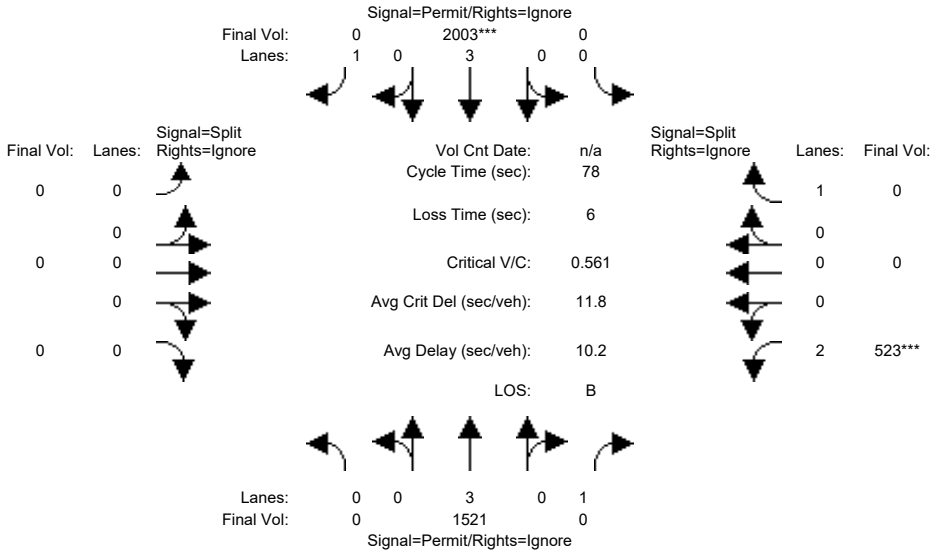
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module:												
Base Vol:	0	1521	240	0	2003	567	0	0	0	523	0	1136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1521	240	0	2003	567	0	0	0	523	0	1136
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1521	240	0	2003	567	0	0	0	523	0	1136
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1521	0	0	2003	0	0	0	0	523	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1521	0	0	2003	0	0	0	0	523	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1521	0	0	2003	0	0	0	0	523	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	48.9	0.0	0.0	48.9	0.0	0.0	0.0	0.0	23.1	0.0	0.0
Volume/Cap:	0.00	0.43	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.56	0.00	0.00
Delay/Veh:	0.0	7.5	0.0	0.0	8.6	0.0	0.0	0.0	0.0	23.9	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	7.5	0.0	0.0	8.6	0.0	0.0	0.0	0.0	23.9	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2k95thQ:	0	12	0	0	17	0	0	0	0	13	0	0

Note: Queue reported is the number of cars per lane.

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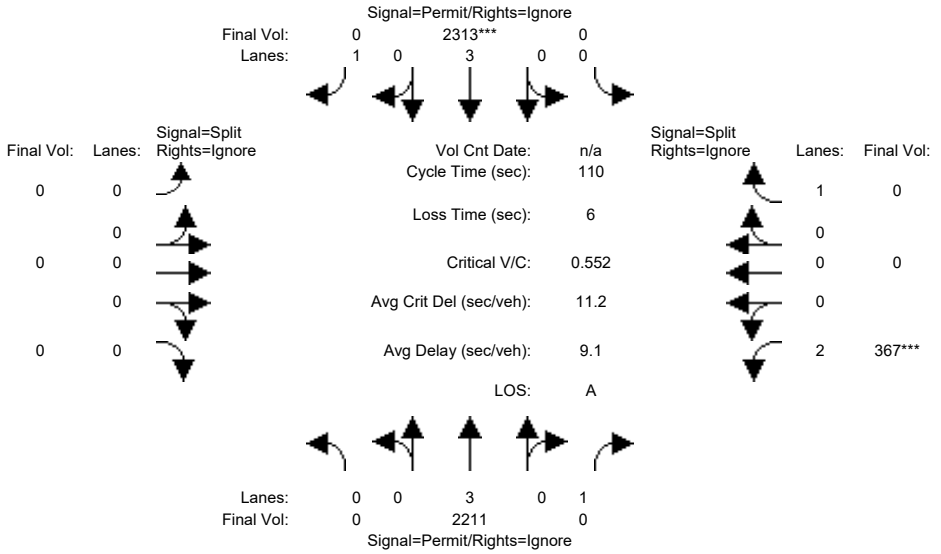
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:5:00 - 6:00 PM												
Base Vol:	0	2211	310	0	2313	763	0	0	0	367	0	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2211	310	0	2313	763	0	0	0	367	0	936
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2211	310	0	2313	763	0	0	0	367	0	936
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2211	0	0	2313	0	0	0	0	367	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2211	0	0	2313	0	0	0	0	367	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2211	0	0	2313	0	0	0	0	367	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.39	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	80.8	0.0	0.0	80.8	0.0	0.0	0.0	0.0	23.2	0.0	0.0
Volume/Cap:	0.00	0.53	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.55	0.00	0.00
Delay/Veh:	0.0	6.5	0.0	0.0	6.7	0.0	0.0	0.0	0.0	39.8	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.5	0.0	0.0	6.7	0.0	0.0	0.0	0.0	39.8	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	20	0	0	21	0	0	0	0	14	0	0

Note: Queue reported is the number of cars per lane.

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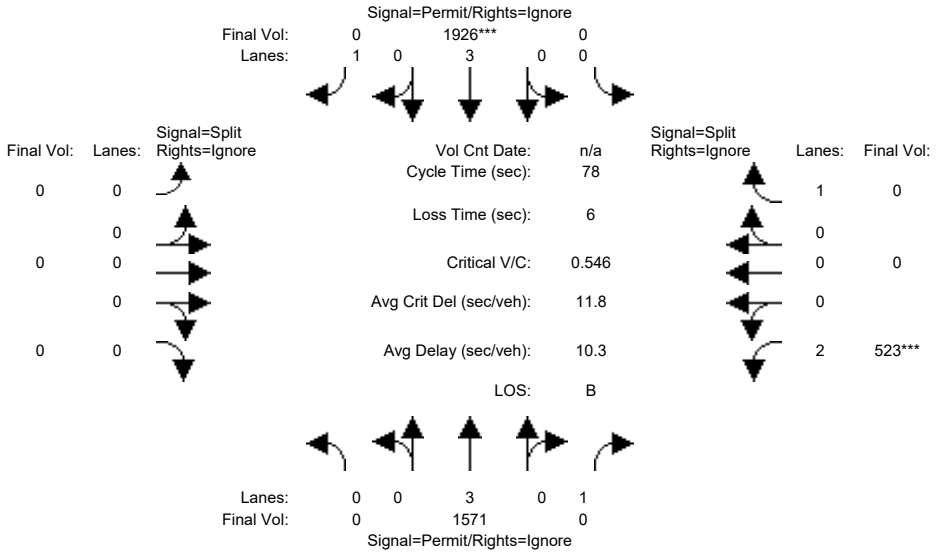
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module:												
Base Vol:	0	1571	241	0	1926	550	0	0	0	523	0	1189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1571	241	0	1926	550	0	0	0	523	0	1189
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1571	241	0	1926	550	0	0	0	523	0	1189
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	1571	0	0	1926	0	0	0	0	523	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1571	0	0	1926	0	0	0	0	523	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	1571	0	0	1926	0	0	0	0	523	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	48.3	0.0	0.0	48.3	0.0	0.0	0.0	0.0	23.7	0.0	0.0
Volume/Cap:	0.00	0.45	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.55	0.00	0.00
Delay/Veh:	0.0	7.9	0.0	0.0	8.7	0.0	0.0	0.0	0.0	23.3	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	7.9	0.0	0.0	8.7	0.0	0.0	0.0	0.0	23.3	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2k95thQ:	0	12	0	0	16	0	0	0	0	13	0	0

Note: Queue reported is the number of cars per lane.

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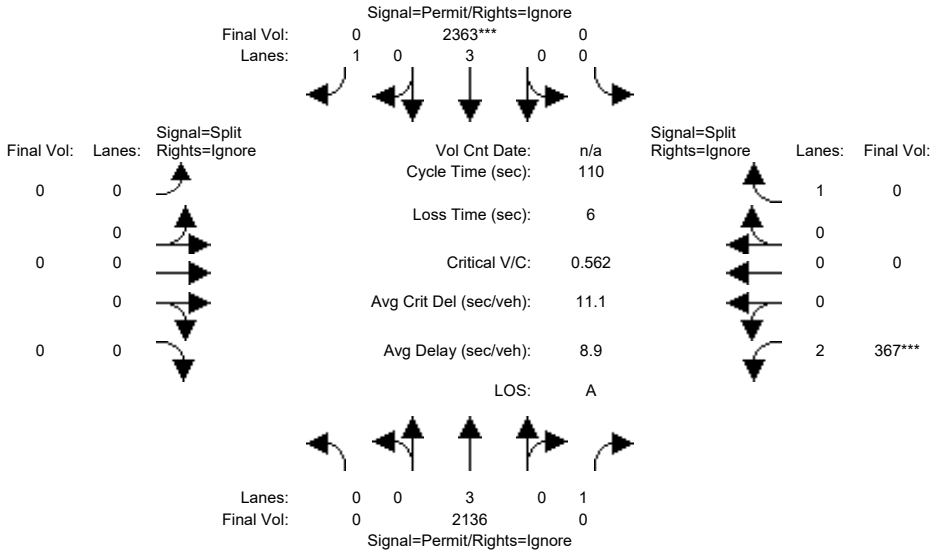
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:5:00 - 6:00 PM												
Base Vol:	0	2136	319	0	2363	813	0	0	0	367	0	899
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2136	319	0	2363	813	0	0	0	367	0	899
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2136	319	0	2363	813	0	0	0	367	0	899
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2136	0	0	2363	0	0	0	0	367	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2136	0	0	2363	0	0	0	0	367	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2136	0	0	2363	0	0	0	0	367	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.00	0.00	0.41	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	81.2	0.0	0.0	81.2	0.0	0.0	0.0	0.0	22.8	0.0	0.0
Volume/Cap:	0.00	0.51	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.56	0.00	0.00
Delay/Veh:	0.0	6.1	0.0	0.0	6.6	0.0	0.0	0.0	0.0	40.2	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6.1	0.0	0.0	6.6	0.0	0.0	0.0	0.0	40.2	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	18	0	0	22	0	0	0	0	14	0	0

Note: Queue reported is the number of cars per lane.

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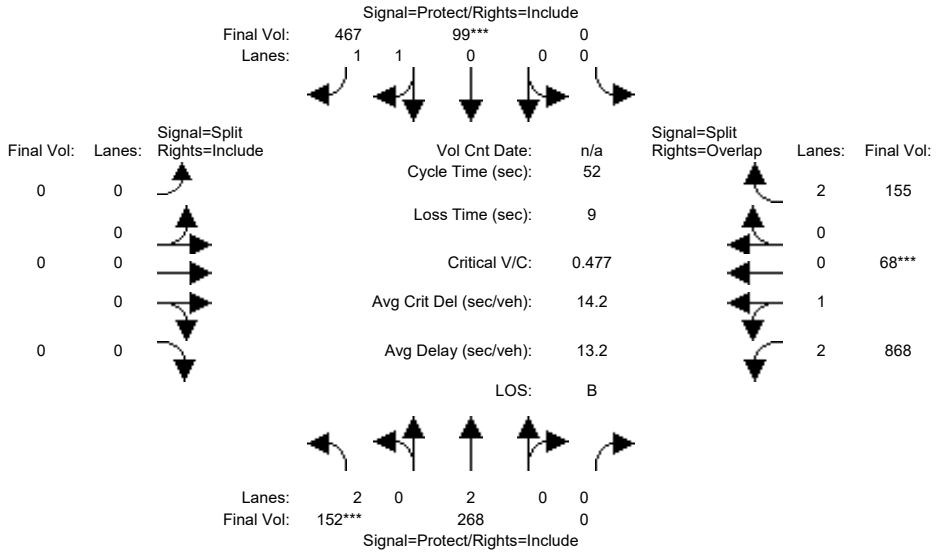
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	152	268	0	0	99	467	0	0	0	868	68	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	268	0	0	99	467	0	0	0	868	68	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	268	0	0	99	467	0	0	0	868	68	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	152	268	0	0	99	467	0	0	0	868	68	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	268	0	0	99	467	0	0	0	868	68	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	152	268	0	0	99	467	0	0	0	868	68	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.86	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.35	1.65	0.00	0.00	0.00	2.80	0.20	2.00
Final Sat.:	3150	3800	0	0	630	2970	0	0	0	4588	359	3150
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.19	0.19	0.05
Crit Moves:	****				****						****	
Green Time:	7.0	23.3	0.0	0.0	16.3	16.3	0.0	0.0	0.0	19.7	19.7	19.7
Volume/Cap:	0.36	0.16	0.00	0.00	0.50	0.50	0.00	0.00	0.00	0.50	0.50	0.13
Delay/Veh:	21.0	8.5	0.0	0.0	14.9	14.9	0.0	0.0	0.0	12.6	12.6	10.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	8.5	0.0	0.0	14.9	14.9	0.0	0.0	0.0	12.6	12.6	10.6
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	B
HCM2k95thQ:	3	3	0	0	8	8	0	0	0	10	10	2

Note: Queue reported is the number of cars per lane.

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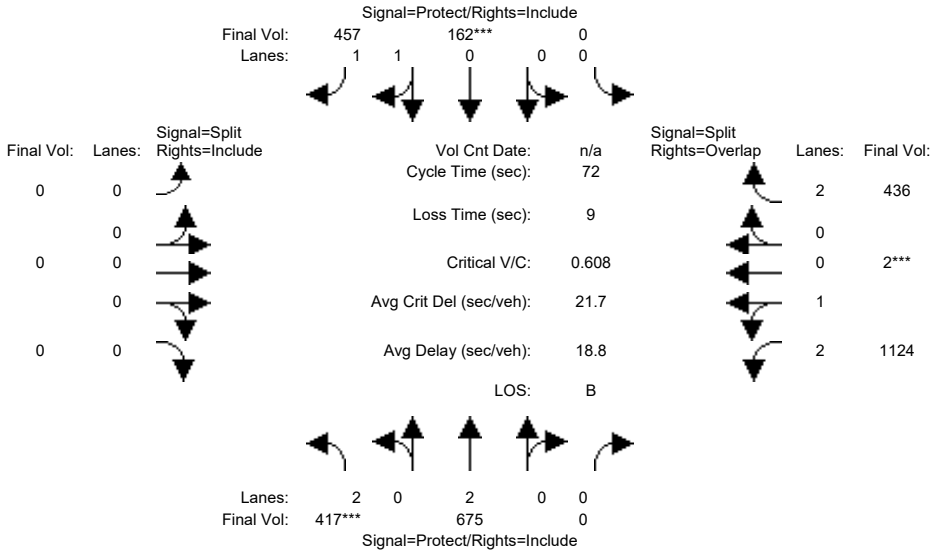
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	417	675	0	0	162	457	0	0	0	1124	2	436
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	417	675	0	0	162	457	0	0	0	1124	2	436
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	417	675	0	0	162	457	0	0	0	1124	2	436
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	417	675	0	0	162	457	0	0	0	1124	2	436
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	417	675	0	0	162	457	0	0	0	1124	2	436
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	417	675	0	0	162	457	0	0	0	1124	2	436
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.87	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.52	1.48	0.00	0.00	0.00	2.99	0.01	2.00
Final Sat.:	3150	3800	0	0	942	2658	0	0	0	4941	9	3150
Capacity Analysis Module:												
Vol/Sat:	0.13	0.18	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.23	0.23	0.14
Crit Moves:	****				****						****	
Green Time:	15.7	36.1	0.0	0.0	20.4	20.4	0.0	0.0	0.0	26.9	26.9	26.9
Volume/Cap:	0.61	0.35	0.00	0.00	0.61	0.61	0.00	0.00	0.00	0.61	0.61	0.37
Delay/Veh:	27.0	11.0	0.0	0.0	23.4	23.4	0.0	0.0	0.0	18.8	18.8	16.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.0	11.0	0.0	0.0	23.4	23.4	0.0	0.0	0.0	18.8	18.8	16.6
LOS by Move:	C	B	A	A	C	C	A	A	A	B	B	B
HCM2k95thQ:	10	9	0	0	12	12	0	0	0	16	16	9

Note: Queue reported is the number of cars per lane.

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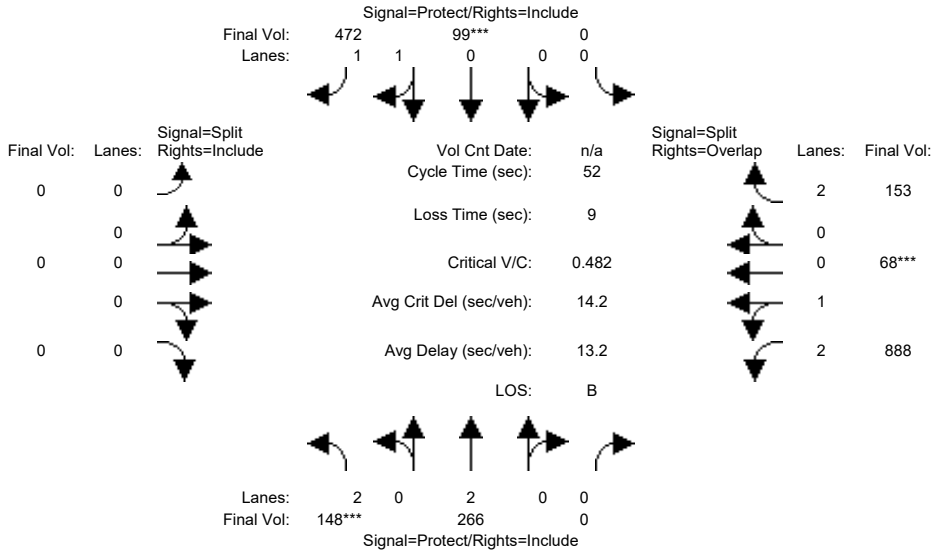
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	148	266	0	0	99	472	0	0	0	888	68	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	266	0	0	99	472	0	0	0	888	68	153
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	148	266	0	0	99	472	0	0	0	888	68	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	148	266	0	0	99	472	0	0	0	888	68	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	148	266	0	0	99	472	0	0	0	888	68	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	148	266	0	0	99	472	0	0	0	888	68	153
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.86	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.35	1.65	0.00	0.00	0.00	2.80	0.20	2.00
Final Sat.:	3150	3800	0	0	624	2976	0	0	0	4595	352	3150
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.00	0.00	0.16	0.16	0.00	0.00	0.00	0.19	0.19	0.05
Crit Moves:	****				****						****	
Green Time:	7.0	23.2	0.0	0.0	16.2	16.2	0.0	0.0	0.0	19.8	19.8	19.8
Volume/Cap:	0.35	0.16	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.51	0.51	0.13
Delay/Veh:	20.9	8.6	0.0	0.0	15.0	15.0	0.0	0.0	0.0	12.6	12.6	10.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	8.6	0.0	0.0	15.0	15.0	0.0	0.0	0.0	12.6	12.6	10.5
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	B
HCM2k95thQ:	3	3	0	0	8	8	0	0	0	10	10	2

Note: Queue reported is the number of cars per lane.

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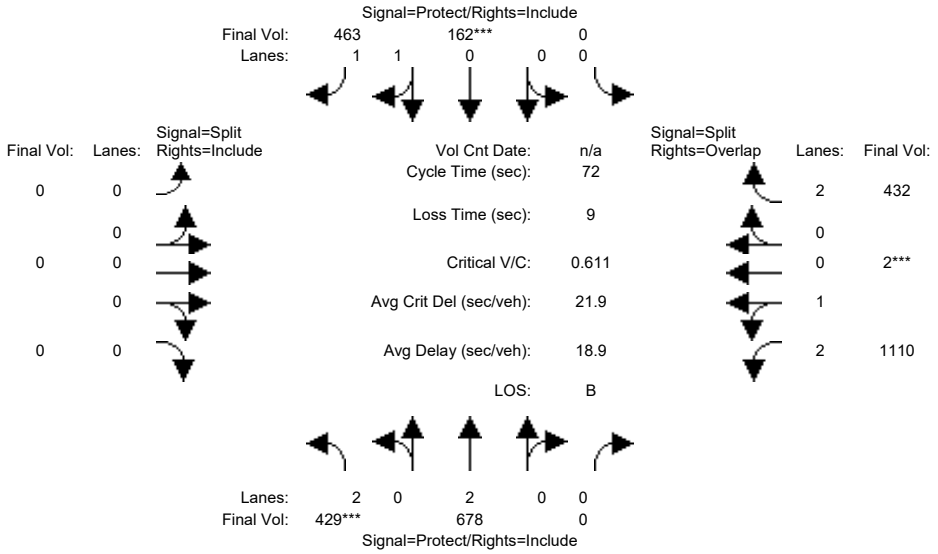
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	429	678	0	0	162	463	0	0	0	1110	2	432
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	429	678	0	0	162	463	0	0	0	1110	2	432
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	429	678	0	0	162	463	0	0	0	1110	2	432
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	429	678	0	0	162	463	0	0	0	1110	2	432
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	429	678	0	0	162	463	0	0	0	1110	2	432
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	429	678	0	0	162	463	0	0	0	1110	2	432
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.87	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.52	1.48	0.00	0.00	0.00	2.99	0.01	2.00
Final Sat.:	3150	3800	0	0	933	2667	0	0	0	4941	9	3150
Capacity Analysis Module:												
Vol/Sat:	0.14	0.18	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.22	0.22	0.14
Crit Moves:	****				****						****	
Green Time:	16.1	36.5	0.0	0.0	20.5	20.5	0.0	0.0	0.0	26.5	26.5	26.5
Volume/Cap:	0.61	0.35	0.00	0.00	0.61	0.61	0.00	0.00	0.00	0.61	0.61	0.37
Delay/Veh:	26.7	10.8	0.0	0.0	23.4	23.4	0.0	0.0	0.0	19.2	19.2	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.7	10.8	0.0	0.0	23.4	23.4	0.0	0.0	0.0	19.2	19.2	16.9
LOS by Move:	C	B	A	A	C	C	A	A	A	B	B	B
HCM2k95thQ:	10	9	0	0	12	12	0	0	0	16	16	9

Note: Queue reported is the number of cars per lane.

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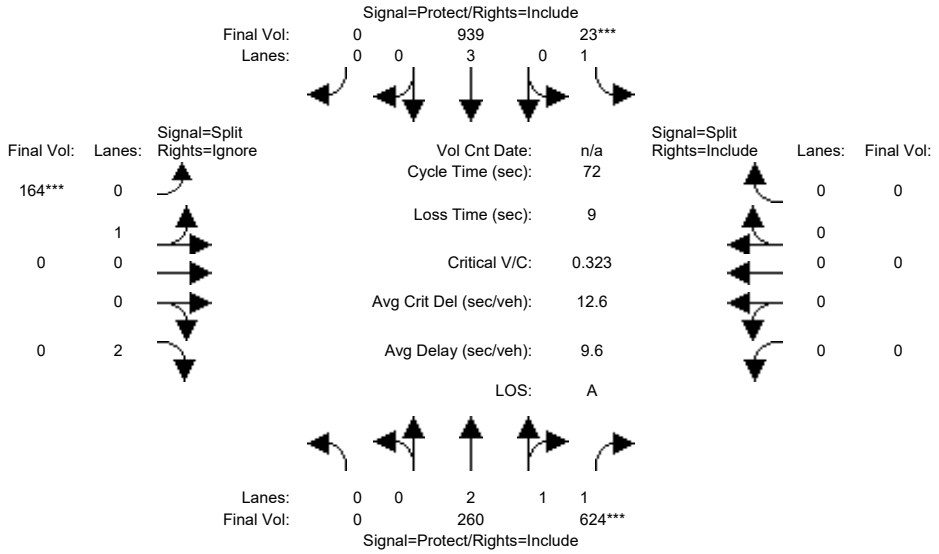
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	260	624	23	939	0	164	0	746	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	260	624	23	939	0	164	0	746	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	260	624	23	939	0	164	0	746	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	260	624	23	939	0	164	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	260	624	23	939	0	164	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	260	624	23	939	0	164	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1800	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.18	0.01	0.16	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	37.1	37.1	7.0	44.1	0.0	18.9	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.13	0.35	0.14	0.27	0.00	0.35	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	9.1	10.4	30.1	6.5	0.0	22.0	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.1	10.4	30.1	6.5	0.0	22.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	B	C	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	3	8	1	6	0	7	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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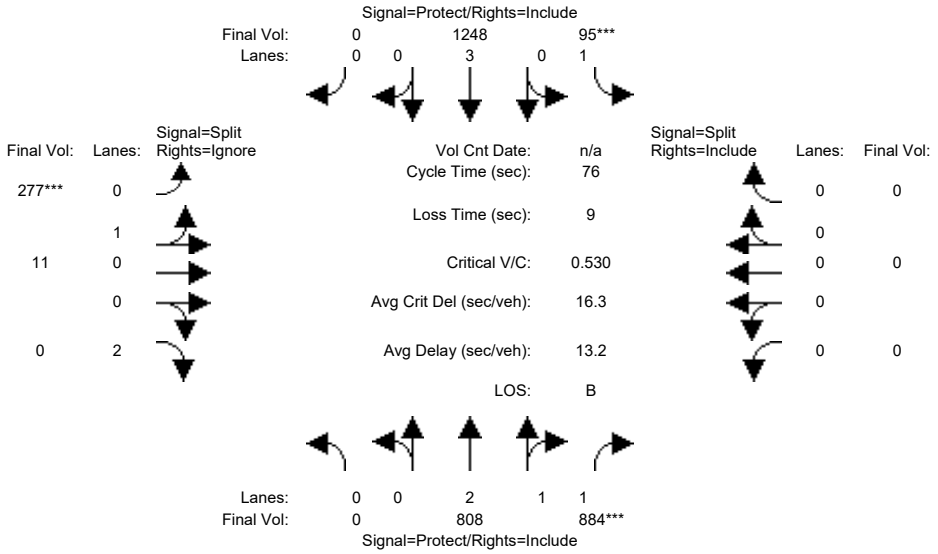
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	808	884	95	1248	0	277	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	808	884	95	1248	0	277	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	808	884	95	1248	0	277	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	808	884	95	1248	0	277	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	808	884	95	1248	0	277	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	808	884	95	1248	0	277	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	0.96	0.04	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1731	69	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.25	0.05	0.22	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	36.2	36.2	7.8	44.0	0.0	23.0	23.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.45	0.53	0.53	0.38	0.00	0.53	0.53	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	13.3	14.1	35.3	8.7	0.0	23.0	23.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.3	14.1	35.3	8.7	0.0	23.0	23.0	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	D	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	12	14	5	10	0	12	12	0	0	0	0

Note: Queue reported is the number of cars per lane.

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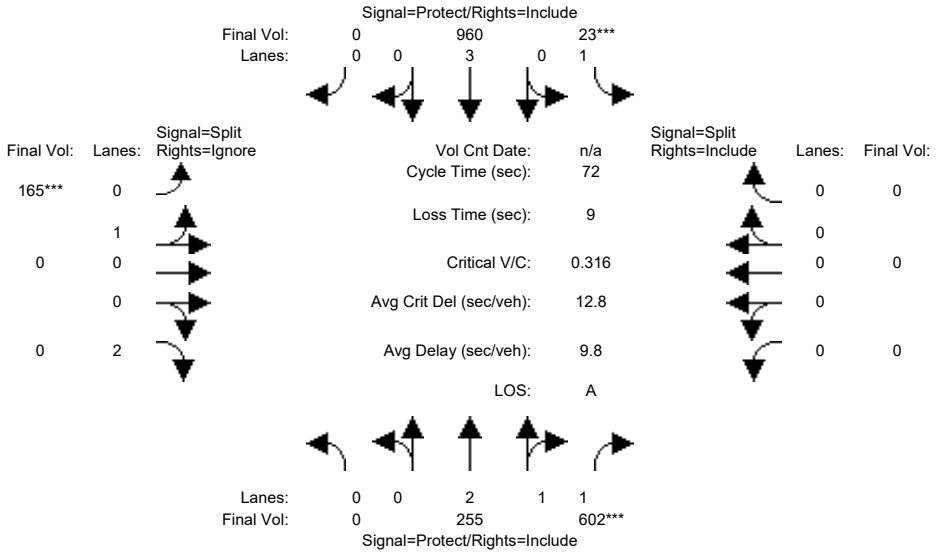
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	255	602	23	960	0	165	0	759	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	255	602	23	960	0	165	0	759	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	255	602	23	960	0	165	0	759	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	255	602	23	960	0	165	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	255	602	23	960	0	165	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	255	602	23	960	0	165	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1800	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.17	0.01	0.17	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	36.5	36.5	7.0	43.5	0.0	19.5	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.13	0.34	0.14	0.28	0.00	0.34	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	9.4	10.6	30.1	6.8	0.0	21.5	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.4	10.6	30.1	6.8	0.0	21.5	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	B	C	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	3	8	1	7	0	7	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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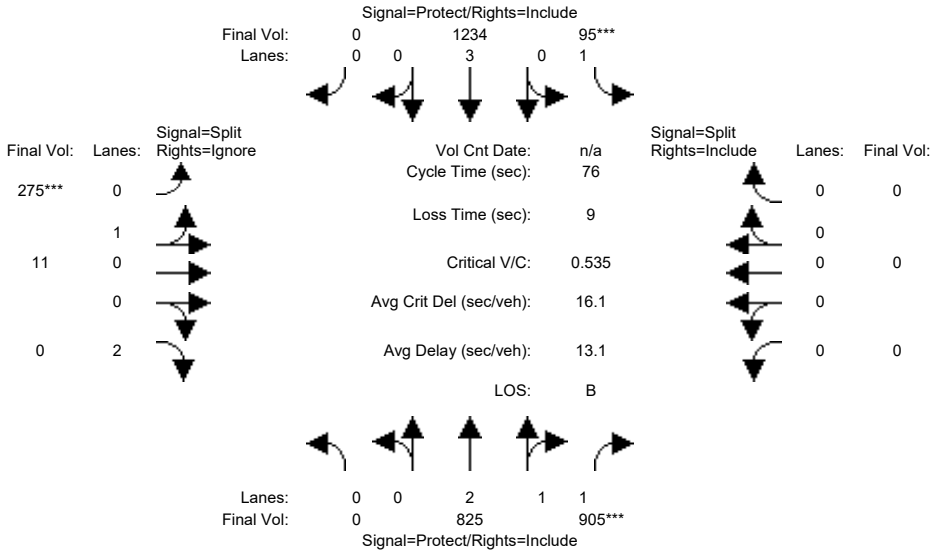
2030 PH2 PM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	825	905	95	1234	0	275	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	825	905	95	1234	0	275	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	825	905	95	1234	0	275	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	825	905	95	1234	0	275	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	825	905	95	1234	0	275	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	825	905	95	1234	0	275	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	0.96	0.04	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1731	69	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.26	0.05	0.22	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	36.7	36.7	7.7	44.4	0.0	22.6	22.6	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.45	0.54	0.54	0.37	0.00	0.54	0.54	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	13.0	13.9	35.6	8.4	0.0	23.4	23.4	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.0	13.9	35.6	8.4	0.0	23.4	23.4	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	D	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	12	15	5	10	0	12	12	0	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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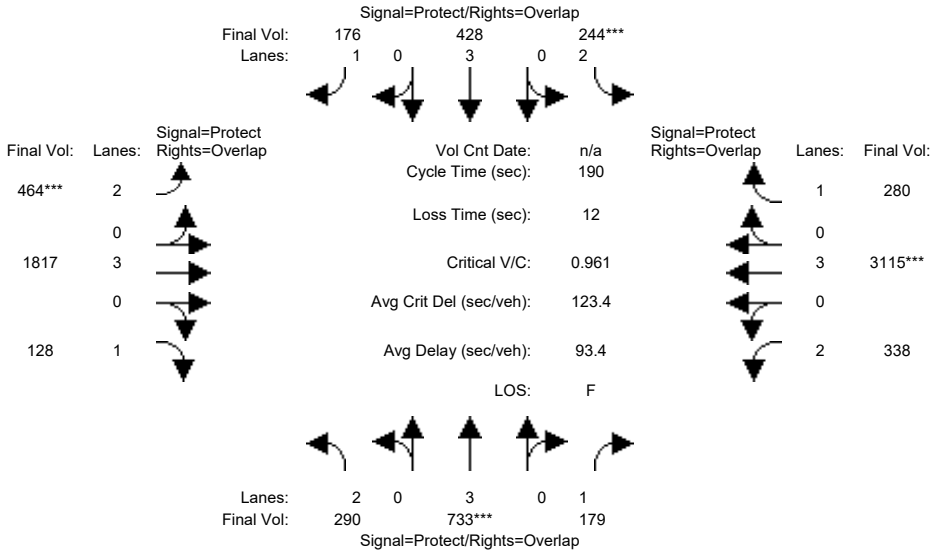
2030 PH1 AM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	290	733	179	244	428	176	464	1817	128	338	3115	280
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	290	733	179	244	428	176	464	1817	128	338	3115	280
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	290	733	179	244	428	176	464	1817	128	338	3115	280
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	290	733	179	244	428	176	464	1817	128	338	3115	280
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	290	733	179	244	428	176	464	1817	128	338	3115	280
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	290	733	179	244	428	176	464	1817	128	338	3115	280
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.10	0.08	0.08	0.10	0.15	0.32	0.07	0.11	0.55	0.16
Crit Moves:		****			****			****			****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.80	0.58	0.31	0.98	0.41	0.29	0.87	0.60	0.11	1.02	1.17	0.29
Delay/Veh:	93.3	66.8	48.3	139.0	68.6	44.5	92.0	39.6	19.2	139.4	140	30.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.3	66.8	48.3	139.0	68.6	44.5	92.0	39.6	19.2	139.4	140	30.4
LOS by Move:	F	E	D	F	E	D	F	D	B	F	F	C
HCM2k95thQ:	18	22	15	18	13	14	32	45	9	28	119	21

Note: Queue reported is the number of cars per lane.

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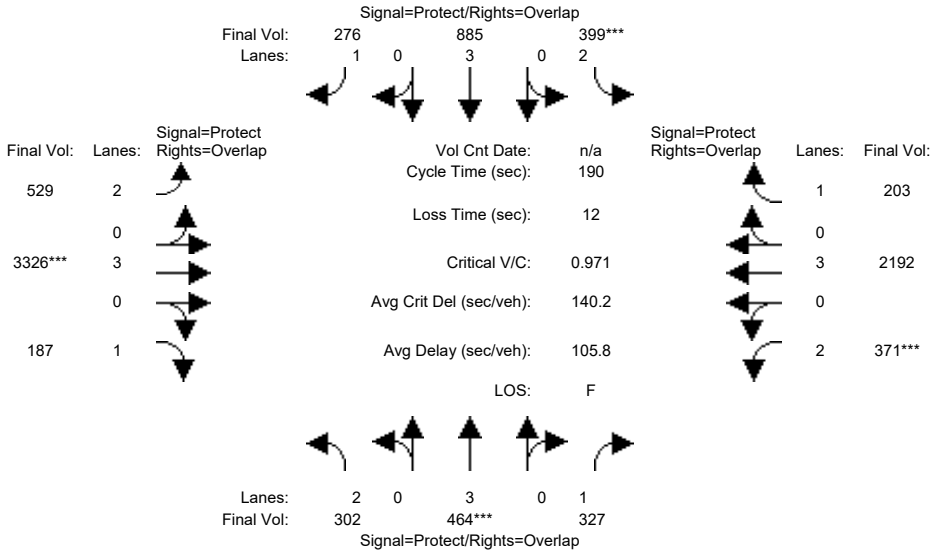
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	302	464	327	399	885	276	529	3326	187	371	2192	203
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	302	464	327	399	885	276	529	3326	187	371	2192	203
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	302	464	327	399	885	276	529	3326	187	371	2192	203
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	302	464	327	399	885	276	529	3326	187	371	2192	203
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	302	464	327	399	885	276	529	3326	187	371	2192	203
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	302	464	327	399	885	276	529	3326	187	371	2192	203
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.19	0.13	0.16	0.16	0.17	0.58	0.11	0.12	0.38	0.12
Crit Moves:		****		****				****		****		
Green Time:	18.9	39.0	58.8	21.3	41.4	64.1	22.7	98.0	116.8	19.8	95.0	116.3
Volume/Cap:	0.97	0.40	0.60	1.13	0.71	0.47	1.40	1.13	0.17	1.13	0.77	0.19
Delay/Veh:	126.8	65.5	57.7	173.0	70.8	50.1	288.1	143	32.6	175.4	30.9	8.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	126.8	65.5	57.7	173.0	70.8	50.1	288.1	143	32.6	175.4	30.9	8.9
LOS by Move:	F	E	E	F	E	D	F	F	C	F	C	A
HCM2k95thQ:	21	14	29	31	27	23	50	122	17	32	48	6

Note: Queue reported is the number of cars per lane.

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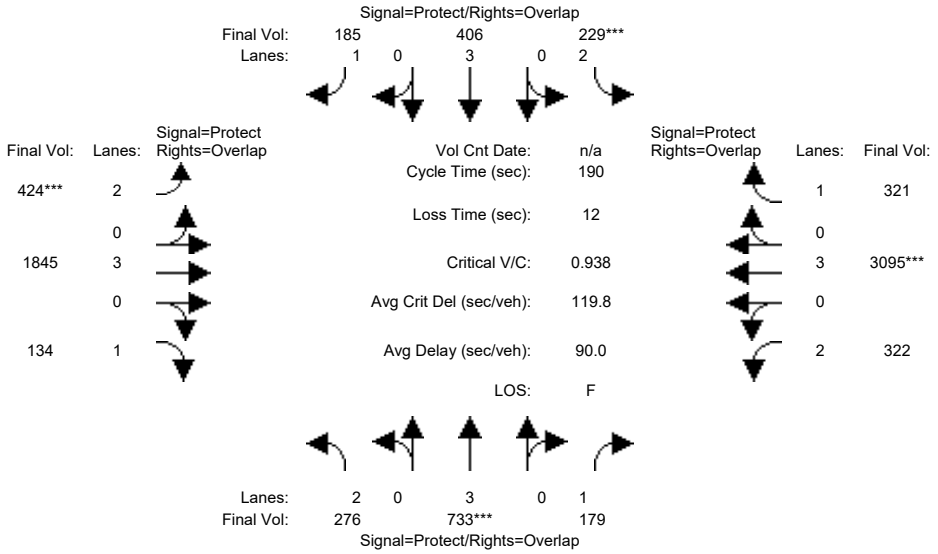
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	276	733	179	229	406	185	424	1845	134	322	3095	321
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	276	733	179	229	406	185	424	1845	134	322	3095	321
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	276	733	179	229	406	185	424	1845	134	322	3095	321
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	276	733	179	229	406	185	424	1845	134	322	3095	321
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	276	733	179	229	406	185	424	1845	134	322	3095	321
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	276	733	179	229	406	185	424	1845	134	322	3095	321
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.13	0.10	0.07	0.07	0.11	0.13	0.32	0.08	0.10	0.54	0.18
Crit Moves:		****		****			****				****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.76	0.58	0.31	0.92	0.39	0.30	0.80	0.61	0.12	0.97	1.16	0.34
Delay/Veh:	90.2	66.8	48.3	123.3	68.3	44.8	84.3	39.9	19.2	126.2	137	31.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.2	66.8	48.3	123.3	68.3	44.8	84.3	39.9	19.2	126.2	137	31.3
LOS by Move:	F	E	D	F	E	D	F	D	B	F	F	C
HCM2k95thQ:	17	22	15	16	12	15	28	46	9	26	117	25

Note: Queue reported is the number of cars per lane.

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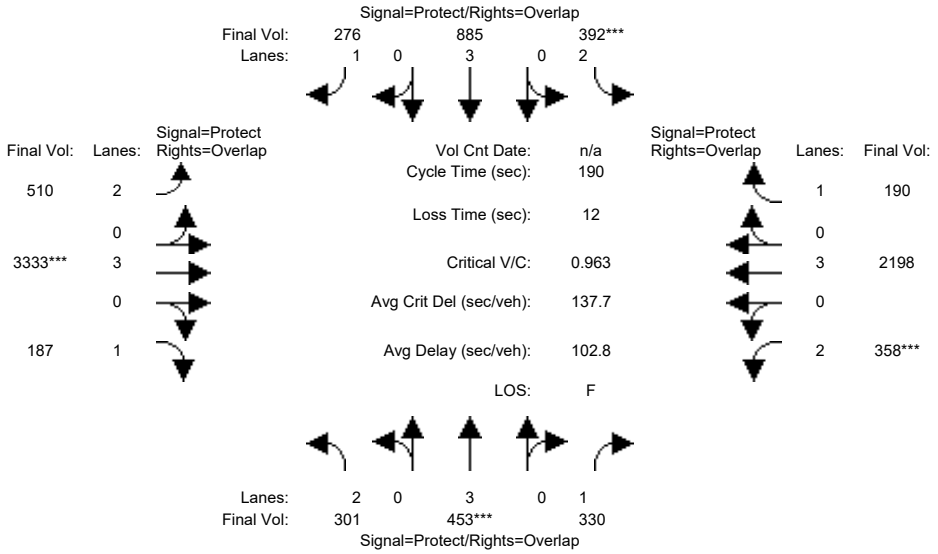
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	301	453	330	392	885	276	510	3333	187	358	2198	190
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	301	453	330	392	885	276	510	3333	187	358	2198	190
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	301	453	330	392	885	276	510	3333	187	358	2198	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	301	453	330	392	885	276	510	3333	187	358	2198	190
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	453	330	392	885	276	510	3333	187	358	2198	190
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	301	453	330	392	885	276	510	3333	187	358	2198	190
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.19	0.12	0.16	0.16	0.16	0.58	0.11	0.11	0.39	0.11
Crit Moves:		****		****				****		****		
Green Time:	18.7	39.0	58.2	21.0	41.3	64.3	23.0	98.8	117.5	19.2	95.0	116.0
Volume/Cap:	0.97	0.39	0.62	1.12	0.71	0.47	1.34	1.12	0.17	1.12	0.77	0.18
Delay/Veh:	127.8	65.4	58.5	170.9	70.9	50.0	260.4	140	32.3	173.9	31.0	8.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	127.8	65.4	58.5	170.9	70.9	50.0	260.4	140	32.3	173.9	31.0	8.9
LOS by Move:	F	E	E	F	E	D	F	F	C	F	C	A
HCM2k95thQ:	21	14	30	30	27	23	47	121	17	31	48	5

Note: Queue reported is the number of cars per lane.

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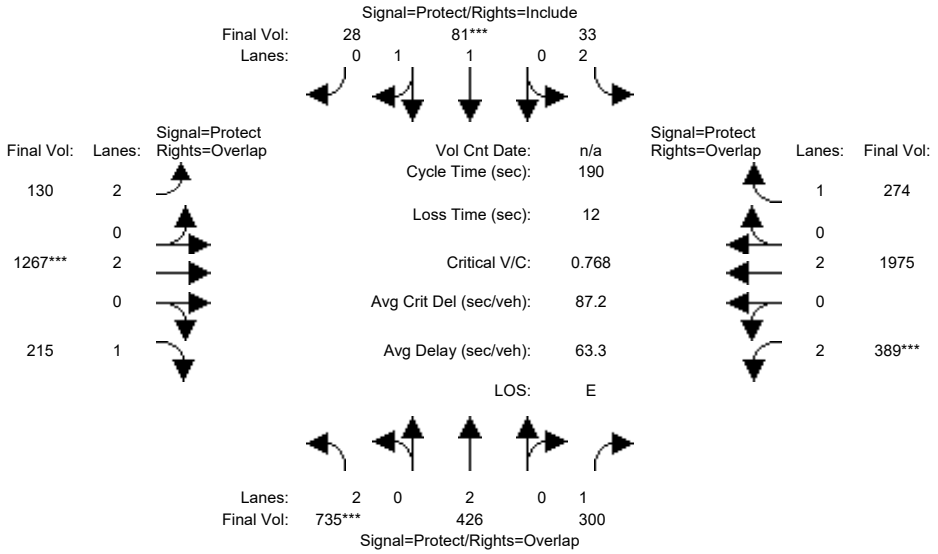
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	38	52	52	10	24	24	16	92	92	24	100	100
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	735	426	300	33	81	28	130	1473	215	389	2297	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	735	426	300	33	81	28	130	1473	215	389	2297	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	735	426	300	33	81	28	130	1473	215	389	2297	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	735	426	300	33	81	28	130	1267	215	389	1975	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	735	426	300	33	81	28	130	1267	215	389	1975	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	735	426	300	33	81	28	130	1267	215	389	1975	274
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.47	0.53	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	2749	950	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.23	0.11	0.17	0.01	0.03	0.03	0.04	0.33	0.12	0.12	0.52	0.16
Crit Moves:	****				****			****			****	
Green Time:	38.0	52.0	76.0	10.0	24.0	24.0	16.0	92.0	130.0	24.0	100	110.0
Volume/Cap:	1.17	0.41	0.43	0.20	0.23	0.23	0.49	0.69	0.18	0.98	0.99	0.27
Delay/Veh:	167.4	56.7	41.7	86.8	75.0	75.0	84.5	31.1	3.5	121.8	49.4	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	167.4	56.7	41.7	86.8	75.0	75.0	84.5	31.1	3.5	121.8	49.4	12.6
LOS by Move:	F	E	D	F	E	E	F	C	A	F	D	B
HCM2k95thQ:	55	18	23	2	6	6	9	39	3	24	82	9

Note: Queue reported is the number of cars per lane.

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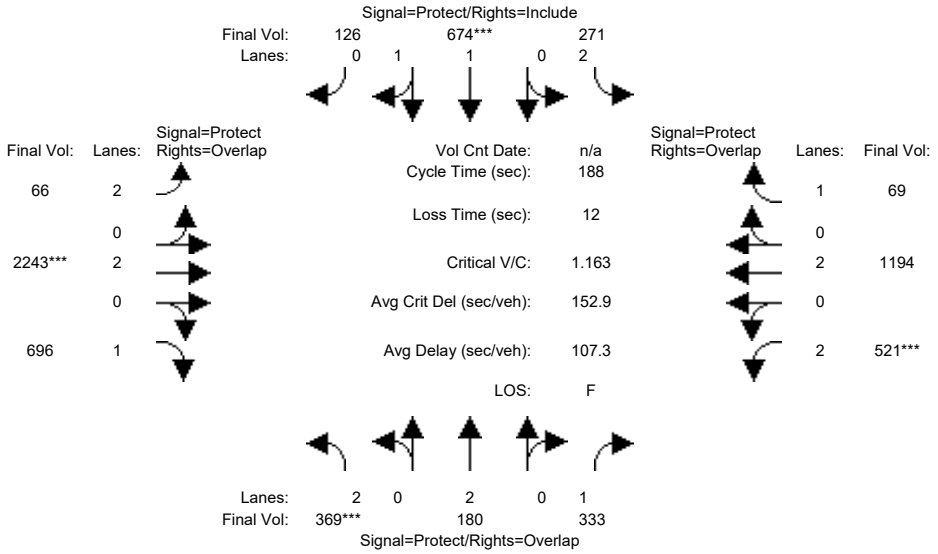
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	369	180	333	271	674	126	66	2875	696	521	1298	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	369	180	333	271	674	126	66	2875	696	521	1298	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	369	180	333	271	674	126	66	2875	696	521	1298	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	369	180	333	271	674	126	66	2243	696	521	1194	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	369	180	333	271	674	126	66	2243	696	521	1194	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	369	180	333	271	674	126	66	2243	696	521	1194	69
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.68	0.32	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3117	583	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.05	0.19	0.09	0.22	0.22	0.02	0.59	0.40	0.17	0.31	0.04
Crit Moves:	****				****			****			****	
Green Time:	18.9	39.0	65.7	14.9	35.0	35.0	13.1	95.3	114.3	26.7	109	123.9
Volume/Cap:	1.16	0.23	0.54	1.08	1.16	1.16	0.30	1.16	0.65	1.16	0.54	0.06
Delay/Veh:	187.1	62.1	50.1	167.5	165	164.7	83.9	138	35.3	176.3	15.3	4.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	187.1	62.1	50.1	167.5	165	164.7	83.9	138	35.3	176.3	15.3	4.7
LOS by Move:	F	E	D	F	F	F	F	F	D	F	B	A
HCM2k95thQ:	30	8	28	20	48	48	5	126	54	40	24	1

Note: Queue reported is the number of cars per lane.

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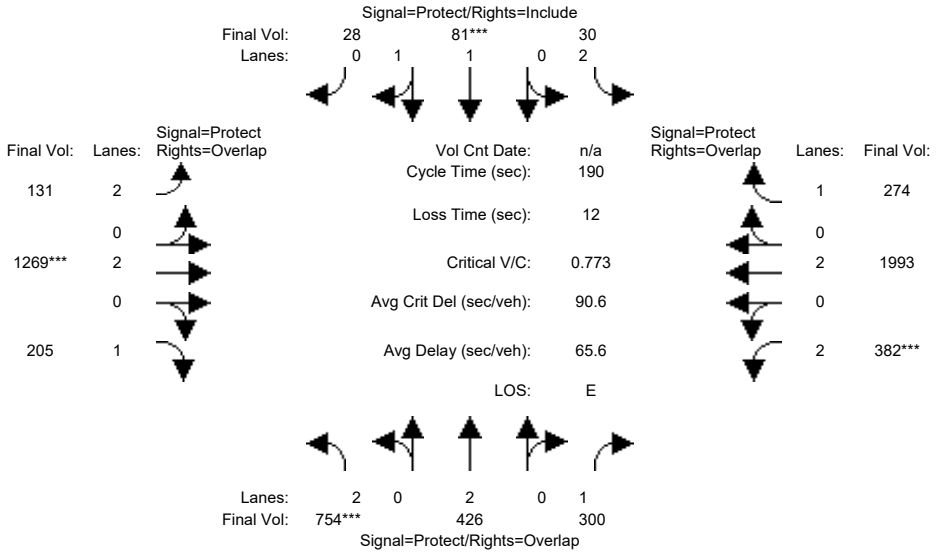
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	38	52	52	10	24	24	16	92	92	24	100	100
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	754	426	300	30	81	28	131	1475	205	382	2317	274
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	754	426	300	30	81	28	131	1475	205	382	2317	274
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	754	426	300	30	81	28	131	1475	205	382	2317	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	754	426	300	30	81	28	131	1269	205	382	1993	274
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	754	426	300	30	81	28	131	1269	205	382	1993	274
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	754	426	300	30	81	28	131	1269	205	382	1993	274
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.47	0.53	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	2749	950	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.11	0.17	0.01	0.03	0.03	0.04	0.33	0.12	0.12	0.52	0.16
Crit Moves:	****				****			****			****	
Green Time:	38.0	52.0	76.0	10.0	24.0	24.0	16.0	92.0	130.0	24.0	100	110.0
Volume/Cap:	1.20	0.41	0.43	0.18	0.23	0.23	0.49	0.69	0.17	0.96	1.00	0.27
Delay/Veh:	179.4	56.7	41.7	86.6	75.0	75.0	84.6	31.1	3.5	117.2	51.7	12.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	179.4	56.7	41.7	86.6	75.0	75.0	84.6	31.1	3.5	117.2	51.7	12.6
LOS by Move:	F	E	D	F	E	E	F	C	A	F	D	B
HCM2k95thQ:	57	18	23	2	6	6	9	39	3	23	85	9

Note: Queue reported is the number of cars per lane.

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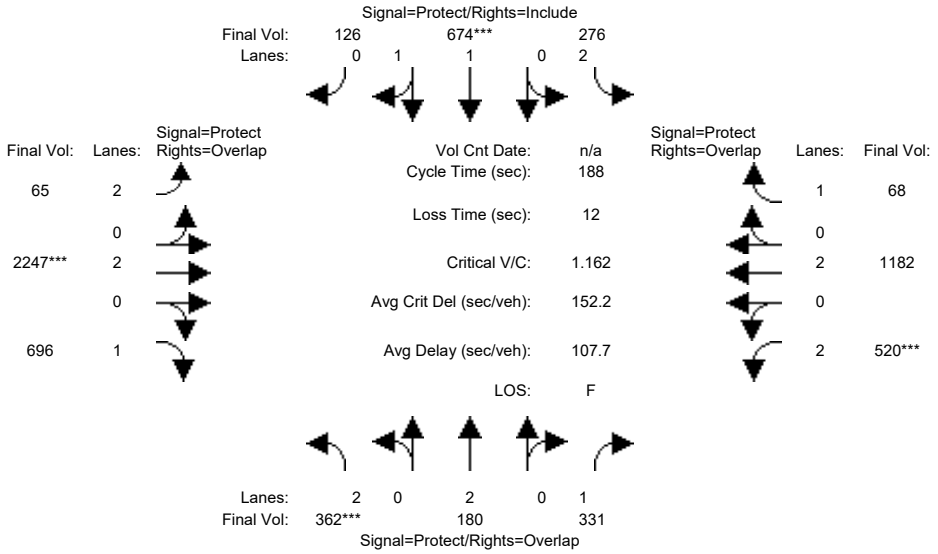
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	362	180	331	276	674	126	65	2881	696	520	1285	68
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	362	180	331	276	674	126	65	2881	696	520	1285	68
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	362	180	331	276	674	126	65	2881	696	520	1285	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	362	180	331	276	674	126	65	2247	696	520	1182	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	362	180	331	276	674	126	65	2247	696	520	1182	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	362	180	331	276	674	126	65	2247	696	520	1182	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.68	0.32	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3117	583	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.05	0.19	0.09	0.22	0.22	0.02	0.59	0.40	0.17	0.31	0.04
Crit Moves:	****				****			****			****	
Green Time:	18.6	39.0	65.7	14.6	35.0	35.0	13.1	95.7	114.3	26.7	109	123.9
Volume/Cap:	1.16	0.23	0.54	1.13	1.16	1.16	0.30	1.16	0.65	1.16	0.54	0.06
Delay/Veh:	187.0	62.1	50.0	183.3	165	164.7	83.8	137	35.3	175.6	15.0	4.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	187.0	62.1	50.0	183.3	165	164.7	83.8	137	35.3	175.6	15.0	4.7
LOS by Move:	F	E	D	F	F	F	F	F	D	F	B	A
HCM2k95thQ:	30	8	28	22	48	48	5	126	54	39	23	1

Note: Queue reported is the number of cars per lane.

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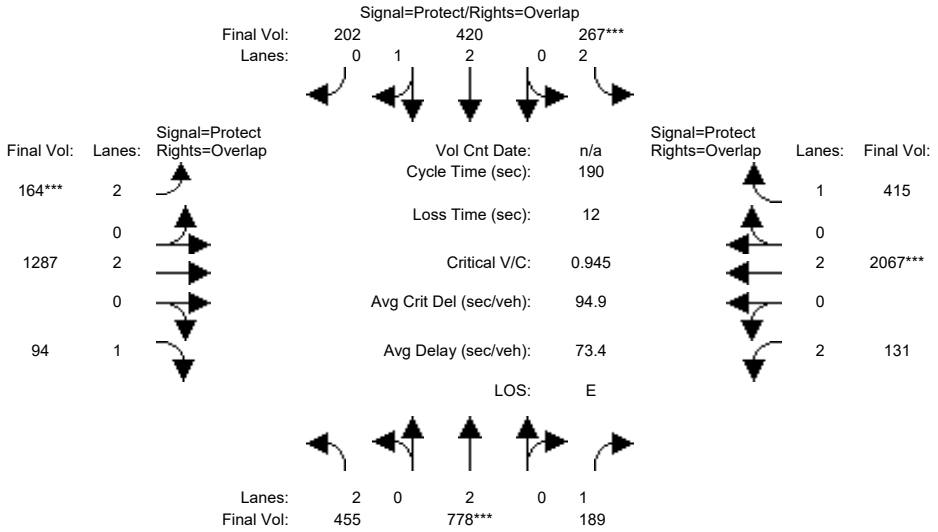
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	455	778	189	267	420	202	164	1497	94	131	2404	415
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	455	778	189	267	420	202	164	1497	94	131	2404	415
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	455	778	189	267	420	202	164	1497	94	131	2404	415
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	455	778	189	267	420	202	164	1287	94	131	2067	415
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	455	778	189	267	420	202	164	1287	94	131	2067	415
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	455	778	189	267	420	202	164	1287	94	131	2067	415
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3797	1800	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.20	0.11	0.08	0.11	0.11	0.05	0.34	0.05	0.04	0.54	0.24
Crit Moves:		****			****			****			****	
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.02	0.76	0.29	0.95	0.51	0.36	0.55	0.71	0.09	0.42	1.12	0.41
Delay/Veh:	128.3	67.4	42.7	125.5	66.1	51.0	84.3	32.4	7.6	81.2	102	14.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	128.3	67.4	42.7	125.5	66.1	51.0	84.3	32.4	7.6	81.2	102	14.6
LOS by Move:	F	E	D	F	E	D	F	C	A	F	F	B
HCM2k95thQ:	32	35	15	20	19	17	10	40	2	8	113	17

Note: Queue reported is the number of cars per lane.

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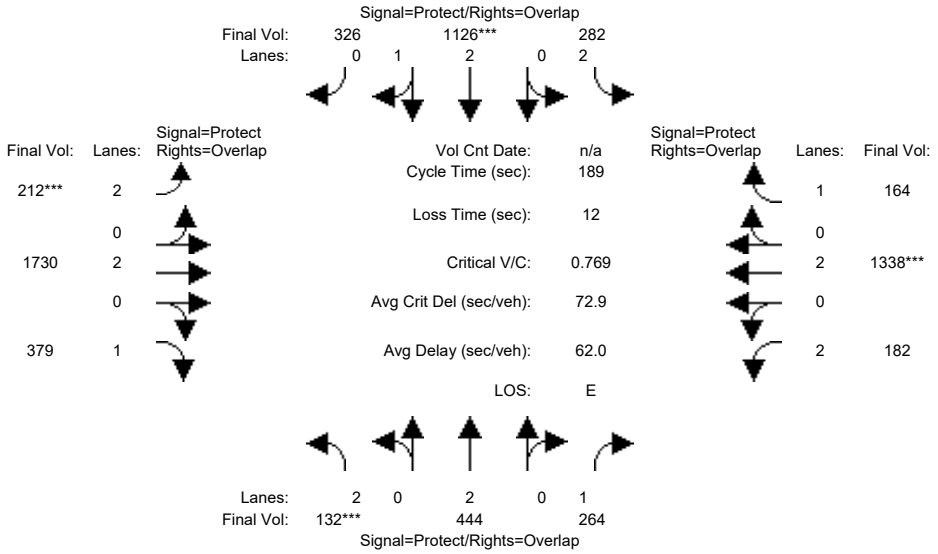
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module:												
Base Vol:	132	444	264	282	1126	326	212	2791	379	182	1454	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	444	264	282	1126	326	212	2791	379	182	1454	164
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	444	264	282	1126	326	212	2791	379	182	1454	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	132	444	264	282	1126	326	212	1730	379	182	1338	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	444	264	282	1126	326	212	1730	379	182	1338	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	132	444	264	282	1126	326	212	1730	379	182	1338	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.30	0.70	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	4341	1257	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.12	0.15	0.09	0.26	0.26	0.07	0.46	0.22	0.06	0.35	0.09
Crit Moves:	****				****		****				****	
Green Time:	13.0	36.6	52.6	24.4	48.0	61.0	13.0	100	113.0	16.0	103	127.4
Volume/Cap:	0.61	0.60	0.54	0.69	1.02	0.80	0.98	0.86	0.36	0.68	0.65	0.14
Delay/Veh:	90.5	71.0	59.2	83.8	99.9	61.2	142.6	53.2	27.3	91.1	30.9	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.5	71.0	59.2	83.8	99.9	61.2	142.6	53.2	27.3	91.1	30.9	11.1
LOS by Move:	F	E	E	F	F	E	F	D	C	F	C	B
HCM2k95thQ:	9	21	24	18	53	43	14	67	27	12	44	7

Note: Queue reported is the number of cars per lane.

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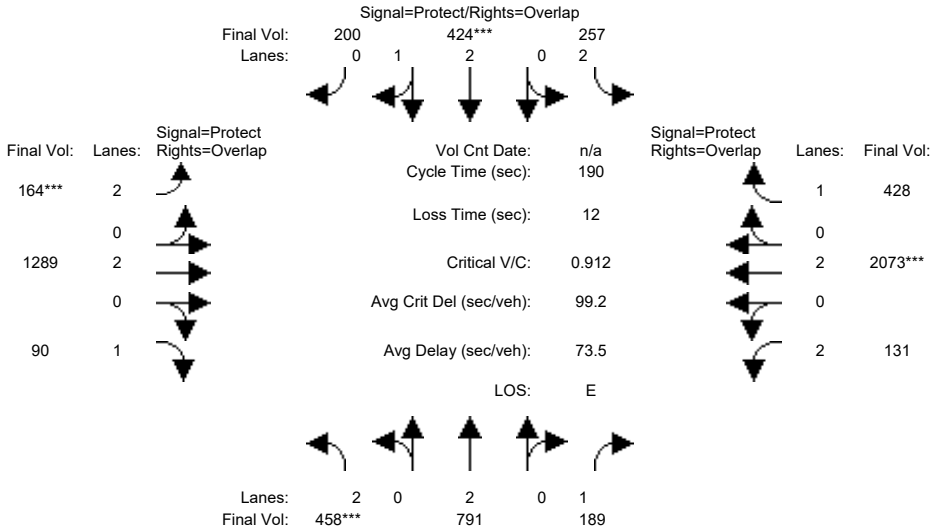
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	458	791	189	257	424	200	164	1499	90	131	2411	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	458	791	189	257	424	200	164	1499	90	131	2411	428
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	458	791	189	257	424	200	164	1499	90	131	2411	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	1.00	1.00	0.86	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	458	791	189	257	424	200	164	1289	90	131	2073	428
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	458	791	189	257	424	200	164	1289	90	131	2073	428
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	458	791	189	257	424	200	164	1289	90	131	2073	428
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	3803	1794	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.21	0.11	0.08	0.11	0.11	0.05	0.34	0.05	0.04	0.55	0.24
Crit Moves:	****				****		****				****	
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.02	0.78	0.29	0.91	0.52	0.36	0.55	0.71	0.08	0.42	1.13	0.43
Delay/Veh:	130.1	68.0	42.7	117.3	66.1	51.0	84.3	32.4	7.5	81.2	103	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	130.1	68.0	42.7	117.3	66.1	51.0	84.3	32.4	7.5	81.2	103	14.8
LOS by Move:	F	E	D	F	E	D	F	C	A	F	F	B
HCM2k95thQ:	33	36	15	18	19	17	10	40	2	8	114	17

Note: Queue reported is the number of cars per lane.

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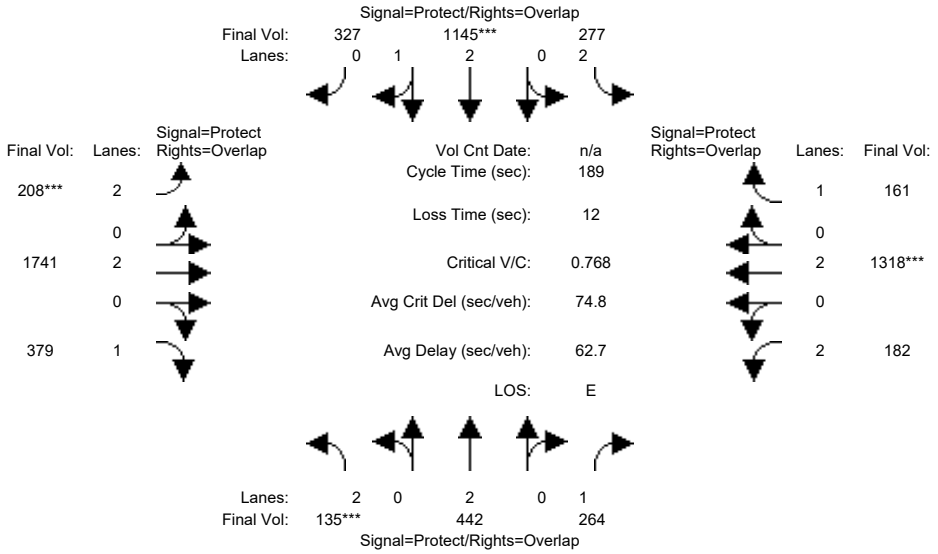
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module:												
Base Vol:	135	442	264	277	1145	327	208	2808	379	182	1433	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	135	442	264	277	1145	327	208	2808	379	182	1433	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	135	442	264	277	1145	327	208	2808	379	182	1433	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	1.00	1.00	0.92	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	135	442	264	277	1145	327	208	1741	379	182	1318	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	135	442	264	277	1145	327	208	1741	379	182	1318	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	135	442	264	277	1145	327	208	1741	379	182	1318	161
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.31	0.69	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	3800	1750	3150	4354	1244	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.12	0.15	0.09	0.26	0.26	0.07	0.46	0.22	0.06	0.35	0.09
Crit Moves:	****				****		****				****	
Green Time:	13.0	36.6	52.6	24.4	48.0	61.0	13.0	100	113.0	16.0	103	127.4
Volume/Cap:	0.62	0.60	0.54	0.68	1.04	0.81	0.96	0.87	0.36	0.68	0.64	0.14
Delay/Veh:	91.2	70.9	59.2	83.3	104	61.8	137.4	53.7	27.3	91.1	30.6	11.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	91.2	70.9	59.2	83.3	104	61.8	137.4	53.7	27.3	91.1	30.6	11.1
LOS by Move:	F	E	E	F	F	E	F	D	C	F	C	B
HCM2k95thQ:	9	21	24	17	54	44	13	67	27	12	43	7

Note: Queue reported is the number of cars per lane.

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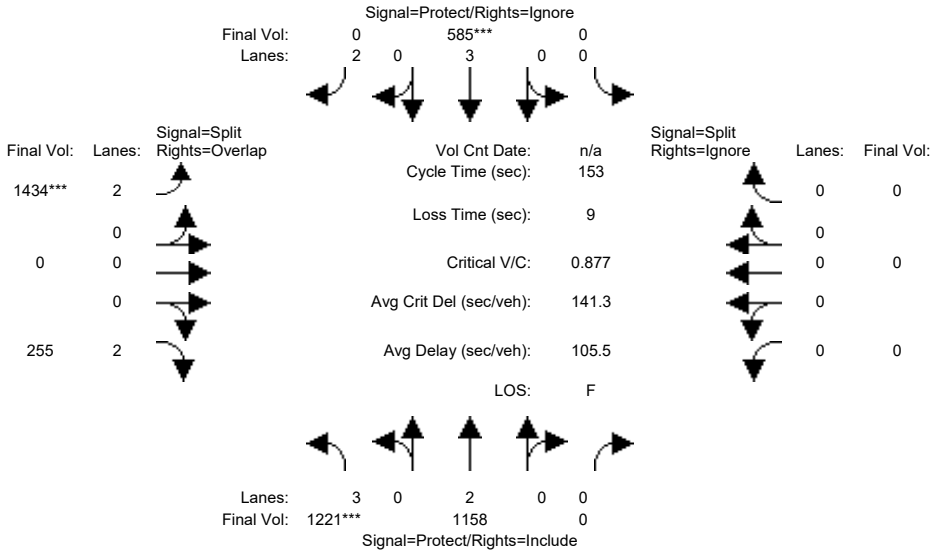
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	27	79	0		0	50	50		67	0	67		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	1221	1158	0		0	585	1867		1667	0	255		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1221	1158	0		0	585	1867		1667	0	255		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1221	1158	0		0	585	1867		1667	0	255		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	0.00		0.86	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1221	1158	0		0	585	0		1434	0	255		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1221	1158	0		0	585	0		1434	0	255		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1221	1158	0		0	585	0		1434	0	255		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.80	1.00	0.92		0.92	1.00	0.83		0.83	1.00	0.83		0.92	1.00	0.92	
Lanes:	3.00	2.00	0.00		0.00	3.00	2.00		2.00	0.00	2.00		0.00	0.00	0.00	
Final Sat.:	4551	3800	0		0	5700	3150		3150	0	3150		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.27	0.30	0.00		0.00	0.10	0.00		0.46	0.00	0.08		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green Time:	28.6	78.0	0.0		0.0	49.4	0.0		66.1	0.0	94.8		0.0	0.0	0.0	
Volume/Cap:	1.43	0.60	0.00		0.00	0.32	0.00		1.05	0.00	0.13		0.00	0.00	0.00	
Delay/Veh:	265.0	27.3	0.0		0.0	39.7	0.0		77.4	0.0	6.5		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	265.0	27.3	0.0		0.0	39.7	0.0		77.4	0.0	6.5		0.0	0.0	0.0	
LOS by Move:	F	C	A		A	D	A		E	A	A		A	A	A	
HCM2k95thQ:	68	33	0		0	13	0		74	0	3		0	0	0	

Note: Queue reported is the number of cars per lane.

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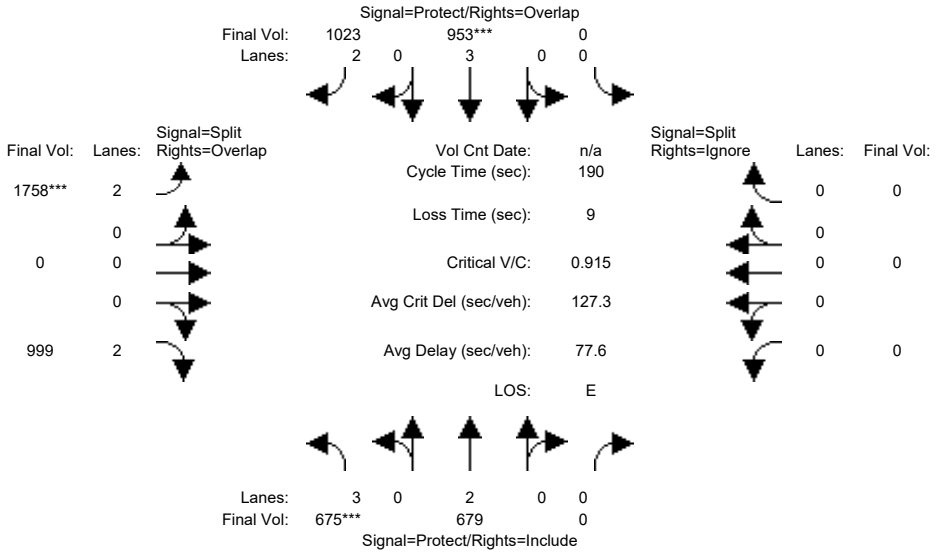
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	675	679	0	0	953	1023	2511	0	999	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	675	679	0	0	953	1023	2511	0	999	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	675	679	0	0	953	1023	2511	0	999	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.70	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	675	679	0	0	953	1023	1758	0	999	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	675	679	0	0	953	1023	1758	0	999	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	675	679	0	0	953	1023	1758	0	999	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	4551	3800	0	0	5700	3150	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.18	0.00	0.00	0.17	0.32	0.56	0.00	0.32	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	1.74	0.46	0.00	0.00	0.55	0.37	0.99	0.00	0.49	0.00	0.00	0.00
Delay/Veh:	432.9	45.0	0.0	0.0	57.8	2.6	47.5	0.0	8.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	432.9	45.0	0.0	0.0	57.8	2.6	47.5	0.0	8.2	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	D	A	A	A	A	A
HCM2k95thQ:	52	26	0	0	27	14	98	0	16	0	0	0

Note: Queue reported is the number of cars per lane.

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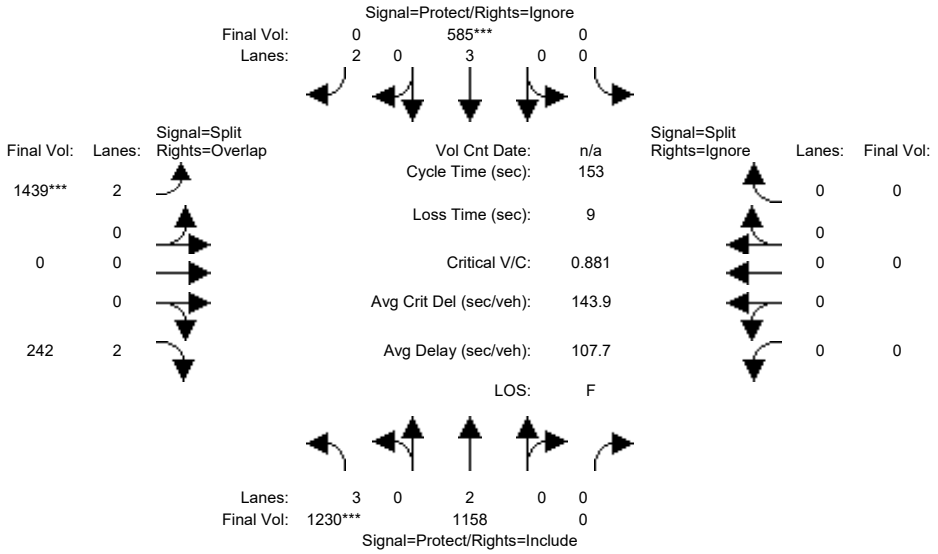
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	27	79	0		0	50	50		67	0	67		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	1230	1158	0		0	585	1862		1673	0	242		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1230	1158	0		0	585	1862		1673	0	242		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1230	1158	0		0	585	1862		1673	0	242		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	0.00		0.86	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1230	1158	0		0	585	0		1439	0	242		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1230	1158	0		0	585	0		1439	0	242		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1230	1158	0		0	585	0		1439	0	242		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.80	1.00	0.92		0.92	1.00	0.83		0.83	1.00	0.83		0.92	1.00	0.92	
Lanes:	3.00	2.00	0.00		0.00	3.00	2.00		2.00	0.00	2.00		0.00	0.00	0.00	
Final Sat.:	4551	3800	0		0	5700	3150		3150	0	3150		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.27	0.30	0.00		0.00	0.10	0.00		0.46	0.00	0.08		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green Time:	28.6	78.0	0.0		0.0	49.4	0.0		66.1	0.0	94.8		0.0	0.0	0.0	
Volume/Cap:	1.44	0.60	0.00		0.00	0.32	0.00		1.06	0.00	0.12		0.00	0.00	0.00	
Delay/Veh:	269.7	27.3	0.0		0.0	39.7	0.0		78.6	0.0	6.4		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	269.7	27.3	0.0		0.0	39.7	0.0		78.6	0.0	6.4		0.0	0.0	0.0	
LOS by Move:	F	C	A		A	D	A		E	A	A		A	A	A	
HCM2k95thQ:	69	33	0		0	13	0		75	0	3		0	0	0	

Note: Queue reported is the number of cars per lane.

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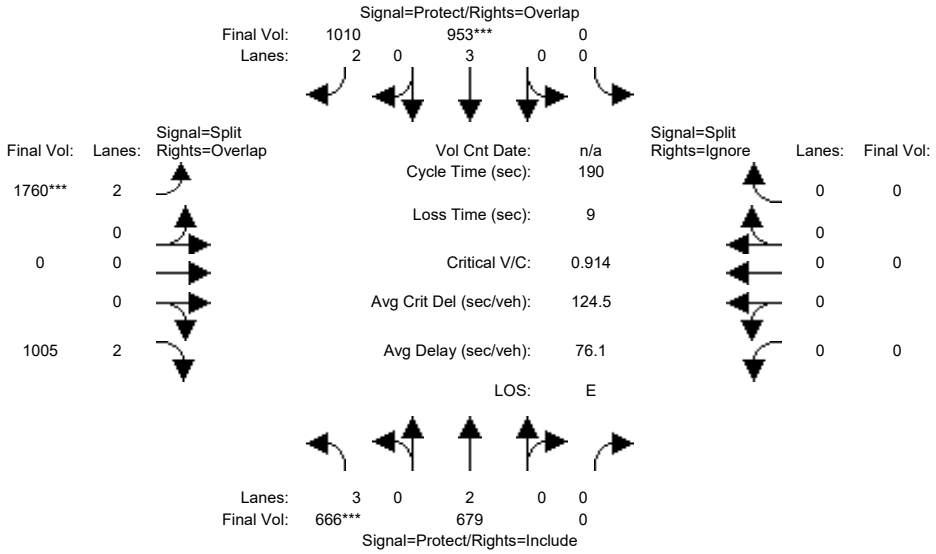
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	666	679	0	0	953	1010	2514	0	1005	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	666	679	0	0	953	1010	2514	0	1005	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	666	679	0	0	953	1010	2514	0	1005	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.70	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	666	679	0	0	953	1010	1760	0	1005	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	666	679	0	0	953	1010	1760	0	1005	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	666	679	0	0	953	1010	1760	0	1005	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	4551	3800	0	0	5700	3150	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.18	0.00	0.00	0.17	0.32	0.56	0.00	0.32	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	1.71	0.46	0.00	0.00	0.55	0.37	0.99	0.00	0.49	0.00	0.00	0.00
Delay/Veh:	422.6	45.0	0.0	0.0	57.8	2.6	47.9	0.0	8.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	422.6	45.0	0.0	0.0	57.8	2.6	47.9	0.0	8.2	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	D	A	A	A	A	A
HCM2k95thQ:	51	26	0	0	27	14	98	0	16	0	0	0

Note: Queue reported is the number of cars per lane.

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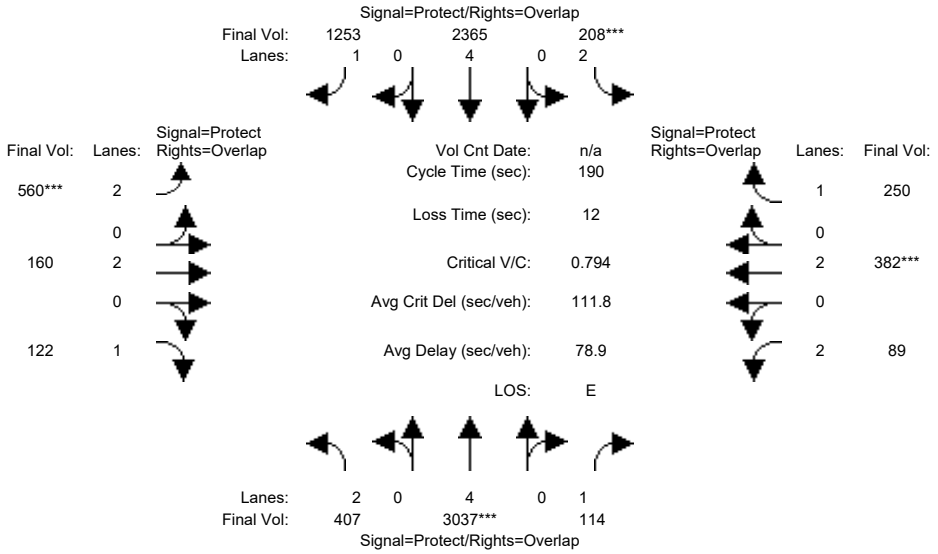
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	407	3037	114	208	2365	1253	560	160	122	89	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3037	114	208	2365	1253	560	160	122	89	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3037	114	208	2365	1253	560	160	122	89	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3037	114	208	2365	1253	560	160	122	89	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3037	114	208	2365	1253	560	160	122	89	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3037	114	208	2365	1253	560	160	122	89	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.07	0.07	0.31	0.72	0.18	0.04	0.07	0.03	0.10	0.14
Crit Moves:		****		****			****				****	
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.68	0.10	0.63	0.56	1.13	2.25	0.24	0.22	0.41	0.62	0.53
Delay/Veh:	102.6	16.4	4.9	85.2	18.8	89.0	663.6	67.9	48.0	86.1	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	16.4	4.9	85.2	18.8	89.0	663.6	67.9	48.0	86.1	75.8	60.5
LOS by Move:	F	B	A	F	B	F	F	E	D	F	E	E
HCM2k95thQ:	29	35	2	15	27	148	65	8	10	6	18	22

Note: Queue reported is the number of cars per lane.

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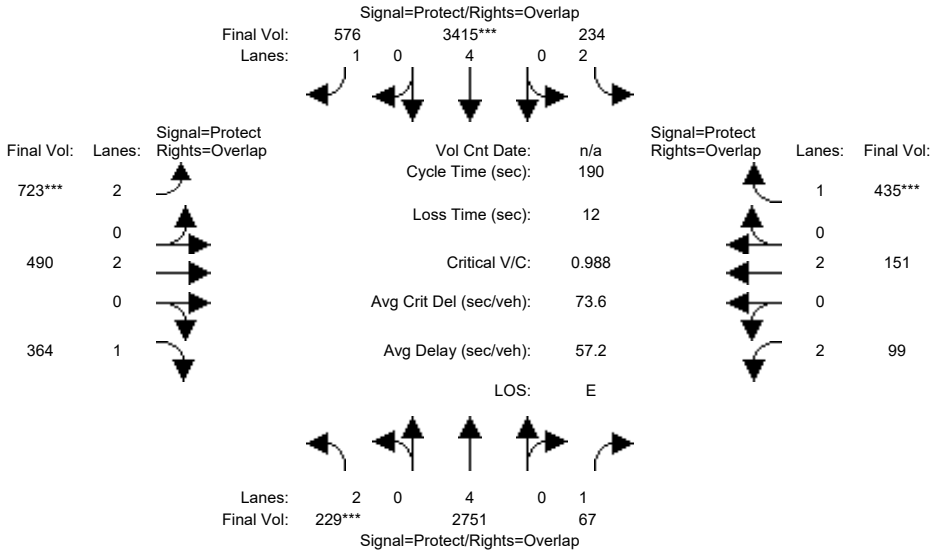
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module:												
Base Vol:	229	2751	67	234	3415	576	723	490	364	99	151	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	2751	67	234	3415	576	723	490	364	99	151	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	2751	67	234	3415	576	723	490	364	99	151	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	2751	67	234	3415	576	723	490	364	99	151	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	2751	67	234	3415	576	723	490	364	99	151	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	2751	67	234	3415	576	723	490	364	99	151	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.36	0.04	0.07	0.45	0.33	0.23	0.13	0.21	0.03	0.04	0.25
Crit Moves:	****				****		****					****
Green Time:	13.2	90.0	103.1	21.2	98.0	139.7	41.7	53.7	66.9	13.1	27.0	48.2
Volume/Cap:	1.05	0.76	0.07	0.66	0.87	0.45	1.05	0.46	0.59	0.46	0.28	0.98
Delay/Veh:	161.7	34.2	14.4	85.7	53.3	18.0	120.9	56.5	51.9	86.5	73.1	107.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	161.7	34.2	14.4	85.7	53.3	18.0	120.9	56.5	51.9	86.5	73.1	107.5
LOS by Move:	F	C	B	F	D	B	F	E	D	F	E	F
HCM2k95thQ:	21	47	2	17	73	37	47	20	31	6	7	48

Note: Queue reported is the number of cars per lane.

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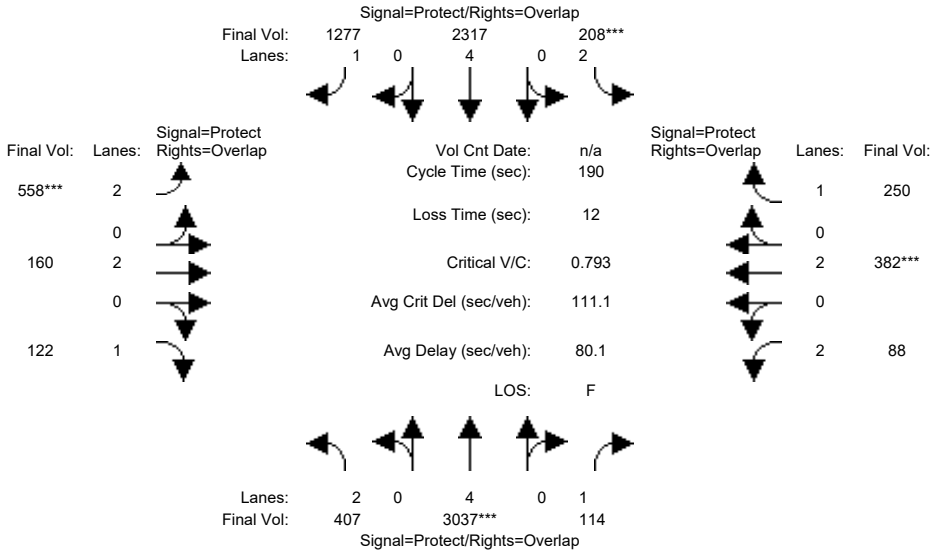
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	407	3037	114	208	2317	1277	558	160	122	88	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3037	114	208	2317	1277	558	160	122	88	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3037	114	208	2317	1277	558	160	122	88	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3037	114	208	2317	1277	558	160	122	88	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3037	114	208	2317	1277	558	160	122	88	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3037	114	208	2317	1277	558	160	122	88	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.40	0.07	0.07	0.30	0.73	0.18	0.04	0.07	0.03	0.10	0.14
Crit Moves:		****		****			****				****	
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.68	0.10	0.63	0.55	1.16	2.24	0.24	0.22	0.41	0.62	0.53
Delay/Veh:	102.6	16.4	4.9	85.2	18.7	97.7	660.0	67.9	48.0	86.1	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	16.4	4.9	85.2	18.7	97.7	660.0	67.9	48.0	86.1	75.8	60.5
LOS by Move:	F	B	A	F	B	F	F	E	D	F	E	E
HCM2k95thQ:	29	35	2	15	26	154	65	8	10	5	18	22

Note: Queue reported is the number of cars per lane.

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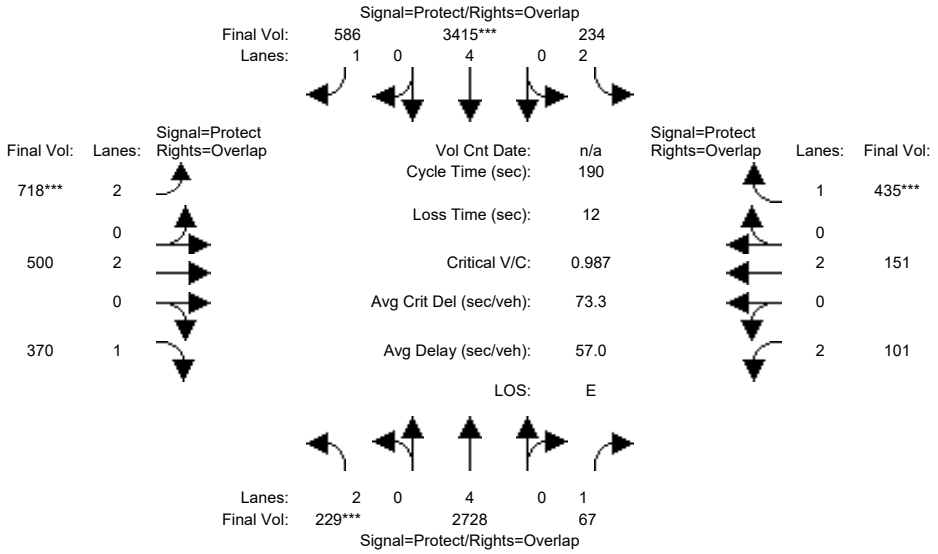
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module:												
Base Vol:	229	2728	67	234	3415	586	718	500	370	101	151	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	229	2728	67	234	3415	586	718	500	370	101	151	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	229	2728	67	234	3415	586	718	500	370	101	151	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	229	2728	67	234	3415	586	718	500	370	101	151	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	229	2728	67	234	3415	586	718	500	370	101	151	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	229	2728	67	234	3415	586	718	500	370	101	151	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.36	0.04	0.07	0.45	0.33	0.23	0.13	0.21	0.03	0.04	0.25
Crit Moves:	****				****		****					****
Green Time:	13.3	90.0	103.1	21.2	98.0	139.6	41.6	53.6	66.9	13.1	27.0	48.2
Volume/Cap:	1.04	0.76	0.07	0.66	0.87	0.46	1.04	0.47	0.60	0.46	0.28	0.98
Delay/Veh:	160.5	34.0	14.4	85.7	53.3	18.2	119.9	56.7	52.2	86.6	73.1	107.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	160.5	34.0	14.4	85.7	53.3	18.2	119.9	56.7	52.2	86.6	73.1	107.5
LOS by Move:	F	C	B	F	D	B	F	E	D	F	E	F
HCM2k95thQ:	21	46	2	17	73	38	46	21	31	7	7	48

Note: Queue reported is the number of cars per lane.

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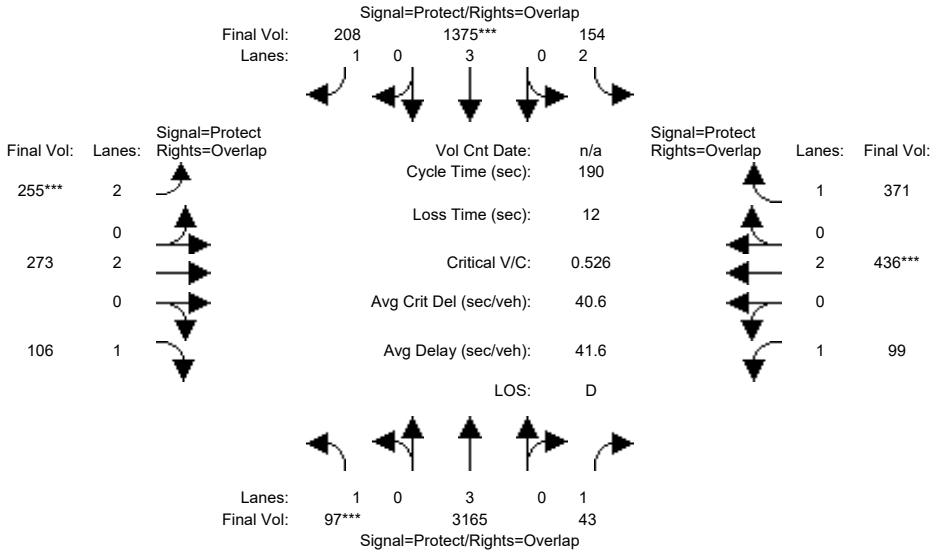
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	97	3723	43	154	1618	208	255	273	106	99	436	371
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	3723	43	154	1618	208	255	273	106	99	436	371
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	3723	43	154	1618	208	255	273	106	99	436	371
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	3165	43	154	1375	208	255	273	106	99	436	371
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	3165	43	154	1375	208	255	273	106	99	436	371
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	3165	43	154	1375	208	255	273	106	99	436	371
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.56	0.02	0.05	0.24	0.12	0.08	0.07	0.06	0.06	0.11	0.21
Crit Moves:	****				****		****				****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.62	0.97	0.04	0.77	0.44	0.18	0.77	0.35	0.21	0.60	0.59	0.82
Delay/Veh:	90.8	34.1	4.1	104.7	17.7	5.7	93.2	64.9	50.5	88.4	70.8	77.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.8	34.1	4.1	104.7	17.7	5.7	93.2	64.9	50.5	88.4	70.8	77.9
LOS by Move:	F	C	A	F	B	A	F	E	D	F	E	E
HCM2k95thQ:	10	82	1	11	19	4	19	13	9	13	21	39

Note: Queue reported is the number of cars per lane.

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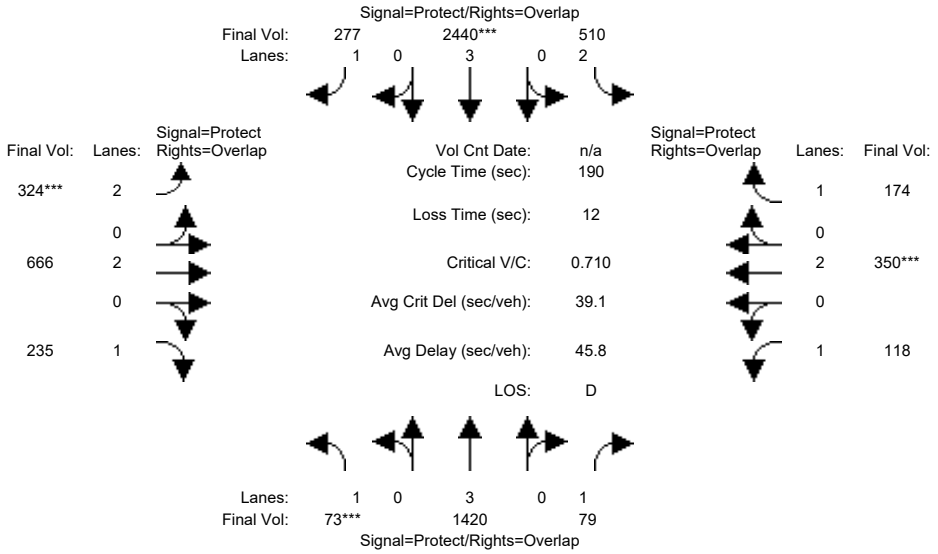
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	73	1972	79	510	3343	277	324	666	235	118	350	174
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	1972	79	510	3343	277	324	666	235	118	350	174
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	1972	79	510	3343	277	324	666	235	118	350	174
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	1420	79	510	2440	277	324	666	235	118	350	174
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	1420	79	510	2440	277	324	666	235	118	350	174
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	1420	79	510	2440	277	324	666	235	118	350	174
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.05	0.16	0.43	0.16	0.10	0.18	0.13	0.07	0.09	0.10
Crit Moves:	****				****		****				****	
Green Time:	11.0	79.0	94.1	34.4	102	127.0	24.6	49.5	60.5	15.1	40.0	74.4
Volume/Cap:	0.72	0.60	0.09	0.89	0.79	0.24	0.79	0.67	0.42	0.85	0.44	0.25
Delay/Veh:	110.1	38.3	19.7	92.4	26.3	4.8	90.6	64.8	51.5	122.3	65.6	39.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.1	38.3	19.7	92.4	26.3	4.8	90.6	64.8	51.5	122.3	65.6	39.2
LOS by Move:	F	D	B	F	C	A	F	E	D	F	E	D
HCM2k95thQ:	9	31	4	32	51	5	23	30	21	18	16	13

Note: Queue reported is the number of cars per lane.

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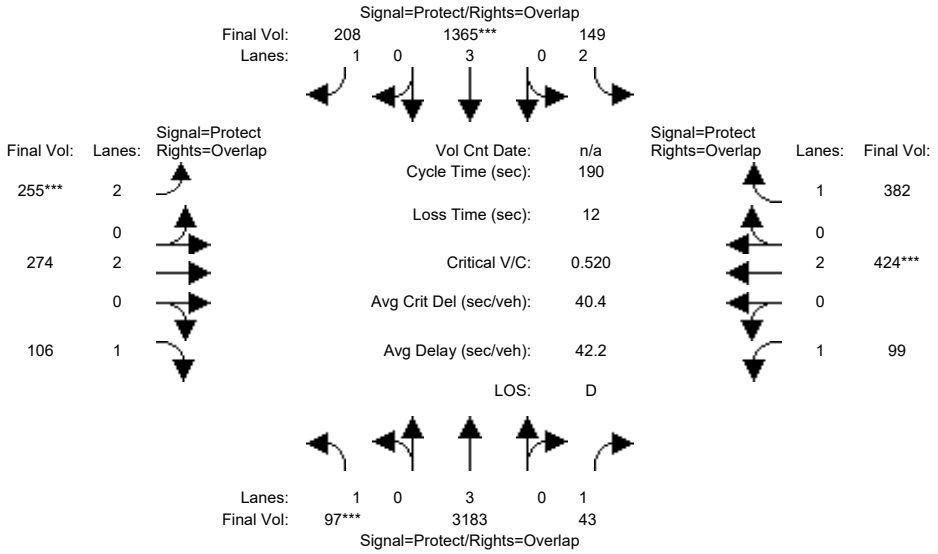
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	97	3745	43	149	1606	208	255	274	106	99	424	382
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	3745	43	149	1606	208	255	274	106	99	424	382
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	97	3745	43	149	1606	208	255	274	106	99	424	382
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	3183	43	149	1365	208	255	274	106	99	424	382
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	3183	43	149	1365	208	255	274	106	99	424	382
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	3183	43	149	1365	208	255	274	106	99	424	382
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.56	0.02	0.05	0.24	0.12	0.08	0.07	0.06	0.06	0.11	0.22
Crit Moves:	****				****		****				****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.62	0.97	0.04	0.75	0.44	0.18	0.77	0.35	0.21	0.60	0.57	0.85
Delay/Veh:	90.8	35.2	4.1	102.1	17.7	5.7	93.2	64.9	50.5	88.4	70.4	80.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.8	35.2	4.1	102.1	17.7	5.7	93.2	64.9	50.5	88.4	70.4	80.7
LOS by Move:	F	D	A	F	B	A	F	E	D	F	E	F
HCM2k95thQ:	10	84	1	10	19	4	19	13	9	13	21	41

Note: Queue reported is the number of cars per lane.

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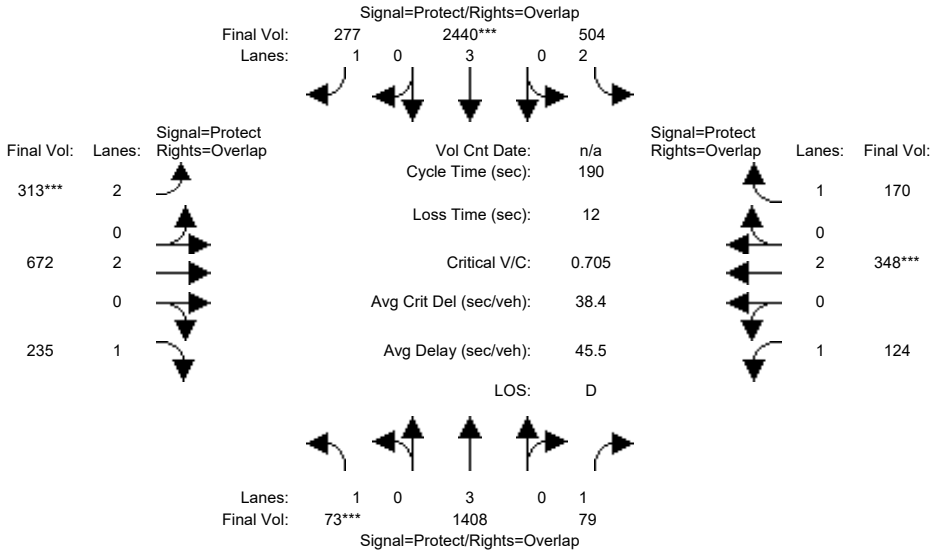
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	73	1956	79	504	3343	277	313	672	235	124	348	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	1956	79	504	3343	277	313	672	235	124	348	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	1956	79	504	3343	277	313	672	235	124	348	170
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	1408	79	504	2440	277	313	672	235	124	348	170
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	1408	79	504	2440	277	313	672	235	124	348	170
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	1408	79	504	2440	277	313	672	235	124	348	170
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.05	0.16	0.43	0.16	0.10	0.18	0.13	0.07	0.09	0.10
Crit Moves:	****				****		****				****	
Green Time:	11.0	79.4	95.0	34.6	103	127.0	23.9	48.4	59.4	15.5	40.0	74.6
Volume/Cap:	0.72	0.59	0.09	0.88	0.79	0.24	0.79	0.69	0.43	0.87	0.44	0.25
Delay/Veh:	110.1	37.8	19.1	90.0	25.6	4.8	90.8	66.3	52.4	125.5	65.6	39.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.1	37.8	19.1	90.0	25.6	4.8	90.8	66.3	52.4	125.5	65.6	39.0
LOS by Move:	F	D	B	F	C	A	F	E	D	F	E	D
HCM2k95thQ:	9	30	3	31	50	5	22	31	21	19	16	13

Note: Queue reported is the number of cars per lane.

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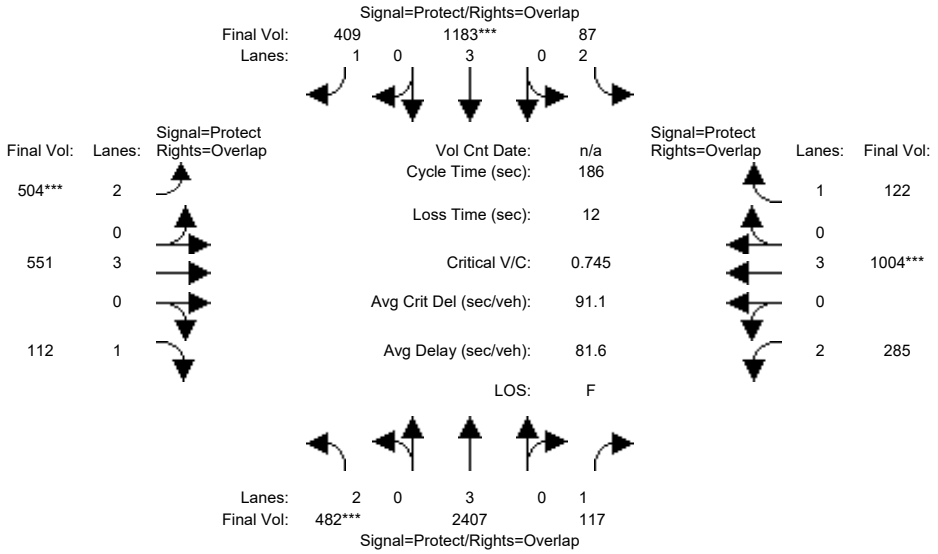
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	482	2832	117	87	1392	409	504	551	112	285	1004	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	482	2832	117	87	1392	409	504	551	112	285	1004	122
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	482	2832	117	87	1392	409	504	551	112	285	1004	122
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	482	2407	117	87	1183	409	504	551	112	285	1004	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	482	2407	117	87	1183	409	504	551	112	285	1004	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	482	2407	117	87	1183	409	504	551	112	285	1004	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.51	0.07	0.03	0.21	0.23	0.16	0.10	0.06	0.09	0.18	0.07
Crit Moves:	****				****		****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	1.05	0.98	0.10	0.34	0.45	0.39	1.14	0.50	0.19	0.65	0.91	0.25
Delay/Veh:	145.6	87.8	26.4	81.6	41.3	27.6	168.8	67.3	43.6	79.0	84.5	52.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	145.6	87.8	26.4	81.6	41.3	27.6	168.8	67.3	43.6	79.0	84.5	52.9
LOS by Move:	F	F	C	F	D	C	F	E	D	E	F	D
HCM2k95thQ:	34	77	10	6	30	29	38	17	9	17	34	11

Note: Queue reported is the number of cars per lane.

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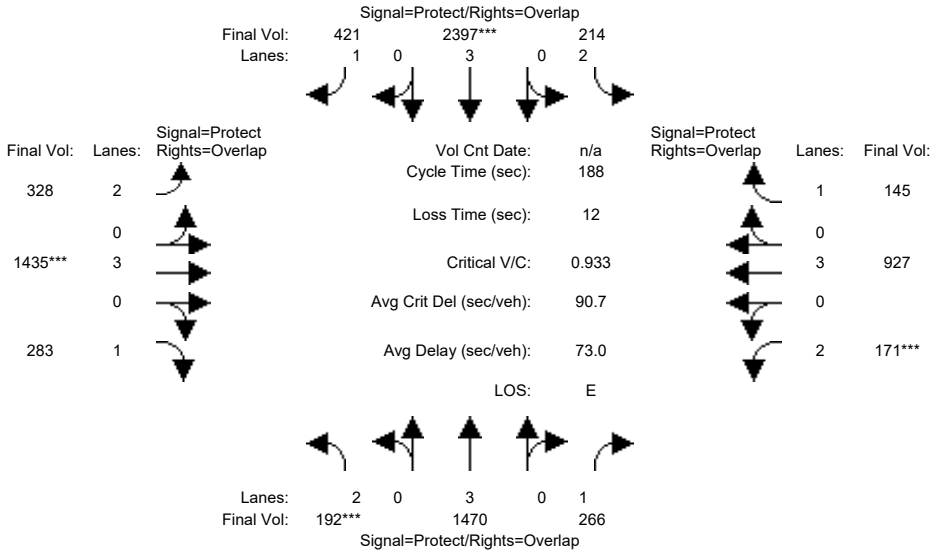
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	192	1750	266	214	2923	421	328	1435	283	171	927	145
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	1750	266	214	2923	421	328	1435	283	171	927	145
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	192	1750	266	214	2923	421	328	1435	283	171	927	145
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	192	1470	266	214	2397	421	328	1435	283	171	927	145
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	192	1470	266	214	2397	421	328	1435	283	171	927	145
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	192	1470	266	214	2397	421	328	1435	283	171	927	145
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.15	0.07	0.51	0.24	0.10	0.25	0.16	0.05	0.16	0.08
Crit Moves:	****				****			****			****	
Green Time:	13.0	84.5	100.5	22.5	94.0	117.0	23.0	53.0	66.0	16.0	46.0	68.5
Volume/Cap:	0.88	0.57	0.28	0.57	1.01	0.39	0.85	0.89	0.46	0.64	0.66	0.23
Delay/Veh:	118.1	45.8	31.1	87.2	100	37.3	97.2	71.6	47.8	88.3	65.3	41.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	118.1	45.8	31.1	87.2	100	37.3	97.2	71.6	47.8	88.3	65.3	41.6
LOS by Move:	F	D	C	F	F	D	F	E	D	F	E	D
HCM2k95thQ:	14	38	20	13	76	35	22	45	23	11	28	11

Note: Queue reported is the number of cars per lane.

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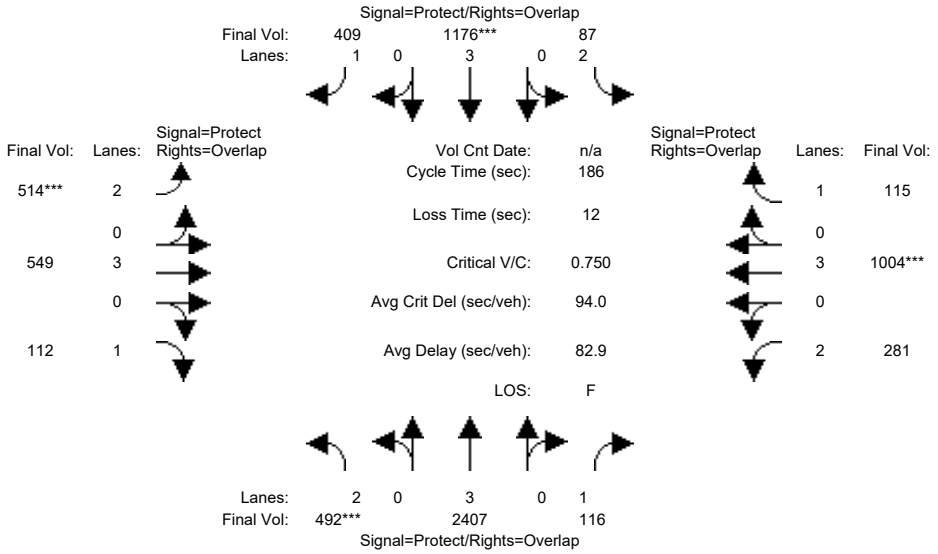
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	492	2832	116	87	1384	409	514	549	112	281	1004	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	492	2832	116	87	1384	409	514	549	112	281	1004	115
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	492	2832	116	87	1384	409	514	549	112	281	1004	115
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	492	2407	116	87	1176	409	514	549	112	281	1004	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	492	2407	116	87	1176	409	514	549	112	281	1004	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	492	2407	116	87	1176	409	514	549	112	281	1004	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.51	0.07	0.03	0.21	0.23	0.16	0.10	0.06	0.09	0.18	0.07
Crit Moves:	****				****		****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	1.08	0.98	0.10	0.34	0.45	0.39	1.17	0.50	0.19	0.64	0.91	0.24
Delay/Veh:	152.5	87.8	26.3	81.6	41.3	27.6	177.4	67.3	43.6	78.7	84.5	52.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	152.5	87.8	26.3	81.6	41.3	27.6	177.4	67.3	43.6	78.7	84.5	52.7
LOS by Move:	F	F	C	F	D	C	F	E	D	E	F	D
HCM2k95thQ:	36	77	10	6	30	30	40	17	9	17	34	10

Note: Queue reported is the number of cars per lane.

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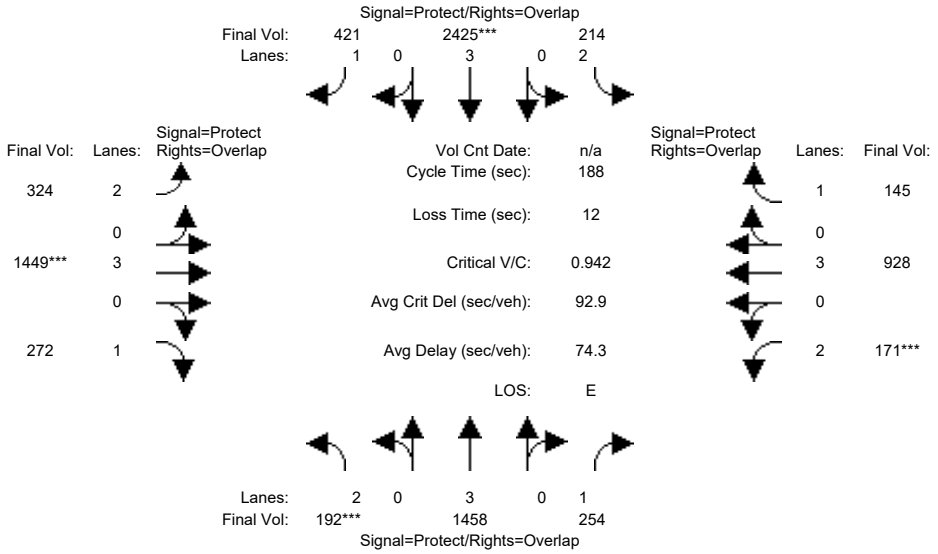
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	192	1736	254	214	2957	421	324	1449	272	171	928	145
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	1736	254	214	2957	421	324	1449	272	171	928	145
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	192	1736	254	214	2957	421	324	1449	272	171	928	145
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	192	1458	254	214	2425	421	324	1449	272	171	928	145
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	192	1458	254	214	2425	421	324	1449	272	171	928	145
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	192	1458	254	214	2425	421	324	1449	272	171	928	145
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.26	0.15	0.07	0.51	0.24	0.10	0.25	0.16	0.05	0.16	0.08
Crit Moves:	****				****			****			****	
Green Time:	13.0	84.5	100.5	22.5	94.0	117.0	23.0	53.0	66.0	16.0	46.0	68.5
Volume/Cap:	0.88	0.57	0.27	0.57	1.03	0.39	0.84	0.90	0.44	0.64	0.67	0.23
Delay/Veh:	118.1	45.6	30.8	87.2	104	37.3	95.9	72.4	47.4	88.3	65.3	41.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	118.1	45.6	30.8	87.2	104	37.3	95.9	72.4	47.4	88.3	65.3	41.6
LOS by Move:	F	D	C	F	F	D	F	E	D	F	E	D
HCM2k95thQ:	14	38	20	13	78	35	21	46	23	11	28	11

Note: Queue reported is the number of cars per lane.

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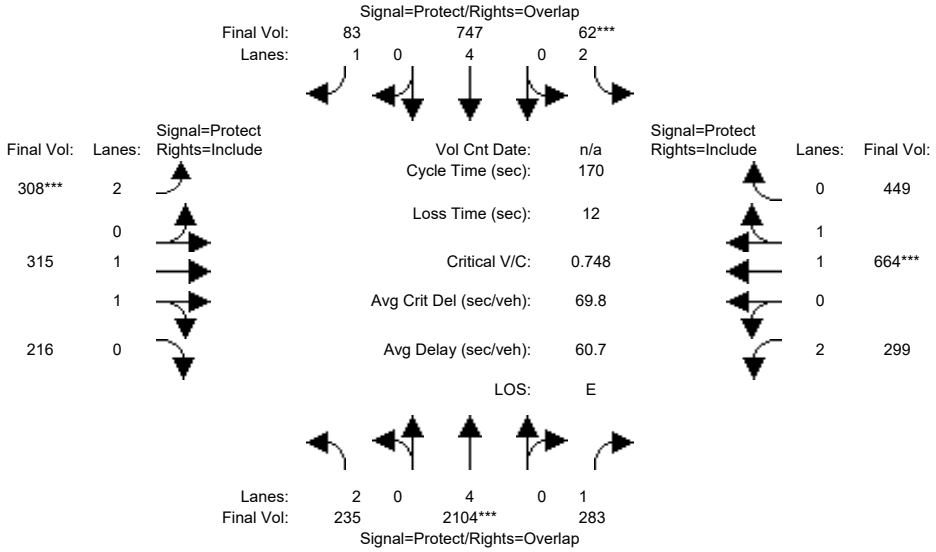
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	235	2104	283	62	747	83	308	315	216	299	664	449
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	2104	283	62	747	83	308	315	216	299	664	449
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	2104	283	62	747	83	308	315	216	299	664	449
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	2104	283	62	747	83	308	315	216	299	664	449
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	2104	283	62	747	83	308	315	216	299	664	449
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	2104	283	62	747	83	308	315	216	299	664	449
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.16	0.84	2.00	1.17	0.83
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2194	1504	3150	2206	1492
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.16	0.02	0.10	0.05	0.10	0.14	0.14	0.09	0.30	0.30
Crit Moves:		****			****			****			****	
Green Time:	18.4	73.0	99.0	16.0	70.6	93.6	23.0	43.0	43.0	26.0	46.0	46.0
Volume/Cap:	0.69	0.64	0.28	0.21	0.24	0.09	0.72	0.57	0.57	0.62	1.11	1.11
Delay/Veh:	78.9	38.7	17.8	71.5	32.3	18.1	76.4	56.2	56.2	69.8	126	126.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	38.7	17.8	71.5	32.3	18.1	76.4	56.2	56.2	69.8	126	126.5
LOS by Move:	E	D	B	E	C	B	E	E	E	E	F	F
HCM2k95thQ:	13	37	19	4	14	6	18	22	22	16	60	60

Note: Queue reported is the number of cars per lane.

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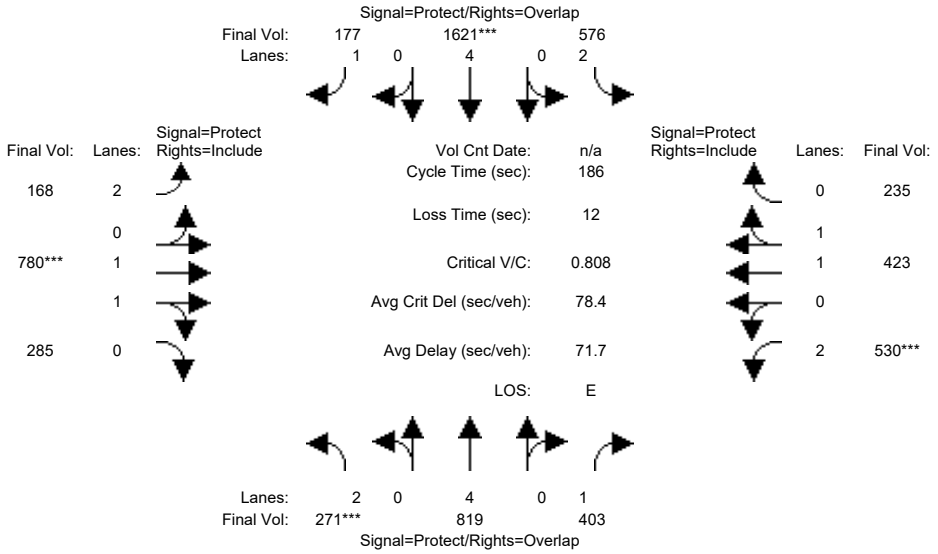
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	271	819	403	576	1621	177	168	780	285	530	423	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	819	403	576	1621	177	168	780	285	530	423	235
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	819	403	576	1621	177	168	780	285	530	423	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	819	403	576	1621	177	168	780	285	530	423	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	819	403	576	1621	177	168	780	285	530	423	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	271	819	403	576	1621	177	168	780	285	530	423	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.45	0.55	2.00	1.27	0.73
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2709	990	3150	2378	1321
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.23	0.18	0.21	0.10	0.05	0.29	0.29	0.17	0.18	0.18
Crit Moves:	****				****			****		****		
Green Time:	19.0	52.6	89.6	34.4	68.0	108.9	40.9	50.0	50.0	37.0	46.1	46.1
Volume/Cap:	0.84	0.38	0.48	0.99	0.58	0.17	0.24	1.07	1.07	0.85	0.72	0.72
Delay/Veh:	99.9	53.7	32.9	109.9	47.9	17.9	60.0	118	117.6	82.1	66.7	66.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.9	53.7	32.9	109.9	47.9	17.9	60.0	118	117.6	82.1	66.7	66.7
LOS by Move:	F	D	C	F	D	B	E	F	F	F	E	E
HCM2k95thQ:	18	18	32	38	33	13	9	60	60	31	30	30

Note: Queue reported is the number of cars per lane.

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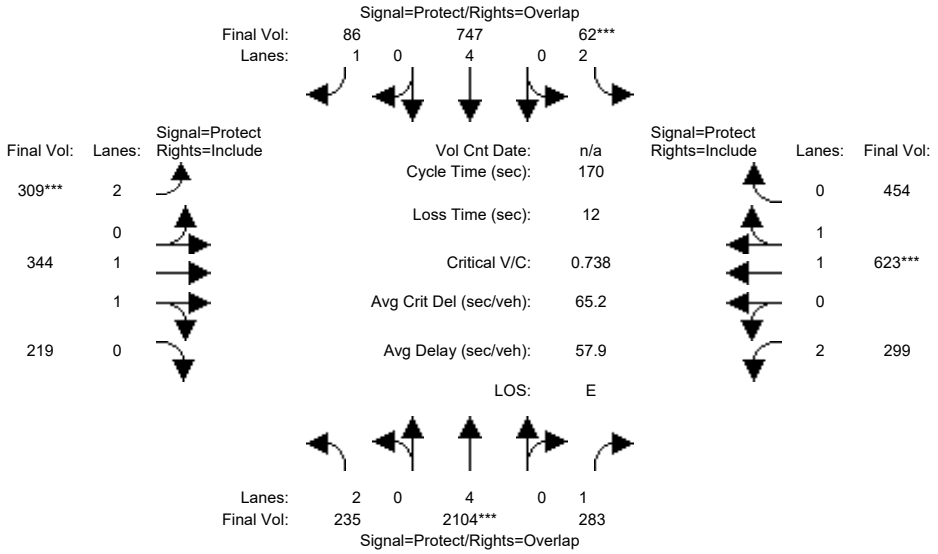
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	235	2104	283	62	747	86	309	344	219	299	623	454
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	2104	283	62	747	86	309	344	219	299	623	454
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	2104	283	62	747	86	309	344	219	299	623	454
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	2104	283	62	747	86	309	344	219	299	623	454
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	2104	283	62	747	86	309	344	219	299	623	454
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	2104	283	62	747	86	309	344	219	299	623	454
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.20	0.80	2.00	1.13	0.87
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2260	1439	3150	2139	1559
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.16	0.02	0.10	0.05	0.10	0.15	0.15	0.09	0.29	0.29
Crit Moves:		****			****			****			****	
Green Time:	18.4	73.0	99.0	16.0	70.6	93.6	23.0	43.0	43.0	26.0	46.0	46.0
Volume/Cap:	0.69	0.64	0.28	0.21	0.24	0.09	0.73	0.60	0.60	0.62	1.08	1.08
Delay/Veh:	78.9	38.7	17.8	71.5	32.3	18.1	76.6	57.1	57.1	69.8	113	113.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	38.7	17.8	71.5	32.3	18.1	76.6	57.1	57.1	69.8	113	113.3
LOS by Move:	E	D	B	E	C	B	E	E	E	E	F	F
HCM2k95thQ:	13	37	19	4	14	6	18	23	23	16	57	57

Note: Queue reported is the number of cars per lane.

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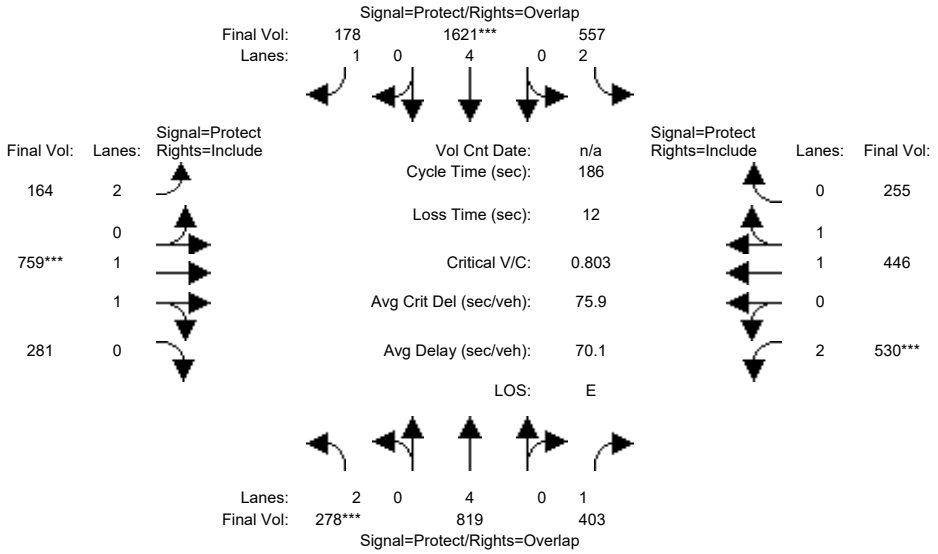
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	278	819	403	557	1621	178	164	759	281	530	446	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	278	819	403	557	1621	178	164	759	281	530	446	255
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	819	403	557	1621	178	164	759	281	530	446	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	278	819	403	557	1621	178	164	759	281	530	446	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	278	819	403	557	1621	178	164	759	281	530	446	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	278	819	403	557	1621	178	164	759	281	530	446	255
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.44	0.56	2.00	1.25	0.75
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2700	999	3150	2353	1345
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.23	0.18	0.21	0.10	0.05	0.28	0.28	0.17	0.19	0.19
Crit Moves:	****				****			****		****		
Green Time:	19.0	53.3	90.3	33.7	68.0	108.9	40.9	50.0	50.0	37.0	46.1	46.1
Volume/Cap:	0.86	0.38	0.47	0.98	0.58	0.17	0.24	1.05	1.05	0.85	0.76	0.76
Delay/Veh:	103.0	53.2	32.4	107.2	47.9	17.9	59.9	109	109.3	82.1	68.8	68.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	103.0	53.2	32.4	107.2	47.9	17.9	59.9	109	109.3	82.1	68.8	68.8
LOS by Move:	F	D	C	F	D	B	E	F	F	F	E	E
HCM2k95thQ:	19	18	32	36	33	13	9	57	57	31	33	33

Note: Queue reported is the number of cars per lane.

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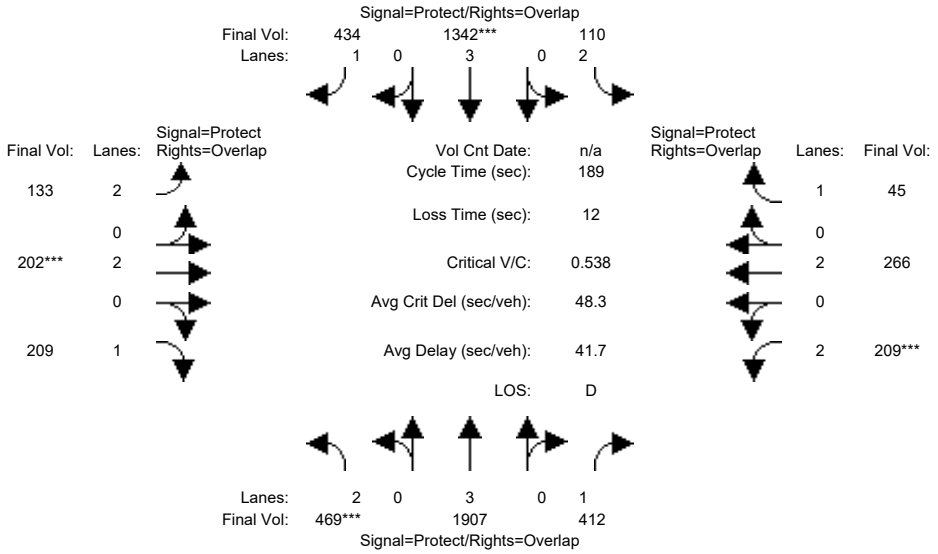
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	469	2192	412	110	1542	434	133	202	209	209	266	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	469	2192	412	110	1542	434	133	202	209	209	266	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	469	2192	412	110	1542	434	133	202	209	209	266	45
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	469	1907	412	110	1342	434	133	202	209	209	266	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	469	1907	412	110	1342	434	133	202	209	209	266	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	469	1907	412	110	1342	434	133	202	209	209	266	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.33	0.24	0.03	0.24	0.25	0.04	0.05	0.13	0.07	0.07	0.03
Crit Moves:	****				****			****			****	
Green Time:	35.3	109	124.5	18.5	92.0	107.9	15.9	34.0	69.3	15.7	33.9	52.3
Volume/Cap:	0.80	0.58	0.36	0.36	0.48	0.43	0.50	0.30	0.36	0.80	0.39	0.09
Delay/Veh:	81.1	34.8	22.2	80.4	25.7	15.1	84.3	67.4	44.0	100.7	68.8	50.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	81.1	34.8	22.2	80.4	25.7	15.1	84.3	67.4	44.0	100.7	68.8	50.8
LOS by Move:	F	C	C	F	C	B	F	E	D	F	E	D
HCM2k95thQ:	30	45	28	7	23	18	10	10	17	13	12	4

Note: Queue reported is the number of cars per lane.

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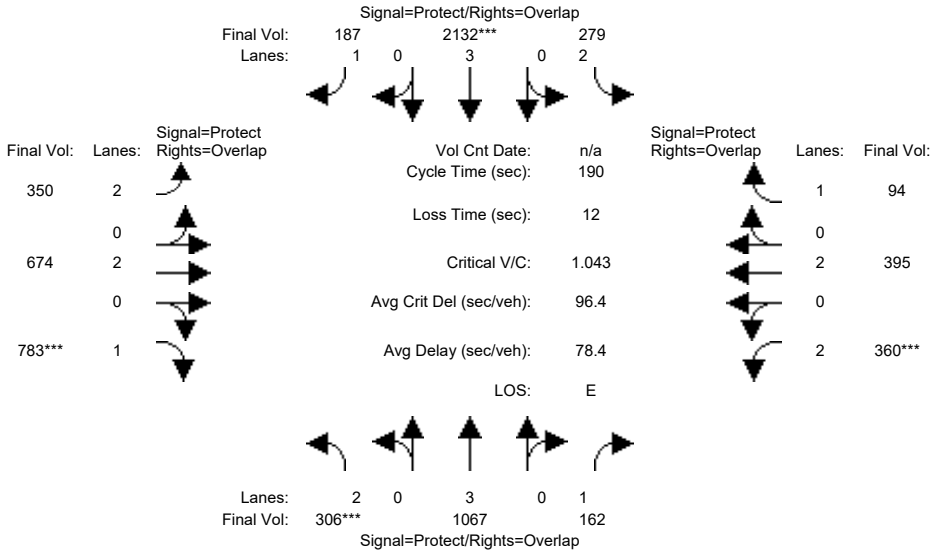
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	306	1593	162	279	2665	187	350	674	783	360	395	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	306	1593	162	279	2665	187	350	674	783	360	395	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	306	1593	162	279	2665	187	350	674	783	360	395	94
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	306	1067	162	279	2132	187	350	674	783	360	395	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	306	1067	162	279	2132	187	350	674	783	360	395	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	306	1067	162	279	2132	187	350	674	783	360	395	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.19	0.09	0.09	0.37	0.11	0.11	0.18	0.49	0.11	0.10	0.05
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	0.84	0.41	0.16	1.12	0.90	0.19	0.74	0.64	1.24	0.90	0.41	0.16
Delay/Veh:	98.0	29.3	11.6	181.3	64.7	26.9	83.5	61.3	178.1	105.4	59.0	44.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.0	29.3	11.6	181.3	64.7	26.9	83.5	61.3	178.1	105.4	59.0	44.6
LOS by Move:	F	C	B	F	E	C	F	E	F	F	E	D
HCM2k95thQ:	23	19	5	23	65	14	23	30	105	23	17	8

Note: Queue reported is the number of cars per lane.

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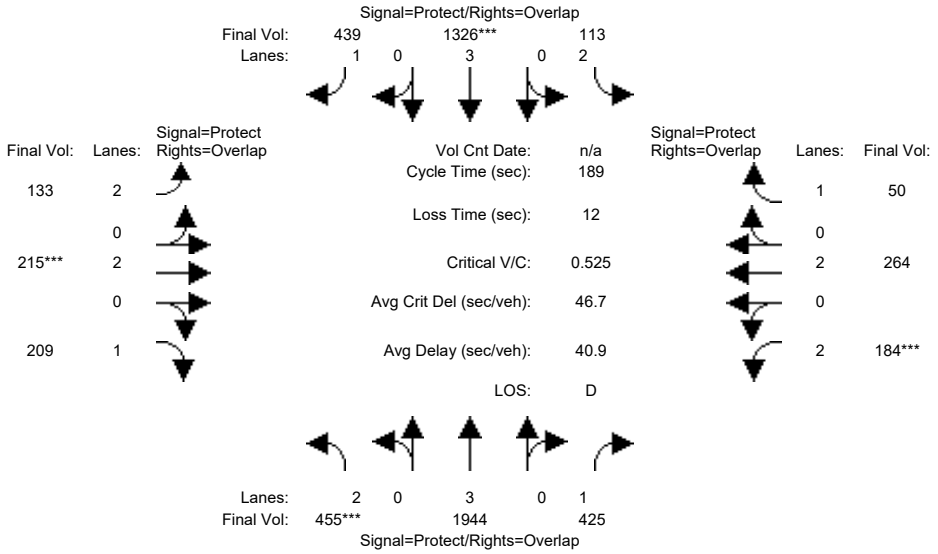
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	455	2235	425	113	1524	439	133	215	209	184	264	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	455	2235	425	113	1524	439	133	215	209	184	264	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	455	2235	425	113	1524	439	133	215	209	184	264	50
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	455	1944	425	113	1326	439	133	215	209	184	264	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	455	1944	425	113	1326	439	133	215	209	184	264	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	455	1944	425	113	1326	439	133	215	209	184	264	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.34	0.24	0.04	0.23	0.25	0.04	0.06	0.13	0.06	0.07	0.03
Crit Moves:	****				****			****		****		
Green Time:	36.3	110	124.4	18.6	92.0	107.5	15.5	34.0	70.3	14.7	33.1	51.8
Volume/Cap:	0.75	0.59	0.37	0.36	0.48	0.44	0.51	0.31	0.35	0.75	0.40	0.10
Delay/Veh:	77.6	34.6	22.5	80.4	25.6	15.4	84.9	67.6	43.2	97.7	69.4	51.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.6	34.6	22.5	80.4	25.6	15.4	84.9	67.6	43.2	97.7	69.4	51.4
LOS by Move:	E	C	C	F	C	B	F	E	D	F	E	D
HCM2k95thQ:	29	46	29	7	23	18	10	10	17	11	12	4

Note: Queue reported is the number of cars per lane.

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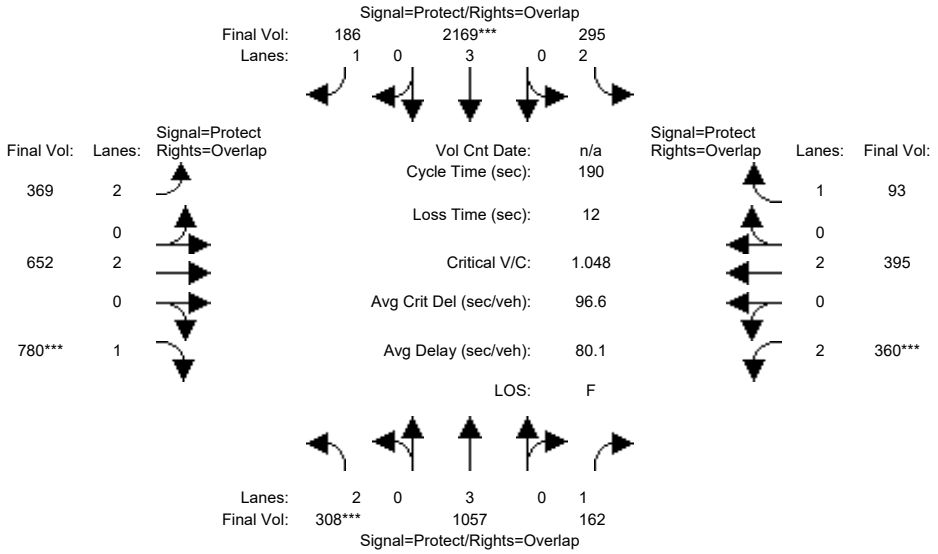
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	308	1578	162	295	2711	186	369	652	780	360	395	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	308	1578	162	295	2711	186	369	652	780	360	395	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	308	1578	162	295	2711	186	369	652	780	360	395	93
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	1057	162	295	2169	186	369	652	780	360	395	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	1057	162	295	2169	186	369	652	780	360	395	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	308	1057	162	295	2169	186	369	652	780	360	395	93
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.19	0.09	0.09	0.38	0.11	0.12	0.17	0.49	0.11	0.10	0.05
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	0.84	0.41	0.16	1.19	0.92	0.19	0.78	0.62	1.23	0.90	0.41	0.16
Delay/Veh:	98.6	29.2	11.6	204.4	66.3	26.9	86.1	60.7	176.1	105.4	59.0	44.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.6	29.2	11.6	204.4	66.3	26.9	86.1	60.7	176.1	105.4	59.0	44.6
LOS by Move:	F	C	B	F	E	C	F	E	F	F	E	D
HCM2k95thQ:	23	19	5	26	67	14	25	29	105	23	17	8

Note: Queue reported is the number of cars per lane.

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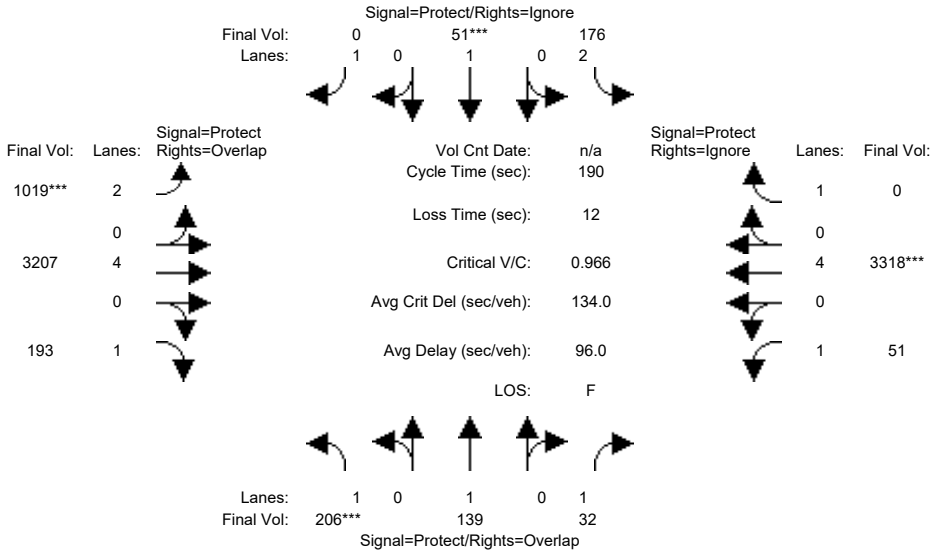
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	206	139	32	176	51	318	1019	3207	193	51	3318	658
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	139	32	176	51	318	1019	3207	193	51	3318	658
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	206	139	32	176	51	318	1019	3207	193	51	3318	658
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	206	139	32	176	51	0	1019	3207	193	51	3318	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	139	32	176	51	0	1019	3207	193	51	3318	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	206	139	32	176	51	0	1019	3207	193	51	3318	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.07	0.02	0.06	0.03	0.00	0.32	0.42	0.11	0.03	0.44	0.00
Crit Moves:	****				****		****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.70	0.43	0.08	0.88	0.43	0.00	1.02	0.66	0.14	0.46	1.12	0.00
Delay/Veh:	81.7	71.8	57.2	122.4	88.1	0.0	119.9	46.6	14.8	92.8	142	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	81.7	71.8	57.2	122.4	88.1	0.0	119.9	46.6	14.8	92.8	142	0.0
LOS by Move:	F	E	E	F	F	A	F	D	B	F	F	A
HCM2k95thQ:	23	14	3	16	7	0	66	63	16	7	93	0

Note: Queue reported is the number of cars per lane.

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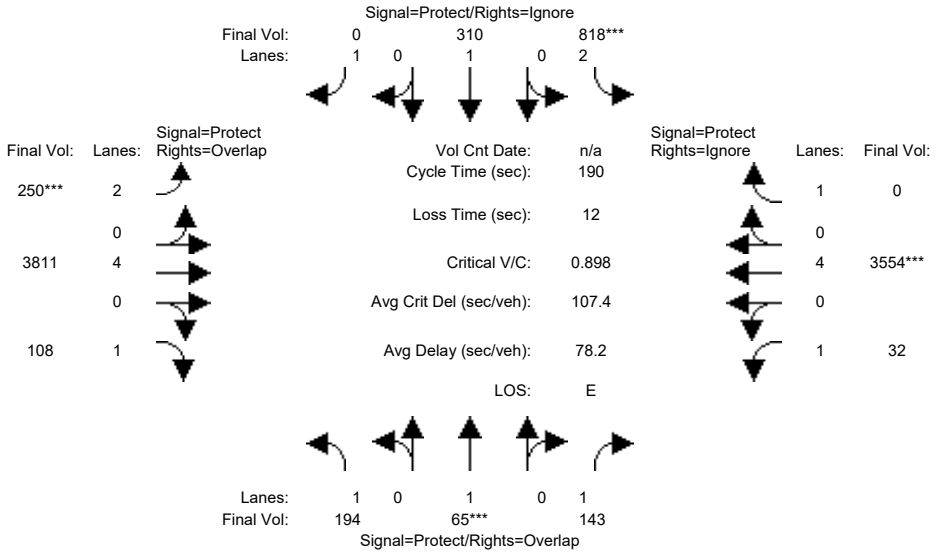
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	194	65	143	818	310	845	250	3811	108	32	3554	240
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	65	143	818	310	845	250	3811	108	32	3554	240
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	65	143	818	310	845	250	3811	108	32	3554	240
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	194	65	143	818	310	0	250	3811	108	32	3554	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	65	143	818	310	0	250	3811	108	32	3554	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	194	65	143	818	310	0	250	3811	108	32	3554	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.03	0.08	0.26	0.16	0.00	0.08	0.50	0.06	0.02	0.47	0.00
Crit Moves:		****		****			****				****	
Green Time:	28.7	26.0	35.2	45.7	43.0	0.0	24.0	97.1	125.8	9.2	82.3	0.0
Volume/Cap:	0.73	0.25	0.44	1.08	0.72	0.00	0.63	0.98	0.09	0.38	1.08	0.00
Delay/Veh:	87.2	73.8	69.7	128.5	73.8	0.0	82.0	44.5	4.6	90.5	105	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.2	73.8	69.7	128.5	73.8	0.0	82.0	44.5	4.6	90.5	105	0.0
LOS by Move:	F	E	E	F	E	A	F	D	A	F	F	A
HCM2k95thQ:	23	7	15	58	30	0	17	89	2	5	95	0

Note: Queue reported is the number of cars per lane.

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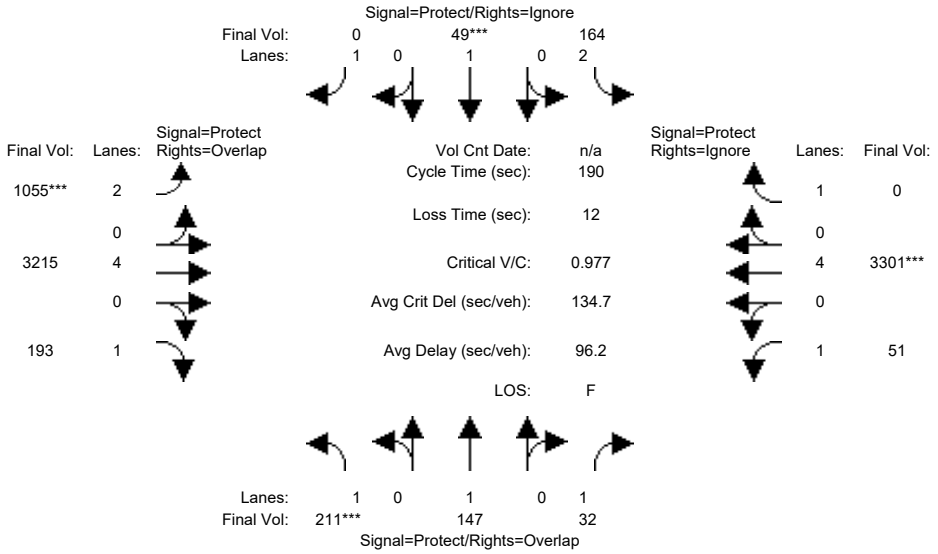
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	211	147	32	164	49	318	1055	3215	193	51	3301	650
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	147	32	164	49	318	1055	3215	193	51	3301	650
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	147	32	164	49	318	1055	3215	193	51	3301	650
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	211	147	32	164	49	0	1055	3215	193	51	3301	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	147	32	164	49	0	1055	3215	193	51	3301	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	211	147	32	164	49	0	1055	3215	193	51	3301	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.08	0.02	0.05	0.03	0.00	0.33	0.42	0.11	0.03	0.43	0.00
Crit Moves:	****				****		****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.72	0.46	0.08	0.82	0.41	0.00	1.06	0.66	0.14	0.46	1.12	0.00
Delay/Veh:	82.8	72.3	57.2	111.5	87.8	0.0	131.0	46.7	14.8	92.8	140	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	82.8	72.3	57.2	111.5	87.8	0.0	131.0	46.7	14.8	92.8	140	0.0
LOS by Move:	F	E	E	F	F	A	F	D	B	F	F	A
HCM2k95thQ:	24	15	3	14	6	0	70	64	16	7	92	0

Note: Queue reported is the number of cars per lane.

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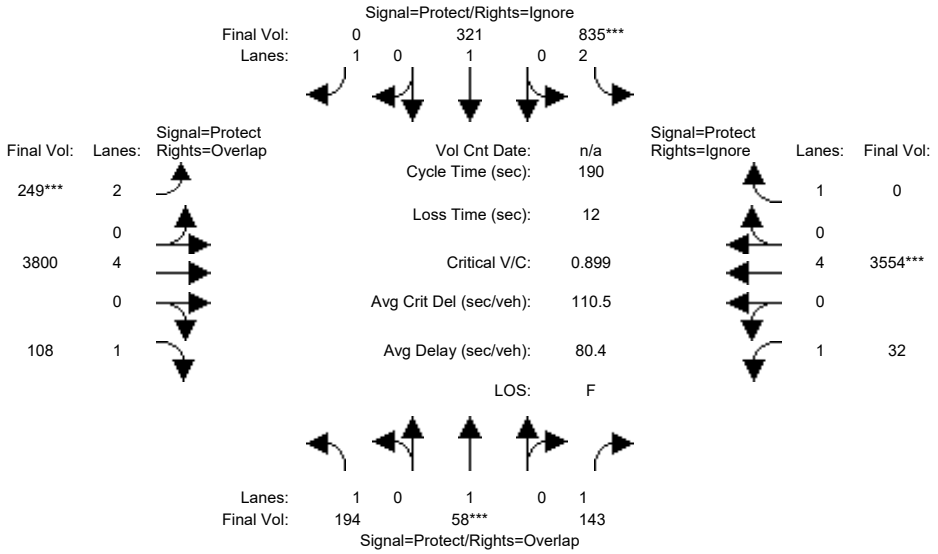
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	194	58	143	835	321	845	249	3800	108	32	3554	224
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	58	143	835	321	845	249	3800	108	32	3554	224
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	58	143	835	321	845	249	3800	108	32	3554	224
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	194	58	143	835	321	0	249	3800	108	32	3554	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	58	143	835	321	0	249	3800	108	32	3554	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	194	58	143	835	321	0	249	3800	108	32	3554	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.03	0.08	0.27	0.17	0.00	0.08	0.50	0.06	0.02	0.47	0.00
Crit Moves:		****		****			****				****	
Green Time:	28.9	26.0	35.1	46.3	43.4	0.0	24.0	96.5	125.5	9.1	81.7	0.0
Volume/Cap:	0.73	0.22	0.44	1.09	0.74	0.00	0.63	0.98	0.09	0.38	1.09	0.00
Delay/Veh:	86.5	73.4	69.7	130.8	74.7	0.0	81.9	45.7	4.8	90.5	108	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	86.5	73.4	69.7	130.8	74.7	0.0	81.9	45.7	4.8	90.5	108	0.0
LOS by Move:	F	E	E	F	E	A	F	D	A	F	F	A
HCM2k95thQ:	23	6	15	59	31	0	17	89	2	5	95	0

Note: Queue reported is the number of cars per lane.

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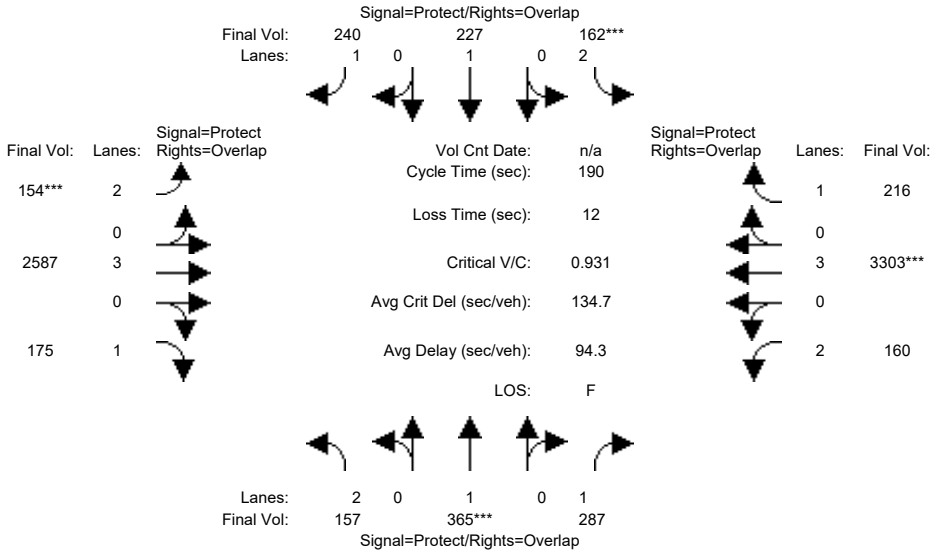
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	157	365	287	162	227	240	154	2974	175	160	3797	216
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	365	287	162	227	240	154	2974	175	160	3797	216
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	157	365	287	162	227	240	154	2974	175	160	3797	216
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	365	287	162	227	240	154	2587	175	160	3303	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	365	287	162	227	240	154	2587	175	160	3303	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	365	287	162	227	240	154	2587	175	160	3303	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.16	0.05	0.12	0.14	0.05	0.45	0.10	0.05	0.58	0.12
Crit Moves:		****			****			****			****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.39	0.74	0.49	0.75	0.61	0.49	0.58	0.95	0.16	0.65	1.23	0.23
Delay/Veh:	76.5	70.6	50.6	100.1	72.5	57.7	87.0	55.4	16.3	91.2	146	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.5	70.6	50.6	100.1	72.5	57.7	87.0	55.4	16.3	91.2	146	16.0
LOS by Move:	E	E	D	F	E	E	F	E	B	F	F	B
HCM2k95thQ:	10	35	28	14	23	25	11	79	9	12	133	9

Note: Queue reported is the number of cars per lane.

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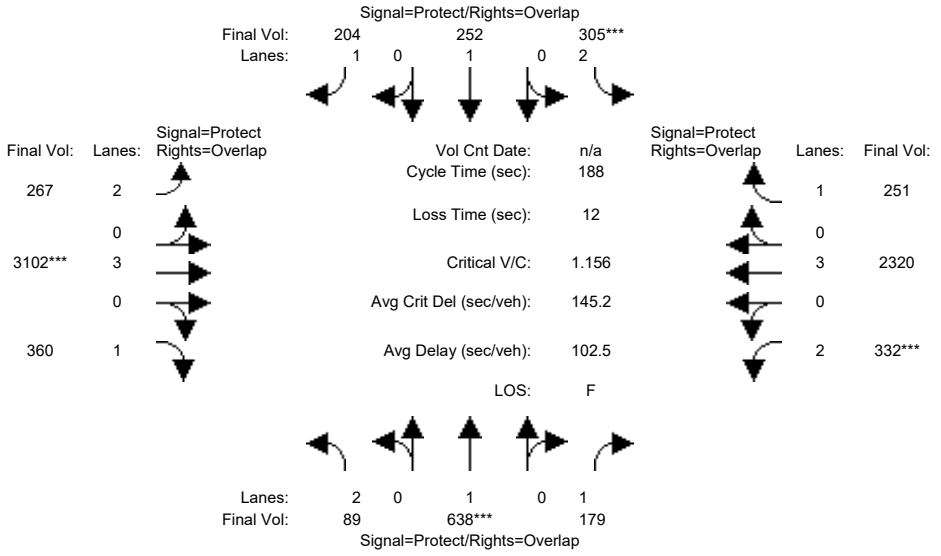
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	89	638	179	305	252	204	267	3878	360	332	3412	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	638	179	305	252	204	267	3878	360	332	3412	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	638	179	305	252	204	267	3878	360	332	3412	251
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	638	179	305	252	204	267	3102	360	332	2320	251
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	638	179	305	252	204	267	3102	360	332	2320	251
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	638	179	305	252	204	267	3102	360	332	2320	251
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.10	0.10	0.13	0.12	0.08	0.54	0.21	0.11	0.41	0.14
Crit Moves:		****		****				****		****		
Green Time:	14.3	49.0	71.0	20.0	54.7	76.7	22.0	85.0	99.3	22.0	85.0	105.0
Volume/Cap:	0.37	1.29	0.27	0.91	0.46	0.29	0.72	1.20	0.39	0.90	0.90	0.26
Delay/Veh:	83.6	214	40.8	110.8	55.1	37.5	87.0	139	19.3	106.1	61.2	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.6	214	40.8	110.8	55.1	37.5	87.0	139	19.3	106.1	61.2	28.4
LOS by Move:	F	F	D	F	E	D	F	F	B	F	E	C
HCM2k95thQ:	6	82	14	24	21	15	19	122	17	25	69	19

Note: Queue reported is the number of cars per lane.

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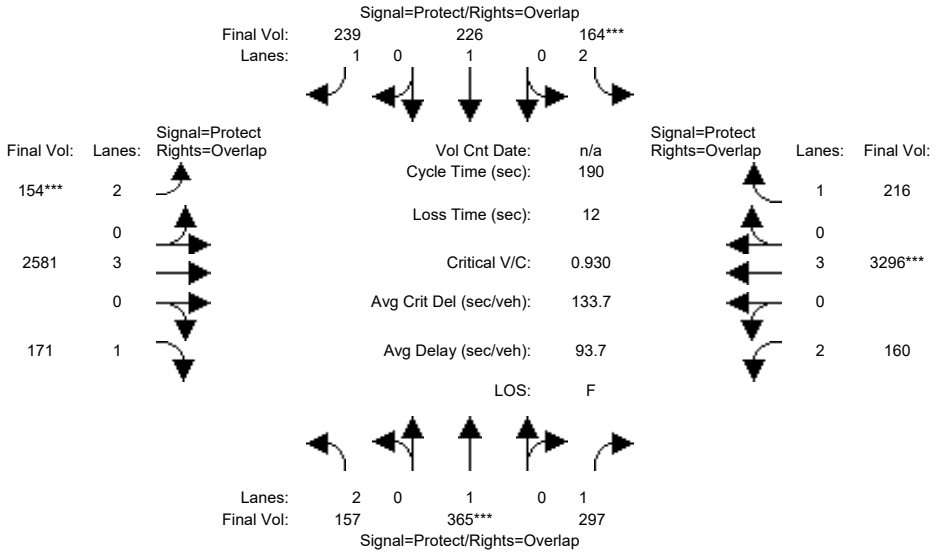
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	157	365	297	164	226	239	154	2967	171	160	3788	216
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	365	297	164	226	239	154	2967	171	160	3788	216
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	157	365	297	164	226	239	154	2967	171	160	3788	216
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	365	297	164	226	239	154	2581	171	160	3296	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	365	297	164	226	239	154	2581	171	160	3296	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	365	297	164	226	239	154	2581	171	160	3296	216
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.17	0.05	0.12	0.14	0.05	0.45	0.10	0.05	0.58	0.12
Crit Moves:		****		****			****				****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.39	0.74	0.50	0.76	0.60	0.49	0.58	0.95	0.16	0.65	1.22	0.23
Delay/Veh:	76.5	70.6	51.0	100.9	72.4	57.6	87.0	55.1	16.3	91.2	144	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.5	70.6	51.0	100.9	72.4	57.6	87.0	55.1	16.3	91.2	144	16.0
LOS by Move:	E	E	D	F	E	E	F	E	B	F	F	B
HCM2k95thQ:	10	35	29	14	23	25	11	78	9	12	132	9

Note: Queue reported is the number of cars per lane.

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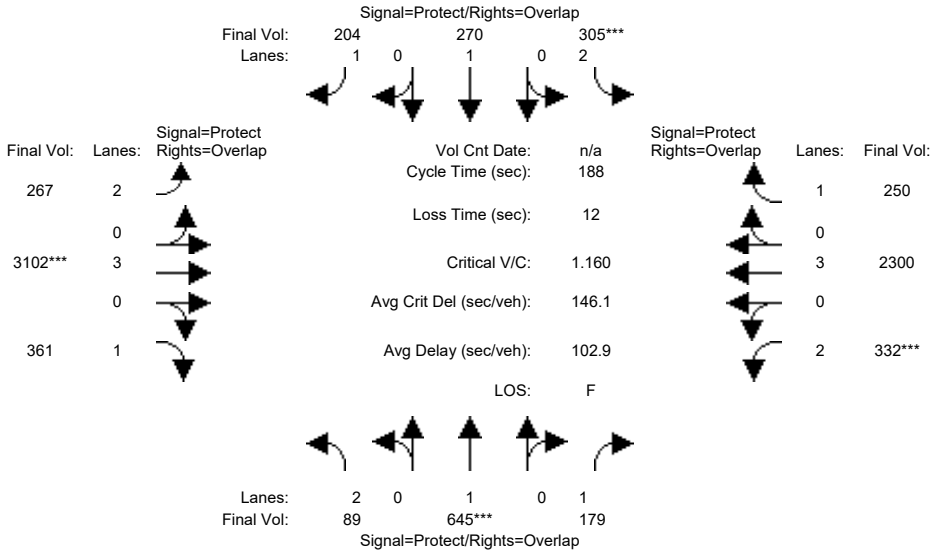
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	89	645	179	305	270	204	267	3877	361	332	3382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	645	179	305	270	204	267	3877	361	332	3382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	89	645	179	305	270	204	267	3877	361	332	3382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	645	179	305	270	204	267	3102	361	332	2300	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	645	179	305	270	204	267	3102	361	332	2300	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	645	179	305	270	204	267	3102	361	332	2300	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.34	0.10	0.10	0.14	0.12	0.08	0.54	0.21	0.11	0.40	0.14
Crit Moves:		****		****				****		****		
Green Time:	14.3	49.0	71.0	20.0	54.7	76.7	22.0	85.0	99.3	22.0	85.0	105.0
Volume/Cap:	0.37	1.30	0.27	0.91	0.49	0.29	0.72	1.20	0.39	0.90	0.89	0.26
Delay/Veh:	83.6	220	40.8	110.8	55.7	37.5	87.0	138	19.3	106.1	60.5	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.6	220	40.8	110.8	55.7	37.5	87.0	138	19.3	106.1	60.5	28.4
LOS by Move:	F	F	D	F	E	D	F	F	B	F	E	C
HCM2k95thQ:	6	84	14	24	23	15	19	122	17	25	68	19

Note: Queue reported is the number of cars per lane.

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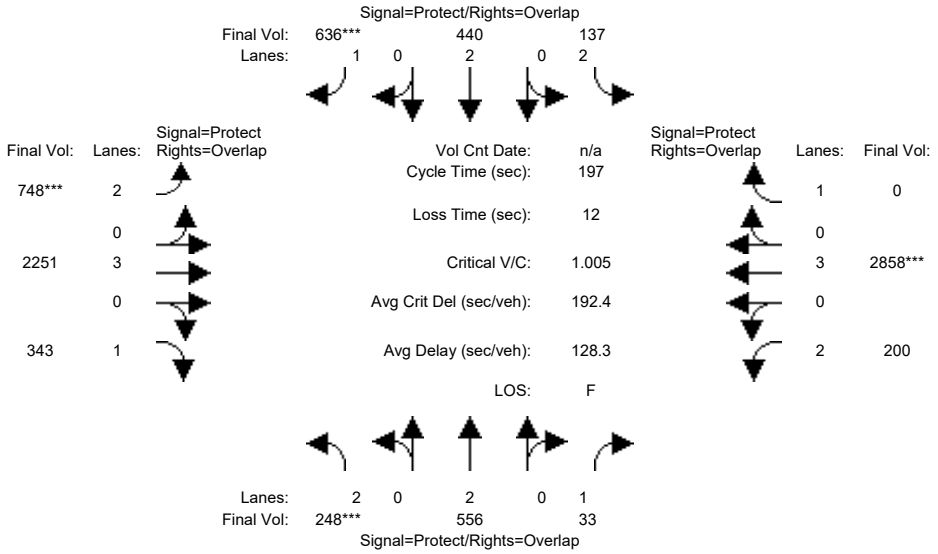
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	248	556	33	137	440	636	748	2587	343	200	3285	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	556	33	137	440	636	748	2587	343	200	3285	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	556	33	137	440	636	748	2587	343	200	3285	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	248	556	33	137	440	636	748	2251	343	200	2858	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	556	33	137	440	636	748	2251	343	200	2858	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	248	556	33	137	440	636	748	2251	343	200	2858	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.02	0.04	0.12	0.36	0.24	0.39	0.20	0.06	0.50	0.00
Crit Moves:	****					****	****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	0.96	0.68	0.07	0.38	0.47	0.87	1.38	0.81	0.34	0.98	1.32	0.00
Delay/Veh:	136.1	73.8	52.4	81.6	63.8	63.4	262.0	44.5	22.9	150.5	208	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	136.1	73.8	52.4	81.6	63.8	63.4	262.0	44.5	22.9	150.5	208	0.0
LOS by Move:	F	E	D	F	E	E	F	D	C	F	F	A
HCM2k95thQ:	19	27	3	9	20	62	65	59	21	14	123	0

Note: Queue reported is the number of cars per lane.

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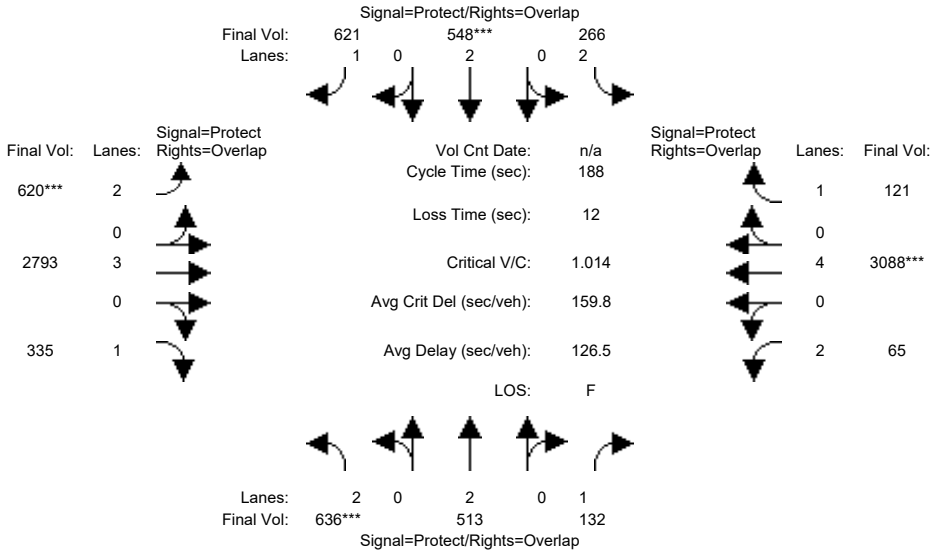
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	636	513	132	266	548	621	620	3627	335	65	3088	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	636	513	132	266	548	621	620	3627	335	65	3088	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	636	513	132	266	548	621	620	3627	335	65	3088	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	636	513	132	266	548	621	620	2793	335	65	3088	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	636	513	132	266	548	621	620	2793	335	65	3088	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	636	513	132	266	548	621	620	2793	335	65	3088	121
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.14	0.08	0.08	0.14	0.35	0.20	0.49	0.19	0.02	0.41	0.07
Crit Moves:	****				****		****				****	
Green Time:	31.9	43.4	53.4	36.5	48.0	79.1	31.1	86.1	118.0	10.0	65.0	101.5
Volume/Cap:	1.19	0.59	0.27	0.43	0.56	0.84	1.19	1.07	0.30	0.39	1.18	0.13
Delay/Veh:	181.0	65.3	52.4	67.1	61.7	57.7	192.2	119	34.4	90.8	166	38.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	181.0	65.3	52.4	67.1	61.7	57.7	192.2	119	34.4	90.8	166	38.1
LOS by Move:	F	E	D	E	E	E	F	F	C	F	F	D
HCM2k95thQ:	49	23	12	15	24	57	47	94	29	4	87	11

Note: Queue reported is the number of cars per lane.

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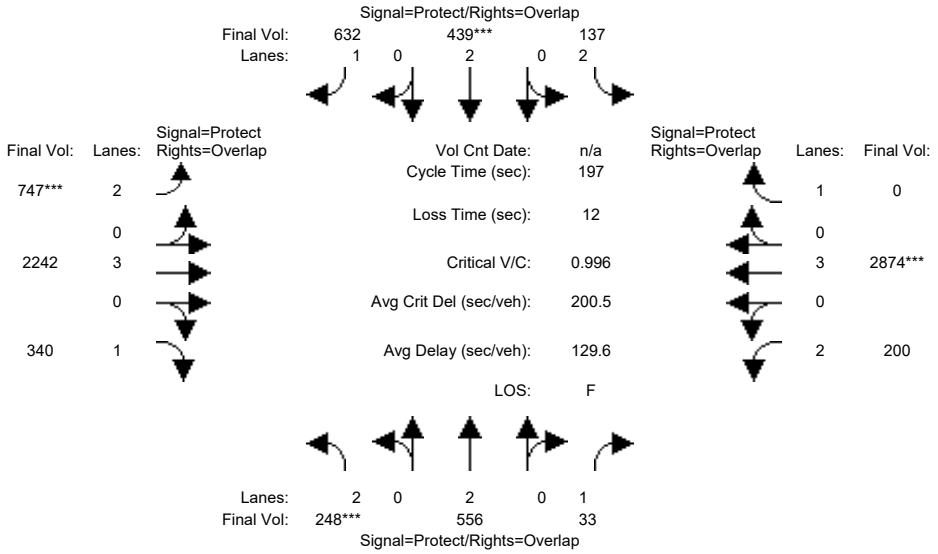
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	248	556	33	137	439	632	747	2577	340	200	3304	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	556	33	137	439	632	747	2577	340	200	3304	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	556	33	137	439	632	747	2577	340	200	3304	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	248	556	33	137	439	632	747	2242	340	200	2874	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	556	33	137	439	632	747	2242	340	200	2874	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	248	556	33	137	439	632	747	2242	340	200	2874	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.15	0.02	0.04	0.12	0.36	0.24	0.39	0.19	0.06	0.50	0.00
Crit Moves:	****				****		****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	0.96	0.68	0.07	0.38	0.47	0.86	1.37	0.81	0.34	0.98	1.33	0.00
Delay/Veh:	136.1	73.8	52.4	81.6	63.8	62.7	261.2	44.3	22.8	150.5	211	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	136.1	73.8	52.4	81.6	63.8	62.7	261.2	44.3	22.8	150.5	211	0.0
LOS by Move:	F	E	D	F	E	E	F	D	C	F	F	A
HCM2k95thQ:	19	27	3	9	20	61	65	59	20	14	125	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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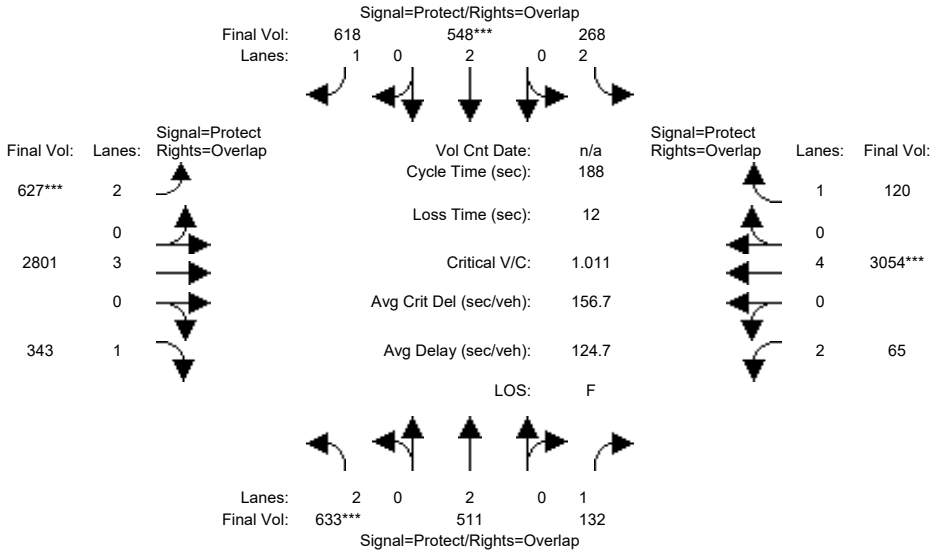
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	633	511	132	268	548	618	627	3638	343	65	3054	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	633	511	132	268	548	618	627	3638	343	65	3054	120
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	633	511	132	268	548	618	627	3638	343	65	3054	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	633	511	132	268	548	618	627	2801	343	65	3054	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	633	511	132	268	548	618	627	2801	343	65	3054	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	633	511	132	268	548	618	627	2801	343	65	3054	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.13	0.08	0.09	0.14	0.35	0.20	0.49	0.20	0.02	0.40	0.07
Crit Moves:	****				****		****				****	
Green Time:	31.7	43.2	53.2	36.4	48.0	79.4	31.4	86.4	118.0	10.0	65.0	101.4
Volume/Cap:	1.19	0.58	0.27	0.44	0.56	0.84	1.19	1.07	0.31	0.39	1.16	0.13
Delay/Veh:	182.8	65.4	52.5	67.3	61.7	56.8	193.5	119	34.6	90.8	161	38.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	182.8	65.4	52.5	67.3	61.7	56.8	193.5	119	34.6	90.8	161	38.2
LOS by Move:	F	E	D	E	E	E	F	F	C	F	F	D
HCM2k95thQ:	49	23	12	15	24	56	47	94	29	4	85	11

Note: Queue reported is the number of cars per lane.

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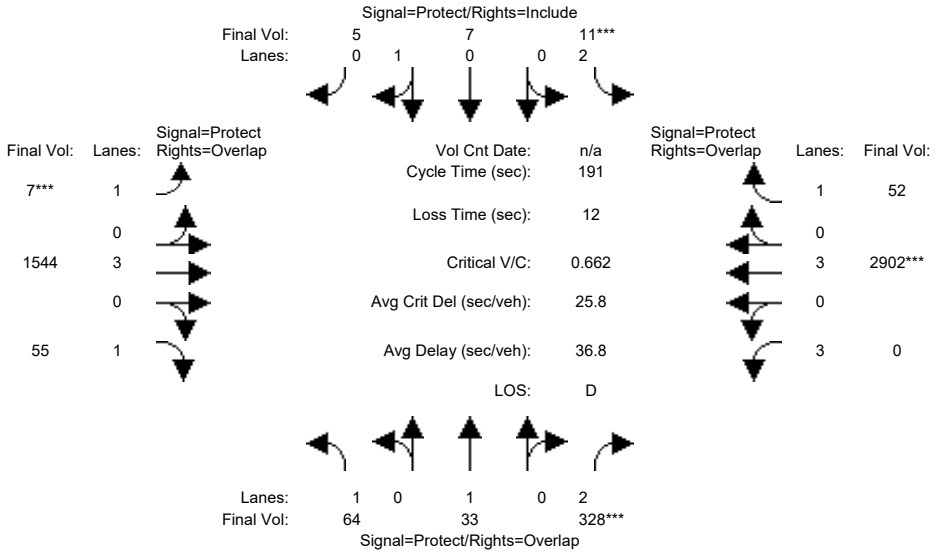
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	64	33	377	11	7	5	7	1775	55	0	3336	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	33	377	11	7	5	7	1775	55	0	3336	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	33	377	11	7	5	7	1775	55	0	3336	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	64	33	328	11	7	5	7	1544	55	0	2902	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	33	328	11	7	5	7	1544	55	0	2902	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	33	328	11	7	5	7	1544	55	0	2902	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.10	0.00	0.01	0.01	0.00	0.27	0.03	0.00	0.51	0.03
Crit Moves:			****	****			****				****	
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	0.41	0.15	0.22	0.11	0.09	0.09	0.08	0.78	0.07	0.00	0.78	0.04
Delay/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	57.9	31.3	0.0	24.9	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	57.9	31.3	0.0	24.9	10.0
LOS by Move:	F	E	C	F	F	F	F	E	C	A	C	A
HCM2k95thQ:	7	3	12	1	1	1	1	44	4	0	58	2

Note: Queue reported is the number of cars per lane.

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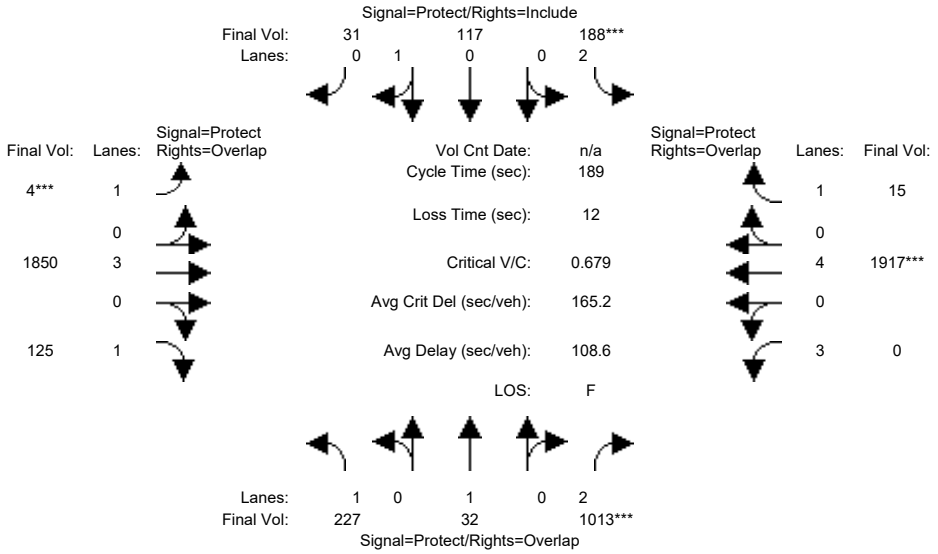
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	227	32	1235	188	117	31	4	2342	125	0	1917	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	227	32	1235	188	117	31	4	2342	125	0	1917	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	227	32	1235	188	117	31	4	2342	125	0	1917	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	227	32	1013	188	117	31	4	1850	125	0	1917	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	32	1013	188	117	31	4	1850	125	0	1917	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	227	32	1013	188	117	31	4	1850	125	0	1917	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.02	0.32	0.06	0.08	0.08	0.00	0.32	0.07	0.00	0.25	0.01
Crit Moves:			****	****			****				****	
Green Time:	24.0	34.0	34.0	25.0	35.0	35.0	7.0	118	142.0	0.0	111	136.0
Volume/Cap:	1.02	0.09	1.79	0.45	0.44	0.44	0.06	0.52	0.10	0.00	0.43	0.01
Delay/Veh:	148.5	64.8	438.8	76.4	69.3	69.3	88.2	19.9	6.3	0.0	29.6	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	148.5	64.8	438.8	76.4	69.3	69.3	88.2	19.9	6.3	0.0	29.6	12.9
LOS by Move:	F	E	F	E	E	E	F	B	A	A	C	B
HCM2k95thQ:	30	3	101	12	15	15	0	32	4	0	33	1

Note: Queue reported is the number of cars per lane.

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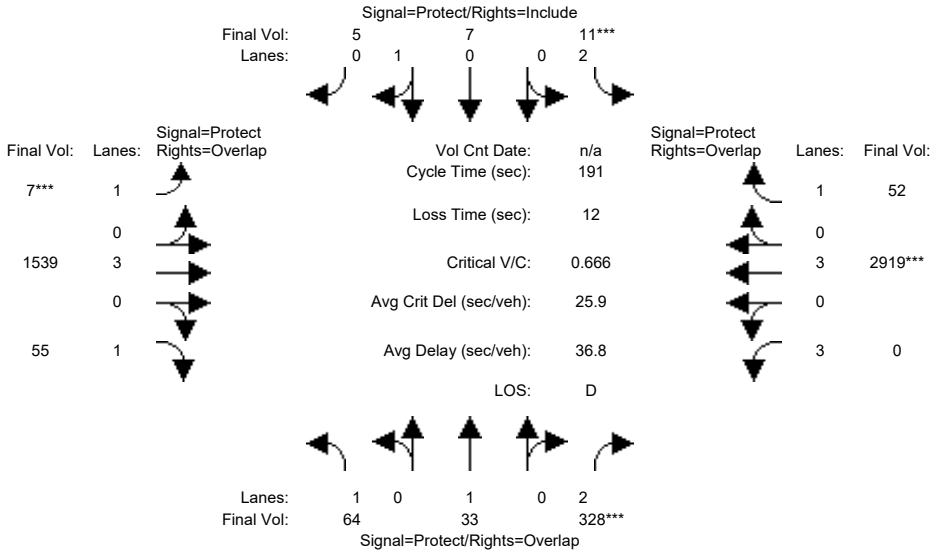
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	64	33	377	11	7	5	7	1769	55	0	3355	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	33	377	11	7	5	7	1769	55	0	3355	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	33	377	11	7	5	7	1769	55	0	3355	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	64	33	328	11	7	5	7	1539	55	0	2919	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	33	328	11	7	5	7	1539	55	0	2919	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	33	328	11	7	5	7	1539	55	0	2919	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.10	0.00	0.01	0.01	0.00	0.27	0.03	0.00	0.51	0.03
Crit Moves:			****	****			****				****	
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	0.41	0.15	0.22	0.11	0.09	0.09	0.08	0.78	0.07	0.00	0.79	0.04
Delay/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	57.8	31.3	0.0	25.1	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.9	76.6	29.6	90.3	82.4	82.4	86.4	57.8	31.3	0.0	25.1	10.0
LOS by Move:	F	E	C	F	F	F	F	E	C	A	C	A
HCM2k95thQ:	7	3	12	1	1	1	1	44	4	0	59	2

Note: Queue reported is the number of cars per lane.

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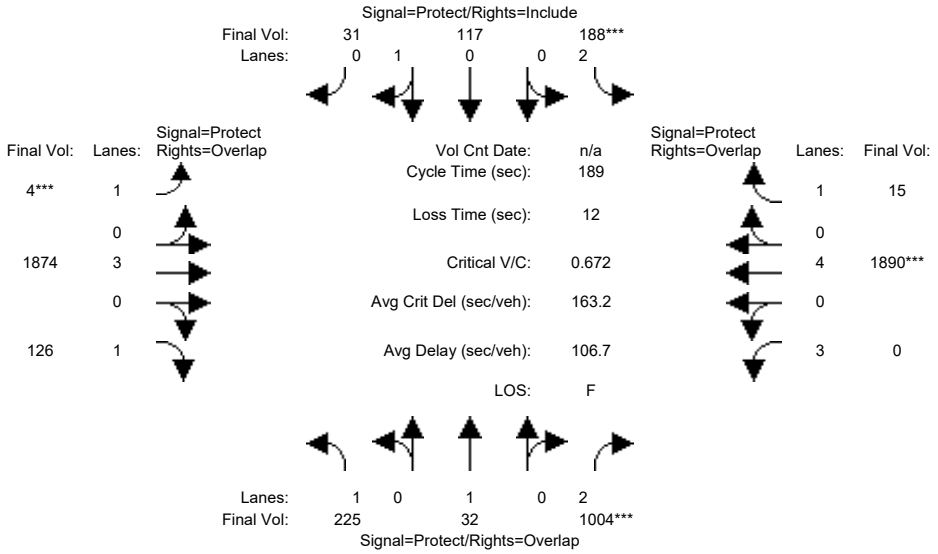
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	225	32	1224	188	117	31	4	2372	126	0	1890	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	225	32	1224	188	117	31	4	2372	126	0	1890	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	225	32	1224	188	117	31	4	2372	126	0	1890	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	225	32	1004	188	117	31	4	1874	126	0	1890	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	32	1004	188	117	31	4	1874	126	0	1890	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	225	32	1004	188	117	31	4	1874	126	0	1890	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.02	0.32	0.06	0.08	0.08	0.00	0.33	0.07	0.00	0.25	0.01
Crit Moves:			****	****			****				****	
Green Time:	24.0	34.0	34.0	25.0	35.0	35.0	7.0	118	142.0	0.0	111	136.0
Volume/Cap:	1.01	0.09	1.77	0.45	0.44	0.44	0.06	0.53	0.10	0.00	0.42	0.01
Delay/Veh:	146.1	64.8	431.7	76.4	69.3	69.3	88.2	20.0	6.3	0.0	29.4	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	146.1	64.8	431.7	76.4	69.3	69.3	88.2	20.0	6.3	0.0	29.4	12.9
LOS by Move:	F	E	F	E	E	E	F	C	A	A	C	B
HCM2k95thQ:	29	3	100	12	15	15	0	33	4	0	32	1

Note: Queue reported is the number of cars per lane.

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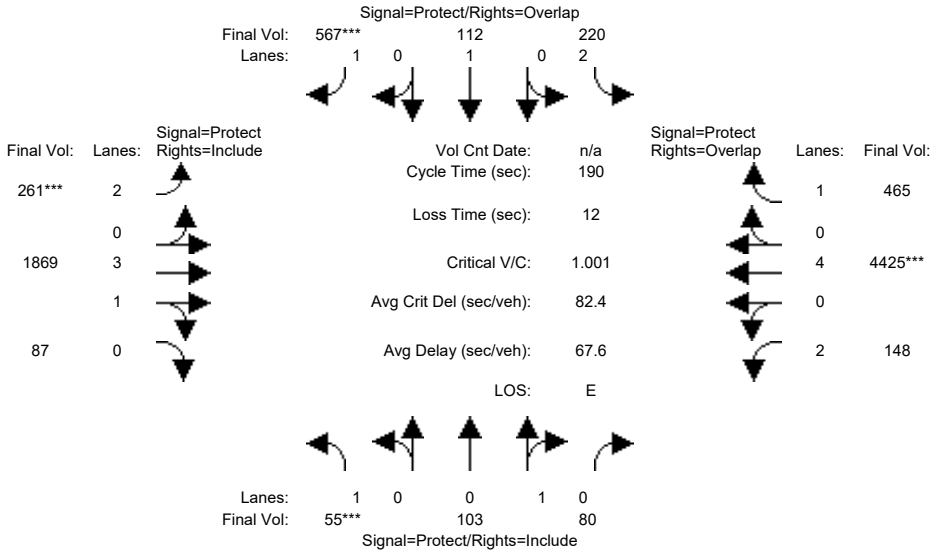
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:7:00-9:00												
Base Vol:	55	103	80	220	112	567	261	1869	87	148	4425	465
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	103	80	220	112	567	261	1869	87	148	4425	465
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	103	80	220	112	567	261	1869	87	148	4425	465
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	55	103	80	220	112	567	261	1869	87	148	4425	465
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	103	80	220	112	567	261	1869	87	148	4425	465
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	103	80	220	112	567	261	1869	87	148	4425	465
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.56	0.44	2.00	1.00	1.00	2.00	3.81	0.19	2.00	4.00	1.00
Final Sat.:	1750	1013	787	3150	1900	1750	3150	7166	334	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.07	0.06	0.32	0.08	0.26	0.26	0.05	0.58	0.27
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.45	0.67	0.67	1.12	0.41	1.31	0.81	0.45	0.45	0.55	1.03	0.42
Delay/Veh:	87.4	82.5	82.5	187.6	74.7	225.4	97.4	22.6	22.6	85.8	63.2	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.4	82.5	82.5	187.6	74.7	225.4	97.4	22.6	22.6	85.8	63.2	18.1
LOS by Move:	F	F	F	F	E	F	F	C	C	F	E	B
HCM2k95thQ:	8	21	21	19	11	81	17	27	27	11	109	25

Note: Queue reported is the number of cars per lane.

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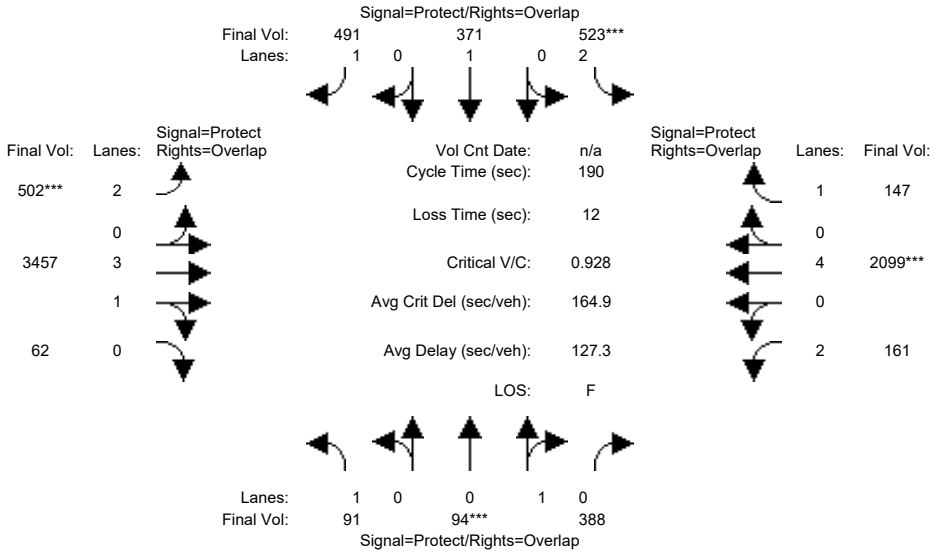
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	91	94	388	523	371	491	502	3457	62	161	2099	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	94	388	523	371	491	502	3457	62	161	2099	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	91	94	388	523	371	491	502	3457	62	161	2099	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	91	94	388	523	371	491	502	3457	62	161	2099	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	94	388	523	371	491	502	3457	62	161	2099	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	94	388	523	371	491	502	3457	62	161	2099	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.20	0.80	2.00	1.00	1.00	2.00	3.94	0.06	2.00	4.00	1.00
Final Sat.:	1750	351	1449	3150	1900	1750	3150	5551	100	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.17	0.20	0.28	0.16	0.62	0.62	0.05	0.28	0.08
Crit Moves:		****		****			****				****	
Green Time:	12.5	30.1	44.1	28.0	45.6	63.5	17.9	106	118.4	14.0	102	130.0
Volume/Cap:	0.79	1.69	1.15	1.13	0.81	0.84	1.69	1.12	1.00	0.69	0.51	0.12
Delay/Veh:	116.9	406	166.2	162.2	79.0	69.0	417.1	135	90.1	99.2	50.0	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	116.9	406	166.2	162.2	79.0	69.0	417.1	135	90.1	99.2	50.0	25.3
LOS by Move:	F	F	F	F	E	E	F	F	F	F	D	C
HCM2k95thQ:	14	84	63	40	35	48	52	97	113	13	43	13

Note: Queue reported is the number of cars per lane.

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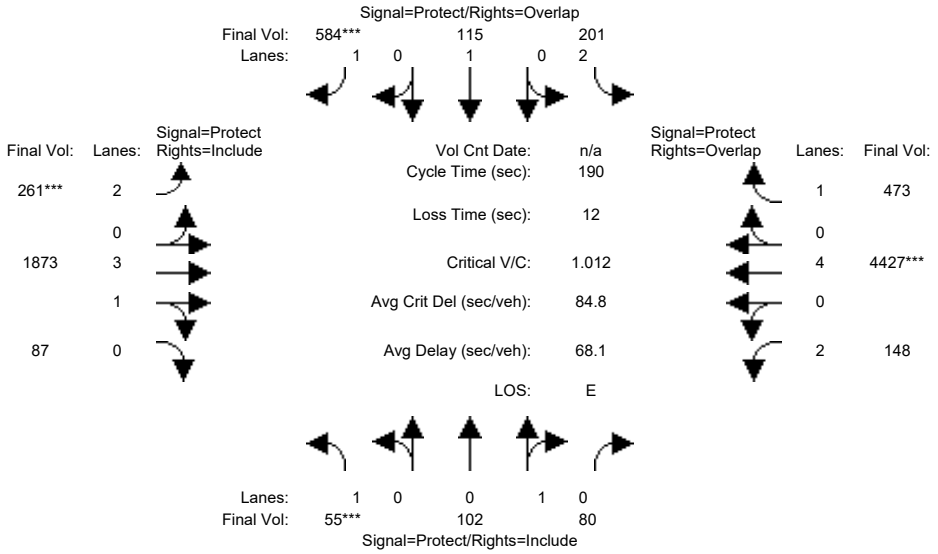
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:7:00-9:00												
Base Vol:	55	102	80	201	115	584	261	1873	87	148	4427	473
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	55	102	80	201	115	584	261	1873	87	148	4427	473
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	102	80	201	115	584	261	1873	87	148	4427	473
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	55	102	80	201	115	584	261	1873	87	148	4427	473
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	102	80	201	115	584	261	1873	87	148	4427	473
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	55	102	80	201	115	584	261	1873	87	148	4427	473
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.56	0.44	2.00	1.00	1.00	2.00	3.82	0.18	2.00	4.00	1.00
Final Sat.:	1750	1009	791	3150	1900	1750	3150	7167	333	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.06	0.06	0.33	0.08	0.26	0.26	0.05	0.58	0.27
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.45	0.67	0.67	1.02	0.42	1.35	0.81	0.45	0.45	0.55	1.03	0.43
Delay/Veh:	87.4	82.3	82.3	158.3	74.9	242.0	97.4	22.6	22.6	85.8	63.3	18.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.4	82.3	82.3	158.3	74.9	242.0	97.4	22.6	22.6	85.8	63.3	18.2
LOS by Move:	F	F	F	F	E	F	F	C	C	F	E	B
HCM2k95thQ:	8	21	21	16	11	86	17	27	27	11	109	26

Note: Queue reported is the number of cars per lane.

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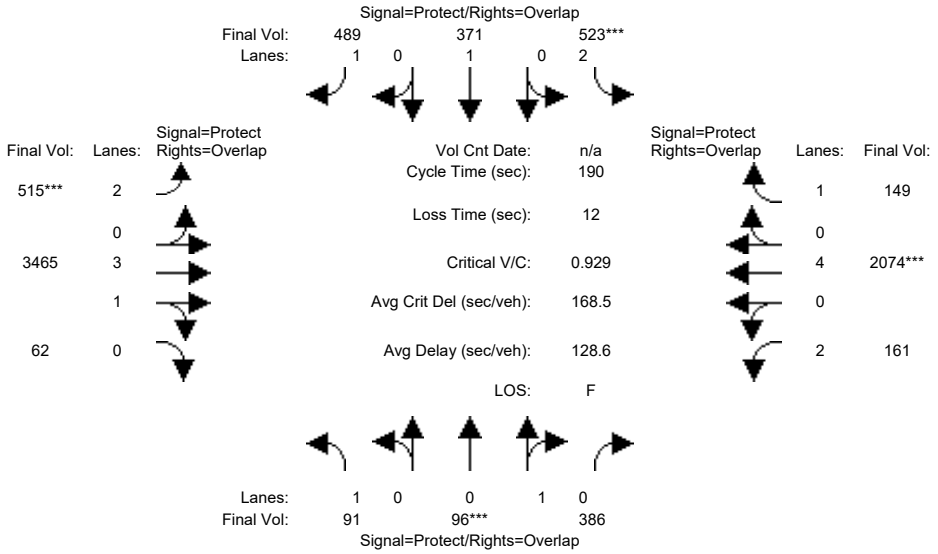
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	91	96	386	523	371	489	515	3465	62	161	2074	149
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	91	96	386	523	371	489	515	3465	62	161	2074	149
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	91	96	386	523	371	489	515	3465	62	161	2074	149
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	91	96	386	523	371	489	515	3465	62	161	2074	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	91	96	386	523	371	489	515	3465	62	161	2074	149
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	91	96	386	523	371	489	515	3465	62	161	2074	149
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.20	0.80	2.00	1.00	1.00	2.00	3.94	0.06	2.00	4.00	1.00
Final Sat.:	1750	359	1441	3150	1900	1750	3150	5551	99	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.27	0.27	0.17	0.20	0.28	0.16	0.62	0.62	0.05	0.27	0.09
Crit Moves:		****		****			****				****	
Green Time:	12.5	29.8	43.8	28.0	45.3	63.5	18.2	106	118.7	14.0	102	130.0
Volume/Cap:	0.79	1.71	1.16	1.13	0.82	0.84	1.71	1.12	1.00	0.69	0.51	0.12
Delay/Veh:	117.8	413	169.3	162.2	79.6	68.5	424.0	135	90.2	99.2	49.8	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	117.8	413	169.3	162.2	79.6	68.5	424.0	135	90.2	99.2	49.8	25.4
LOS by Move:	F	F	F	F	E	E	F	F	F	F	D	C
HCM2k95thQ:	14	85	63	40	35	47	53	97	113	13	42	13

Note: Queue reported is the number of cars per lane.

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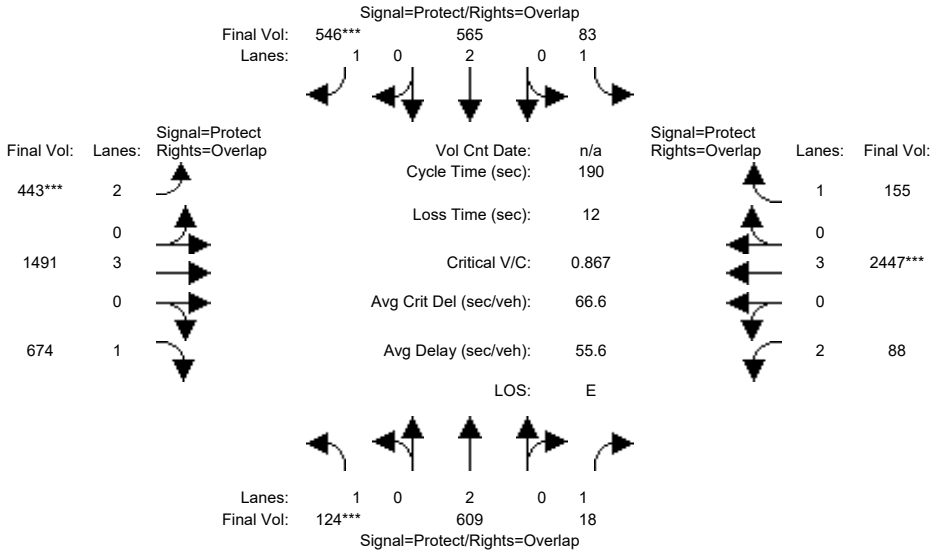
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	609	18	83	565	546	443	1714	674	88	2813	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	609	18	83	565	546	443	1714	674	88	2813	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	609	18	83	565	546	443	1714	674	88	2813	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	609	18	83	565	546	443	1491	674	88	2447	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	609	18	83	565	546	443	1491	674	88	2447	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	609	18	83	565	546	443	1491	674	88	2447	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.01	0.05	0.15	0.31	0.14	0.26	0.39	0.03	0.43	0.09
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.86	0.80	0.04	0.70	0.80	0.92	0.91	0.47	0.60	0.49	0.93	0.17
Delay/Veh:	124.2	78.5	53.1	104.2	80.7	79.7	100.5	25.1	20.8	89.1	54.6	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.2	78.5	53.1	104.2	80.7	79.7	100.5	25.1	20.8	89.1	54.6	23.1
LOS by Move:	F	E	D	F	F	E	F	C	C	F	D	C
HCM2k95thQ:	16	30	2	10	28	56	27	28	39	7	73	9

Note: Queue reported is the number of cars per lane.

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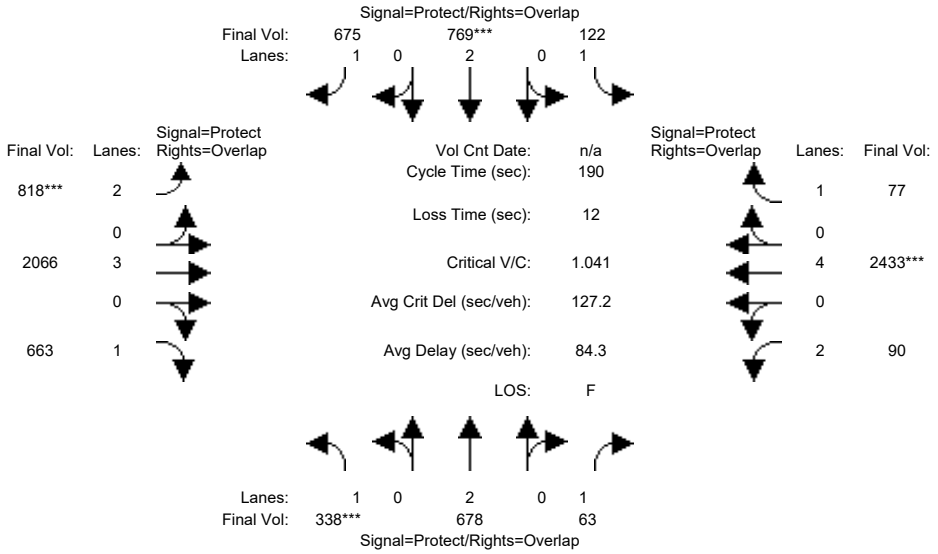
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	338	678	63	122	769	675	818	2550	663	90	2433	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	338	678	63	122	769	675	818	2550	663	90	2433	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	338	678	63	122	769	675	818	2550	663	90	2433	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	338	678	63	122	769	675	818	2066	663	90	2433	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	338	678	63	122	769	675	818	2066	663	90	2433	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	338	678	63	122	769	675	818	2066	663	90	2433	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.18	0.04	0.07	0.20	0.39	0.26	0.36	0.38	0.03	0.32	0.04
Crit Moves:	****				****		****				****	
Green Time:	25.2	51.9	63.4	14.3	41.0	74.8	33.8	100	125.5	11.5	78.0	92.3
Volume/Cap:	1.46	0.65	0.11	0.93	0.94	0.98	1.46	0.69	0.57	0.47	0.78	0.09
Delay/Veh:	310.9	62.6	43.9	143.3	91.3	85.8	294.0	24.6	7.8	88.2	57.0	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	310.9	62.6	43.9	143.3	91.3	85.8	294.0	24.6	7.8	88.2	57.0	32.2
LOS by Move:	F	E	D	F	F	F	F	C	A	F	E	C
HCM2k95thQ:	56	30	5	16	40	72	71	35	17	7	52	6

Note: Queue reported is the number of cars per lane.

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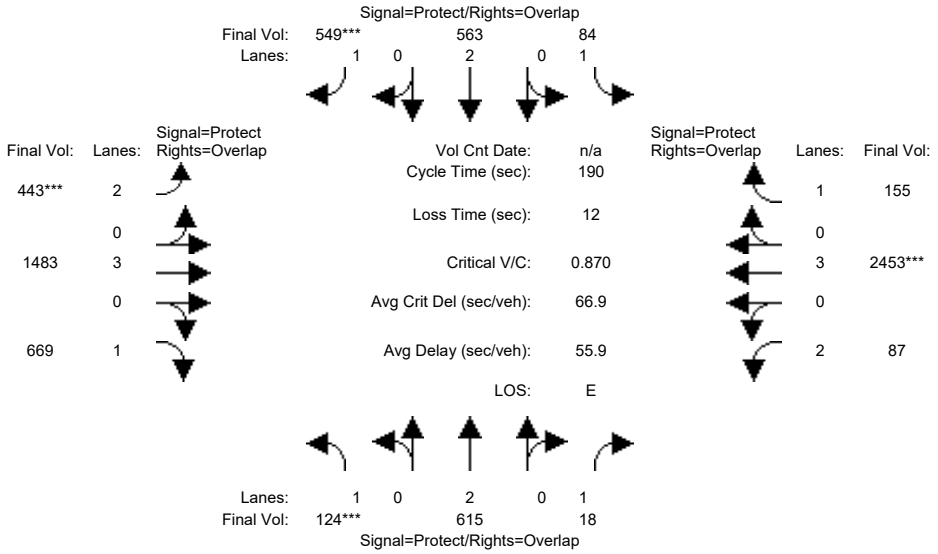
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	615	18	84	563	549	443	1705	669	87	2819	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	615	18	84	563	549	443	1705	669	87	2819	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	615	18	84	563	549	443	1705	669	87	2819	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	615	18	84	563	549	443	1483	669	87	2453	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	615	18	84	563	549	443	1483	669	87	2453	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	615	18	84	563	549	443	1483	669	87	2453	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.01	0.05	0.15	0.31	0.14	0.26	0.38	0.03	0.43	0.09
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.86	0.81	0.04	0.71	0.80	0.92	0.91	0.47	0.60	0.49	0.93	0.17
Delay/Veh:	124.2	79.0	53.1	105.2	80.5	80.7	100.5	25.1	20.7	89.0	54.8	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	124.2	79.0	53.1	105.2	80.5	80.7	100.5	25.1	20.7	89.0	54.8	23.1
LOS by Move:	F	E	D	F	F	F	F	C	C	F	D	C
HCM2k95thQ:	16	30	2	10	28	56	27	28	39	7	74	9

Note: Queue reported is the number of cars per lane.

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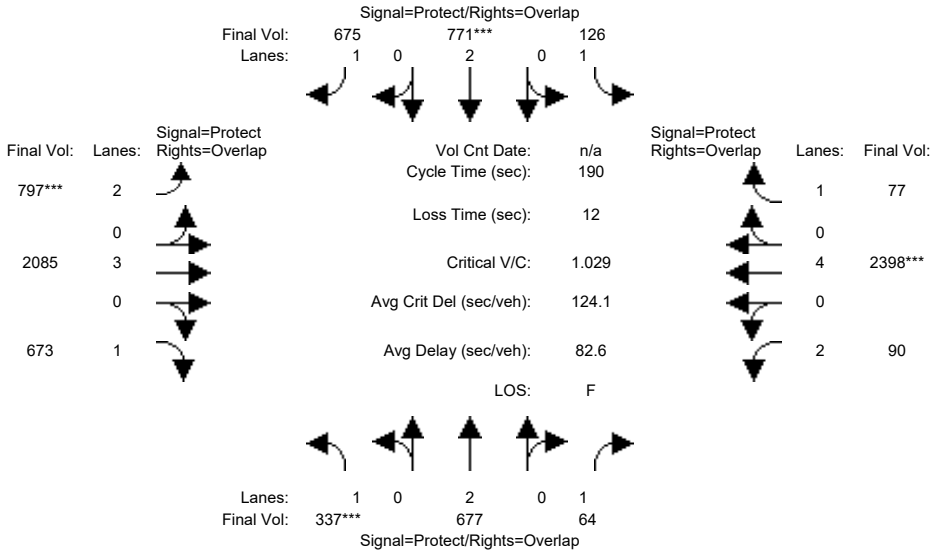
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	337	677	64	126	771	675	797	2574	673	90	2398	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	337	677	64	126	771	675	797	2574	673	90	2398	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	337	677	64	126	771	675	797	2574	673	90	2398	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	337	677	64	126	771	675	797	2085	673	90	2398	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	337	677	64	126	771	675	797	2085	673	90	2398	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	337	677	64	126	771	675	797	2085	673	90	2398	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.18	0.04	0.07	0.20	0.39	0.25	0.37	0.38	0.03	0.32	0.04
Crit Moves:	****				****		****				****	
Green Time:	25.5	51.7	63.2	14.7	41.0	74.5	33.5	100	125.5	11.5	78.0	92.7
Volume/Cap:	1.43	0.65	0.11	0.93	0.94	0.98	1.43	0.69	0.58	0.47	0.77	0.09
Delay/Veh:	300.6	62.7	44.0	142.6	91.8	87.3	284.1	25.0	7.9	88.2	56.5	32.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	300.6	62.7	44.0	142.6	91.8	87.3	284.1	25.0	7.9	88.2	56.5	32.0
LOS by Move:	F	E	D	F	F	F	F	C	A	F	E	C
HCM2k95thQ:	55	30	5	17	40	72	68	36	18	7	51	6

Note: Queue reported is the number of cars per lane.

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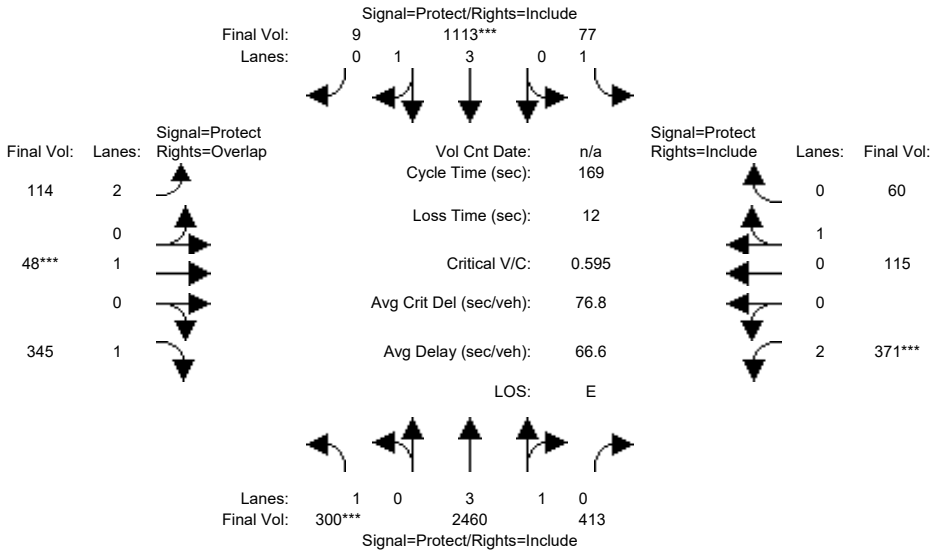
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2460	413	77	1113	9	114	48	345	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2460	413	77	1113	9	114	48	345	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2460	413	77	1113	9	114	48	345	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2460	413	77	1113	9	114	48	345	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2460	413	77	1113	9	114	48	345	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2460	413	77	1113	9	114	48	345	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.40	0.60	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	6420	1078	1750	7440	60	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.38	0.38	0.04	0.15	0.15	0.07	0.06	0.28	0.17	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	33.1	71.4	71.4	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	0.91	0.91	0.64	0.51	0.51	1.06	0.29	0.68	1.08	0.80	0.80
Delay/Veh:	87.6	57.1	57.1	87.2	52.8	52.8	184.1	56.3	44.3	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	57.1	57.1	87.2	52.8	52.8	184.1	56.3	44.3	143.4	72.2	72.2
LOS by Move:	F	E	E	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	59	59	9	23	23	12	5	28	29	20	20

Note: Queue reported is the number of cars per lane.

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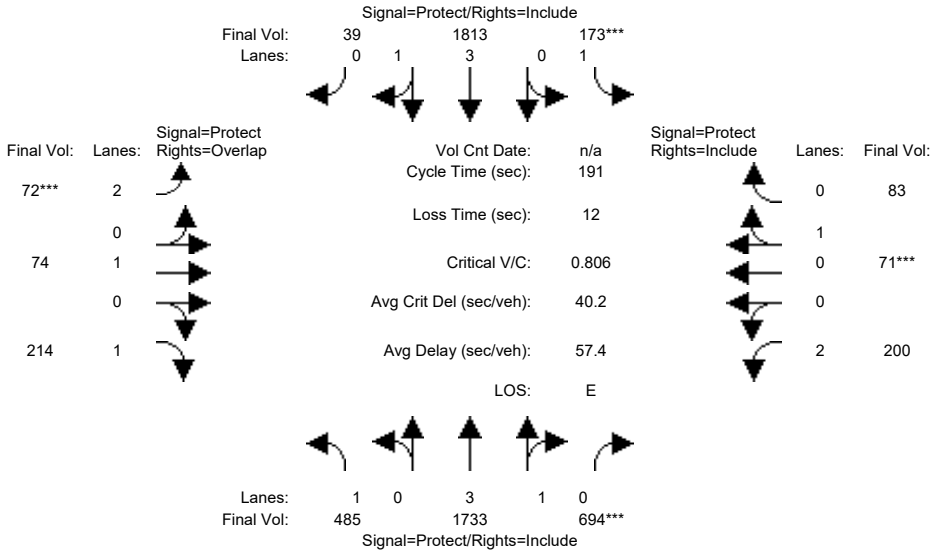
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1733	694	173	1813	39	72	74	214	200	71	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1733	694	173	1813	39	72	74	214	200	71	83
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1733	694	173	1813	39	72	74	214	200	71	83
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1733	694	173	1813	39	72	74	214	200	71	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1733	694	173	1813	39	72	74	214	200	71	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1733	694	173	1813	39	72	74	214	200	71	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.46	0.54
Final Sat.:	1750	5700	1750	1750	7342	158	1575	760	1225	2205	332	388
Capacity Analysis Module:												
Vol/Sat:	0.28	0.30	0.40	0.10	0.25	0.25	0.05	0.10	0.17	0.09	0.21	0.21
Crit Moves:			****	****			****				****	
Green Time:	58.6	89.1	100.8	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.65	0.75	0.68	0.82	0.82	0.68	0.61	0.38	0.86	1.09	1.09
Delay/Veh:	80.8	32.2	26.5	84.9	68.3	68.3	103.1	84.0	33.5	109.6	177	177.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	32.2	26.5	84.9	68.3	68.3	103.1	84.0	33.5	109.6	177	177.2
LOS by Move:	F	C	C	F	E	E	F	F	C	F	F	F
HCM2k95thQ:	49	35	45	19	43	43	7	10	16	17	25	25

Note: Queue reported is the number of cars per lane.

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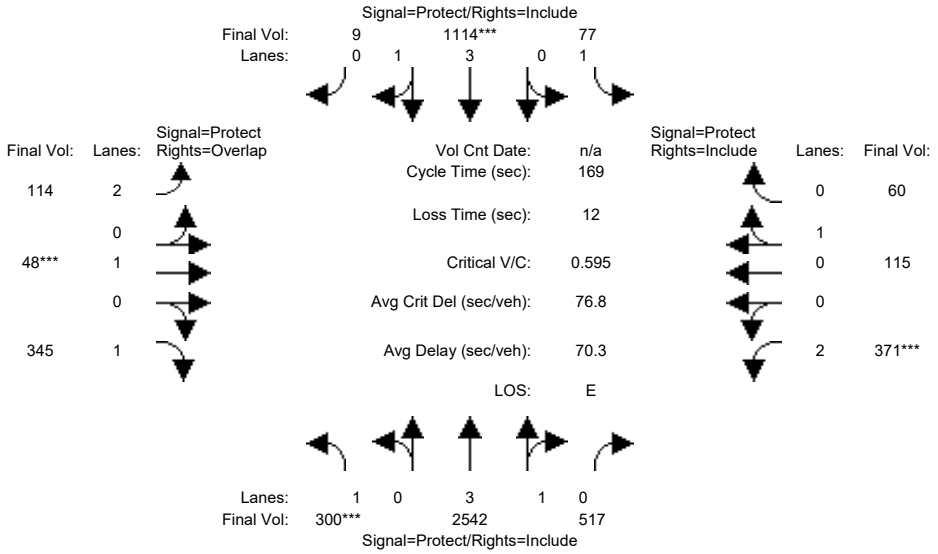
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2542	517	77	1114	9	114	48	345	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2542	517	77	1114	9	114	48	345	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2542	517	77	1114	9	114	48	345	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2542	517	77	1114	9	114	48	345	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2542	517	77	1114	9	114	48	345	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2542	517	77	1114	9	114	48	345	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.30	0.70	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	6230	1267	1750	7440	60	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.41	0.41	0.04	0.15	0.15	0.07	0.06	0.28	0.17	0.24	0.24
Crit Moves:	****				****			****			****	
Green Time:	33.1	71.4	71.4	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	0.97	0.97	0.64	0.51	0.51	1.06	0.29	0.68	1.08	0.80	0.80
Delay/Veh:	87.6	64.5	64.5	87.2	52.8	52.8	184.1	56.3	44.3	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	64.5	64.5	87.2	52.8	52.8	184.1	56.3	44.3	143.4	72.2	72.2
LOS by Move:	F	E	E	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	67	67	9	23	23	12	5	28	29	20	20

Note: Queue reported is the number of cars per lane.

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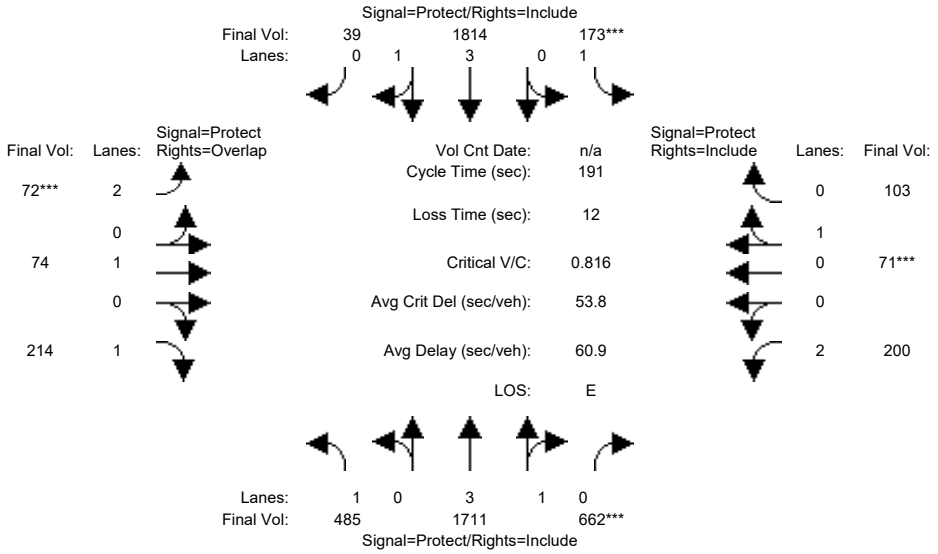
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1711	662	173	1814	39	72	74	214	200	71	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1711	662	173	1814	39	72	74	214	200	71	103
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1711	662	173	1814	39	72	74	214	200	71	103
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1711	662	173	1814	39	72	74	214	200	71	103
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1711	662	173	1814	39	72	74	214	200	71	103
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1711	662	173	1814	39	72	74	214	200	71	103
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.41	0.59
Final Sat.:	1750	5700	1750	1750	7342	158	1575	760	1225	2205	294	426
Capacity Analysis Module:												
Vol/Sat:	0.28	0.30	0.38	0.10	0.25	0.25	0.05	0.10	0.17	0.09	0.24	0.24
Crit Moves:			****	****			****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.64	0.81	0.68	0.82	0.82	0.68	0.61	0.38	0.86	1.23	1.23
Delay/Veh:	80.8	32.0	37.4	84.9	68.3	68.3	103.1	84.0	33.5	109.6	226	226.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	32.0	37.4	84.9	68.3	68.3	103.1	84.0	33.5	109.6	226	226.0
LOS by Move:	F	C	D	F	E	E	F	F	C	F	F	F
HCM2k95thQ:	49	35	52	19	43	43	7	10	16	17	30	30

Note: Queue reported is the number of cars per lane.

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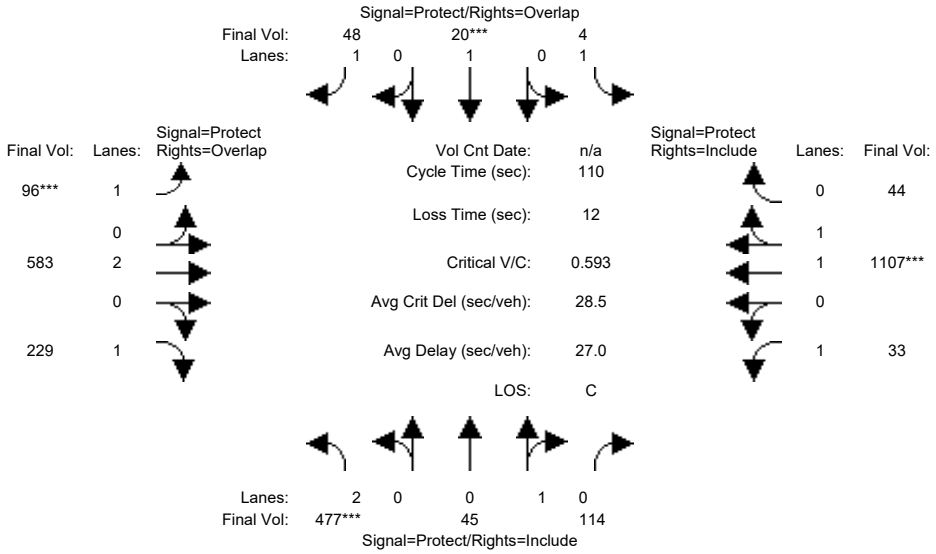
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	453	43	108	4	19	46	91	554	218	31	1052	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	453	43	108	4	19	46	91	554	218	31	1052	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	453	43	108	4	19	46	91	554	218	31	1052	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	477	45	114	4	20	48	96	583	229	33	1107	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	477	45	114	4	20	48	96	583	229	33	1107	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	477	45	114	4	20	48	96	583	229	33	1107	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.28	0.72	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	3150	513	1287	1750	1900	1750	1750	3800	1750	1750	3558	142
Capacity Analysis Module:												
Vol/Sat:	0.15	0.09	0.09	0.00	0.01	0.03	0.05	0.15	0.13	0.02	0.31	0.31
Crit Moves:	****				****		****				****	
Green Time:	26.3	21.2	21.2	13.1	8.0	17.5	9.5	43.2	69.5	20.5	54.1	54.1
Volume/Cap:	0.63	0.46	0.46	0.02	0.14	0.17	0.63	0.39	0.21	0.10	0.63	0.63
Delay/Veh:	39.2	40.3	40.3	42.8	48.3	40.3	56.9	24.1	8.7	37.3	21.3	21.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.2	40.3	40.3	42.8	48.3	40.3	56.9	24.1	8.7	37.3	21.3	21.3
LOS by Move:	D	D	D	D	D	D	E	C	A	D	C	C
HCM2k95thQ:	18	10	10	0	2	3	7	13	7	2	25	25

Note: Queue reported is the number of cars per lane.

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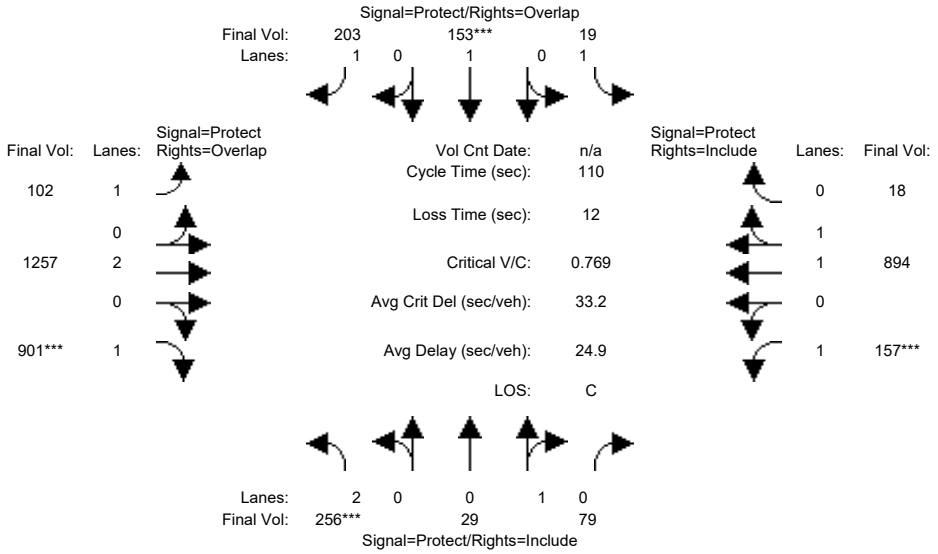
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	248	28	77	18	148	197	99	1219	874	152	867	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	248	28	77	18	148	197	99	1219	874	152	867	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	248	28	77	18	148	197	99	1219	874	152	867	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	256	29	79	19	153	203	102	1257	901	157	894	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	256	29	79	19	153	203	102	1257	901	157	894	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	256	29	79	19	153	203	102	1257	901	157	894	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.27	0.73	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	480	1320	1750	1900	1750	1750	3800	1750	1750	3629	71
Capacity Analysis Module:												
Vol/Sat:	0.08	0.06	0.06	0.01	0.08	0.12	0.06	0.33	0.51	0.09	0.25	0.25
Crit Moves:	****				****				****	****		
Green Time:	11.6	13.2	13.2	9.9	11.5	28.6	17.1	62.1	73.7	12.8	57.8	57.8
Volume/Cap:	0.77	0.50	0.50	0.12	0.77	0.45	0.38	0.59	0.77	0.77	0.47	0.47
Delay/Veh:	58.3	47.1	47.1	46.4	64.5	34.8	42.6	16.0	15.5	63.3	16.6	16.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	47.1	47.1	46.4	64.5	34.8	42.6	16.0	15.5	63.3	16.6	16.6
LOS by Move:	E	D	D	D	E	C	D	B	B	E	B	B
HCM2k95thQ:	13	8	8	1	13	12	7	24	39	11	18	18

Note: Queue reported is the number of cars per lane.

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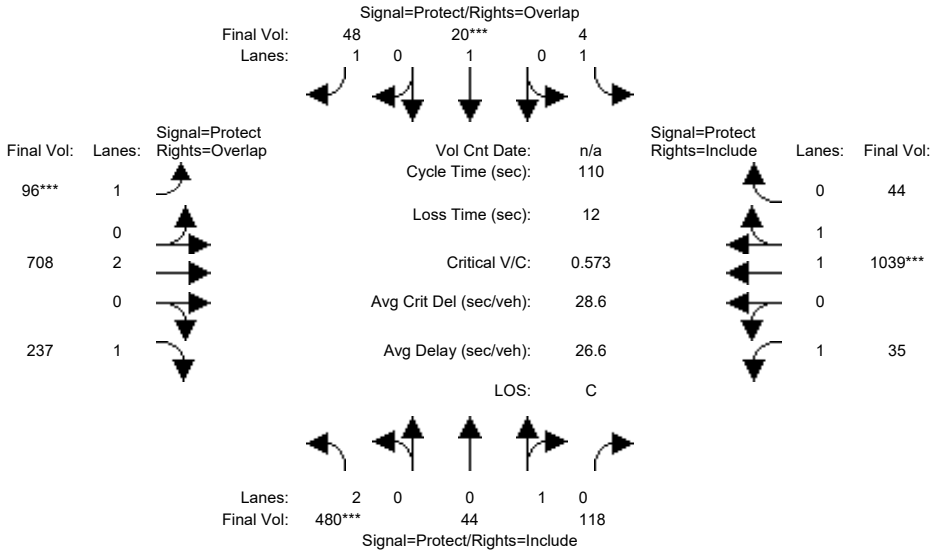
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	456	42	112	4	19	46	91	673	225	33	987	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	456	42	112	4	19	46	91	673	225	33	987	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	456	42	112	4	19	46	91	673	225	33	987	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	480	44	118	4	20	48	96	708	237	35	1039	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	480	44	118	4	20	48	96	708	237	35	1039	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	480	44	118	4	20	48	96	708	237	35	1039	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.27	0.73	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	3150	491	1309	1750	1900	1750	1750	3800	1750	1750	3549	151
Capacity Analysis Module:												
Vol/Sat:	0.15	0.09	0.09	0.00	0.01	0.03	0.05	0.19	0.14	0.02	0.29	0.29
Crit Moves:	****				****		****				****	
Green Time:	27.4	22.1	22.1	13.4	8.0	17.9	9.9	45.0	72.4	17.6	52.7	52.7
Volume/Cap:	0.61	0.45	0.45	0.02	0.14	0.17	0.61	0.46	0.21	0.12	0.61	0.61
Delay/Veh:	38.0	39.5	39.5	42.6	48.3	40.0	55.1	23.8	7.5	39.8	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.0	39.5	39.5	42.6	48.3	40.0	55.1	23.8	7.5	39.8	21.7	21.7
LOS by Move:	D	D	D	D	D	D	E	C	A	D	C	C
HCM2k95thQ:	17	10	10	0	2	3	7	16	7	2	24	24

Note: Queue reported is the number of cars per lane.

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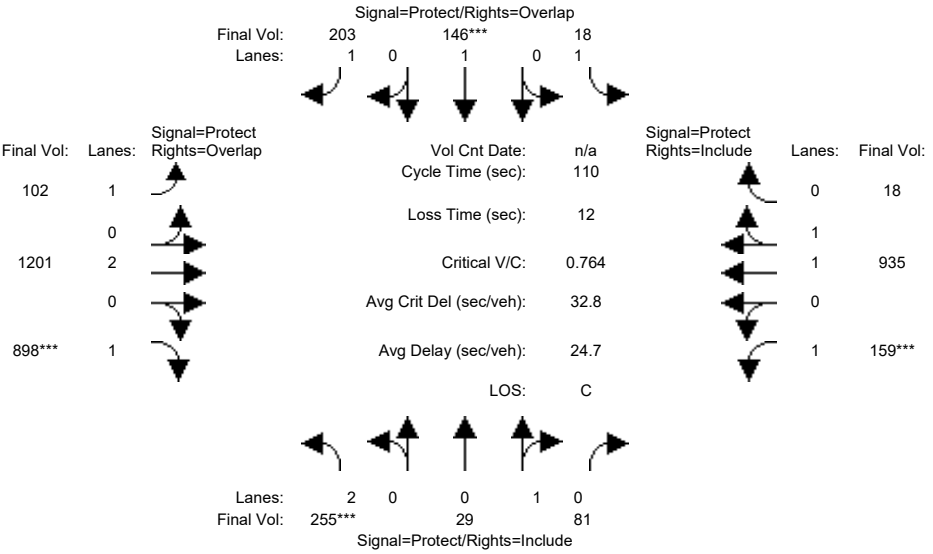
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	247	28	79	17	142	197	99	1165	871	154	907	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	247	28	79	17	142	197	99	1165	871	154	907	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	28	79	17	142	197	99	1165	871	154	907	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	255	29	81	18	146	203	102	1201	898	159	935	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	255	29	81	18	146	203	102	1201	898	159	935	18
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	255	29	81	18	146	203	102	1201	898	159	935	18
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.26	0.74	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	471	1329	1750	1900	1750	1750	3800	1750	1750	3632	68
Capacity Analysis Module:												
Vol/Sat:	0.08	0.06	0.06	0.01	0.08	0.12	0.06	0.32	0.51	0.09	0.26	0.26
Crit Moves:	****				****				****	****		
Green Time:	11.6	13.0	13.0	9.7	11.1	27.7	16.6	62.2	73.9	13.1	58.7	58.7
Volume/Cap:	0.76	0.52	0.52	0.11	0.76	0.46	0.39	0.56	0.76	0.76	0.48	0.48
Delay/Veh:	57.9	47.8	47.8	46.5	64.8	35.6	43.1	15.5	15.2	62.4	16.3	16.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.9	47.8	47.8	46.5	64.8	35.6	43.1	15.5	15.2	62.4	16.3	16.3
LOS by Move:	E	D	D	D	E	D	D	B	B	E	B	B
HCM2k95thQ:	13	9	9	1	13	13	7	23	38	12	19	19

Note: Queue reported is the number of cars per lane.

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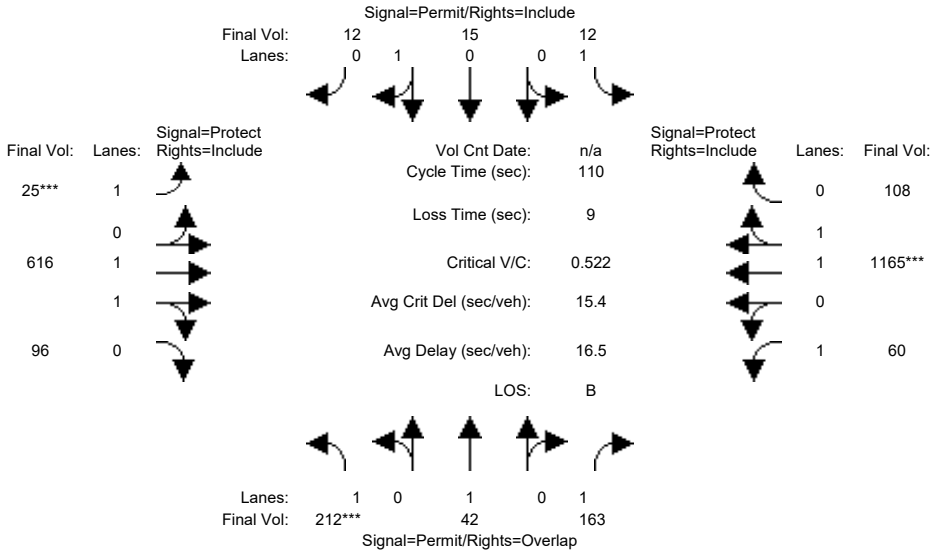
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	197	39	152	11	14	11	23	573	89	56	1083	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	197	39	152	11	14	11	23	573	89	56	1083	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	197	39	152	11	14	11	23	573	89	56	1083	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	212	42	163	12	15	12	25	616	96	60	1165	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	212	42	163	12	15	12	25	616	96	60	1165	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	212	42	163	12	15	12	25	616	96	60	1165	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.56	0.44	1.00	1.72	0.28	1.00	1.83	0.17
Final Sat.:	1750	1900	1750	1750	1008	792	1750	3202	497	1750	3387	313
Capacity Analysis Module:												
Vol/Sat:	0.12	0.02	0.09	0.01	0.01	0.01	0.01	0.19	0.19	0.03	0.34	0.34
Crit Moves:	****						****				****	
Green Time:	25.0	25.0	37.1	25.0	25.0	25.0	5.0	63.9	63.9	12.1	71.0	71.0
Volume/Cap:	0.53	0.10	0.28	0.03	0.07	0.07	0.31	0.33	0.33	0.31	0.53	0.53
Delay/Veh:	38.8	33.7	26.9	33.1	33.4	33.4	53.1	12.0	12.0	46.1	10.8	10.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.8	33.7	26.9	33.1	33.4	33.4	53.1	12.0	12.0	46.1	10.8	10.8
LOS by Move:	D	C	C	C	C	C	D	B	B	D	B	B
HCM2k95thQ:	14	2	9	1	2	2	2	12	12	4	21	21

Note: Queue reported is the number of cars per lane.

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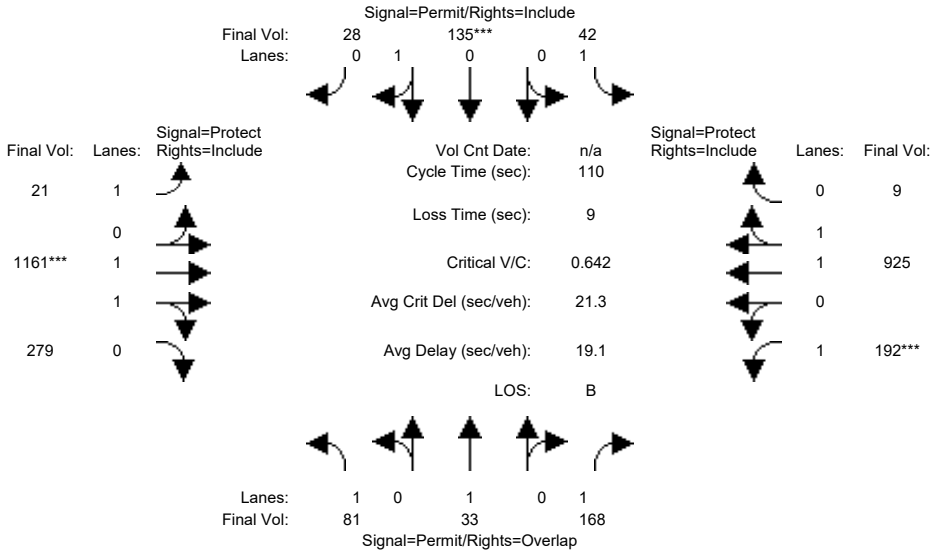
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	78	32	161	40	130	27	20	1115	268	184	888	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	32	161	40	130	27	20	1115	268	184	888	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	32	161	40	130	27	20	1115	268	184	888	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	81	33	168	42	135	28	21	1161	279	192	925	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	33	168	42	135	28	21	1161	279	192	925	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	33	168	42	135	28	21	1161	279	192	925	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.83	0.17	1.00	1.60	0.40	1.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1490	310	1750	2982	717	1750	3663	37
Capacity Analysis Module:												
Vol/Sat:	0.05	0.02	0.10	0.02	0.09	0.09	0.01	0.39	0.39	0.11	0.25	0.25
Crit Moves:					****			****		****		
Green Time:	15.6	15.6	34.3	15.6	15.6	15.6	13.0	66.7	66.7	18.8	72.4	72.4
Volume/Cap:	0.33	0.12	0.31	0.17	0.64	0.64	0.10	0.64	0.64	0.64	0.38	0.38
Delay/Veh:	43.3	41.5	29.1	41.9	50.1	50.1	43.5	14.6	14.6	47.2	8.7	8.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	41.5	29.1	41.9	50.1	50.1	43.5	14.6	14.6	47.2	8.7	8.7
LOS by Move:	D	D	C	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	6	2	9	3	13	13	1	28	28	12	13	13

Note: Queue reported is the number of cars per lane.

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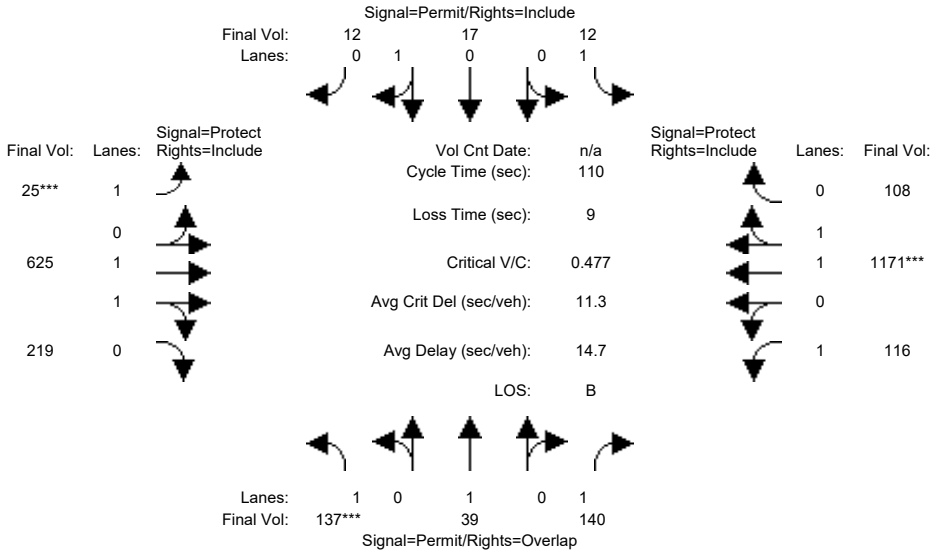
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	127	36	130	11	16	11	23	581	204	108	1089	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	36	130	11	16	11	23	581	204	108	1089	100
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	36	130	11	16	11	23	581	204	108	1089	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	137	39	140	12	17	12	25	625	219	116	1171	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	39	140	12	17	12	25	625	219	116	1171	108
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	137	39	140	12	17	12	25	625	219	116	1171	108
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.59	0.41	1.00	1.47	0.53	1.00	1.83	0.17
Final Sat.:	1750	1900	1750	1750	1067	733	1750	2738	961	1750	3389	311
Capacity Analysis Module:												
Vol/Sat:	0.08	0.02	0.08	0.01	0.02	0.02	0.01	0.23	0.23	0.07	0.35	0.35
Crit Moves:	****						****				****	
Green Time:	17.7	17.7	36.5	17.7	17.7	17.7	5.0	64.5	64.5	18.8	78.3	78.3
Volume/Cap:	0.49	0.13	0.24	0.04	0.10	0.10	0.31	0.39	0.39	0.39	0.49	0.49
Delay/Veh:	43.3	39.7	26.9	39.1	39.5	39.5	53.1	12.3	12.3	41.4	7.1	7.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	39.7	26.9	39.1	39.5	39.5	53.1	12.3	12.3	41.4	7.1	7.1
LOS by Move:	D	D	C	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	10	2	7	1	2	2	2	14	14	7	18	18

Note: Queue reported is the number of cars per lane.

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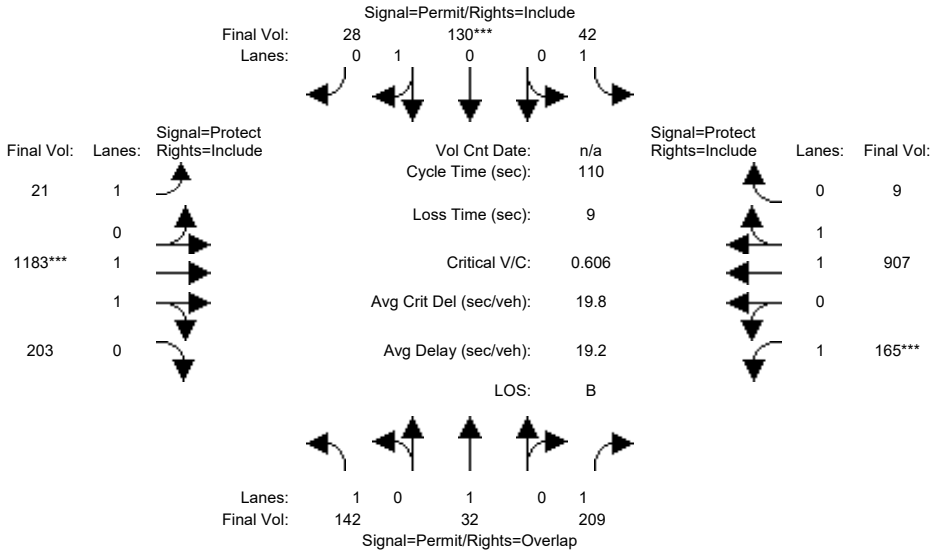
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	136	31	201	40	125	27	20	1136	195	158	871	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	136	31	201	40	125	27	20	1136	195	158	871	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	136	31	201	40	125	27	20	1136	195	158	871	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	142	32	209	42	130	28	21	1183	203	165	907	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	142	32	209	42	130	28	21	1183	203	165	907	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	142	32	209	42	130	28	21	1183	203	165	907	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.82	0.18	1.00	1.70	0.30	1.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1480	320	1750	3158	542	1750	3662	38
Capacity Analysis Module:												
Vol/Sat:	0.08	0.02	0.12	0.02	0.09	0.09	0.01	0.37	0.37	0.09	0.25	0.25
Crit Moves:					****			****		****		
Green Time:	16.0	16.0	33.0	16.0	16.0	16.0	13.2	68.0	68.0	17.1	71.9	71.9
Volume/Cap:	0.56	0.12	0.40	0.16	0.61	0.61	0.10	0.61	0.61	0.61	0.38	0.38
Delay/Veh:	46.5	41.1	31.1	41.5	48.1	48.1	43.3	13.3	13.3	47.2	8.9	8.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.5	41.1	31.1	41.5	48.1	48.1	43.3	13.3	13.3	47.2	8.9	8.9
LOS by Move:	D	D	C	D	D	D	D	B	B	D	A	A
HCM2k95thQ:	11	2	12	3	12	12	1	25	25	10	13	13

Note: Queue reported is the number of cars per lane.

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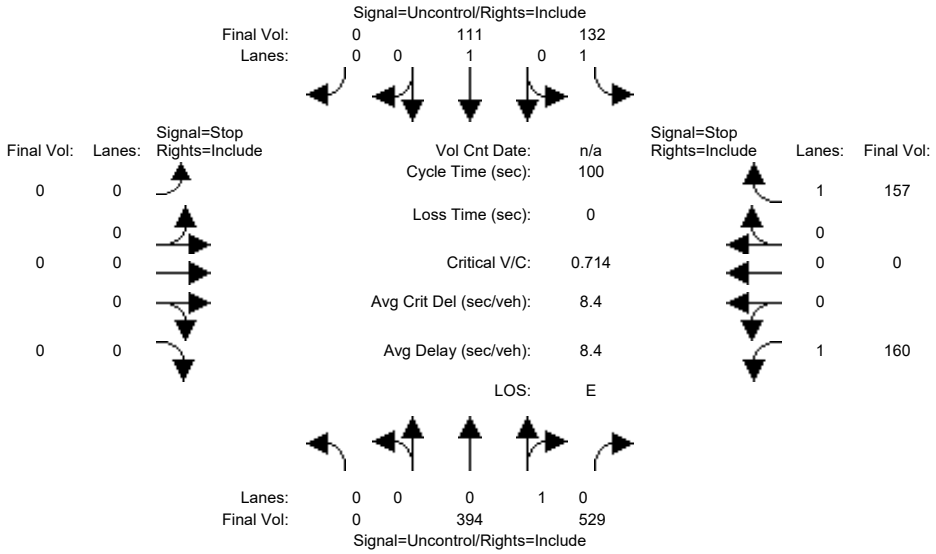
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	355	476	119	100	0	0	0	0	144	0	141
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	355	476	119	100	0	0	0	0	144	0	141
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	355	476	119	100	0	0	0	0	144	0	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	394	529	132	111	0	0	0	0	160	0	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	394	529	132	111	0	0	0	0	160	0	157
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	923	xxxx	xxxxx	xxxx	xxxx	xxxxx	1034	xxxx	659
Potent Cap.:	xxxx	xxxx	xxxxx	748	xxxx	xxxxx	xxxx	xxxx	xxxxx	259	xxxx	467
Move Cap.:	xxxx	xxxx	xxxxx	748	xxxx	xxxxx	xxxx	xxxx	xxxxx	224	xxxx	467
Volume/Cap:	xxxx	xxxx	xxxx	0.18	xxxx	xxxx	xxxx	xxxx	xxxx	0.71	xxxx	0.34
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	4.7	xxxx	1.5
Control Del:	xxxxx	xxxx	xxxxx	10.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	53.2	xxxx	16.5
LOS by Move:	*	*	*	B	*	*	*	*	*	F	*	C
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			35.0		
ApproachLOS:	*			*			*			E		

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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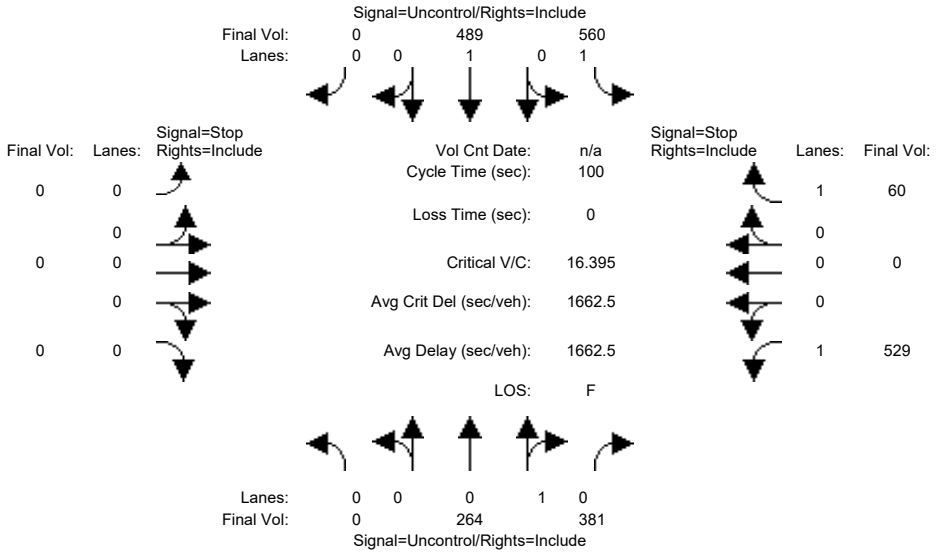
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	238	343	504	440	0	0	0	0	476	0	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	238	343	504	440	0	0	0	0	476	0	54
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	238	343	504	440	0	0	0	0	476	0	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	264	381	560	489	0	0	0	0	529	0	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	264	381	560	489	0	0	0	0	529	0	60
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	646	xxxx	xxxxx	xxxx	xxxx	xxxxx	2064	xxxx	455
Potent Cap.:	xxxx	xxxx	xxxxx	949	xxxx	xxxxx	xxxx	xxxx	xxxxx	61	xxxx	609
Move Cap.:	xxxx	xxxx	xxxxx	949	xxxx	xxxxx	xxxx	xxxx	xxxxx	32	xxxx	609
Volume/Cap:	xxxx	xxxx	xxxx	0.59	xxxx	xxxx	xxxx	xxxx	xxxx	16.40	xxxx	0.10
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	4.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	65.1	xxxx	0.3
Control Del:	xxxxx	xxxx	xxxxx	14.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7161	xxxx	11.6
LOS by Move:	*	*	*	B	*	*	*	*	*	F	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			6432.8		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

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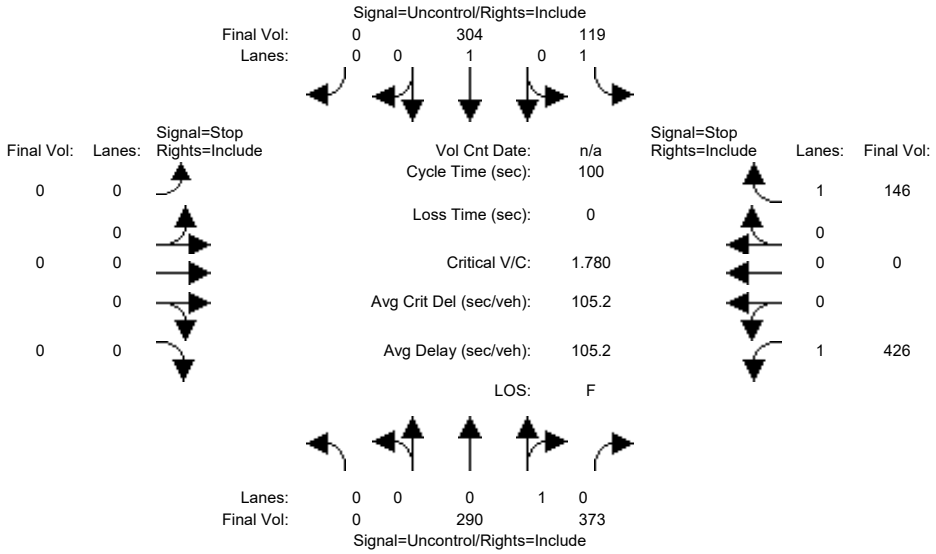
2030 Ph2 wo Conn - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	261	336	107	274	0	0	0	0	383	0	131
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	261	336	107	274	0	0	0	0	383	0	131
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	261	336	107	274	0	0	0	0	383	0	131
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	290	373	119	304	0	0	0	0	426	0	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	290	373	119	304	0	0	0	0	426	0	146
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	663	xxxx	xxxxx	xxxx	xxxx	xxxxx	1019	xxxx	477
Potent Cap.:	xxxx	xxxx	xxxxx	935	xxxx	xxxxx	xxxx	xxxx	xxxxx	265	xxxx	593
Move Cap.:	xxxx	xxxx	xxxxx	935	xxxx	xxxxx	xxxx	xxxx	xxxxx	239	xxxx	593
Volume/Cap:	xxxx	xxxx	xxxx	0.13	xxxx	xxxx	xxxx	xxxx	xxxx	1.78	xxxx	0.25
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	28.8	xxxx	1.0
Control Del:	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	402.6	xxxx	13.0
LOS by Move:	*	*	*	A	*	*	*	*	*	F	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			303.3		
ApproachLOS:	*			*			*			F		

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2000 HCM Unsignalized (Future Volume Alternative)
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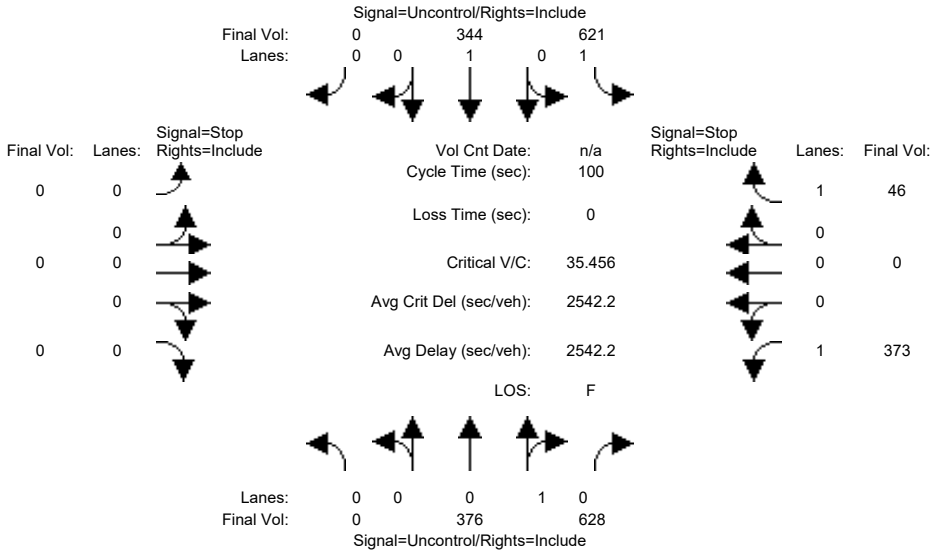
Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	338	565	559	310	0	0	0	0	336	0	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	338	565	559	310	0	0	0	0	336	0	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	338	565	559	310	0	0	0	0	336	0	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	376	628	621	344	0	0	0	0	373	0	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	376	628	621	344	0	0	0	0	373	0	46
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1003	xxxx	xxxxx	xxxx	xxxx	xxxxx	2276	xxxx	689
Potent Cap.:	xxxx	xxxx	xxxxx	698	xxxx	xxxxx	xxxx	xxxx	xxxxx	45	xxxx	449
Move Cap.:	xxxx	xxxx	xxxxx	698	xxxx	xxxxx	xxxx	xxxx	xxxxx	11	xxxx	449
Volume/Cap:	xxxx	xxxx	xxxx	0.89	xxxx	xxxx	xxxx	xxxx	xxxx	35.46	xxxx	0.10
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	11.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	48.3	xxxx	0.3
Control Del:	xxxxx	xxxx	xxxxx	37.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	16196	xxxx	13.9
LOS by Move:	*	*	*	E	*	*	*	*	*	F	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			F		

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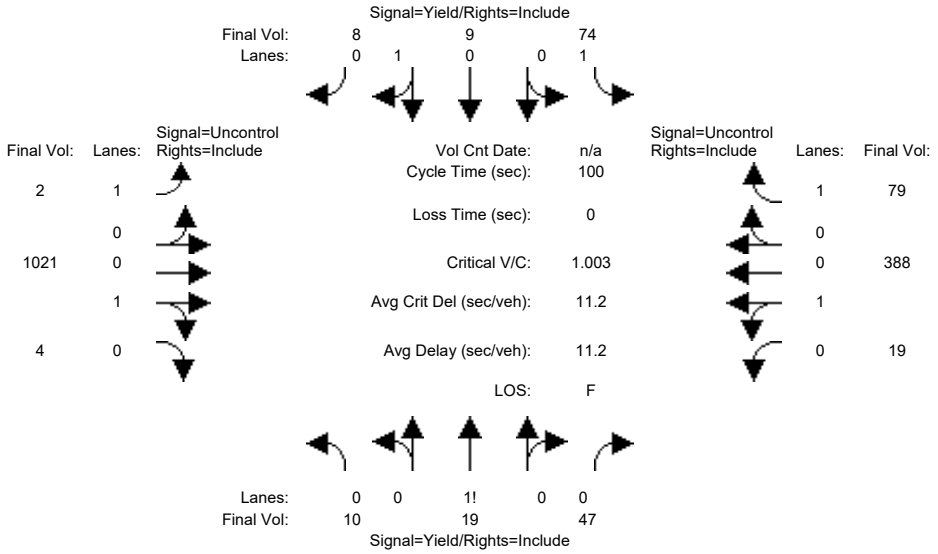
Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	9	17	42	67	8	7	2	919	4	17	349	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	17	42	67	8	7	2	919	4	17	349	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	17	42	67	8	7	2	919	4	17	349	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	10	19	47	74	9	8	2	1021	4	19	388	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	10	19	47	74	9	8	2	1021	4	19	388	79
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1501	1532	1023	1486	1456	388	467	xxxx	xxxxx	1026	xxxx	xxxxx
Potent Cap.:	101	118	289	104	131	665	1105	xxxx	xxxxx	685	xxxx	xxxxx
Move Cap.:	93	114	289	74	127	665	1105	xxxx	xxxxx	685	xxxx	xxxxx
Volume/Cap:	0.11	0.17	0.16	1.00	0.07	0.01	0.00	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	5.3	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	202.0	xxxx	xxxxx	8.3	xxxx	xxxxx	10.4	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	A	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	174	xxxxx	xxxx	xxxx	204	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	2.0	xxxxx	xxxxx	xxxx	0.3	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	40.8	xxxxx	xxxxx	xxxx	24.2	xxxxx	xxxx	xxxxx	10.4	xxxx	xxxxx
Shared LOS:	*	E	*	*	*	C	*	*	*	B	*	*
ApproachDel:		40.8			169.5			xxxxxx			xxxxxx	
ApproachLOS:		E			F			*			*	

Note: Queue reported is the number of cars per lane.

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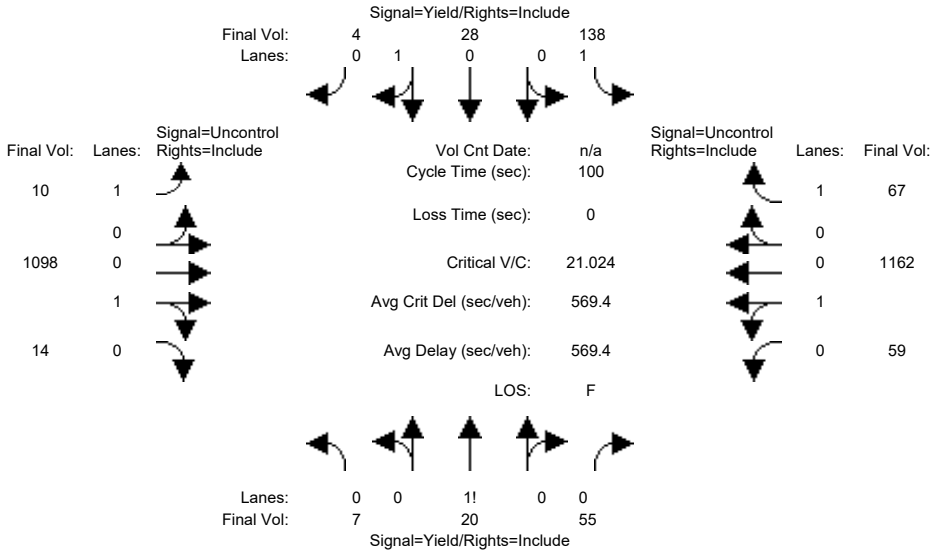
Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	6	18	51	127	26	4	9	1010	13	54	1069	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	18	51	127	26	4	9	1010	13	54	1069	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	18	51	127	26	4	9	1010	13	54	1069	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	7	20	55	138	28	4	10	1098	14	59	1162	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	7	20	55	138	28	4	10	1098	14	59	1162	67
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2454	2471	1105	2441	2411	1162	1229	xxxx	xxxxx	1112	xxxx	xxxxx
Potent Cap.:	21	30	259	22	33	240	574	xxxx	xxxxx	636	xxxx	xxxxx
Move Cap.:	3	27	259	7	30	240	574	xxxx	xxxxx	636	xxxx	xxxxx
Volume/Cap:	2.32	0.72	0.21	21.02	0.95	0.02	0.02	xxxx	xxxx	0.09	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	19.1	xxxx	xxxxx	0.1	xxxx	xxxxx	0.3	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10107	xxxx	xxxxx	11.4	xxxx	xxxxx	11.2	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	25	xxxxx	xxxx	xxxx	34	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	10.1	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Shrd ConDel:	xxxxx	1339	xxxxx	xxxxx	xxxx	322.9	xxxxx	xxxx	xxxxx	11.2	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	B	*	*
ApproachDel:	1338.5			8237.5			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

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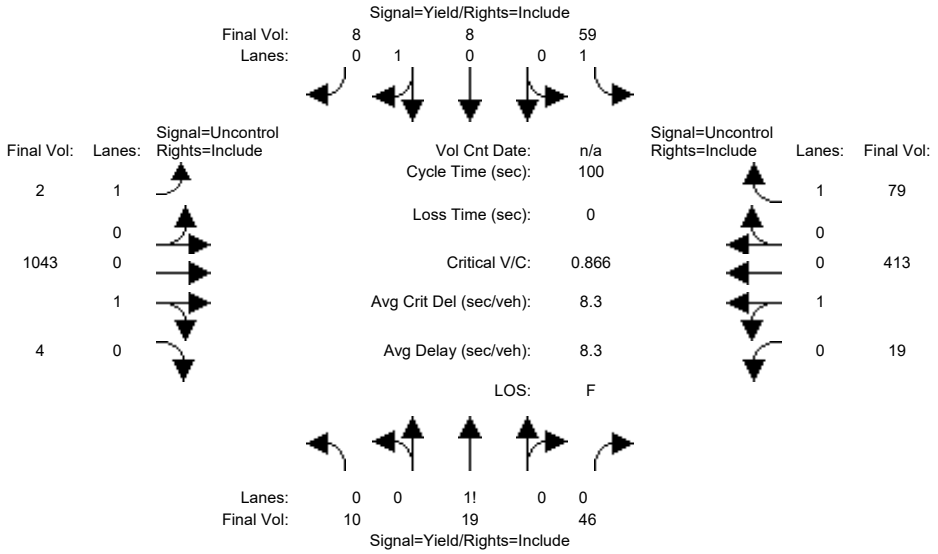
Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	9	17	41	53	7	7	2	939	4	17	372	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	17	41	53	7	7	2	939	4	17	372	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	9	17	41	53	7	7	2	939	4	17	372	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	10	19	46	59	8	8	2	1043	4	19	413	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	10	19	46	59	8	8	2	1043	4	19	413	79
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1548	1580	1046	1533	1503	413	492	xxxx	xxxxx	1048	xxxx	xxxxx
Potent Cap.:	94	110	280	96	123	643	1082	xxxx	xxxxx	672	xxxx	xxxxx
Move Cap.:	86	107	280	68	119	643	1082	xxxx	xxxxx	672	xxxx	xxxxx
Volume/Cap:	0.12	0.18	0.16	0.87	0.07	0.01	0.00	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	4.2	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	174.4	xxxx	xxxxx	8.3	xxxx	xxxxx	10.5	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	A	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	163	xxxxx	xxxx	xxxx	201	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	2.1	xxxxx	xxxxx	xxxx	0.2	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	44.3	xxxxx	xxxxx	xxxx	24.4	xxxxx	xxxx	xxxxx	10.5	xxxx	xxxxx
Shared LOS:	*	E	*	*	*	C	*	*	*	B	*	*
ApproachDel:		44.3			143.0			xxxxxx			xxxxxx	
ApproachLOS:		E			F			*			*	

Note: Queue reported is the number of cars per lane.

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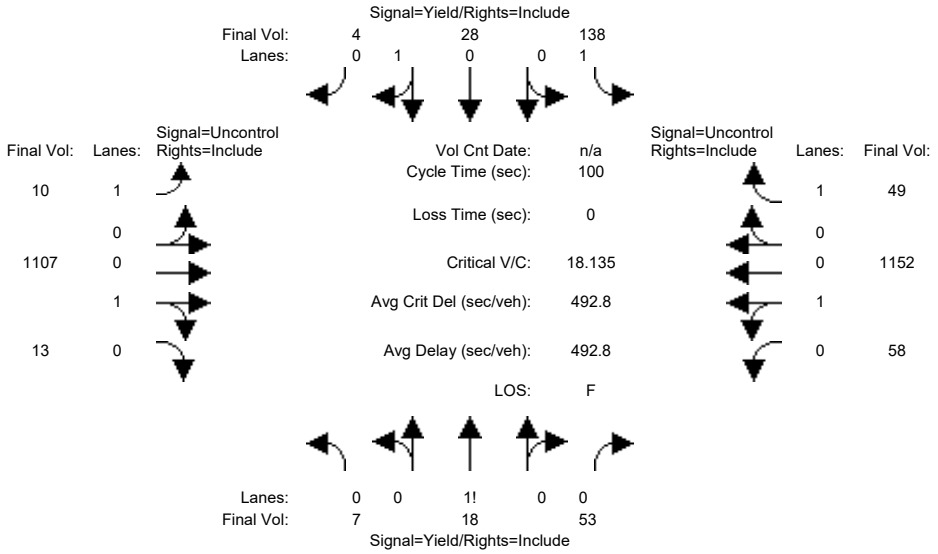
2030 Ph2 wo Conn - PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	6	17	49	127	26	4	9	1018	12	53	1060	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	17	49	127	26	4	9	1018	12	53	1060	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	17	49	127	26	4	9	1018	12	53	1060	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	7	18	53	138	28	4	10	1107	13	58	1152	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	7	18	53	138	28	4	10	1107	13	58	1152	49
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2441	2449	1113	2436	2407	1152	1201	xxxx	xxxxx	1120	xxxx	xxxxx
Potent Cap.:	22	31	256	22	34	243	588	xxxx	xxxxx	631	xxxx	xxxxx
Move Cap.:	3	28	256	8	30	243	588	xxxx	xxxxx	631	xxxx	xxxxx
Volume/Cap:	2.08	0.66	0.21	18.13	0.95	0.02	0.02	xxxx	xxxx	0.09	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	19.0	xxxx	xxxxx	0.1	xxxx	xxxxx	0.3	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8660	xxxx	xxxxx	11.2	xxxx	xxxxx	11.3	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	27	xxxxx	xxxx	xxxx	34	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	9.5	xxxxx	xxxxx	xxxx	3.4	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx
Shrd ConDel:	xxxxx	1186	xxxxx	xxxxx	xxxx	318.5	xxxxx	xxxx	xxxxx	11.3	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	B	*	*
ApproachDel:	1186.1			7066.2			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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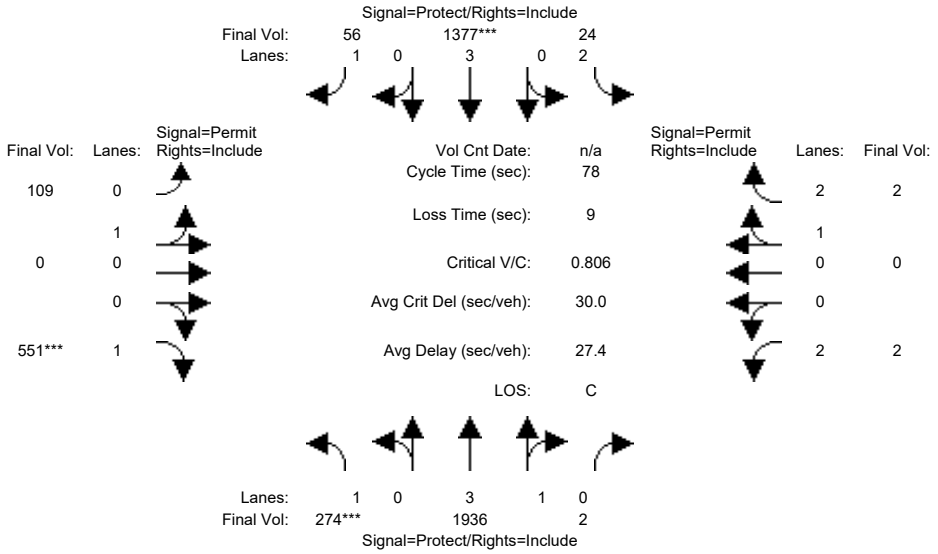
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	247	1742	2	22	1239	50	98	0	496	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	247	1742	2	22	1239	50	98	0	496	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	1742	2	22	1239	50	98	0	496	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	274	1936	2	24	1377	56	109	0	551	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	274	1936	2	24	1377	56	109	0	551	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	274	1936	2	24	1377	56	109	0	551	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7491	9	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.16	0.26	0.26	0.01	0.24	0.03	0.06	0.00	0.31	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	15.2	25.8	25.8	12.8	23.4	23.4	30.5	0.0	30.5	30.5	0.0	30.5
Volume/Cap:	0.81	0.78	0.78	0.05	0.81	0.11	0.15	0.00	0.81	0.00	0.00	0.00
Delay/Veh:	43.2	25.3	25.3	27.5	28.2	19.9	15.5	0.0	28.1	14.5	0.0	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.2	25.3	25.3	27.5	28.2	19.9	15.5	0.0	28.1	14.5	0.0	14.5
LOS by Move:	D	C	C	C	C	B	B	A	C	B	A	B
HCM2k95thQ:	14	20	20	1	20	2	4	0	26	0	0	0

Note: Queue reported is the number of cars per lane.

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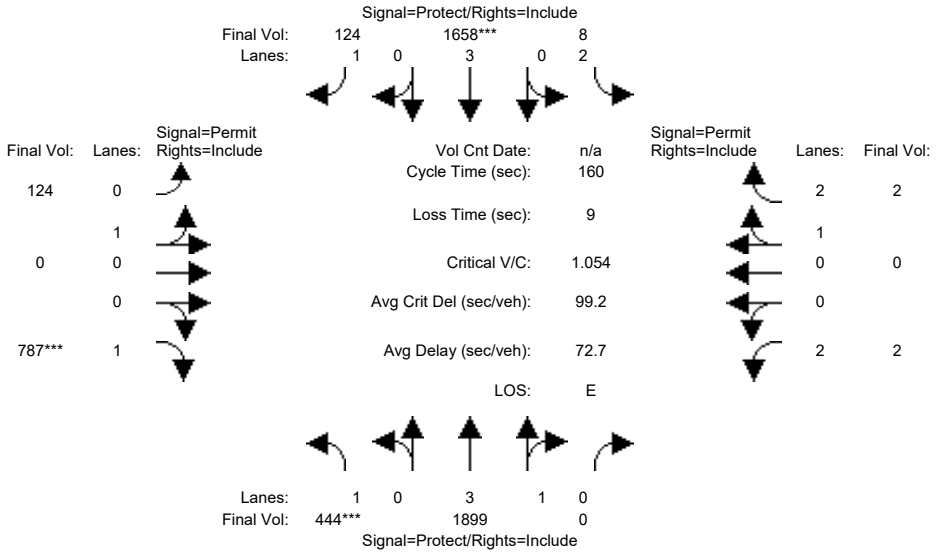
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	422	1804	0	8	1575	118	118	0	748	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	422	1804	0	8	1575	118	118	0	748	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	422	1804	0	8	1575	118	118	0	748	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	444	1899	0	8	1658	124	124	0	787	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	444	1899	0	8	1658	124	124	0	787	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	444	1899	0	8	1658	124	124	0	787	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.25	0.25	0.00	0.00	0.29	0.07	0.07	0.00	0.45	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	38.5	66.3	0.0	16.4	44.2	44.2	68.3	0.0	68.3	68.3	0.0	68.3
Volume/Cap:	1.05	0.61	0.00	0.03	1.05	0.26	0.16	0.00	1.05	0.00	0.00	0.00
Delay/Veh:	119.5	37.1	0.0	64.7	96.3	45.4	28.3	0.0	93.9	26.3	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	119.5	37.1	0.0	64.7	96.3	45.4	28.3	0.0	93.9	26.3	0.0	26.3
LOS by Move:	F	D	A	E	F	D	C	A	F	C	A	C
HCM2k95thQ:	47	31	0	0	53	10	8	0	79	0	0	0

Note: Queue reported is the number of cars per lane.

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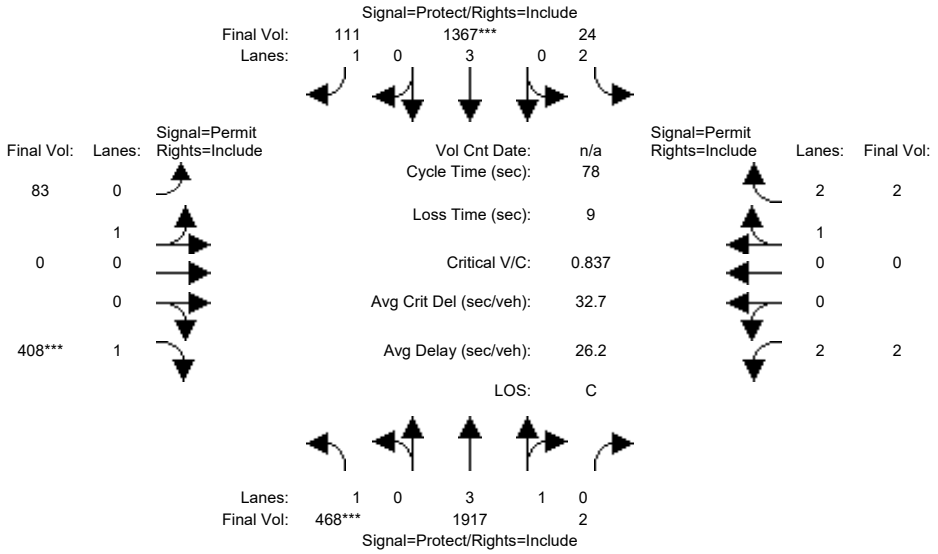
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	421	1725	2	22	1230	100	75	0	367	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	421	1725	2	22	1230	100	75	0	367	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	421	1725	2	22	1230	100	75	0	367	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	468	1917	2	24	1367	111	83	0	408	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	468	1917	2	24	1367	111	83	0	408	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	468	1917	2	24	1367	111	83	0	408	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7491	9	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.27	0.26	0.26	0.01	0.24	0.06	0.05	0.00	0.23	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	24.9	31.5	31.5	15.8	22.4	22.4	21.7	0.0	21.7	21.7	0.0	21.7
Volume/Cap:	0.84	0.63	0.63	0.04	0.84	0.22	0.17	0.00	0.84	0.00	0.00	0.00
Delay/Veh:	35.3	19.1	19.1	25.0	30.1	21.4	21.4	0.0	38.5	20.3	0.0	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	19.1	19.1	25.0	30.1	21.4	21.4	0.0	38.5	20.3	0.0	20.3
LOS by Move:	D	B	B	C	C	C	C	A	D	C	A	C
HCM2k95thQ:	22	17	17	1	20	4	3	0	23	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
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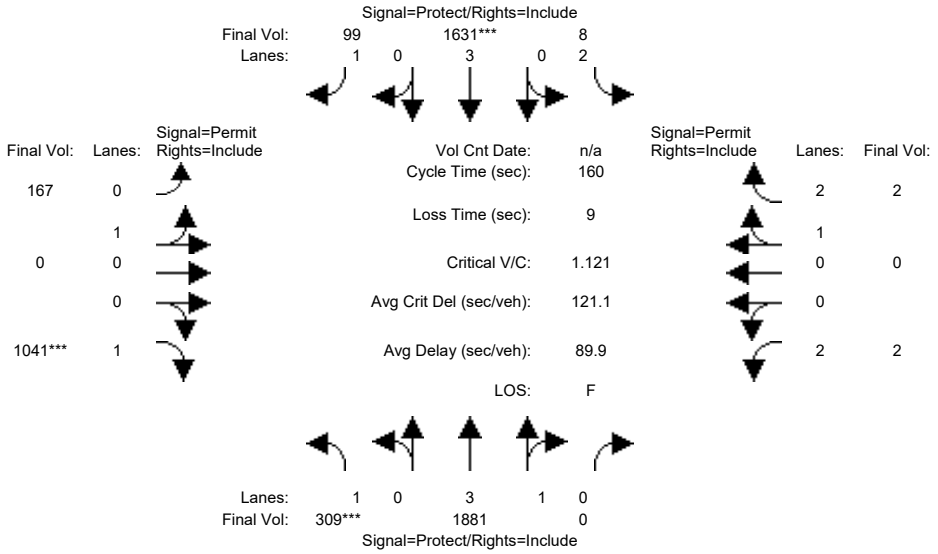
2030 Ph2 wo Conn - PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	294	1787	0	8	1549	94	159	0	989	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	294	1787	0	8	1549	94	159	0	989	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	294	1787	0	8	1549	94	159	0	989	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	309	1881	0	8	1631	99	167	0	1041	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	309	1881	0	8	1631	99	167	0	1041	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	309	1881	0	8	1631	99	167	0	1041	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.18	0.25	0.00	0.00	0.29	0.06	0.09	0.00	0.59	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	25.2	52.9	0.0	13.2	40.8	40.8	84.9	0.0	84.9	84.9	0.0	84.9
Volume/Cap:	1.12	0.76	0.00	0.03	1.12	0.22	0.18	0.00	1.12	0.00	0.00	0.00
Delay/Veh:	158.0	49.2	0.0	67.6	124	47.3	19.5	0.0	106.2	17.6	0.0	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	158.0	49.2	0.0	67.6	124	47.3	19.5	0.0	106.2	17.6	0.0	17.6
LOS by Move:	F	D	A	E	F	D	B	A	F	B	A	B
HCM2k95thQ:	37	35	0	0	56	8	8	0	109	0	0	0

Note: Queue reported is the number of cars per lane.

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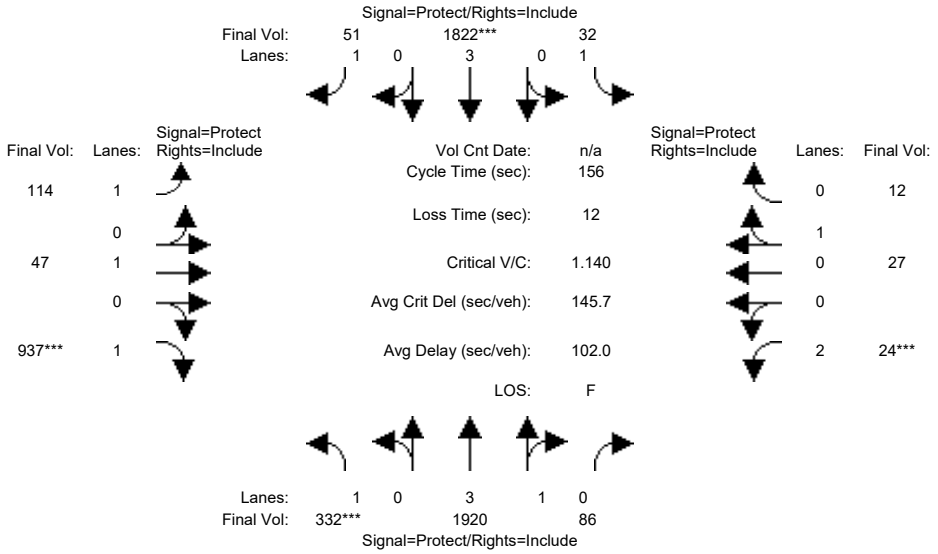
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	299	1728	77	29	1640	46	103	42	843	22	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	1728	77	29	1640	46	103	42	843	22	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	299	1728	77	29	1640	46	103	42	843	22	24	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	332	1920	86	32	1822	51	114	47	937	24	27	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	332	1920	86	32	1822	51	114	47	937	24	27	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	332	1920	86	32	1822	51	114	47	937	24	27	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.82	0.18	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.69	0.31
Final Sat.:	1750	7180	320	1750	5700	1750	1750	1900	1750	3150	1234	566
Capacity Analysis Module:												
Vol/Sat:	0.19	0.27	0.27	0.02	0.32	0.03	0.07	0.02	0.54	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	25.1	58.8	58.8	8.5	42.2	42.2	35.2	70.7	70.7	6.0	41.5	41.5
Volume/Cap:	1.18	0.71	0.71	0.34	1.18	0.11	0.29	0.05	1.18	0.20	0.08	0.08
Delay/Veh:	177.3	42.2	42.2	73.2	145	42.8	50.4	23.9	136.9	73.5	43.1	43.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	177.3	42.2	42.2	73.2	145	42.8	50.4	23.9	136.9	73.5	43.1	43.1
LOS by Move:	F	D	D	E	F	D	D	C	F	E	D	D
HCM2k95thQ:	41	34	34	3	64	4	10	2	104	2	3	3

Note: Queue reported is the number of cars per lane.

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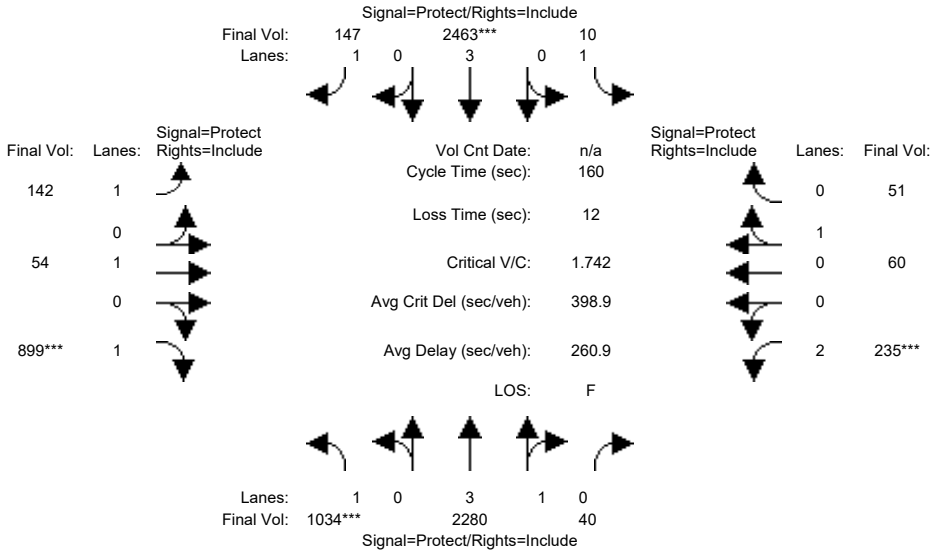
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	962	2120	37	9	2291	137	132	50	836	219	56	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	962	2120	37	9	2291	137	132	50	836	219	56	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	962	2120	37	9	2291	137	132	50	836	219	56	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	1034	2280	40	10	2463	147	142	54	899	235	60	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1034	2280	40	10	2463	147	142	54	899	235	60	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1034	2280	40	10	2463	147	142	54	899	235	60	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.93	0.07	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.54	0.46
Final Sat.:	1750	7371	129	1750	5700	1750	1750	1900	1750	3150	979	821
Capacity Analysis Module:												
Vol/Sat:	0.59	0.31	0.31	0.01	0.43	0.08	0.08	0.03	0.51	0.07	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	54.3	83.8	83.8	10.2	39.7	39.7	28.1	47.2	47.2	6.9	26.0	26.0
Volume/Cap:	1.74	0.59	0.59	0.09	1.74	0.34	0.46	0.10	1.74	1.74	0.38	0.38
Delay/Veh:	393.9	26.5	26.5	70.9	397	49.9	60.3	41.0	398.5	439.4	60.7	60.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	393.9	26.5	26.5	70.9	397	49.9	60.3	41.0	398.5	439.4	60.7	60.7
LOS by Move:	F	C	C	E	F	D	E	D	F	F	E	E
HCM2k95thQ:	166	32	32	1	123	12	13	4	147	28	10	10

Note: Queue reported is the number of cars per lane.

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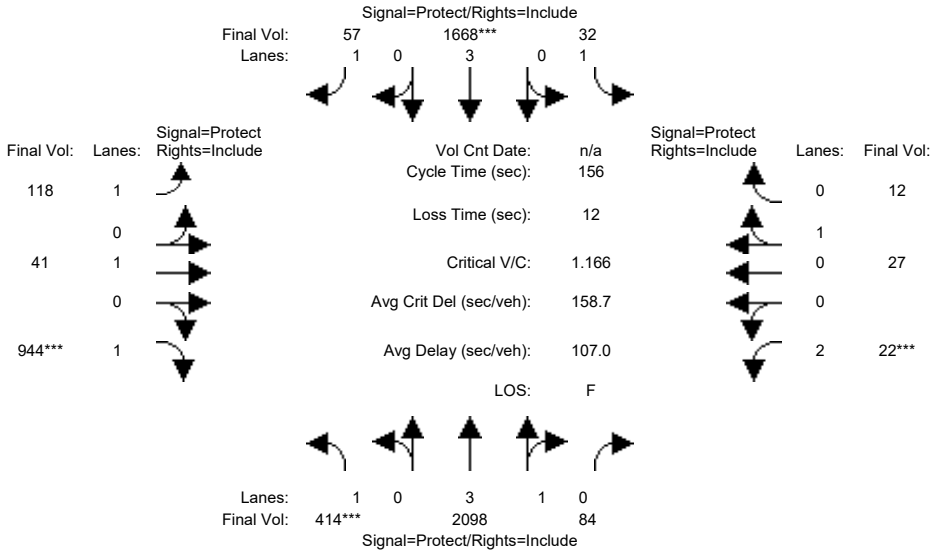
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	373	1888	76	29	1501	51	106	37	850	20	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	1888	76	29	1501	51	106	37	850	20	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	373	1888	76	29	1501	51	106	37	850	20	24	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	414	2098	84	32	1668	57	118	41	944	22	27	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	414	2098	84	32	1668	57	118	41	944	22	27	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	414	2098	84	32	1668	57	118	41	944	22	27	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.84	0.16	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.69	0.31
Final Sat.:	1750	7209	290	1750	5700	1750	1750	1900	1750	3150	1234	566
Capacity Analysis Module:												
Vol/Sat:	0.24	0.29	0.29	0.02	0.29	0.03	0.07	0.02	0.54	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	30.6	60.4	60.4	8.0	37.8	37.8	35.3	69.7	69.7	6.0	40.4	40.4
Volume/Cap:	1.21	0.75	0.75	0.36	1.21	0.13	0.30	0.05	1.21	0.18	0.08	0.08
Delay/Veh:	180.7	42.5	42.5	74.0	160	46.4	50.5	24.4	148.9	73.4	43.9	43.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	180.7	42.5	42.5	74.0	160	46.4	50.5	24.4	148.9	73.4	43.9	43.9
LOS by Move:	F	D	D	E	F	D	D	C	F	E	D	D
HCM2k95thQ:	50	38	38	3	61	4	10	2	108	2	3	3

Note: Queue reported is the number of cars per lane.

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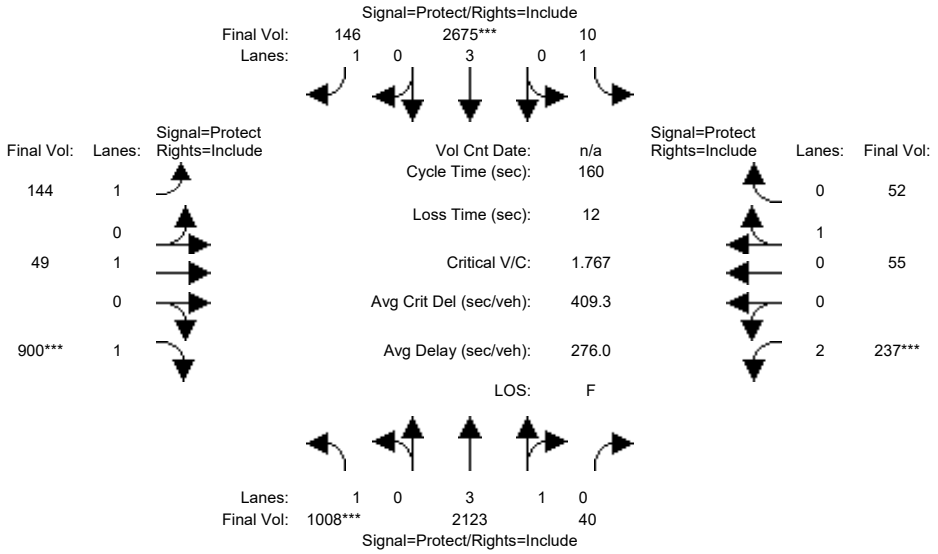
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	937	1974	37	9	2488	136	134	46	837	220	51	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	937	1974	37	9	2488	136	134	46	837	220	51	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	937	1974	37	9	2488	136	134	46	837	220	51	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	1008	2123	40	10	2675	146	144	49	900	237	55	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1008	2123	40	10	2675	146	144	49	900	237	55	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1008	2123	40	10	2675	146	144	49	900	237	55	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.92	0.08	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.52	0.48
Final Sat.:	1750	7362	138	1750	5700	1750	1750	1900	1750	3150	927	873
Capacity Analysis Module:												
Vol/Sat:	0.58	0.29	0.29	0.01	0.47	0.08	0.08	0.03	0.51	0.08	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	52.1	83.7	83.7	10.9	42.5	42.5	27.9	46.6	46.6	6.8	25.4	25.4
Volume/Cap:	1.77	0.55	0.55	0.08	1.77	0.31	0.47	0.09	1.77	1.77	0.37	0.37
Delay/Veh:	406.2	25.7	25.7	70.2	407	47.5	60.6	41.4	409.8	450.3	61.0	61.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	406.2	25.7	25.7	70.2	407	47.5	60.6	41.4	409.8	450.3	61.0	61.0
LOS by Move:	F	C	C	E	F	D	E	D	F	F	E	E
HCM2k95thQ:	164	29	29	1	135	11	14	3	148	28	10	10

Note: Queue reported is the number of cars per lane.

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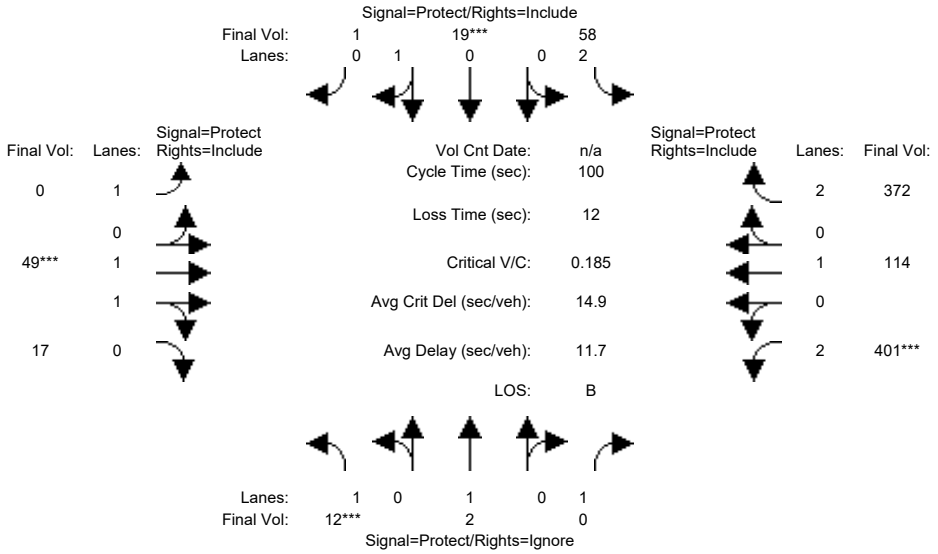
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	146	52	17	1	0	44	15	361	103	335
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	146	52	17	1	0	44	15	361	103	335
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	146	52	17	1	0	44	15	361	103	335
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	58	19	1	0	49	17	401	114	372
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	58	19	1	0	49	17	401	114	372
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	58	19	1	0	49	17	401	114	372
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.94	0.06	1.00	1.48	0.52	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1700	100	1750	2759	940	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.13	0.06	0.12
Crit Moves:	****				****			****		****		
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.0	10.0	62.0	72.0	72.0
Volume/Cap:	0.09	0.01	0.00	0.23	0.14	0.14	0.00	0.18	0.18	0.21	0.08	0.16
Delay/Veh:	42.9	42.4	0.0	43.6	43.2	43.2	0.0	41.5	41.5	8.3	4.2	4.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	42.4	0.0	43.6	43.2	43.2	0.0	41.5	41.5	8.3	4.2	4.5
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	2	1	1	0	2	2	6	2	4

Note: Queue reported is the number of cars per lane.

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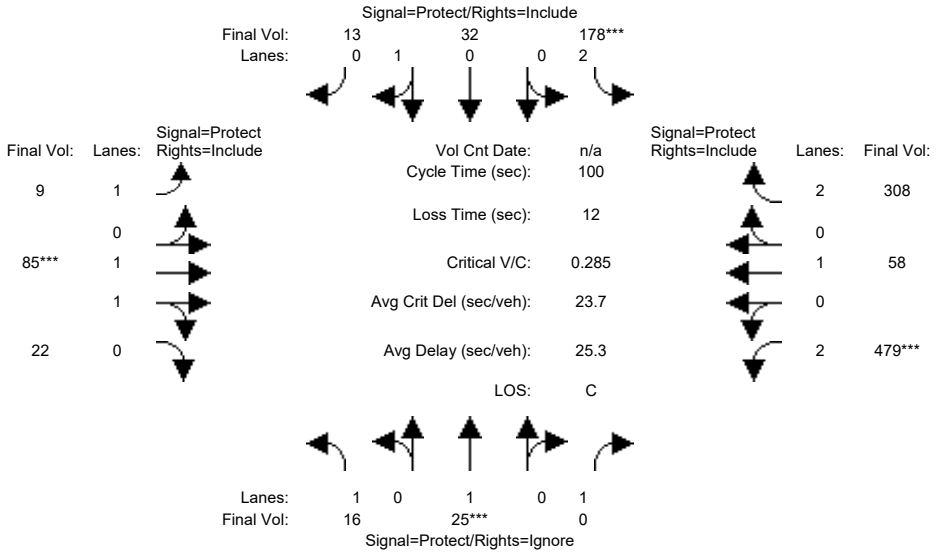
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	24	689	169	30	12	9	81	21	455	55	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	24	689	169	30	12	9	81	21	455	55	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	24	689	169	30	12	9	81	21	455	55	293
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	25	0	178	32	13	9	85	22	479	58	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	25	0	178	32	13	9	85	22	479	58	308
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	25	0	178	32	13	9	85	22	479	58	308
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.71	0.29	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1286	514	1750	2938	762	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.06	0.02	0.02	0.01	0.03	0.03	0.15	0.03	0.10
Crit Moves:		****		****				****		****		
Green Time:	13.5	8.0	0.0	19.0	13.5	13.5	30.5	10.0	10.0	51.0	30.5	30.5
Volume/Cap:	0.07	0.17	0.00	0.30	0.18	0.18	0.02	0.29	0.29	0.30	0.10	0.32
Delay/Veh:	37.9	43.4	0.0	35.1	38.7	38.7	24.3	42.1	42.1	14.2	25.0	27.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.9	43.4	0.0	35.1	38.7	38.7	24.3	42.1	42.1	14.2	25.0	27.0
LOS by Move:	D	D	A	D	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	6	3	3	0	4	4	10	2	8

Note: Queue reported is the number of cars per lane.

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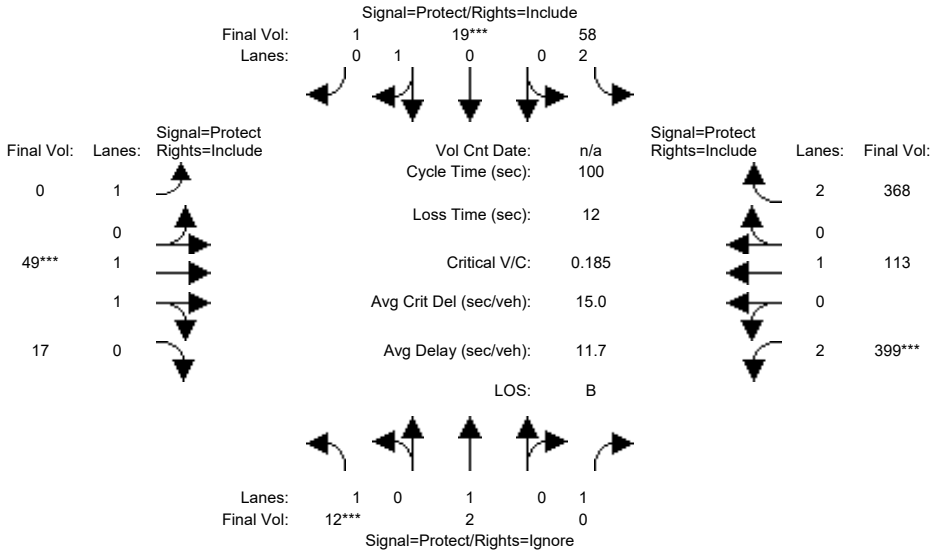
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	166	52	17	1	0	44	15	359	102	331
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	166	52	17	1	0	44	15	359	102	331
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	166	52	17	1	0	44	15	359	102	331
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	58	19	1	0	49	17	399	113	368
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	58	19	1	0	49	17	399	113	368
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	58	19	1	0	49	17	399	113	368
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.94	0.06	1.00	1.48	0.52	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1700	100	1750	2759	940	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.13	0.06	0.12
Crit Moves:	****				****			****			****	
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.0	10.0	62.0	72.0	72.0
Volume/Cap:	0.09	0.01	0.00	0.23	0.14	0.14	0.00	0.18	0.18	0.20	0.08	0.16
Delay/Veh:	42.9	42.4	0.0	43.6	43.2	43.2	0.0	41.5	41.5	8.3	4.2	4.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	42.4	0.0	43.6	43.2	43.2	0.0	41.5	41.5	8.3	4.2	4.5
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	2	1	1	0	2	2	6	2	4

Note: Queue reported is the number of cars per lane.

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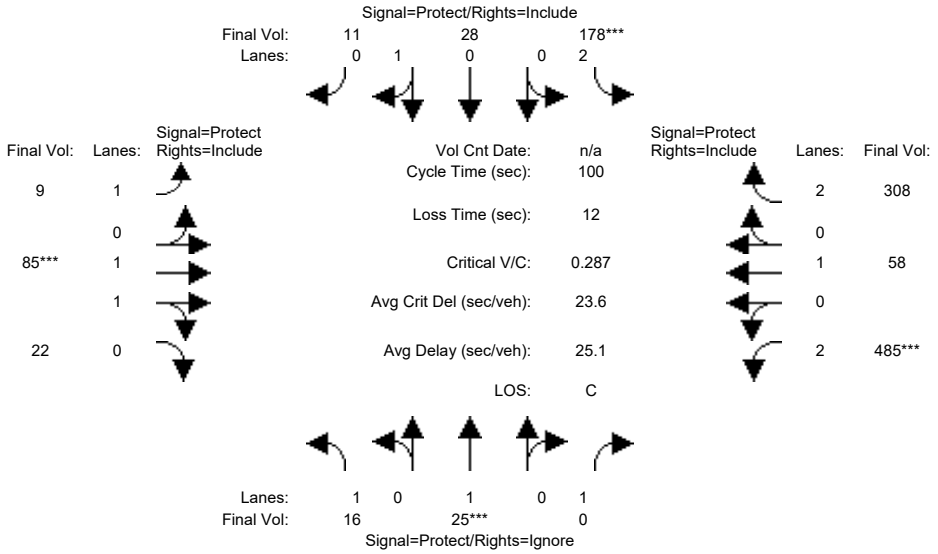
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	24	679	169	27	10	9	81	21	461	55	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	24	679	169	27	10	9	81	21	461	55	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	24	679	169	27	10	9	81	21	461	55	293
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	25	0	178	28	11	9	85	22	485	58	308
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	25	0	178	28	11	9	85	22	485	58	308
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	25	0	178	28	11	9	85	22	485	58	308
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1314	486	1750	2938	762	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.06	0.02	0.02	0.01	0.03	0.03	0.15	0.03	0.10
Crit Moves:		****		****				****		****		
Green Time:	13.4	8.0	0.0	18.8	13.4	13.4	30.6	10.0	10.0	51.2	30.6	30.6
Volume/Cap:	0.07	0.17	0.00	0.30	0.16	0.16	0.02	0.29	0.29	0.30	0.10	0.32
Delay/Veh:	38.0	43.4	0.0	35.2	38.7	38.7	24.2	42.1	42.1	14.2	24.9	26.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.0	43.4	0.0	35.2	38.7	38.7	24.2	42.1	42.1	14.2	24.9	26.9
LOS by Move:	D	D	A	D	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	6	2	2	0	4	4	10	2	8

Note: Queue reported is the number of cars per lane.

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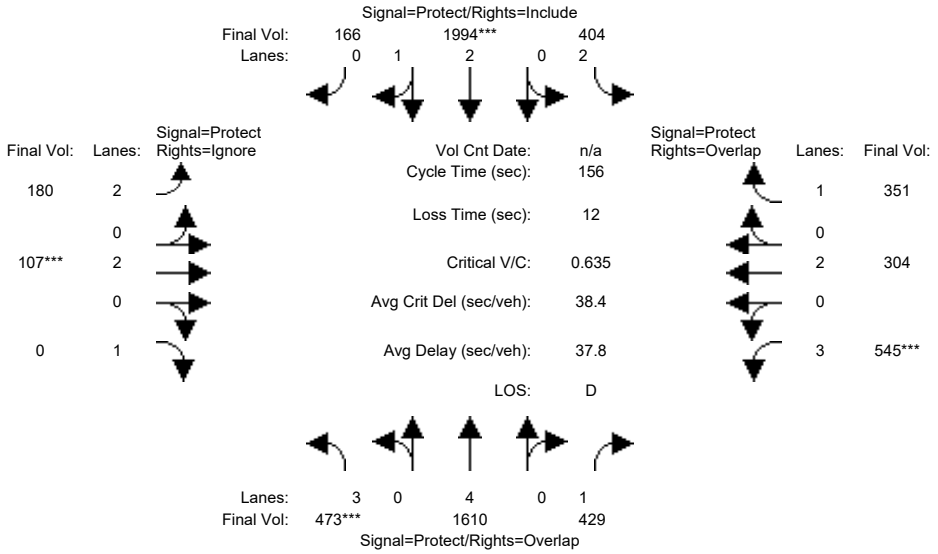
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	473	1610	429	404	1994	166	180	107	106	545	304	351
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	473	1610	429	404	1994	166	180	107	106	545	304	351
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	473	1610	429	404	1994	166	180	107	106	545	304	351
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	473	1610	429	404	1994	166	180	107	0	545	304	351
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	473	1610	429	404	1994	166	180	107	0	545	304	351
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	473	1610	429	404	1994	166	180	107	0	545	304	351
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.77	0.23	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5262	438	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.23	0.11	0.38	0.38	0.05	0.03	0.00	0.10	0.08	0.18
Crit Moves:	****				****			****			****	
Green Time:	19.9	73.9	96.9	37.1	91.1	91.1	12.3	10.0	0.0	23.0	20.7	57.8
Volume/Cap:	0.65	0.45	0.36	0.45	0.65	0.65	0.60	0.44	0.00	0.65	0.60	0.50
Delay/Veh:	69.1	27.8	15.3	52.3	22.7	22.7	78.2	76.0	0.0	66.6	69.0	40.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.1	27.8	15.3	52.3	22.7	22.7	78.2	76.0	0.0	66.6	69.0	40.4
LOS by Move:	E	C	B	D	C	C	E	E	A	E	E	D
HCM2k95thQ:	14	22	18	14	34	34	9	6	0	15	13	21

Note: Queue reported is the number of cars per lane.

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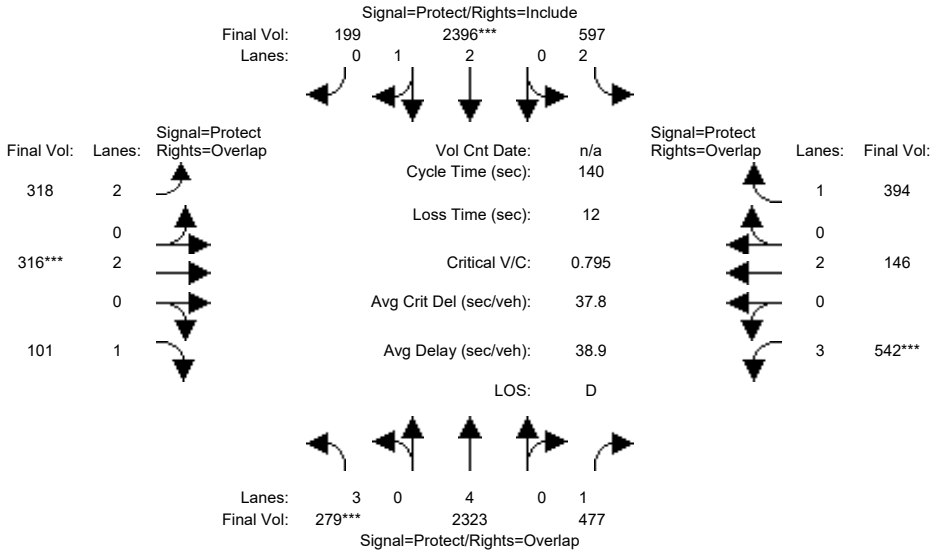
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	279	2323	477	597	2396	199	318	316	101	542	146	394
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	279	2323	477	597	2396	199	318	316	101	542	146	394
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	279	2323	477	597	2396	199	318	316	101	542	146	394
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	279	2323	477	597	2396	199	318	316	101	542	146	394
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	279	2323	477	597	2396	199	318	316	101	542	146	394
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	279	2323	477	597	2396	199	318	316	101	542	146	394
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.76	0.24	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5170	429	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.31	0.27	0.19	0.46	0.46	0.10	0.08	0.06	0.12	0.04	0.23
Crit Moves:	****				****			****			****	
Green Time:	10.8	57.0	78.0	35.4	81.6	81.6	20.9	14.6	25.4	21.0	14.8	50.1
Volume/Cap:	0.80	0.75	0.49	0.75	0.80	0.80	0.68	0.80	0.32	0.80	0.36	0.63
Delay/Veh:	75.4	36.5	19.3	52.3	24.1	24.1	60.4	71.8	50.3	63.9	58.8	39.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.4	36.5	19.3	52.3	24.1	24.1	60.4	71.8	50.3	63.9	58.8	39.3
LOS by Move:	E	D	B	D	C	C	E	E	D	E	E	D
HCM2k95thQ:	10	36	24	23	44	44	15	13	8	18	6	26

Note: Queue reported is the number of cars per lane.

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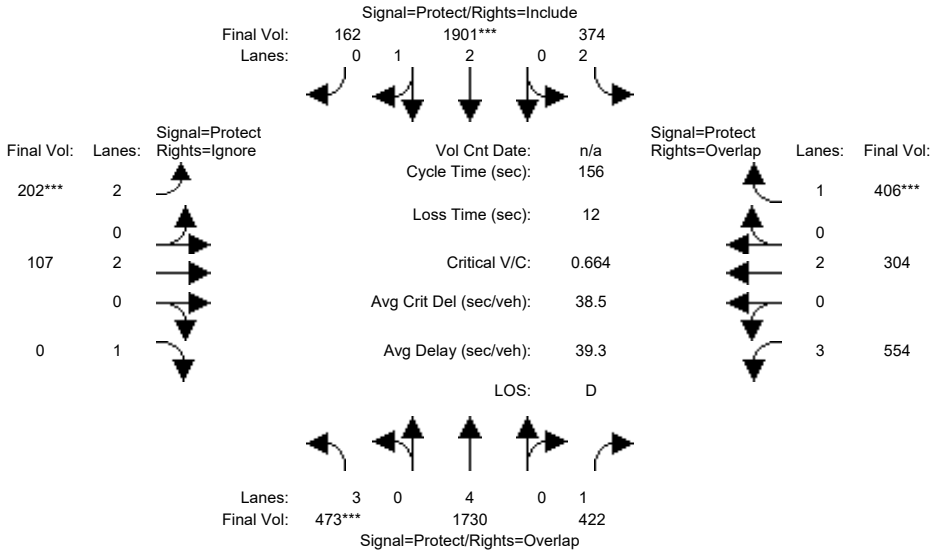
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	473	1730	422	374	1901	162	202	107	106	554	304	406
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	473	1730	422	374	1901	162	202	107	106	554	304	406
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	473	1730	422	374	1901	162	202	107	106	554	304	406
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	473	1730	422	374	1901	162	202	107	0	554	304	406
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	473	1730	422	374	1901	162	202	107	0	554	304	406
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	473	1730	422	374	1901	162	202	107	0	554	304	406
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.76	0.24	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5252	448	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.23	0.22	0.10	0.36	0.36	0.05	0.03	0.00	0.10	0.08	0.21
Crit Moves:	****				****		****					****
Green Time:	19.5	72.9	96.8	31.5	85.0	85.0	12.5	15.7	0.0	23.8	27.1	58.6
Volume/Cap:	0.66	0.49	0.36	0.49	0.66	0.66	0.66	0.28	0.00	0.64	0.46	0.57
Delay/Veh:	70.0	29.1	15.3	57.3	26.5	26.5	80.7	66.7	0.0	65.6	60.2	41.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	70.0	29.1	15.3	57.3	26.5	26.5	80.7	66.7	0.0	65.6	60.2	41.9
LOS by Move:	E	C	B	E	C	C	F	E	A	E	E	D
HCM2k95thQ:	14	24	17	13	35	35	10	5	0	15	12	25

Note: Queue reported is the number of cars per lane.

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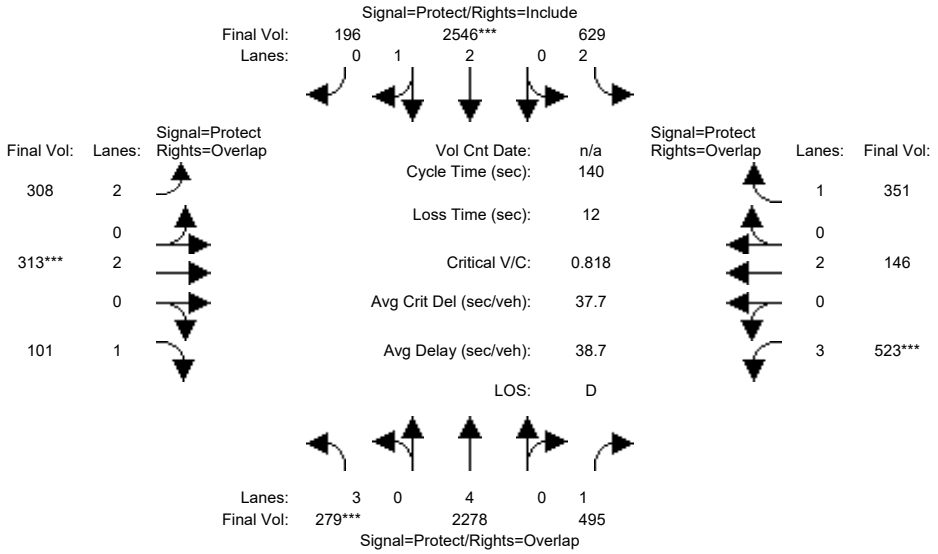
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	279	2278	495	629	2546	196	308	313	101	523	146	351
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	279	2278	495	629	2546	196	308	313	101	523	146	351
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	279	2278	495	629	2546	196	308	313	101	523	146	351
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	279	2278	495	629	2546	196	308	313	101	523	146	351
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	279	2278	495	629	2546	196	308	313	101	523	146	351
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	279	2278	495	629	2546	196	308	313	101	523	146	351
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.78	0.22	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5199	400	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.30	0.28	0.20	0.49	0.49	0.10	0.08	0.06	0.11	0.04	0.20
Crit Moves:	****				****			****			****	
Green Time:	10.5	56.6	76.2	37.7	83.8	83.8	19.5	14.1	24.6	19.7	14.2	51.9
Volume/Cap:	0.82	0.74	0.52	0.74	0.82	0.82	0.70	0.82	0.33	0.82	0.38	0.54
Delay/Veh:	78.2	36.5	20.8	50.3	23.8	23.8	62.5	74.7	51.1	66.6	59.4	35.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.2	36.5	20.8	50.3	23.8	23.8	62.5	74.7	51.1	66.6	59.4	35.6
LOS by Move:	E	D	C	D	C	C	E	E	D	E	E	D
HCM2k95thQ:	11	35	25	24	47	47	15	14	8	18	6	22

Note: Queue reported is the number of cars per lane.

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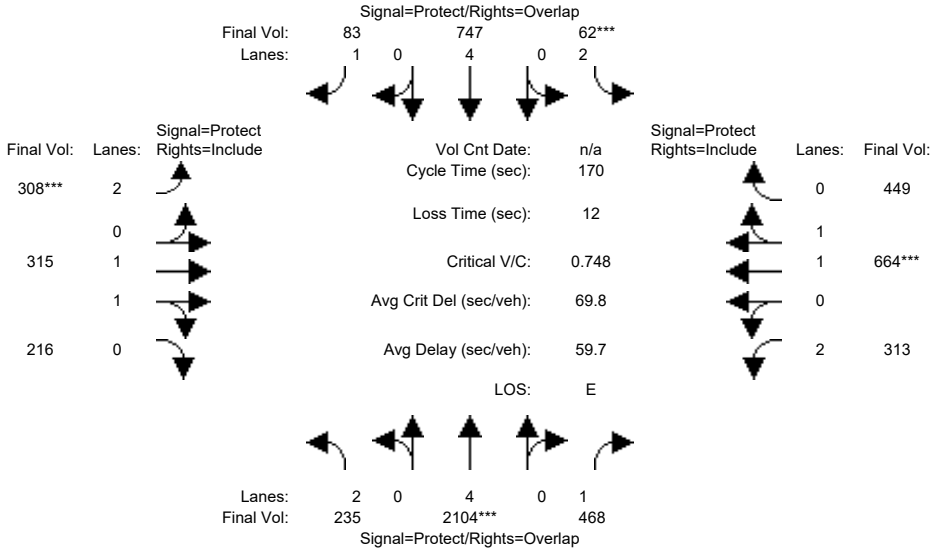
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	235	2104	468	62	747	83	308	315	216	313	664	449
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	2104	468	62	747	83	308	315	216	313	664	449
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	2104	468	62	747	83	308	315	216	313	664	449
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	2104	468	62	747	83	308	315	216	313	664	449
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	2104	468	62	747	83	308	315	216	313	664	449
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	2104	468	62	747	83	308	315	216	313	664	449
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.16	0.84	2.00	1.17	0.83
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2194	1504	3150	2206	1492
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.27	0.02	0.10	0.05	0.10	0.14	0.14	0.10	0.30	0.30
Crit Moves:		****			****			****			****	
Green Time:	18.4	73.0	99.0	16.0	70.6	93.6	23.0	43.0	43.0	26.0	46.0	46.0
Volume/Cap:	0.69	0.64	0.46	0.21	0.24	0.09	0.72	0.57	0.57	0.65	1.11	1.11
Delay/Veh:	78.9	38.7	20.6	71.5	32.3	18.1	76.4	56.2	56.2	70.8	126	126.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	38.7	20.6	71.5	32.3	18.1	76.4	56.2	56.2	70.8	126	126.5
LOS by Move:	E	D	C	E	C	B	E	E	E	E	F	F
HCM2k95thQ:	13	37	31	4	14	6	18	22	22	17	60	60

Note: Queue reported is the number of cars per lane.

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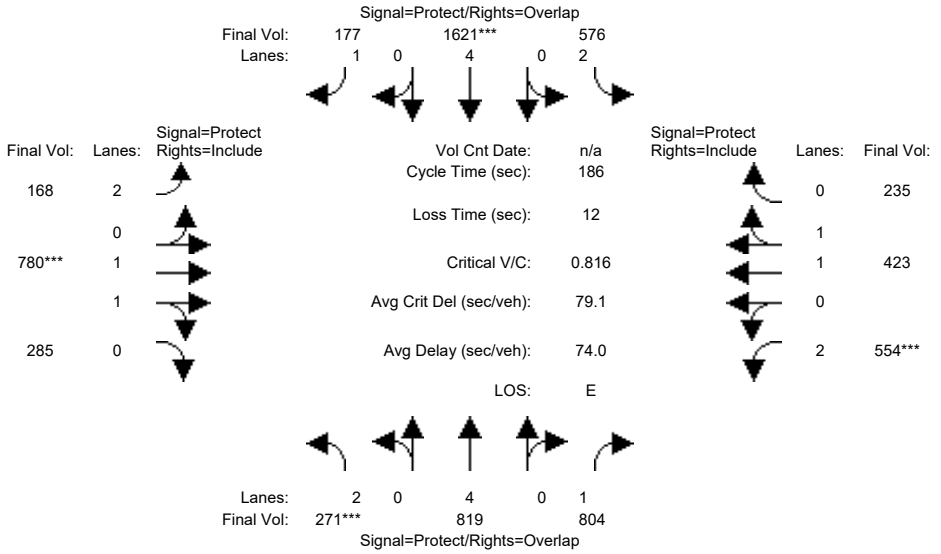
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	271	819	804	576	1621	177	168	780	285	554	423	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	819	804	576	1621	177	168	780	285	554	423	235
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	819	804	576	1621	177	168	780	285	554	423	235
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	819	804	576	1621	177	168	780	285	554	423	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	819	804	576	1621	177	168	780	285	554	423	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	271	819	804	576	1621	177	168	780	285	554	423	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.45	0.55	2.00	1.27	0.73
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2709	990	3150	2378	1321
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.46	0.18	0.21	0.10	0.05	0.29	0.29	0.18	0.18	0.18
Crit Moves:	****				****			****			****	
Green Time:	19.0	52.9	89.9	34.1	68.0	108.9	40.9	50.0	50.0	37.0	46.1	46.1
Volume/Cap:	0.84	0.38	0.95	1.00	0.58	0.17	0.24	1.07	1.07	0.88	0.72	0.72
Delay/Veh:	99.9	53.5	65.8	112.6	47.9	17.9	60.0	118	117.6	86.5	66.7	66.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.9	53.5	65.8	112.6	47.9	17.9	60.0	118	117.6	86.5	66.7	66.7
LOS by Move:	F	D	E	F	D	B	E	F	F	F	E	E
HCM2k95thQ:	18	18	78	38	33	13	9	60	60	34	30	30

Note: Queue reported is the number of cars per lane.

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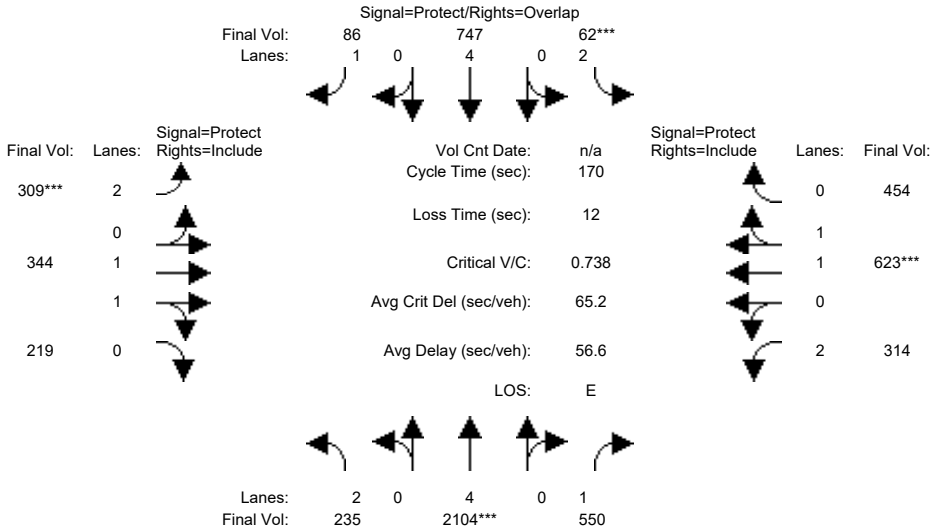
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	235	2104	550	62	747	86	309	344	219	314	623	454
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	2104	550	62	747	86	309	344	219	314	623	454
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	235	2104	550	62	747	86	309	344	219	314	623	454
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	2104	550	62	747	86	309	344	219	314	623	454
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	2104	550	62	747	86	309	344	219	314	623	454
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	2104	550	62	747	86	309	344	219	314	623	454
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.99	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.20	0.80	2.00	1.13	0.87
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2260	1439	3150	2139	1559
Capacity Analysis Module:												
Vol/Sat:	0.07	0.28	0.31	0.02	0.10	0.05	0.10	0.15	0.15	0.10	0.29	0.29
Crit Moves:		****		****			****				****	
Green Time:	18.4	73.0	99.0	16.0	70.6	93.6	23.0	43.0	43.0	26.0	46.0	46.0
Volume/Cap:	0.69	0.64	0.54	0.21	0.24	0.09	0.73	0.60	0.60	0.65	1.08	1.08
Delay/Veh:	78.9	38.7	22.2	71.5	32.3	18.1	76.6	57.1	57.1	70.9	113	113.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	38.7	22.2	71.5	32.3	18.1	76.6	57.1	57.1	70.9	113	113.3
LOS by Move:	E	D	C	E	C	B	E	E	E	E	F	F
HCM2k95thQ:	13	37	37	4	14	6	18	23	23	17	57	57

Note: Queue reported is the number of cars per lane.

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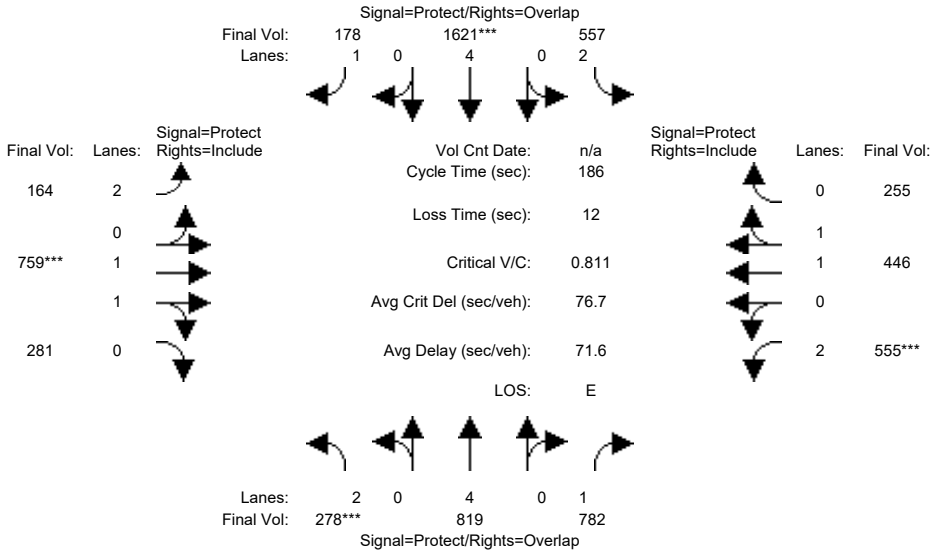
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	278	819	782	557	1621	178	164	759	281	555	446	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	278	819	782	557	1621	178	164	759	281	555	446	255
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	278	819	782	557	1621	178	164	759	281	555	446	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	278	819	782	557	1621	178	164	759	281	555	446	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	278	819	782	557	1621	178	164	759	281	555	446	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	278	819	782	557	1621	178	164	759	281	555	446	255
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.44	0.56	2.00	1.25	0.75
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2700	999	3150	2353	1345
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.45	0.18	0.21	0.10	0.05	0.28	0.28	0.18	0.19	0.19
Crit Moves:	****				****			****		****		
Green Time:	19.0	53.3	90.3	33.7	68.0	108.9	40.9	50.0	50.0	37.0	46.1	46.1
Volume/Cap:	0.86	0.38	0.92	0.98	0.58	0.17	0.24	1.05	1.05	0.89	0.76	0.76
Delay/Veh:	103.0	53.2	59.6	107.2	47.9	17.9	59.9	109	109.3	86.7	68.8	68.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	103.0	53.2	59.6	107.2	47.9	17.9	59.9	109	109.3	86.7	68.8	68.8
LOS by Move:	F	D	E	F	D	B	E	F	F	F	E	E
HCM2k95thQ:	18	18	73	36	33	13	9	57	57	34	33	33

Note: Queue reported is the number of cars per lane.

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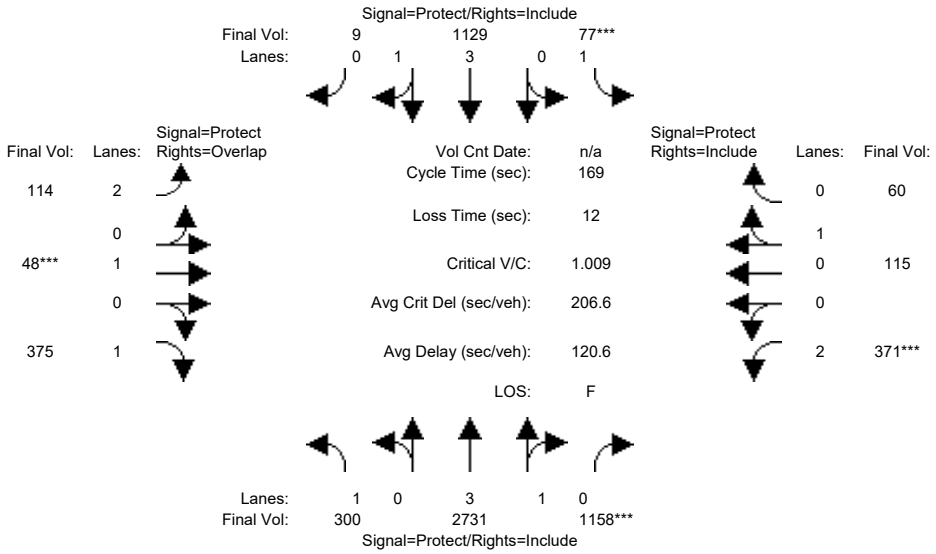
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2731	1158	77	1129	9	114	48	375	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2731	1158	77	1129	9	114	48	375	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2731	1158	77	1129	9	114	48	375	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2731	1158	77	1129	9	114	48	375	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2731	1158	77	1129	9	114	48	375	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2731	1158	77	1129	9	114	48	375	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	5700	1750	1750	7441	59	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.48	0.66	0.04	0.15	0.15	0.07	0.06	0.31	0.17	0.24	0.24
Crit Moves:			****	****				****		****		
Green Time:	33.1	71.4	82.3	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	1.13	1.36	0.64	0.52	0.52	1.06	0.29	0.74	1.08	0.80	0.80
Delay/Veh:	87.6	121	216.9	87.2	52.9	52.9	184.1	56.3	47.7	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	121	216.9	87.2	52.9	52.9	184.1	56.3	47.7	143.4	72.2	72.2
LOS by Move:	F	F	F	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	29	90	154	9	23	23	12	5	32	29	20	20

Note: Queue reported is the number of cars per lane.

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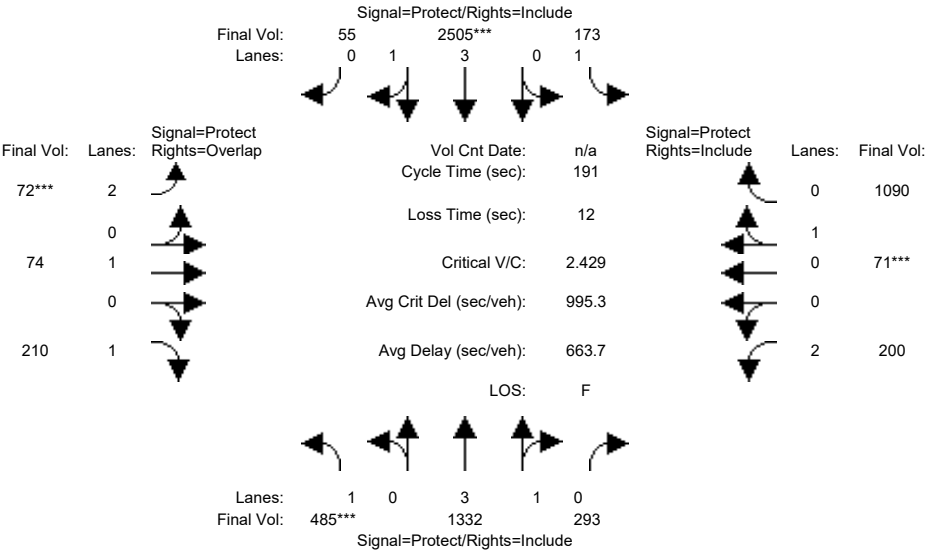
Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1332	293	173	2505	55	72	74	210	200	71	1090
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	293	173	2505	55	72	74	210	200	71	1090
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	293	173	2505	55	72	74	210	200	71	1090
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	293	173	2505	55	72	74	210	200	71	1090
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	293	173	2505	55	72	74	210	200	71	1090
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	293	173	2505	55	72	74	210	200	71	1090
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.25	0.75	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.06	0.94
Final Sat.:	1750	6145	1352	1750	7339	161	1575	760	1225	2205	44	676
Capacity Analysis Module:												
Vol/Sat:	0.28	0.22	0.22	0.10	0.34	0.34	0.05	0.10	0.17	0.09	1.61	1.61
Crit Moves:	****				****		****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.46	0.46	0.68	1.13	1.13	0.68	0.61	0.37	0.86	8.19	8.19
Delay/Veh:	80.8	28.4	28.4	84.9	136	136.4	103.1	84.0	33.3	109.6	3326	3326
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	28.4	28.4	84.9	136	136.4	103.1	84.0	33.3	109.6	3326	3326
LOS by Move:	F	C	C	F	F	F	F	F	C	F	F	F
HCM2k95thQ:	49	22	22	19	73	73	7	10	16	17	301	301

Note: Queue reported is the number of cars per lane.

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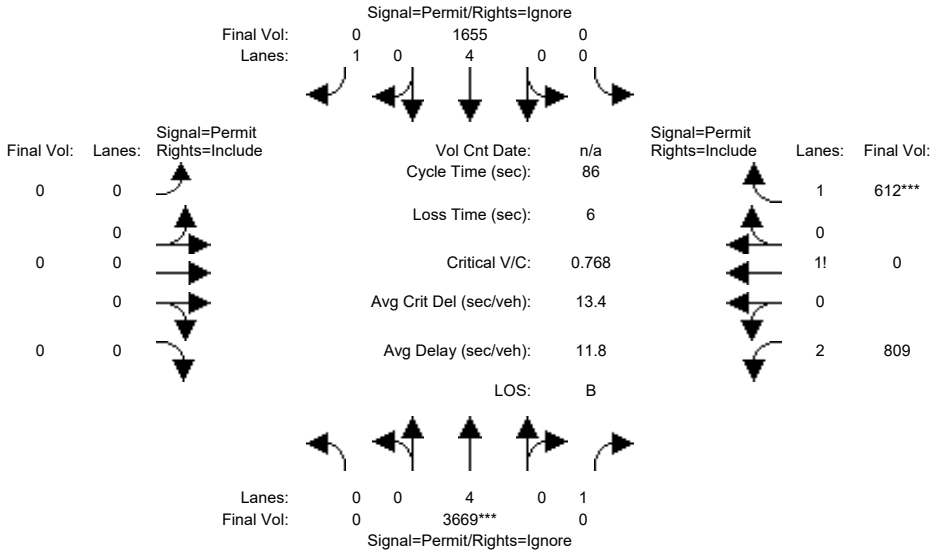
Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	3669	0	0	1655	505	0	0	0	809	0	612
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3669	0	0	1655	505	0	0	0	809	0	612
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3669	0	0	1655	505	0	0	0	809	0	612
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3669	0	0	1655	0	0	0	0	809	0	612
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3669	0	0	1655	0	0	0	0	809	0	612
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3669	0	0	1655	0	0	0	0	809	0	612
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.84	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.49	0.00	1.51
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	3977	0	2640
Capacity Analysis Module:												
Vol/Sat:	0.00	0.48	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.20	0.00	0.23
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.80	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.76	0.00	0.71
Delay/Veh:	0.0	8.3	0.0	0.0	4.8	0.0	0.0	0.0	0.0	30.9	0.0	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.3	0.0	0.0	4.8	0.0	0.0	0.0	0.0	30.9	0.0	26.8
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	24	0	0	6	0	0	0	0	20	0	21

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

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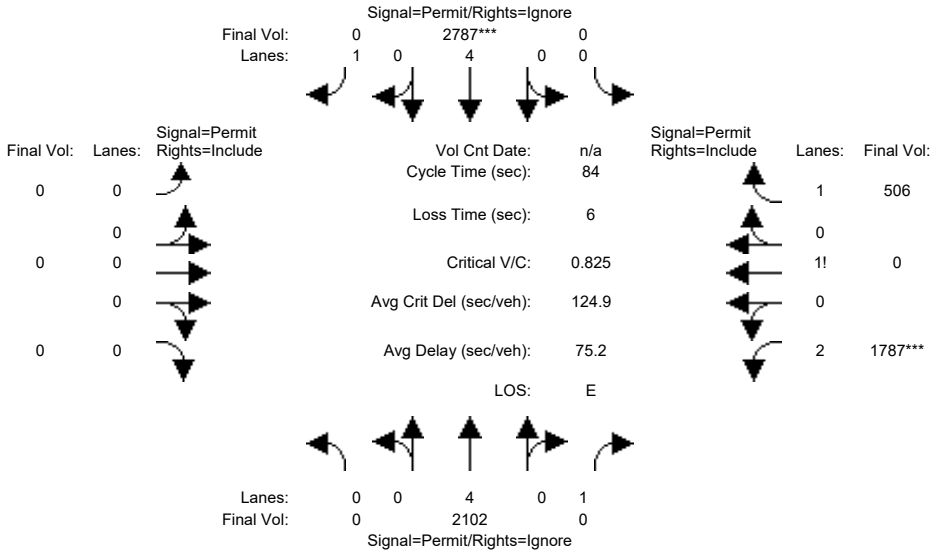
2040 NoProj w FC - PM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2102	0	0	2787	349	0	0	0	1787	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2102	0	0	2787	349	0	0	0	1787	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2102	0	0	2787	349	0	0	0	1787	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2102	0	0	2787	0	0	0	0	1787	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2102	0	0	2787	0	0	0	0	1787	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2102	0	0	2787	0	0	0	0	1787	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.87	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.71	0.00	1.29
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4478	0	2250
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.40	0.00	0.22
Crit Moves:					****					****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.45	0.00	0.00	0.59	0.00	0.00	0.00	0.00	1.52	0.00	0.86
Delay/Veh:	0.0	12.3	0.0	0.0	5.4	0.0	0.0	0.0	0.0	270.1	0.0	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.3	0.0	0.0	5.4	0.0	0.0	0.0	0.0	270.1	0.0	32.5
LOS by Move:	A	B	A	A	A	A	A	A	A	F	A	C
HCM2k95thQ:	0	17	0	0	11	0	0	0	0	81	0	24

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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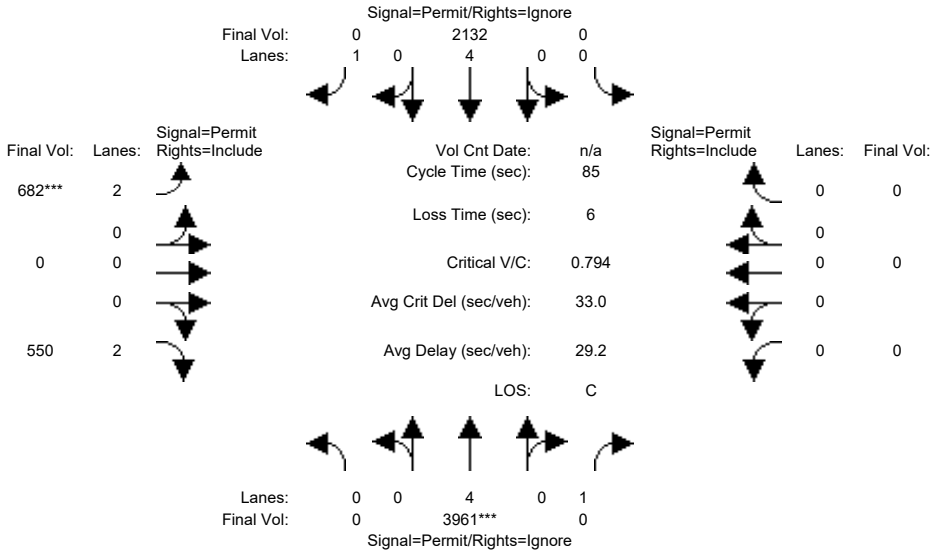
Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	3961	1076	0	2132	0	682	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3961	1076	0	2132	0	682	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3961	1076	0	2132	0	682	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3961	0	0	2132	0	682	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3961	0	0	2132	0	682	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3961	0	0	2132	0	682	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.52	0.00	0.00	0.28	0.00	0.22	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	13.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.74	0.00	0.00	0.40	0.00	1.36	0.00	1.10	0.00	0.00	0.00
Delay/Veh:	0.0	2.2	0.0	0.0	1.3	0.0	211.8	0.0	105.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	2.2	0.0	0.0	1.3	0.0	211.8	0.0	105.9	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	12	0	0	4	0	43	0	29	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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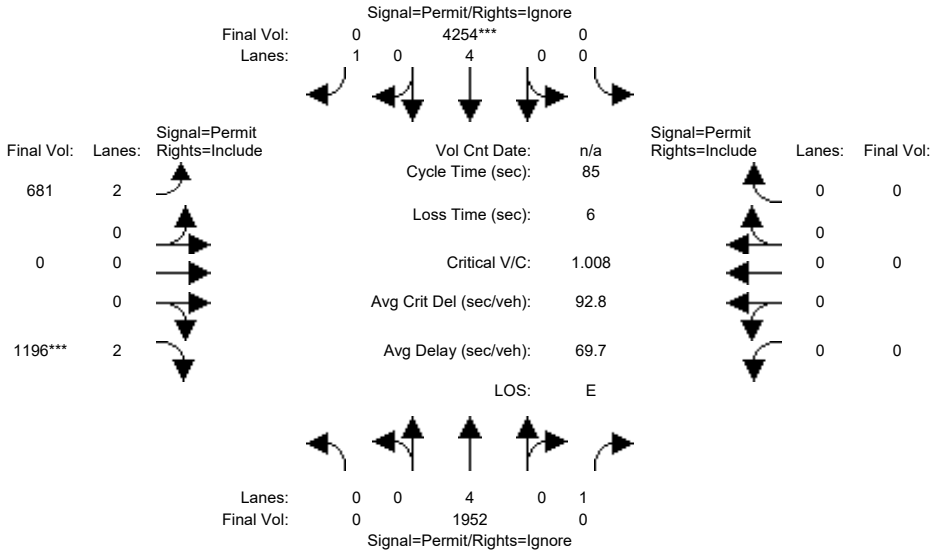
Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	1952	431	0	4254	159	681	0	1196	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1952	431	0	4254	159	681	0	1196	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1952	431	0	4254	159	681	0	1196	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1952	0	0	4254	0	681	0	1196	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1952	0	0	4254	0	681	0	1196	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1952	0	0	4254	0	681	0	1196	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.00	0.00	0.56	0.00	0.22	0.00	0.38	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.34	0.00	0.00	0.75	0.00	1.05	0.00	1.84	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.6	0.0	84.1	0.0	420.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.6	0.0	84.1	0.0	420.7	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	4	0	32	0	93	0	0	0

Note: Queue reported is the number of cars per lane.

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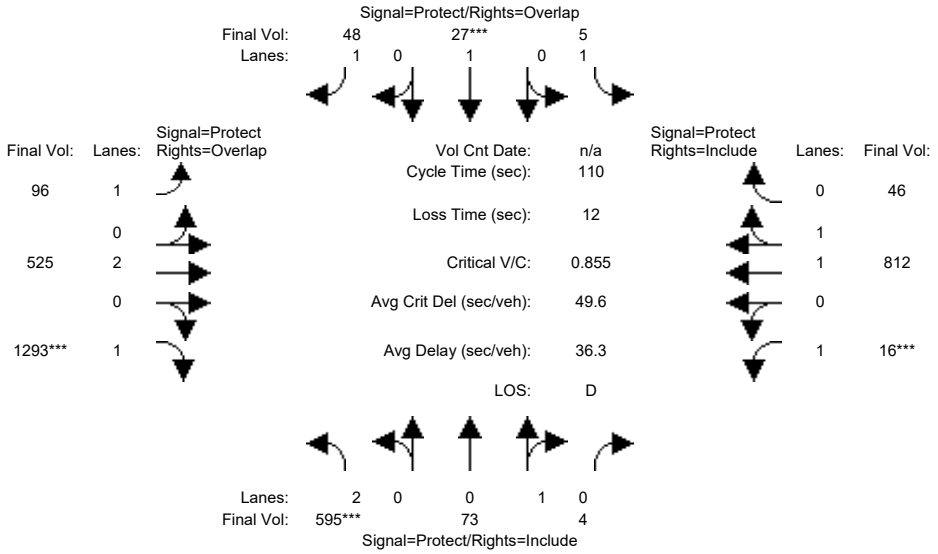
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	565	69	4	5	26	46	91	499	1228	15	771	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	565	69	4	5	26	46	91	499	1228	15	771	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	565	69	4	5	26	46	91	499	1228	15	771	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	595	73	4	5	27	48	96	525	1293	16	812	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	595	73	4	5	27	48	96	525	1293	16	812	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	595	73	4	5	27	48	96	525	1293	16	812	46
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.95	0.05	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.89	0.11
Final Sat.:	3150	1701	99	1750	1900	1750	1750	3800	1750	1750	3500	200
Capacity Analysis Module:												
Vol/Sat:	0.19	0.04	0.04	0.00	0.01	0.03	0.05	0.14	0.74	0.01	0.23	0.23
Crit Moves:	****				****				****	****		
Green Time:	21.0	16.5	16.5	12.4	8.0	24.5	16.5	61.0	82.0	8.0	52.6	52.6
Volume/Cap:	0.99	0.28	0.28	0.03	0.20	0.12	0.37	0.25	0.99	0.12	0.49	0.49
Delay/Veh:	78.7	42.0	42.0	43.5	48.7	34.3	42.9	12.7	36.3	48.2	19.7	19.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.7	42.0	42.0	43.5	48.7	34.3	42.9	12.7	36.3	48.2	19.7	19.7
LOS by Move:	E	D	D	D	D	C	D	B	D	D	B	B
HCM2k95thQ:	30	5	5	0	2	3	6	9	83	1	18	18

Note: Queue reported is the number of cars per lane.

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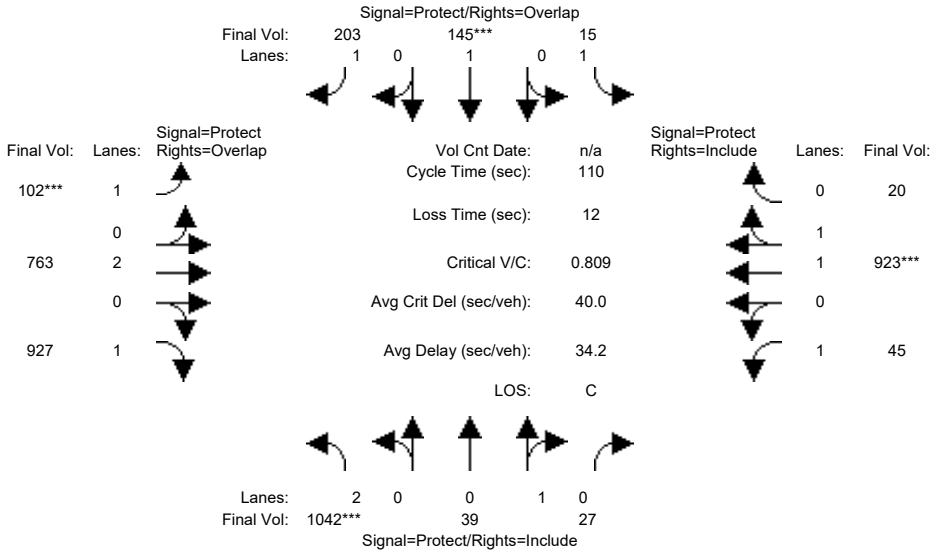
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	1011	38	26	15	141	197	99	740	899	44	895	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1011	38	26	15	141	197	99	740	899	44	895	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1011	38	26	15	141	197	99	740	899	44	895	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1042	39	27	15	145	203	102	763	927	45	923	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1042	39	27	15	145	203	102	763	927	45	923	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1042	39	27	15	145	203	102	763	927	45	923	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.59	0.41	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	1069	731	1750	1900	1750	1750	3800	1750	1750	3623	77
Capacity Analysis Module:												
Vol/Sat:	0.33	0.04	0.04	0.01	0.08	0.12	0.06	0.20	0.53	0.03	0.25	0.25
Crit Moves:	****				****		****				****	
Green Time:	45.0	31.6	31.6	23.7	10.4	18.4	8.0	31.3	76.3	11.3	34.6	34.6
Volume/Cap:	0.81	0.13	0.13	0.04	0.81	0.69	0.80	0.71	0.76	0.25	0.81	0.81
Delay/Veh:	32.7	29.1	29.1	34.2	72.1	50.2	79.6	37.4	13.9	46.2	39.0	39.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.7	29.1	29.1	34.2	72.1	50.2	79.6	37.4	13.9	46.2	39.0	39.0
LOS by Move:	C	C	C	C	E	D	E	D	B	D	D	D
HCM2k95thQ:	35	4	4	1	13	16	8	21	38	3	27	27

Note: Queue reported is the number of cars per lane.

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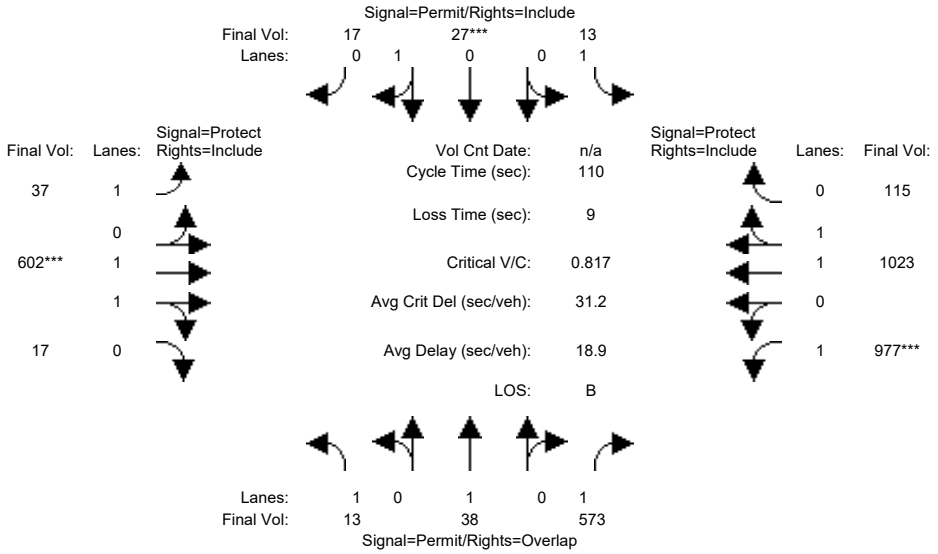
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	12	35	533	12	25	16	34	560	16	909	951	107
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	35	533	12	25	16	34	560	16	909	951	107
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	35	533	12	25	16	34	560	16	909	951	107
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	13	38	573	13	27	17	37	602	17	977	1023	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	38	573	13	27	17	37	602	17	977	1023	115
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	38	573	13	27	17	37	602	17	977	1023	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.61	0.39	1.00	1.94	0.06	1.00	1.79	0.21
Final Sat.:	1750	1900	1750	1750	1098	702	1750	3597	103	1750	3326	374
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.33	0.01	0.02	0.02	0.02	0.17	0.17	0.56	0.31	0.31
Crit Moves:					****			****		****		
Green Time:	4.0	4.0	78.6	4.0	4.0	4.0	12.5	22.4	22.4	74.6	84.5	84.5
Volume/Cap:	0.20	0.54	0.46	0.20	0.67	0.67	0.18	0.82	0.82	0.82	0.40	0.40
Delay/Veh:	52.9	60.8	6.9	52.9	76.6	76.6	44.6	49.2	49.2	17.7	4.4	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.9	60.8	6.9	52.9	76.6	76.6	44.6	49.2	49.2	17.7	4.4	4.4
LOS by Move:	D	E	A	D	E	E	D	D	D	B	A	A
HCM2k95thQ:	1	4	17	1	6	6	2	20	20	43	12	12

Note: Queue reported is the number of cars per lane.

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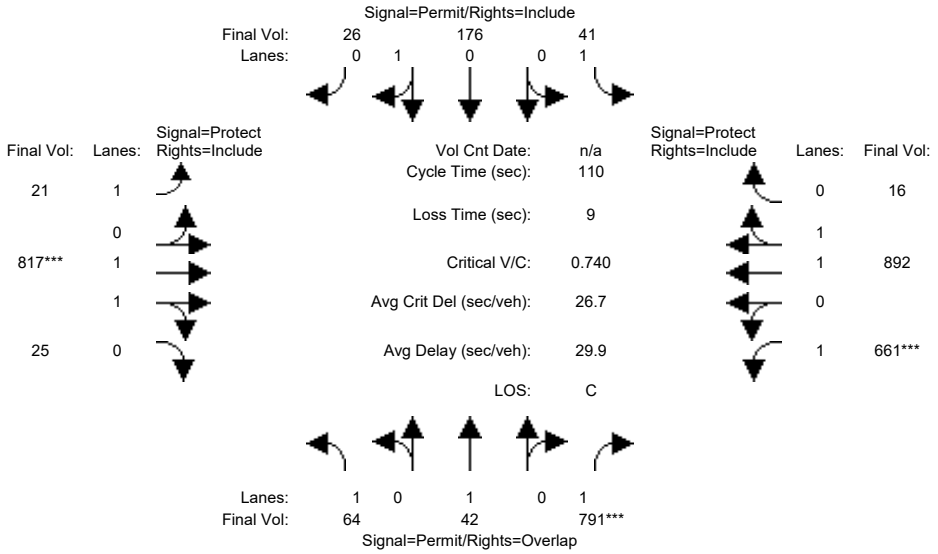
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	61	40	759	39	169	25	20	784	24	635	856	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	40	759	39	169	25	20	784	24	635	856	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	40	759	39	169	25	20	784	24	635	856	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	64	42	791	41	176	26	21	817	25	661	892	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	42	791	41	176	26	21	817	25	661	892	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	64	42	791	41	176	26	21	817	25	661	892	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.87	0.13	1.00	1.94	0.06	1.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1568	232	1750	3590	110	1750	3636	64
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.45	0.02	0.11	0.11	0.01	0.23	0.23	0.38	0.25	0.25
Crit Moves:			****					****		****		
Green Time:	11.0	11.0	67.2	11.0	11.0	11.0	14.1	33.8	33.8	56.2	75.9	75.9
Volume/Cap:	0.36	0.22	0.74	0.23	1.13	1.13	0.09	0.74	0.74	0.74	0.36	0.36
Delay/Veh:	47.5	46.2	18.0	46.3	154	154.3	42.5	36.8	36.8	24.5	7.1	7.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.5	46.2	18.0	46.3	154	154.3	42.5	36.8	36.8	24.5	7.1	7.1
LOS by Move:	D	D	B	D	F	F	D	D	D	C	A	A
HCM2k95thQ:	5	3	36	3	24	24	1	23	23	30	11	11

Note: Queue reported is the number of cars per lane.

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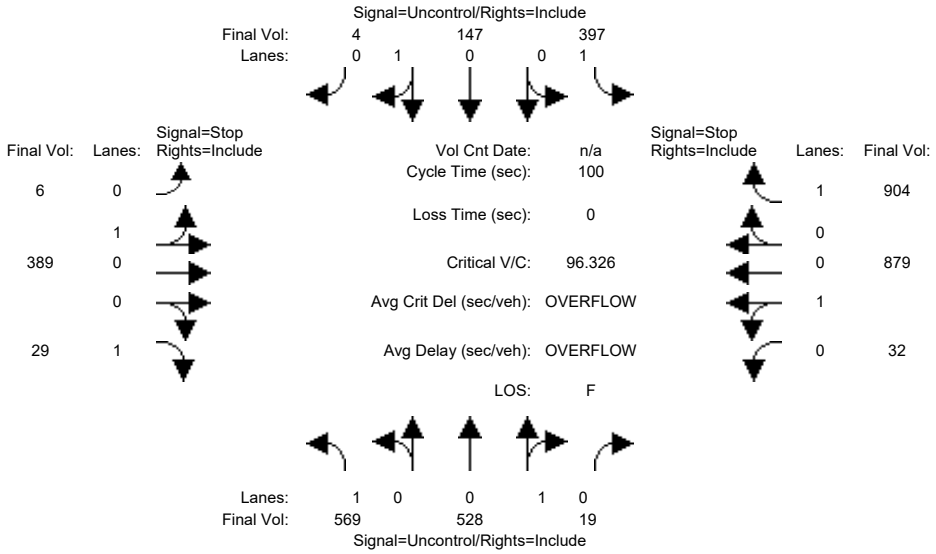
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	512	475	17	357	132	4	5	350	26	29	791	814
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	512	475	17	357	132	4	5	350	26	29	791	814
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	512	475	17	357	132	4	5	350	26	29	791	814
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	569	528	19	397	147	4	6	389	29	32	879	904
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	569	528	19	397	147	4	6	389	29	32	879	904
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	151	xxxx	xxxxx	547	xxxx	xxxxx	3509	2627	149	2826	2619	537
Potent Cap.:	1442	xxxx	xxxxx	1033	xxxx	xxxxx	4	24	903	11	24	548
Move Cap.:	1442	xxxx	xxxxx	1033	xxxx	xxxxx	0	9	903	0	9	548
Volume/Cap:	0.39	xxxx	xxxx	0.38	xxxx	xxxx	xxxx	43.08	0.03	xxxx	96.33	1.65
Level Of Service Module:												
2Way95thQ:	1.9	xxxx	xxxxx	1.8	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	51.2
Control Del:	9.1	xxxx	xxxxx	10.6	xxxx	xxxxx	xxxxx	xxxx	9.1	xxxxx	xxxx	320.5
LOS by Move:	A	*	*	B	*	*	*	*	A	*	*	F
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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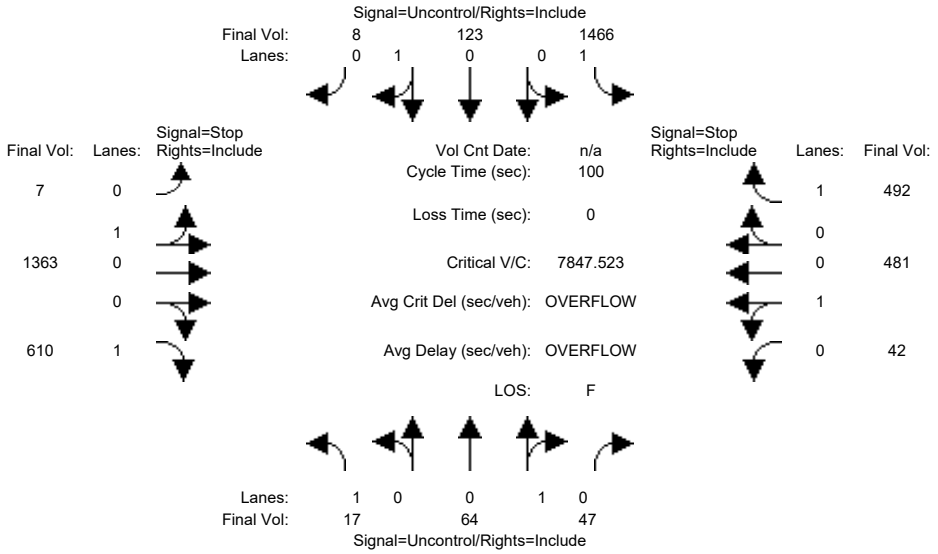
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	15	58	42	1319	111	7	6	1227	549	38	433	443
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	58	42	1319	111	7	6	1227	549	38	433	443
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	58	42	1319	111	7	6	1227	549	38	433	443
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	17	64	47	1466	123	8	7	1363	610	42	481	492
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	17	64	47	1466	123	8	7	1363	610	42	481	492
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	131	xxxx	xxxxx	111	xxxx	xxxxx	3666	3203	127	4166	3183	88
Potent Cap.:	1467	xxxx	xxxxx	1491	xxxx	xxxxx	3	10	928	1	10	976
Move Cap.:	1467	xxxx	xxxxx	1491	xxxx	xxxxx	0	0	928	0	0	976
Volume/Cap:	0.01	xxxx	xxxx	0.98	xxxx	xxxx	xxxx	xxxx	0.66	xxxx	xxxx	0.50
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	21.9	xxxx	xxxxx	xxxx	xxxx	5.1	xxxx	xxxx	2.9
Control Del:	7.5	xxxx	xxxxx	36.4	xxxx	xxxxx	xxxxx	xxxx	16.0	xxxxx	xxxx	12.4
LOS by Move:	A	*	*	E	*	*	*	*	C	*	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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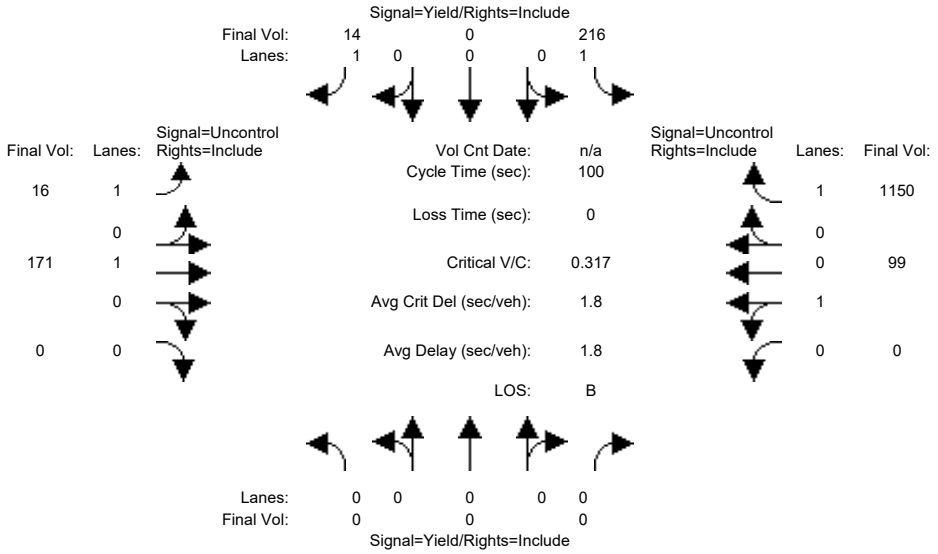
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	0	0	194	0	13	14	154	0	0	89	1035
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	194	0	13	14	154	0	0	89	1035
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	194	0	13	14	154	0	0	89	1035
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	216	0	14	16	171	0	0	99	1150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	216	0	14	16	171	0	0	99	1150
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	301	xxxx	99	1249	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	695	xxxx	962	564	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	680	xxxx	962	564	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.32	xxxx	0.02	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.4	xxxx	0.0	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	12.7	xxxx	8.8	11.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	A	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			12.5			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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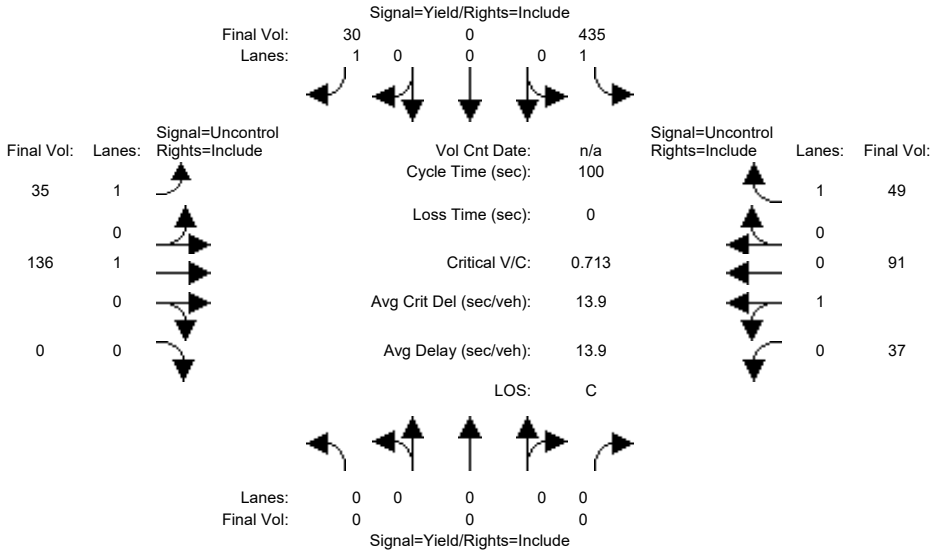
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	400	0	28	32	125	0	34	84	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	400	0	28	32	125	0	34	84	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	400	0	28	32	125	0	34	84	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	435	0	30	35	136	0	37	91	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	435	0	30	35	136	0	37	91	49
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	371	xxxx	91	140	xxxx	xxxxx	136	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	634	xxxx	972	1455	xxxx	xxxxx	1461	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	610	xxxx	972	1455	xxxx	xxxxx	1461	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.71	xxxx	0.03	0.02	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	5.9	xxxx	0.1	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	24.2	xxxx	8.8	7.5	xxxx	xxxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	A	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			23.2			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

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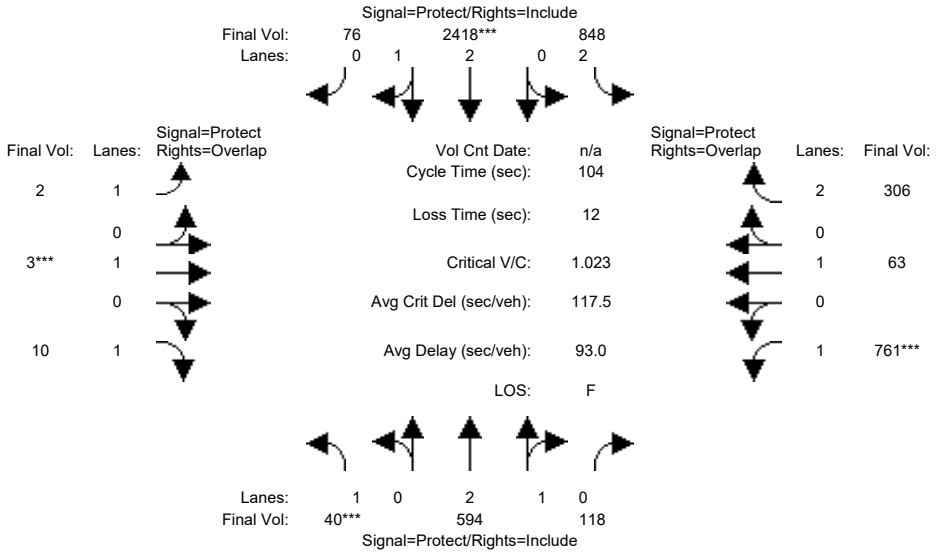
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	36	535	106	763	2176	68	2	3	9	685	57	275
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	535	106	763	2176	68	2	3	9	685	57	275
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	535	106	763	2176	68	2	3	9	685	57	275
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	594	118	848	2418	76	2	3	10	761	63	306
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	594	118	848	2418	76	2	3	10	761	63	306
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	594	118	848	2418	76	2	3	10	761	63	306
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.49	0.51	2.00	2.91	0.09	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4673	926	3150	5430	170	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.13	0.27	0.45	0.45	0.00	0.00	0.01	0.43	0.03	0.10
Crit Moves:	****				****			****			****	
Green Time:	4.0	13.9	13.9	29.5	39.5	39.5	21.6	10.0	14.0	38.5	27.0	56.5
Volume/Cap:	0.59	0.95	0.95	0.95	1.17	1.17	0.01	0.02	0.04	1.17	0.13	0.18
Delay/Veh:	62.7	65.8	65.8	55.3	116	115.7	32.7	42.6	39.2	126.5	29.6	12.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.7	65.8	65.8	55.3	116	115.7	32.7	42.6	39.2	126.5	29.6	12.1
LOS by Move:	E	E	E	E	F	F	C	D	D	F	C	B
HCM2k95thQ:	3	17	17	32	67	67	0	0	1	69	3	6

Note: Queue reported is the number of cars per lane.

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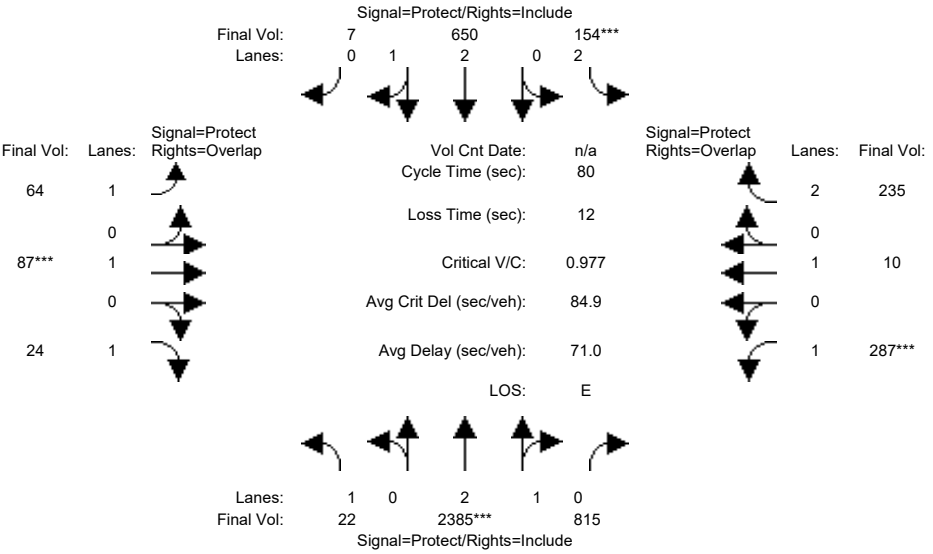
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	21	2242	766	145	611	7	60	82	23	270	9	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	2242	766	145	611	7	60	82	23	270	9	221
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	2242	766	145	611	7	60	82	23	270	9	221
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	2385	815	154	650	7	64	87	24	287	10	235
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	2385	815	154	650	7	64	87	24	287	10	235
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	2385	815	154	650	7	64	87	24	287	10	235
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.21	0.79	2.00	2.96	0.04	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4172	1425	3150	5536	63	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.57	0.57	0.05	0.12	0.12	0.04	0.05	0.01	0.16	0.01	0.07
Crit Moves:		****		****				****		****		
Green Time:	13.3	40.4	40.4	6.0	33.1	33.1	9.6	10.0	23.3	11.6	12.0	18.0
Volume/Cap:	0.08	1.13	1.13	0.65	0.28	0.28	0.30	0.37	0.05	1.13	0.03	0.33
Delay/Veh:	28.3	84.2	84.2	42.4	15.6	15.6	33.0	33.1	20.4	131.0	29.1	26.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.3	84.2	84.2	42.4	15.6	15.6	33.0	33.1	20.4	131.0	29.1	26.2
LOS by Move:	C	F	F	D	B	B	C	C	C	F	C	C
HCM2k95thQ:	1	66	66	5	7	7	4	5	1	28	0	6

Note: Queue reported is the number of cars per lane.

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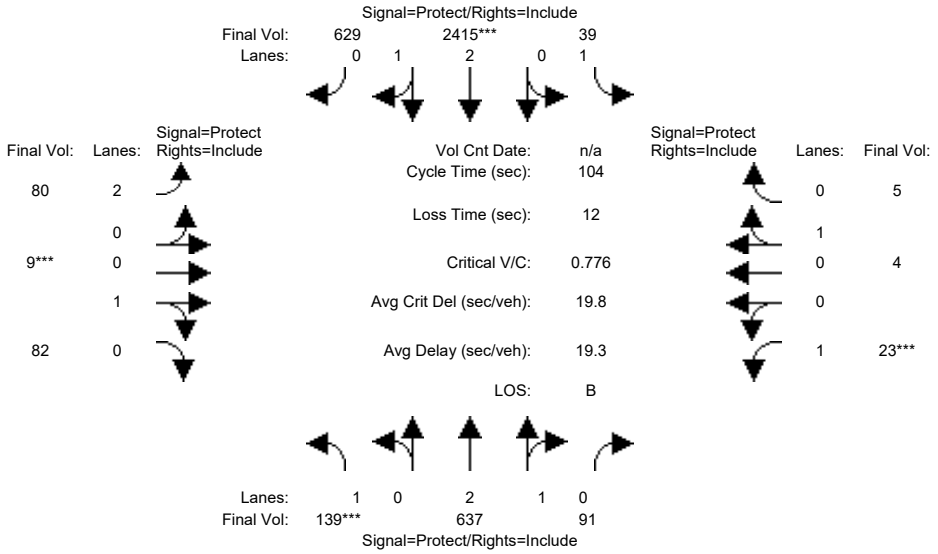
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	129	592	85	36	2246	585	74	8	76	21	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	592	85	36	2246	585	74	8	76	21	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	592	85	36	2246	585	74	8	76	21	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	139	637	91	39	2415	629	80	9	82	23	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	637	91	39	2415	629	80	9	82	23	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	637	91	39	2415	629	80	9	82	23	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.61	0.39	1.00	2.36	0.64	2.00	0.10	0.90	1.00	0.44	0.56
Final Sat.:	1750	4896	703	1750	4441	1157	3150	171	1629	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.08	0.13	0.13	0.02	0.54	0.54	0.03	0.05	0.05	0.01	0.01	0.01
Crit Moves:	****				****			****			****	
Green Time:	9.8	56.2	56.2	20.8	67.2	67.2	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.84	0.24	0.24	0.11	0.84	0.84	0.49	0.52	0.52	0.27	0.06	0.06
Delay/Veh:	76.7	12.7	12.7	34.2	16.2	16.2	50.3	47.6	47.6	49.5	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.7	12.7	12.7	34.2	16.2	16.2	50.3	47.6	47.6	49.5	43.2	43.2
LOS by Move:	E	B	B	C	B	B	D	D	D	D	D	D
HCM2k95thQ:	10	8	8	2	39	39	4	7	7	2	1	1

Note: Queue reported is the number of cars per lane.

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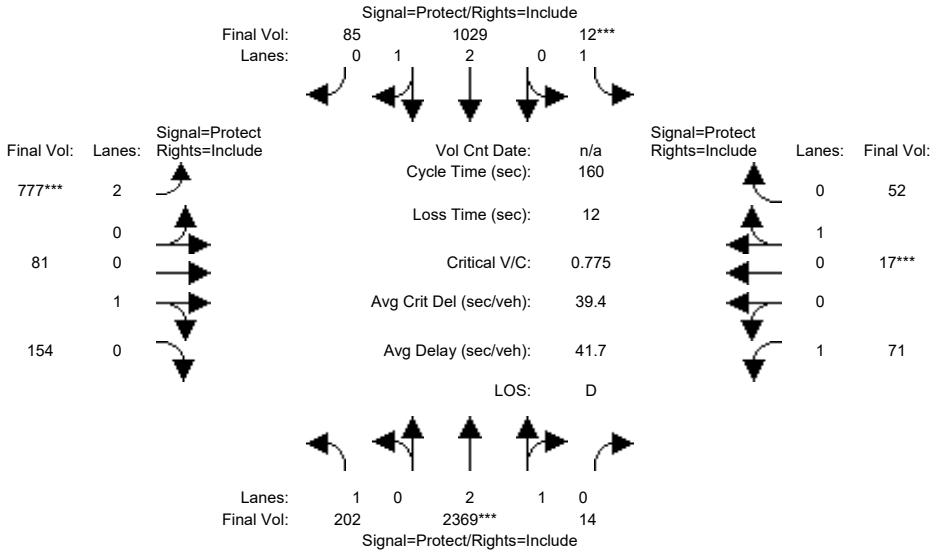
Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	192	2251	13	11	978	81	738	77	146	67	16	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	2251	13	11	978	81	738	77	146	67	16	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	192	2251	13	11	978	81	738	77	146	67	16	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	202	2369	14	12	1029	85	777	81	154	71	17	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	202	2369	14	12	1029	85	777	81	154	71	17	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	202	2369	14	12	1029	85	777	81	154	71	17	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.98	0.02	1.00	2.76	0.24	2.00	0.35	0.65	1.00	0.25	0.75
Final Sat.:	1750	5568	32	1750	5171	428	3150	622	1178	1750	443	1357
Capacity Analysis Module:												
Vol/Sat:	0.12	0.43	0.43	0.01	0.20	0.20	0.25	0.13	0.13	0.04	0.04	0.04
Crit Moves:		****		****			****				****	
Green Time:	33.0	84.8	84.8	5.0	56.9	56.9	49.2	44.4	44.4	13.7	9.0	9.0
Volume/Cap:	0.56	0.80	0.80	0.21	0.56	0.56	0.80	0.47	0.47	0.47	0.68	0.68
Delay/Veh:	59.0	32.4	32.4	77.5	41.9	41.9	55.9	48.7	48.7	72.0	90.7	90.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.0	32.4	32.4	77.5	41.9	41.9	55.9	48.7	48.7	72.0	90.7	90.7
LOS by Move:	E	C	C	E	D	D	E	D	D	E	F	F
HCM2k95thQ:	18	52	52	1	26	26	38	18	18	8	9	9

Note: Queue reported is the number of cars per lane.

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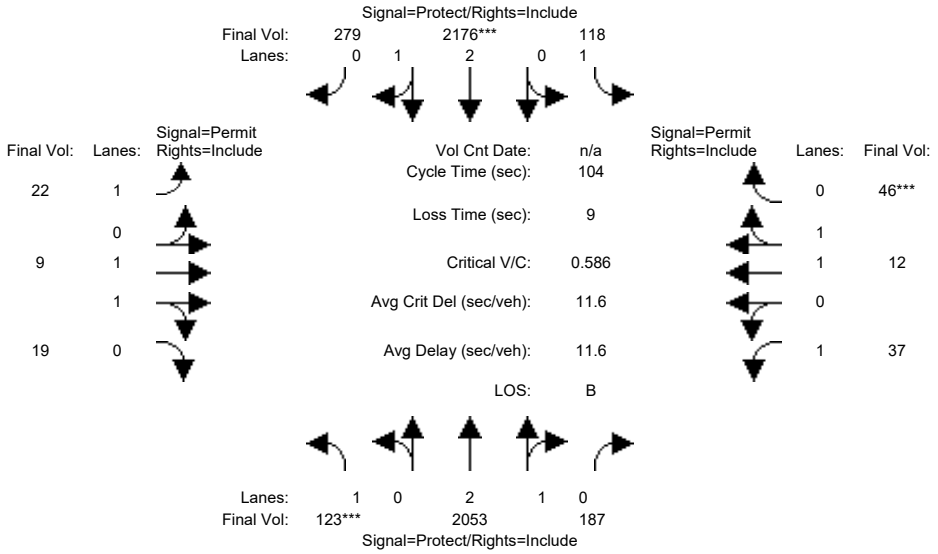
Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	112	1868	170	107	1980	254	20	8	17	34	11	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	1868	170	107	1980	254	20	8	17	34	11	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	1868	170	107	1980	254	20	8	17	34	11	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	2053	187	118	2176	279	22	9	19	37	12	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	2053	187	118	2176	279	22	9	19	37	12	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	2053	187	118	2176	279	22	9	19	37	12	46
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.74	0.26	1.00	2.65	0.35	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5132	467	1750	4962	637	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.40	0.40	0.07	0.44	0.44	0.01	0.00	0.01	0.02	0.01	0.03
Crit Moves:	****				****							****
Green Time:	11.6	71.9	71.9	12.1	72.4	72.4	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.63	0.58	0.58	0.58	0.63	0.63	0.12	0.04	0.10	0.20	0.06	0.25
Delay/Veh:	50.6	8.5	8.5	47.7	8.9	8.9	42.4	41.8	42.2	43.0	41.9	43.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	8.5	8.5	47.7	8.9	8.9	42.4	41.8	42.2	43.0	41.9	43.3
LOS by Move:	D	A	A	D	A	A	D	D	D	D	D	D
HCM2k95thQ:	8	22	22	8	26	26	2	1	1	3	1	3

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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2000 HCM Operations (Future Volume Alternative)
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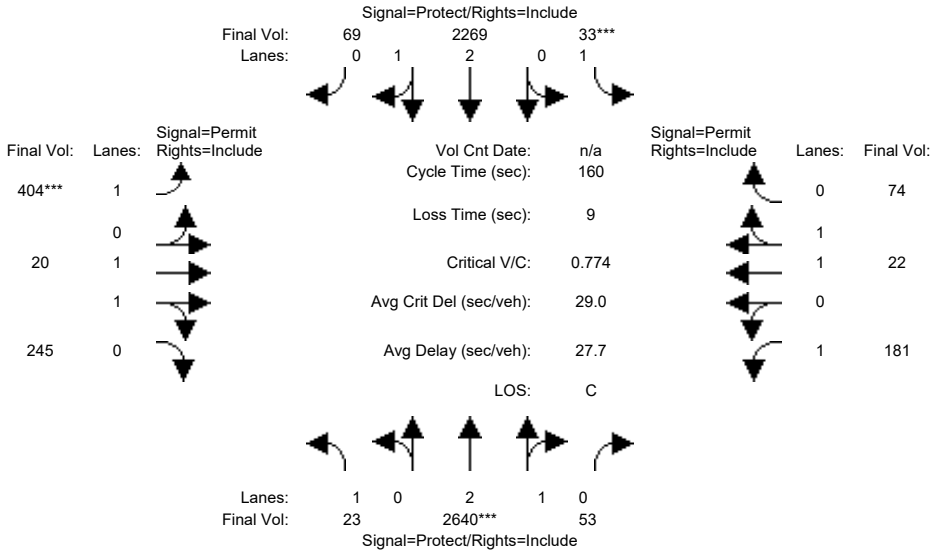
Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	22	2534	51	32	2178	66	388	19	235	174	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	2534	51	32	2178	66	388	19	235	174	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	2534	51	32	2178	66	388	19	235	174	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	2640	53	33	2269	69	404	20	245	181	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	2640	53	33	2269	69	404	20	245	181	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	2640	53	33	2269	69	404	20	245	181	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.94	0.06	1.00	2.91	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5489	110	1750	5435	165	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.48	0.48	0.02	0.42	0.42	0.23	0.01	0.14	0.10	0.01	0.04
Crit Moves:		****		****			****					
Green Time:	5.8	99.3	99.3	4.0	97.5	97.5	47.7	47.7	47.7	47.7	47.7	47.7
Volume/Cap:	0.36	0.77	0.77	0.76	0.69	0.69	0.77	0.03	0.47	0.35	0.04	0.14
Delay/Veh:	78.7	23.3	23.3	132.2	21.6	21.6	58.4	39.8	46.4	44.4	39.9	41.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.7	23.3	23.3	132.2	21.6	21.6	58.4	39.8	46.4	44.4	39.9	41.2
LOS by Move:	E	C	C	F	C	C	E	D	D	D	D	D
HCM2k95thQ:	2	52	52	4	42	42	35	1	19	14	2	6

Note: Queue reported is the number of cars per lane.

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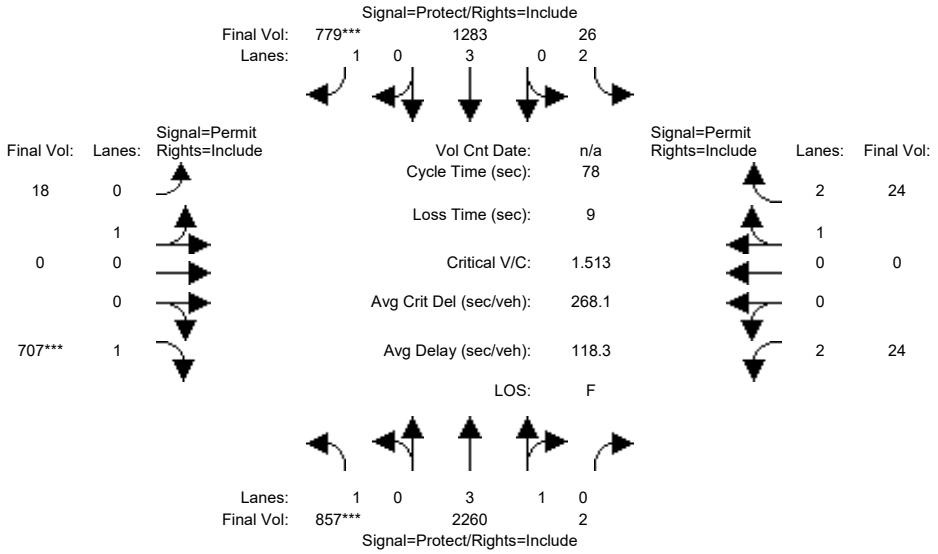
Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	771	2034	2	23	1155	701	16	0	636	22	0	22
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	771	2034	2	23	1155	701	16	0	636	22	0	22
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	771	2034	2	23	1155	701	16	0	636	22	0	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	857	2260	2	26	1283	779	18	0	707	24	0	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	857	2260	2	26	1283	779	18	0	707	24	0	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	857	2260	2	26	1283	779	18	0	707	24	0	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7493	7	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.49	0.30	0.30	0.01	0.23	0.45	0.01	0.00	0.40	0.01	0.00	0.00
Crit Moves:	****					****			****			
Green Time:	25.2	33.8	33.8	14.4	22.9	22.9	20.8	0.0	20.8	20.8	0.0	20.8
Volume/Cap:	1.51	0.70	0.70	0.04	0.77	1.51	0.04	0.00	1.51	0.03	0.00	0.02
Delay/Veh:	266.2	18.6	18.6	26.2	27.2	268.3	21.2	0.0	270.3	21.1	0.0	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	266.2	18.6	18.6	26.2	27.2	268.3	21.2	0.0	270.3	21.1	0.0	21.1
LOS by Move:	F	B	B	C	C	F	C	A	F	C	A	C
HCM2k95thQ:	93	21	21	1	18	85	1	0	80	1	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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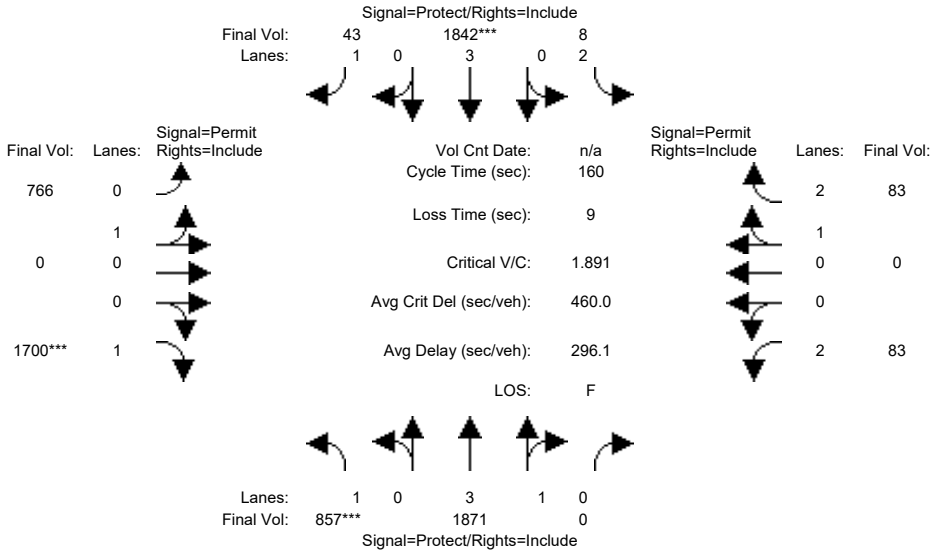
Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	814	1777	0	8	1750	41	728	0	1615	79	0	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	814	1777	0	8	1750	41	728	0	1615	79	0	79
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	814	1777	0	8	1750	41	728	0	1615	79	0	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	857	1871	0	8	1842	43	766	0	1700	83	0	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	857	1871	0	8	1842	43	766	0	1700	83	0	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	857	1871	0	8	1842	43	766	0	1700	83	0	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	1750	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.49	0.25	0.00	0.00	0.32	0.02	0.43	0.00	0.97	0.03	0.00	0.02
Crit Moves:	****				****				****			
Green Time:	41.4	55.0	0.0	13.8	27.4	27.4	82.2	0.0	82.2	82.2	0.0	82.2
Volume/Cap:	1.89	0.73	0.00	0.03	1.89	0.14	0.83	0.00	1.89	0.05	0.00	0.03
Delay/Veh:	468.3	47.0	0.0	67.0	471	56.6	39.2	0.0	443.9	19.4	0.0	19.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	468.3	47.0	0.0	67.0	471	56.6	39.2	0.0	443.9	19.4	0.0	19.2
LOS by Move:	F	D	A	E	F	E	D	A	F	B	A	B
HCM2k95thQ:	146	34	0	0	98	4	55	0	289	2	0	1

Note: Queue reported is the number of cars per lane.

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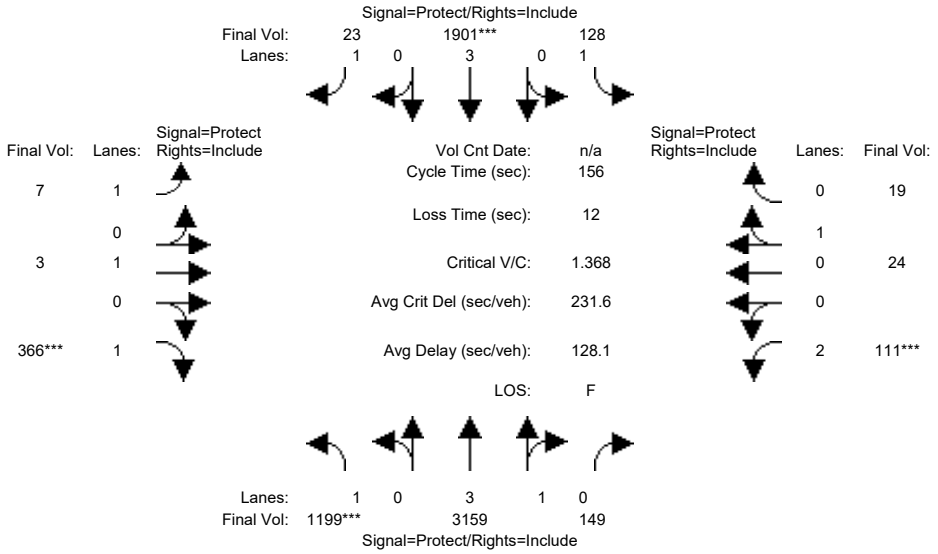
Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	1079	2843	134	115	1711	21	6	3	329	100	22	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1079	2843	134	115	1711	21	6	3	329	100	22	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1079	2843	134	115	1711	21	6	3	329	100	22	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1199	3159	149	128	1901	23	7	3	366	111	24	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1199	3159	149	128	1901	23	7	3	366	111	24	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1199	3159	149	128	1901	23	7	3	366	111	24	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.81	0.19	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.56	0.44
Final Sat.:	1750	7162	338	1750	5700	1750	1750	1900	1750	3150	1015	785
Capacity Analysis Module:												
Vol/Sat:	0.69	0.44	0.44	0.07	0.33	0.01	0.00	0.00	0.21	0.04	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	77.0	98.3	98.3	16.3	37.5	37.5	9.8	23.5	23.5	6.0	19.7	19.7
Volume/Cap:	1.39	0.70	0.70	0.70	1.39	0.06	0.06	0.01	1.39	0.92	0.19	0.19
Delay/Veh:	221.1	19.6	19.6	79.0	238	45.7	69.0	56.4	262.4	131.4	61.5	61.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	221.1	19.6	19.6	79.0	238	45.7	69.0	56.4	262.4	131.4	61.5	61.5
LOS by Move:	F	B	B	E	F	D	E	E	F	F	E	E
HCM2k95thQ:	153	40	40	13	79	2	1	0	54	11	4	4

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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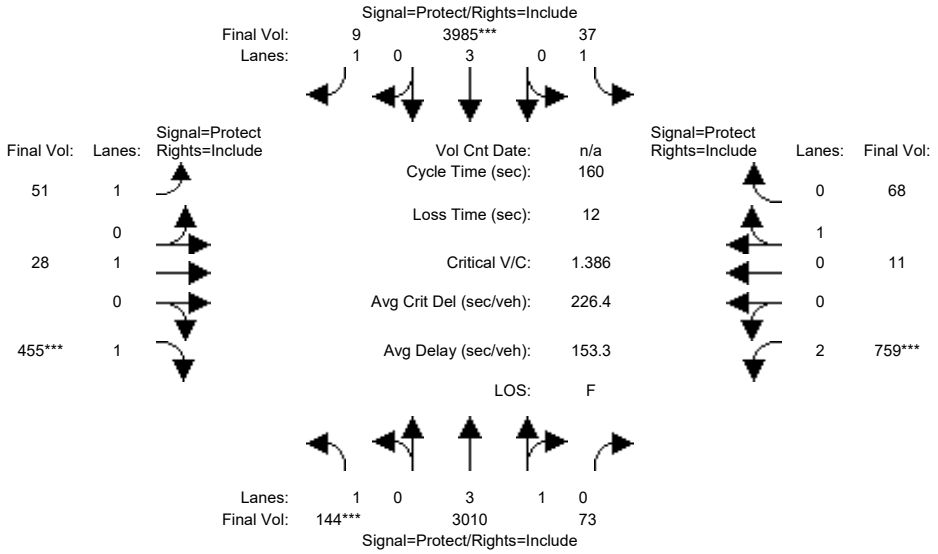
Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	134	2799	68	34	3706	8	47	26	423	706	10	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	2799	68	34	3706	8	47	26	423	706	10	63
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	134	2799	68	34	3706	8	47	26	423	706	10	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	144	3010	73	37	3985	9	51	28	455	759	11	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	3010	73	37	3985	9	51	28	455	759	11	68
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	144	3010	73	37	3985	9	51	28	455	759	11	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.90	0.10	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.14	0.86
Final Sat.:	1750	7322	178	1750	5700	1750	1750	1900	1750	3150	247	1553
Capacity Analysis Module:												
Vol/Sat:	0.08	0.41	0.41	0.02	0.70	0.00	0.03	0.01	0.26	0.24	0.04	0.04
Crit Moves:	****				****				****	****		
Green Time:	9.5	82.6	82.6	7.5	80.7	80.7	19.3	30.0	30.0	27.8	38.5	38.5
Volume/Cap:	1.39	0.80	0.80	0.44	1.39	0.01	0.24	0.08	1.39	1.39	0.18	0.18
Delay/Veh:	297.7	33.0	33.0	78.0	216	19.8	64.3	53.7	256.7	251.0	48.4	48.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	297.7	33.0	33.0	78.0	216	19.8	64.3	53.7	256.7	251.0	48.4	48.4
LOS by Move:	F	C	C	E	F	B	E	D	F	F	D	D
HCM2k95thQ:	23	49	49	4	163	0	5	2	66	62	6	6

Note: Queue reported is the number of cars per lane.

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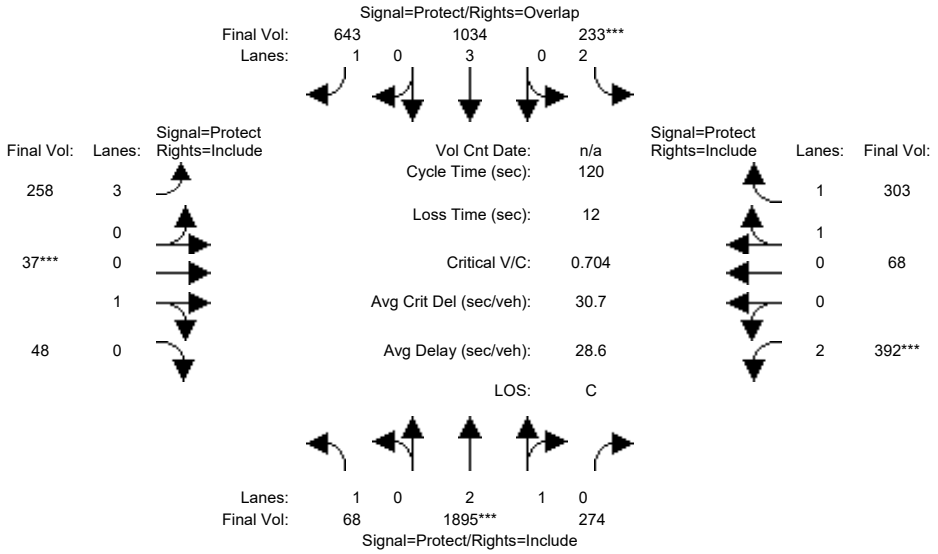
Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	62	1724	249	212	941	585	235	34	44	357	62	276
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	1724	249	212	941	585	235	34	44	357	62	276
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	1724	249	212	941	585	235	34	44	357	62	276
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	68	1895	274	233	1034	643	258	37	48	392	68	303
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	1895	274	233	1034	643	258	37	48	392	68	303
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	1895	274	233	1034	643	258	37	48	392	68	303
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.61	0.39	2.00	3.00	1.00	3.00	0.44	0.56	2.00	0.37	1.63
Final Sat.:	1750	4892	707	3150	5700	1750	4551	785	1015	3150	660	2940
Capacity Analysis Module:												
Vol/Sat:	0.04	0.39	0.39	0.07	0.18	0.37	0.06	0.05	0.05	0.12	0.10	0.10
Crit Moves:		****		****				****		****		
Green Time:	13.4	63.5	63.5	12.1	62.2	76.7	14.5	12.0	12.0	20.4	17.9	17.9
Volume/Cap:	0.35	0.73	0.73	0.73	0.35	0.57	0.47	0.48	0.48	0.73	0.69	0.69
Delay/Veh:	50.4	22.7	22.7	60.8	17.1	13.1	49.8	53.0	53.0	52.4	52.2	52.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	22.7	22.7	60.8	17.1	13.1	49.8	53.0	53.0	52.4	52.2	52.2
LOS by Move:	D	C	C	E	B	B	D	D	D	D	D	D
HCM2k95thQ:	5	33	33	10	14	25	8	7	7	18	15	15

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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2000 HCM Operations (Future Volume Alternative)
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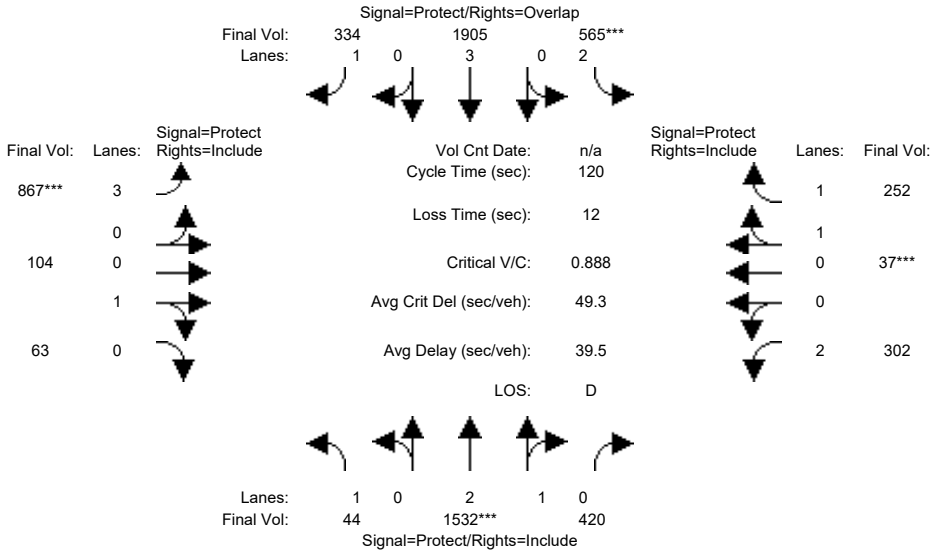
Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	42	1455	399	537	1810	317	824	99	60	287	35	239
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	1455	399	537	1810	317	824	99	60	287	35	239
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	1455	399	537	1810	317	824	99	60	287	35	239
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	44	1532	420	565	1905	334	867	104	63	302	37	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	44	1532	420	565	1905	334	867	104	63	302	37	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	44	1532	420	565	1905	334	867	104	63	302	37	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.33	0.67	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.26	1.74
Final Sat.:	1750	4393	1205	3150	5700	1750	4551	1121	679	3150	460	3140
Capacity Analysis Module:												
Vol/Sat:	0.03	0.35	0.35	0.18	0.33	0.19	0.19	0.09	0.09	0.10	0.08	0.08
Crit Moves:		****		****			****				****	
Green Time:	11.9	47.1	47.1	24.3	59.5	85.3	25.8	18.7	18.7	17.9	10.8	10.8
Volume/Cap:	0.26	0.89	0.89	0.89	0.67	0.27	0.89	0.60	0.60	0.64	0.89	0.89
Delay/Veh:	50.8	38.8	38.8	60.8	23.5	6.3	55.7	50.7	50.7	51.0	78.2	78.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	38.8	38.8	60.8	23.5	6.3	55.7	50.7	50.7	51.0	78.2	78.2
LOS by Move:	D	D	D	E	C	A	E	D	D	D	E	E
HCM2k95thQ:	3	37	37	24	30	9	28	13	13	14	16	16

Note: Queue reported is the number of cars per lane.

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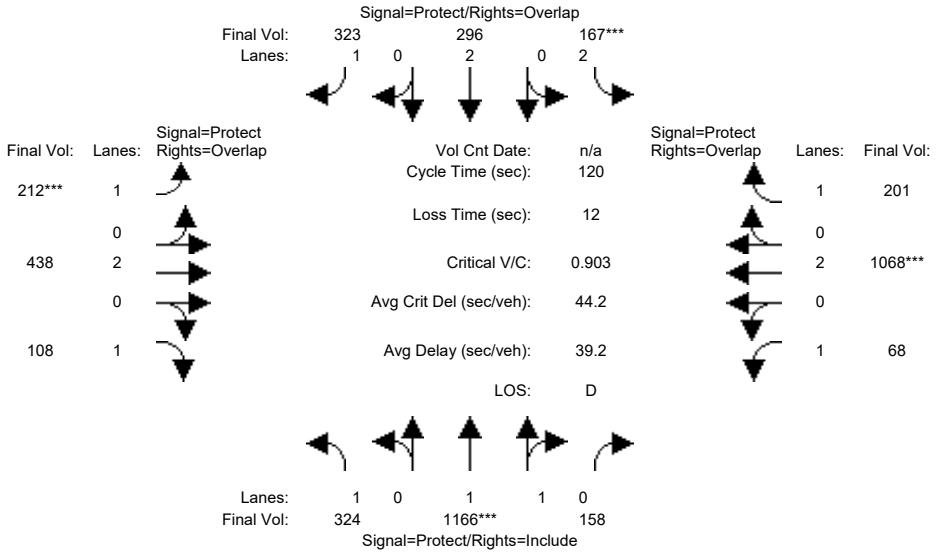
Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	292	1049	142	150	266	291	191	394	97	61	961	181
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	1049	142	150	266	291	191	394	97	61	961	181
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	1049	142	150	266	291	191	394	97	61	961	181
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1166	158	167	296	323	212	438	108	68	1068	201
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1166	158	167	296	323	212	438	108	68	1068	201
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1166	158	167	296	323	212	438	108	68	1068	201
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.75	0.25	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3259	441	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.36	0.36	0.05	0.08	0.18	0.12	0.12	0.06	0.04	0.28	0.11
Crit Moves:		****		****			****				****	
Green Time:	38.0	47.1	47.1	8.0	17.1	33.0	16.0	38.9	76.9	14.1	37.0	45.0
Volume/Cap:	0.59	0.91	0.91	0.79	0.55	0.67	0.91	0.36	0.10	0.33	0.91	0.31
Delay/Veh:	25.4	28.7	28.7	71.0	43.7	32.5	87.4	31.2	8.3	49.6	50.7	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.4	28.7	28.7	71.0	43.7	32.5	87.4	31.2	8.3	49.6	50.7	26.8
LOS by Move:	C	C	C	E	D	C	F	C	A	D	D	C
HCM2k95thQ:	16	36	36	8	9	19	18	11	3	6	38	11

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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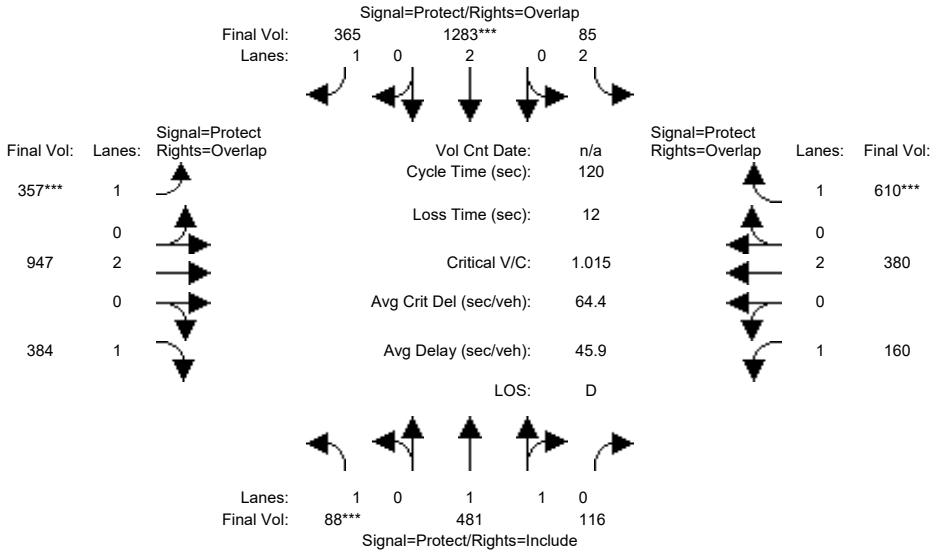
Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	87	476	115	84	1270	361	353	938	380	158	376	604
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	476	115	84	1270	361	353	938	380	158	376	604
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	476	115	84	1270	361	353	938	380	158	376	604
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	88	481	116	85	1283	365	357	947	384	160	380	610
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	481	116	85	1283	365	357	947	384	160	380	610
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	481	116	85	1283	365	357	947	384	160	380	610
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.60	0.40	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	2979	720	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.16	0.16	0.03	0.34	0.21	0.20	0.25	0.22	0.09	0.10	0.35
Crit Moves:	****				****		****					****
Green Time:	5.9	32.5	32.5	13.4	39.9	64.0	24.1	42.1	48.0	15.4	33.3	46.8
Volume/Cap:	1.01	0.60	0.60	0.24	1.01	0.39	1.01	0.71	0.55	0.71	0.36	0.89
Delay/Veh:	155.8	29.7	29.7	44.9	55.8	4.2	99.7	35.5	28.6	60.4	35.0	48.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	155.8	29.7	29.7	44.9	55.8	4.2	99.7	35.5	28.6	60.4	35.0	48.7
LOS by Move:	F	C	C	D	E	A	F	D	C	E	C	D
HCM2k95thQ:	7	15	15	3	41	5	27	25	20	14	11	43

Note: Queue reported is the number of cars per lane.

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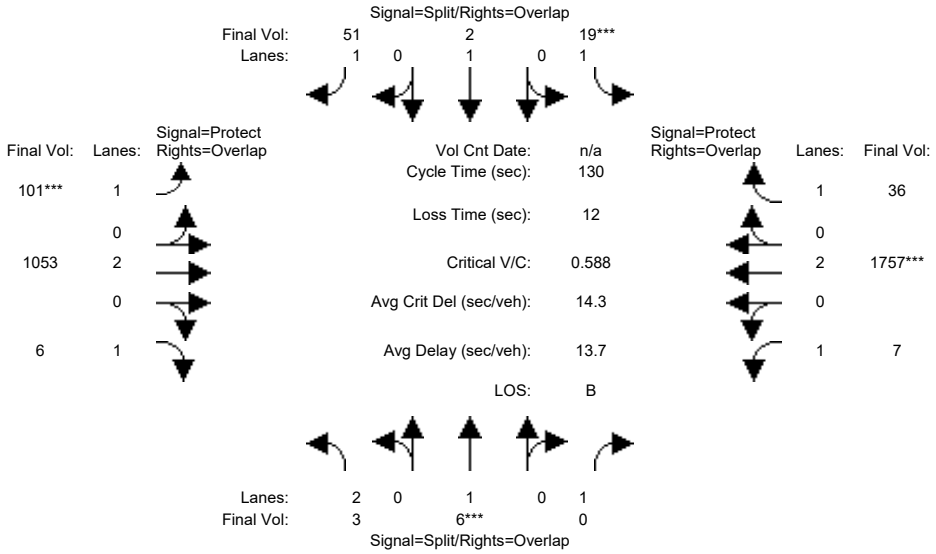
Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	3	5	0	17	2	46	91	948	5	6	1581	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	17	2	46	91	948	5	6	1581	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	17	2	46	91	948	5	6	1581	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	19	2	51	101	1053	6	7	1757	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	19	2	51	101	1053	6	7	1757	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	19	2	51	101	1053	6	7	1757	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.06	0.28	0.00	0.00	0.46	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	18.6	11.6	85.1	92.1	18.9	92.4	99.4
Volume/Cap:	0.02	0.05	0.00	0.20	0.02	0.20	0.65	0.42	0.00	0.03	0.65	0.03
Delay/Veh:	58.3	58.6	0.0	59.9	58.3	49.6	66.6	10.8	5.5	47.7	10.7	3.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.9	58.3	49.6	66.6	10.8	5.5	47.7	10.7	3.7
LOS by Move:	E	E	A	E	E	D	E	B	A	D	B	A
HCM2k95thQ:	0	1	0	2	0	4	8	18	0	0	32	1

Note: Queue reported is the number of cars per lane.

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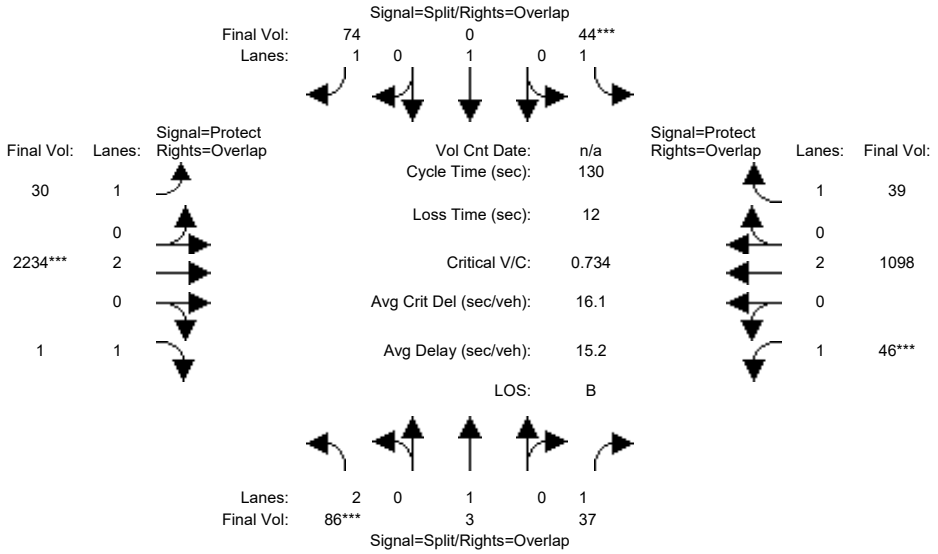
Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	81	3	35	41	0	70	28	2100	1	43	1032	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	70	28	2100	1	43	1032	37
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	70	28	2100	1	43	1032	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	74	30	2234	1	46	1098	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	74	30	2234	1	46	1098	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	74	30	2234	1	46	1098	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.04	0.02	0.59	0.00	0.03	0.29	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	21.3	14.3	96.0	103.0	8.0	89.7	96.7
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.26	0.15	0.80	0.00	0.42	0.42	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	47.9	52.7	12.4	2.8	61.5	8.9	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	47.9	52.7	12.4	2.8	61.5	8.9	4.4
LOS by Move:	E	E	D	E	A	D	D	B	A	E	A	A
HCM2k95thQ:	6	0	3	5	0	6	2	45	0	4	17	1

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

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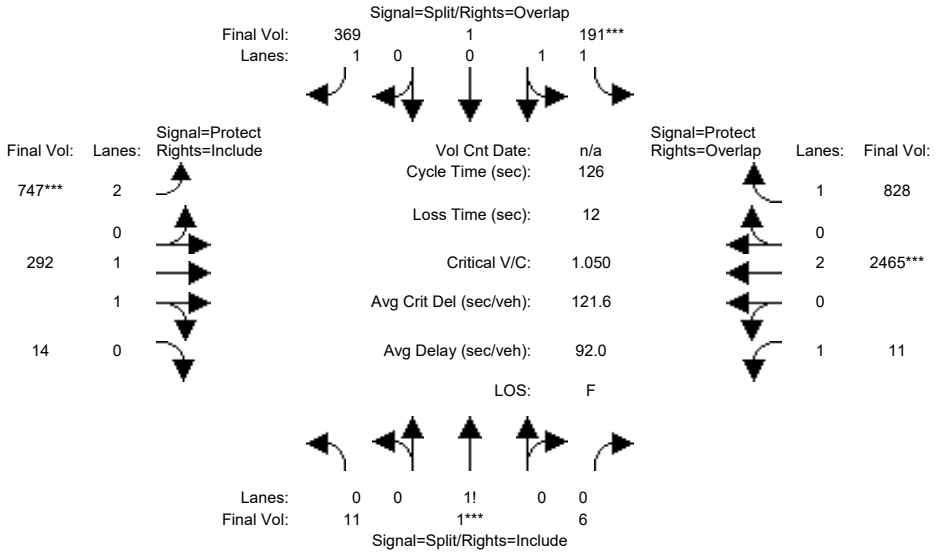
2040 NoProj w FC - AM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	11	1	6	183	1	354	717	280	13	11	2366	795
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	1	6	183	1	354	717	280	13	11	2366	795
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	1	6	183	1	354	717	280	13	11	2366	795
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	11	1	6	191	1	369	747	292	14	11	2465	828
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	1	6	191	1	369	747	292	14	11	2465	828
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	1	6	191	1	369	747	292	14	11	2465	828
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.61	0.06	0.33	1.99	0.01	1.00	2.00	1.91	0.09	1.00	2.00	1.00
Final Sat.:	1069	97	583	3531	19	1750	3150	3536	164	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.05	0.05	0.21	0.24	0.08	0.08	0.01	0.65	0.47
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	35.2	25.2	75.2	75.2	18.8	68.8	78.8
Volume/Cap:	0.13	0.13	0.13	0.68	0.68	0.76	1.19	0.14	0.14	0.04	1.19	0.76
Delay/Veh:	54.4	54.4	54.4	63.1	63.1	48.1	150.0	11.2	11.2	46.0	118	19.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.4	63.1	63.1	48.1	150.0	11.2	11.2	46.0	118	19.8
LOS by Move:	D	D	D	E	E	D	F	B	B	D	F	B
HCM2k95thQ:	2	2	2	10	10	27	44	5	5	1	109	41

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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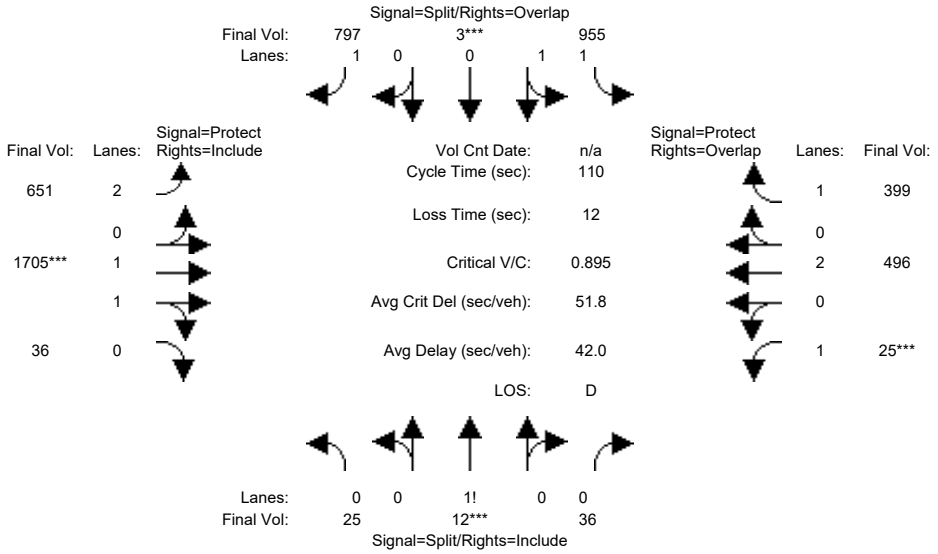
2040 NoProj w FC - PM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	23	11	33	869	3	725	592	1552	33	23	451	363
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	11	33	869	3	725	592	1552	33	23	451	363
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	11	33	869	3	725	592	1552	33	23	451	363
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	25	12	36	955	3	797	651	1705	36	25	496	399
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	12	36	955	3	797	651	1705	36	25	496	399
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	12	36	955	3	797	651	1705	36	25	496	399
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.34	0.16	0.50	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	601	287	862	3538	12	1750	3150	3623	77	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.27	0.27	0.46	0.21	0.47	0.47	0.01	0.13	0.23
Crit Moves:		****			****			****			****	
Green Time:	10.0	10.0	10.0	30.2	30.2	61.0	30.7	52.8	52.8	5.0	27.0	57.3
Volume/Cap:	0.46	0.46	0.46	0.98	0.98	0.82	0.74	0.98	0.98	0.32	0.53	0.44
Delay/Veh:	49.6	49.6	49.6	63.9	63.9	25.8	39.4	45.3	45.3	53.1	36.6	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.6	49.6	49.6	63.9	63.9	25.8	39.4	45.3	45.3	53.1	36.6	16.7
LOS by Move:	D	D	D	E	E	C	D	D	D	D	D	B
HCM2k95thQ:	6	6	6	38	38	42	22	55	55	2	14	16

Note: Queue reported is the number of cars per lane.

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City of Santa Clara

Level Of Service Computation Report
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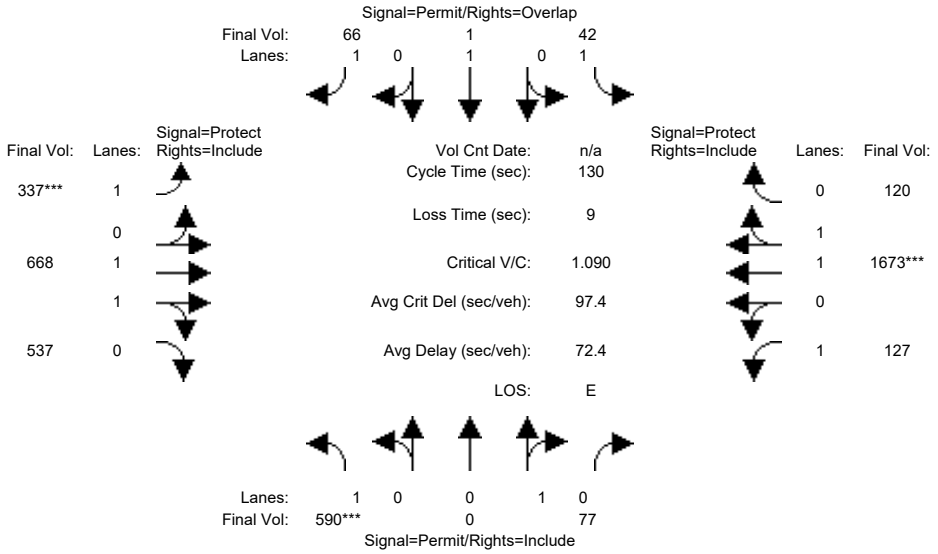
Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	531	0	69	38	1	59	303	601	483	114	1506	108
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	531	0	69	38	1	59	303	601	483	114	1506	108
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	531	0	69	38	1	59	303	601	483	114	1506	108
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	590	0	77	42	1	66	337	668	537	127	1673	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	590	0	77	42	1	66	337	668	537	127	1673	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	590	0	77	42	1	66	337	668	537	127	1673	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.08	0.92	1.00	1.86	0.14
Final Sat.:	1750	0	1800	1750	1900	1750	1750	2050	1648	1750	3452	248
Capacity Analysis Module:												
Vol/Sat:	0.34	0.00	0.04	0.02	0.00	0.04	0.19	0.33	0.33	0.07	0.48	0.48
Crit Moves:	****						****				****	
Green Time:	40.2	0.0	40.2	40.2	40.2	63.2	23.0	66.1	66.1	14.7	57.8	57.8
Volume/Cap:	1.09	0.00	0.14	0.08	0.00	0.08	1.09	0.64	0.64	0.64	1.09	1.09
Delay/Veh:	110.2	0.0	32.5	31.8	31.0	17.9	130.8	24.1	24.1	62.1	87.0	87.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.2	0.0	32.5	31.8	31.0	17.9	130.8	24.1	24.1	62.1	87.0	87.0
LOS by Move:	F	A	C	C	C	B	F	C	C	E	F	F
HCM2k95thQ:	57	0	5	3	0	3	33	30	30	10	75	75

Note: Queue reported is the number of cars per lane.

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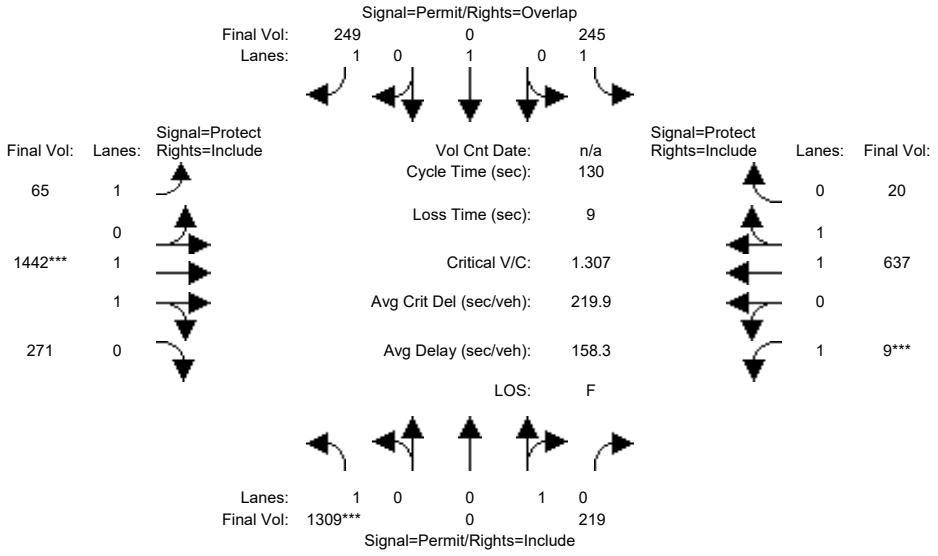
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	1270	0	212	238	0	242	63	1399	263	9	618	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1270	0	212	238	0	242	63	1399	263	9	618	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1270	0	212	238	0	242	63	1399	263	9	618	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1309	0	219	245	0	249	65	1442	271	9	637	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1309	0	219	245	0	249	65	1442	271	9	637	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1309	0	219	245	0	249	65	1442	271	9	637	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.67	0.33	1.00	1.94	0.06
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3114	585	1750	3590	110
Capacity Analysis Module:												
Vol/Sat:	0.75	0.00	0.12	0.14	0.00	0.14	0.04	0.46	0.46	0.01	0.18	0.18
Crit Moves:	****							****		****		
Green Time:	69.8	0.0	69.8	69.8	0.0	83.0	13.2	43.2	43.2	8.0	38.0	38.0
Volume/Cap:	1.39	0.00	0.23	0.26	0.00	0.22	0.37	1.39	1.39	0.09	0.61	0.61
Delay/Veh:	213.7	0.0	16.0	16.4	0.0	10.0	55.8	226	225.5	57.9	40.6	40.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	213.7	0.0	16.0	16.4	0.0	10.0	55.8	226	225.5	57.9	40.6	40.6
LOS by Move:	F	A	B	B	A	B	E	F	F	E	D	D
HCM2k95thQ:	157	0	9	11	0	9	5	97	97	1	21	21

Note: Queue reported is the number of cars per lane.

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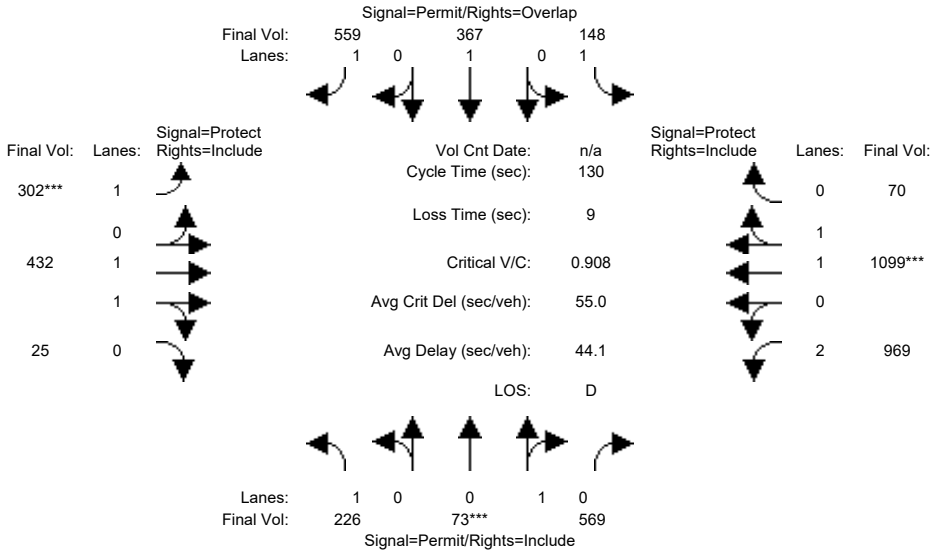
Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	206	66	518	135	334	509	275	393	23	882	1000	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	66	518	135	334	509	275	393	23	882	1000	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	206	66	518	135	334	509	275	393	23	882	1000	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	226	73	569	148	367	559	302	432	25	969	1099	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	73	569	148	367	559	302	432	25	969	1099	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	73	569	148	367	559	302	432	25	969	1099	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	0.11	0.89	1.00	1.00	1.00	1.00	1.89	0.11	2.00	1.88	0.12
Final Sat.:	1750	203	1597	1750	1900	1750	1750	3495	205	3150	3477	223
Capacity Analysis Module:												
Vol/Sat:	0.13	0.36	0.36	0.08	0.19	0.32	0.17	0.12	0.12	0.31	0.32	0.32
Crit Moves:		****					****				****	
Green Time:	51.0	51.0	51.0	51.0	51.0	75.8	24.7	20.0	20.0	49.9	45.2	45.2
Volume/Cap:	0.33	0.91	0.91	0.22	0.49	0.55	0.91	0.80	0.80	0.80	0.91	0.91
Delay/Veh:	27.8	52.9	52.9	26.4	30.2	17.3	78.9	61.0	61.0	39.6	50.0	50.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.8	52.9	52.9	26.4	30.2	17.3	78.9	61.0	61.0	39.6	50.0	50.0
LOS by Move:	C	D	D	C	C	B	E	E	E	D	D	D
HCM2k95thQ:	13	47	47	8	20	26	25	18	18	35	39	39

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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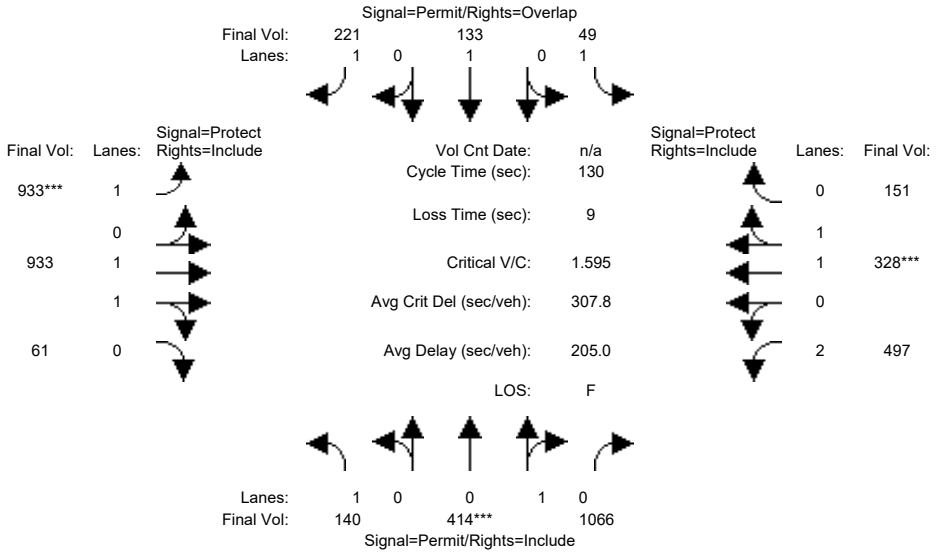
Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	136	402	1034	48	129	214	905	905	59	482	318	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	136	402	1034	48	129	214	905	905	59	482	318	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	136	402	1034	48	129	214	905	905	59	482	318	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	140	414	1066	49	133	221	933	933	61	497	328	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	414	1066	49	133	221	933	933	61	497	328	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	414	1066	49	133	221	933	933	61	497	328	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.99	0.95
Lanes:	1.00	0.28	0.72	1.00	1.00	1.00	1.00	1.87	0.13	2.00	1.35	0.65
Final Sat.:	1750	504	1296	1750	1900	1750	1750	3473	226	3150	2535	1164
Capacity Analysis Module:												
Vol/Sat:	0.08	0.82	0.82	0.03	0.07	0.13	0.53	0.27	0.27	0.16	0.13	0.13
Crit Moves:		****					****				****	
Green Time:	64.3	64.3	64.3	64.3	64.3	106.0	41.7	35.7	35.7	21.0	15.0	15.0
Volume/Cap:	0.16	1.66	1.66	0.06	0.14	0.15	1.66	0.98	0.98	0.98	1.12	1.12
Delay/Veh:	18.1	336	336.0	17.1	17.9	2.6	350.1	69.6	69.6	88.4	138	138.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.1	336	336.0	17.1	17.9	2.6	350.1	69.6	69.6	88.4	138	138.2
LOS by Move:	B	F	F	B	B	A	F	E	E	F	F	F
HCM2k95thQ:	6	205	205	2	6	4	133	39	39	25	25	25

Note: Queue reported is the number of cars per lane.

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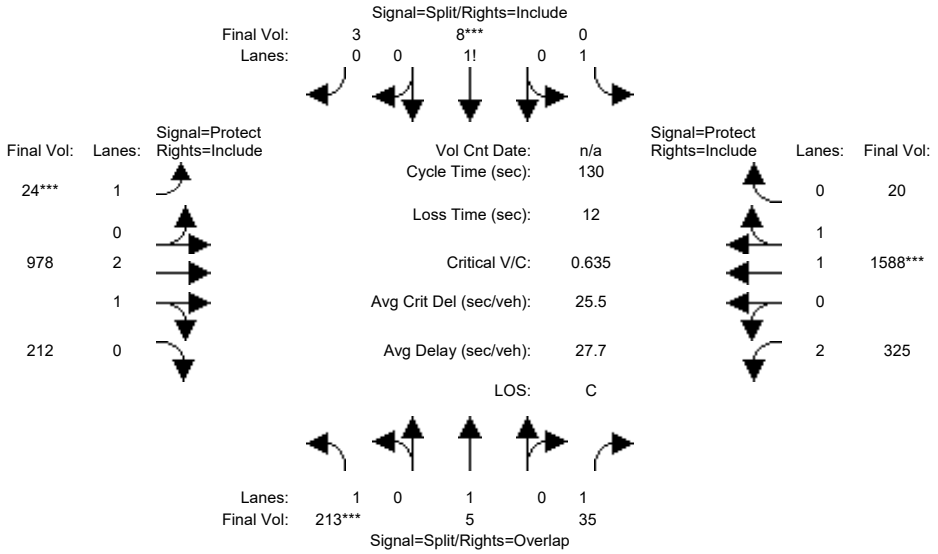
Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	196	5	32	0	7	3	22	900	195	299	1461	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	196	5	32	0	7	3	22	900	195	299	1461	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	196	5	32	0	7	3	22	900	195	299	1461	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	213	5	35	0	8	3	24	978	212	325	1588	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	213	5	35	0	8	3	24	978	212	325	1588	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	213	5	35	0	8	3	24	978	212	325	1588	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.99	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.45	0.55	2.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1260	540	1750	4601	997	3150	3655	45
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.02	0.00	0.01	0.01	0.01	0.21	0.21	0.10	0.43	0.43
Crit Moves:	****				****		****				****	
Green Time:	21.7	21.7	52.0	0.0	10.0	10.0	9.0	56.0	56.0	30.4	77.3	77.3
Volume/Cap:	0.73	0.02	0.05	0.00	0.08	0.08	0.20	0.49	0.49	0.44	0.73	0.73
Delay/Veh:	60.5	45.3	23.9	0.0	56.0	56.0	57.9	26.9	26.9	43.0	20.1	20.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.5	45.3	23.9	0.0	56.0	56.0	57.9	26.9	26.9	43.0	20.1	20.1
LOS by Move:	E	D	C	A	E	E	E	C	C	D	C	C
HCM2k95thQ:	19	0	2	0	1	1	2	20	20	12	37	37

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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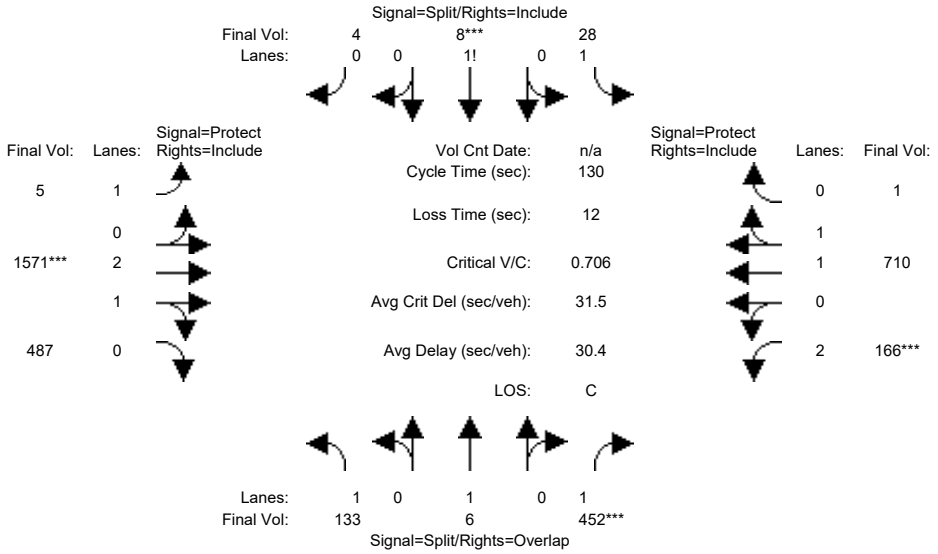
2040 NoProj w FC - PM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	129	6	438	27	8	4	5	1524	472	161	689	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	6	438	27	8	4	5	1524	472	161	689	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	6	438	27	8	4	5	1524	472	161	689	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	133	6	452	28	8	4	5	1571	487	166	710	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	6	452	28	8	4	5	1571	487	166	710	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	6	452	28	8	4	5	1571	487	166	710	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	0.99	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.26	0.74	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	4274	1324	3150	3695	5
Capacity Analysis Module:												
Vol/Sat:	0.08	0.00	0.26	0.01	0.02	0.02	0.00	0.37	0.37	0.05	0.19	0.19
Crit Moves:			****		****			****		****		
Green Time:	26.0	26.0	41.0	10.0	10.0	10.0	21.7	67.0	67.0	15.0	60.3	60.3
Volume/Cap:	0.38	0.02	0.82	0.14	0.20	0.20	0.02	0.71	0.71	0.46	0.41	0.41
Delay/Veh:	45.7	41.8	50.4	56.2	56.7	56.7	45.3	25.0	25.0	54.6	23.3	23.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.7	41.8	50.4	56.2	56.7	56.7	45.3	25.0	25.0	54.6	23.3	23.3
LOS by Move:	D	D	D	E	E	E	D	C	C	D	C	C
HCM2k95thQ:	10	0	34	2	2	2	0	33	33	7	17	17

Note: Queue reported is the number of cars per lane.

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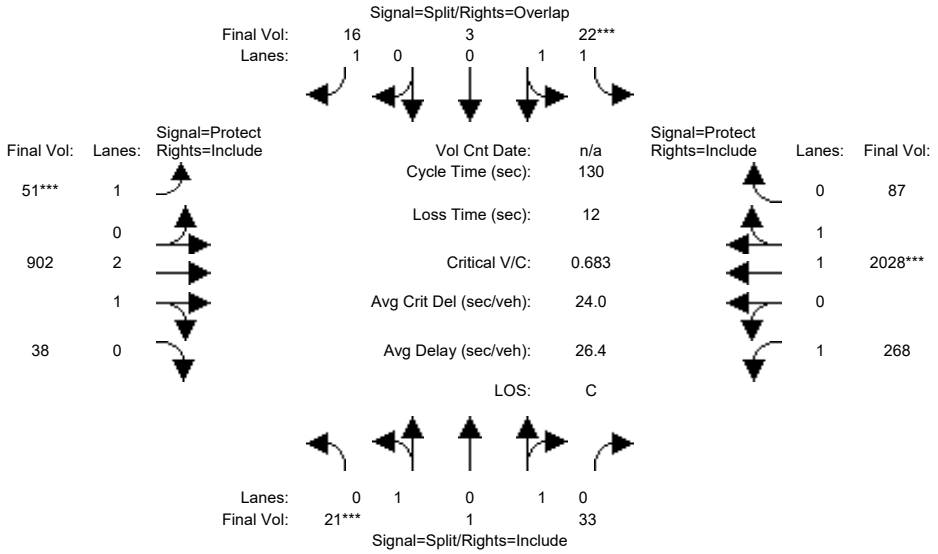
2040 NoProj w FC - AM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	19	1	30	20	3	14	46	812	34	241	1825	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	14	46	812	34	241	1825	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	14	46	812	34	241	1825	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	16	51	902	38	268	2028	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	16	51	902	38	268	2028	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	16	51	902	38	268	2028	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.87	0.13	1.00	1.92	0.08
Final Sat.:	1710	90	1800	3087	463	1750	1750	5375	225	1750	3548	152
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.17	0.17	0.15	0.57	0.57
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	49.7	49.7	45.3	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.06	0.38	0.44	0.44	0.44	0.87	0.87
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	29.9	29.9	33.1	22.0	22.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	29.9	29.9	33.1	22.0	22.0
LOS by Move:	D	D	D	D	D	D	E	C	C	C	C	C
HCM2k95thQ:	2	2	3	1	1	1	4	17	17	17	58	58

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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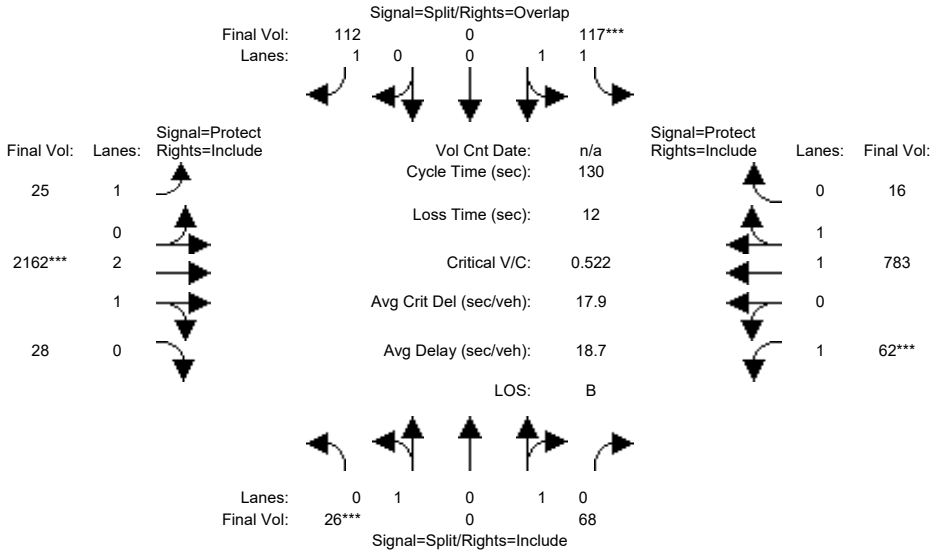
2040 NoProj w FC - PM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	25	0	65	111	0	106	24	2054	27	59	744	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	106	24	2054	27	59	744	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	106	24	2054	27	59	744	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	112	25	2162	28	62	783	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	112	25	2162	28	62	783	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	112	25	2162	28	62	783	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.96	0.04	1.00	1.96	0.04
Final Sat.:	1800	0	1800	3550	0	1750	1750	5527	73	1750	3627	73
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.06	0.01	0.39	0.39	0.04	0.22	0.22
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	36.0	25.0	85.0	85.0	10.0	70.0	70.0
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.23	0.08	0.60	0.60	0.46	0.40	0.40
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	36.6	43.2	13.1	13.1	59.9	17.8	17.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	36.6	43.2	13.1	13.1	59.9	17.8	17.8
LOS by Move:	D	A	E	E	A	D	D	B	B	E	B	B
HCM2k95thQ:	2	0	6	6	0	7	2	28	28	6	17	17

Note: Queue reported is the number of cars per lane.

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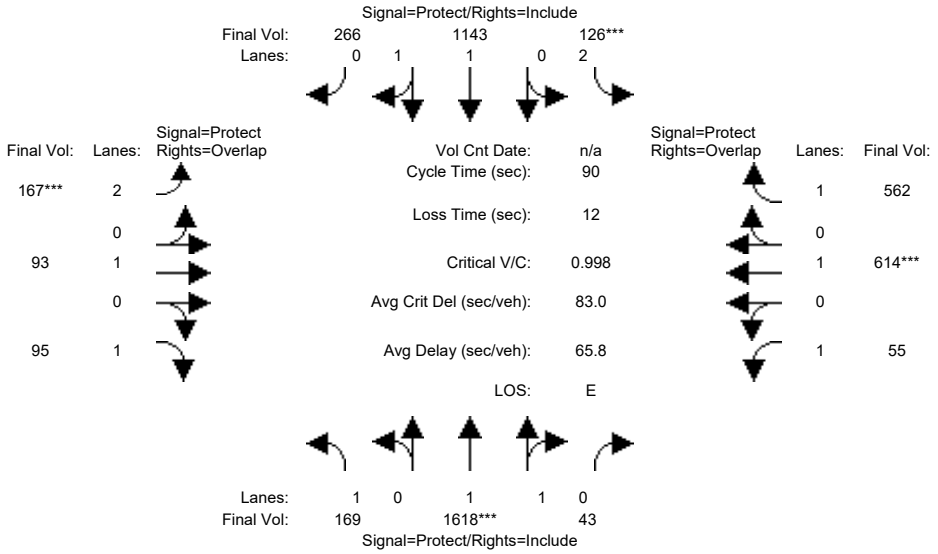
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	154	1472	39	115	1040	242	152	85	86	50	559	511
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	154	1472	39	115	1040	242	152	85	86	50	559	511
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	1472	39	115	1040	242	152	85	86	50	559	511
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	169	1618	43	126	1143	266	167	93	95	55	614	562
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	1618	43	126	1143	266	167	93	95	55	614	562
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	1618	43	126	1143	266	167	93	95	55	614	562
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.95	0.05	2.00	1.61	0.39	2.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3604	95	3150	3001	698	3150	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.45	0.45	0.04	0.38	0.38	0.05	0.05	0.05	0.03	0.32	0.32
Crit Moves:		****		****			****				****	
Green Time:	8.8	36.6	36.6	7.0	34.8	34.8	8.0	22.9	31.8	11.5	26.4	33.4
Volume/Cap:	0.99	1.10	1.10	0.52	0.99	0.99	0.60	0.19	0.15	0.25	1.10	0.87
Delay/Veh:	104.6	83.5	83.5	41.8	47.6	47.6	42.9	26.5	20.0	36.0	101	37.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	104.6	83.5	83.5	41.8	47.6	47.6	42.9	26.5	20.0	36.0	101	37.9
LOS by Move:	F	F	F	D	D	D	D	C	C	D	F	D
HCM2k95thQ:	13	56	56	4	40	40	6	4	4	3	46	32

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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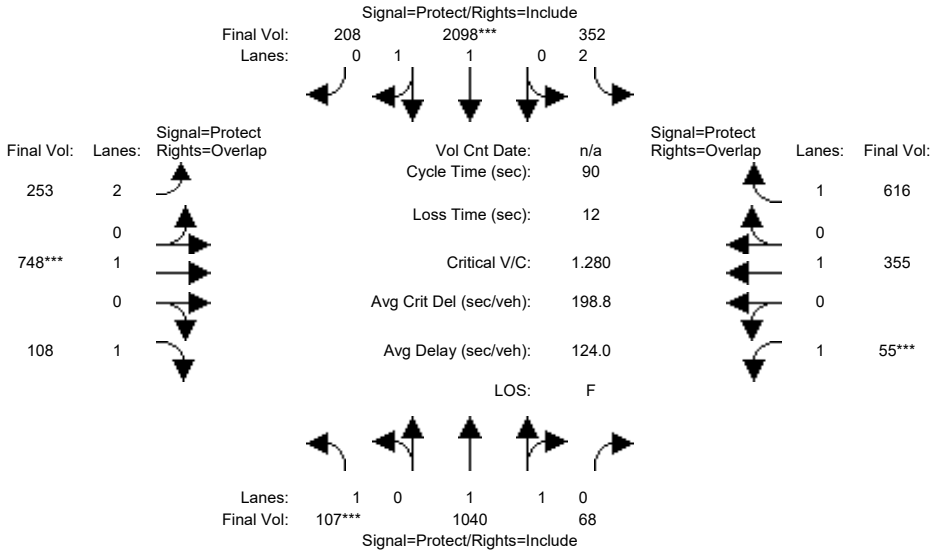
Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	105	1019	67	345	2056	204	248	733	106	54	348	604
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	1019	67	345	2056	204	248	733	106	54	348	604
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	1019	67	345	2056	204	248	733	106	54	348	604
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	1040	68	352	2098	208	253	748	108	55	355	616
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	1040	68	352	2098	208	253	748	108	55	355	616
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	1040	68	352	2098	208	253	748	108	55	355	616
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.87	0.13	2.00	1.81	0.19	2.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3472	228	3150	3366	334	3150	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.30	0.30	0.11	0.62	0.62	0.08	0.39	0.06	0.03	0.19	0.35
Crit Moves:	****				****			****		****		
Green Time:	8.0	35.3	35.3	13.2	40.5	40.5	8.0	25.5	33.5	4.0	21.5	34.7
Volume/Cap:	0.69	0.76	0.76	0.76	1.39	1.39	0.90	1.39	0.17	0.71	0.78	0.91
Delay/Veh:	52.1	26.2	26.2	44.4	203	202.6	70.7	218	19.0	68.3	40.5	43.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	26.2	26.2	44.4	203	202.6	70.7	218	19.0	68.3	40.5	43.1
LOS by Move:	D	C	C	D	F	F	E	F	B	E	D	D
HCM2k95thQ:	7	25	25	12	110	110	8	70	4	6	20	37

Note: Queue reported is the number of cars per lane.

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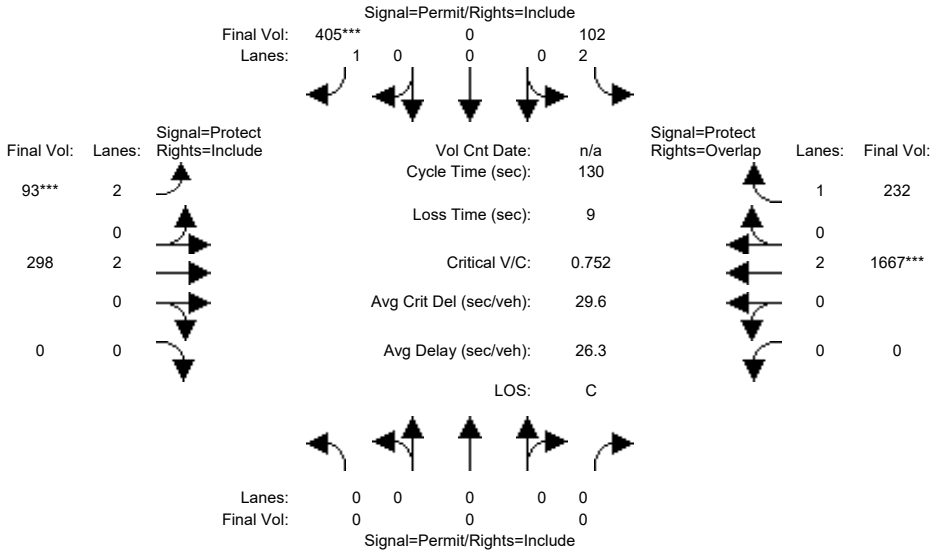
Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	99	0	393	90	289	0	0	1617	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	393	90	289	0	0	1617	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	393	90	289	0	0	1617	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	405	93	298	0	0	1667	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	405	93	298	0	0	1667	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	405	93	298	0	0	1667	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.23	0.03	0.08	0.00	0.00	0.44	0.13
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	39.0	0.0	39.0	8.0	82.0	0.0	0.0	74.0	74.0
Volume/Cap:	0.00	0.00	0.00	0.11	0.00	0.77	0.48	0.12	0.00	0.00	0.77	0.23
Delay/Veh:	0.0	0.0	0.0	32.9	0.0	48.3	60.8	9.7	0.0	0.0	23.3	14.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.9	0.0	48.3	60.8	9.7	0.0	0.0	23.3	14.0
LOS by Move:	A	A	A	C	A	D	E	A	A	A	C	B
HCM2k95thQ:	0	0	0	4	0	30	4	5	0	0	40	9

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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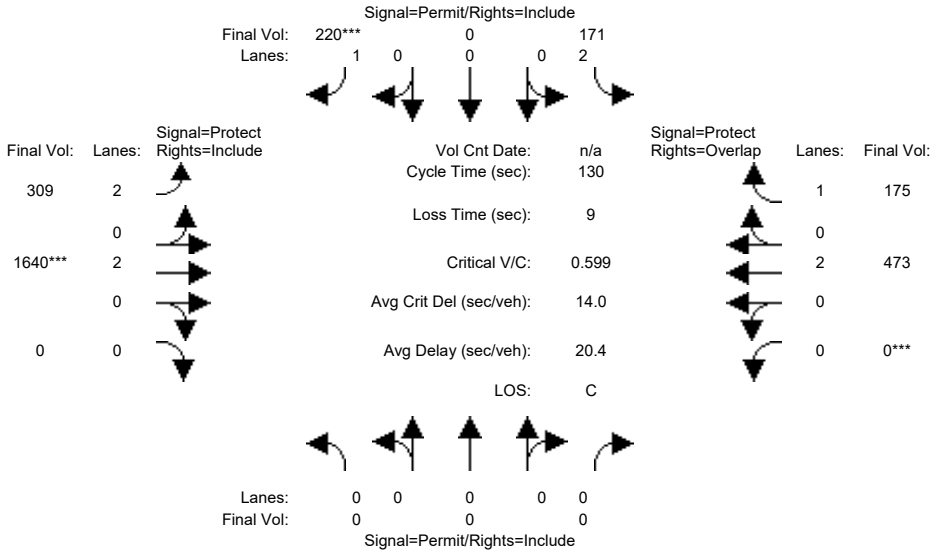
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	166	0	213	300	1591	0	0	459	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	213	300	1591	0	0	459	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	213	300	1591	0	0	459	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	220	309	1640	0	0	473	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	220	309	1640	0	0	473	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	220	309	1640	0	0	473	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.13	0.10	0.43	0.00	0.00	0.12	0.10
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	27.3	0.0	27.3	41.3	93.7	0.0	0.0	52.4	52.4
Volume/Cap:	0.00	0.00	0.00	0.26	0.00	0.60	0.31	0.60	0.00	0.00	0.31	0.25
Delay/Veh:	0.0	0.0	0.0	43.1	0.0	49.2	33.7	9.3	0.0	0.0	26.6	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	43.1	0.0	49.2	33.7	9.3	0.0	0.0	26.6	25.9
LOS by Move:	A	A	A	D	A	D	C	A	A	A	C	C
HCM2k95thQ:	0	0	0	7	0	17	10	28	0	0	12	9

Note: Queue reported is the number of cars per lane.

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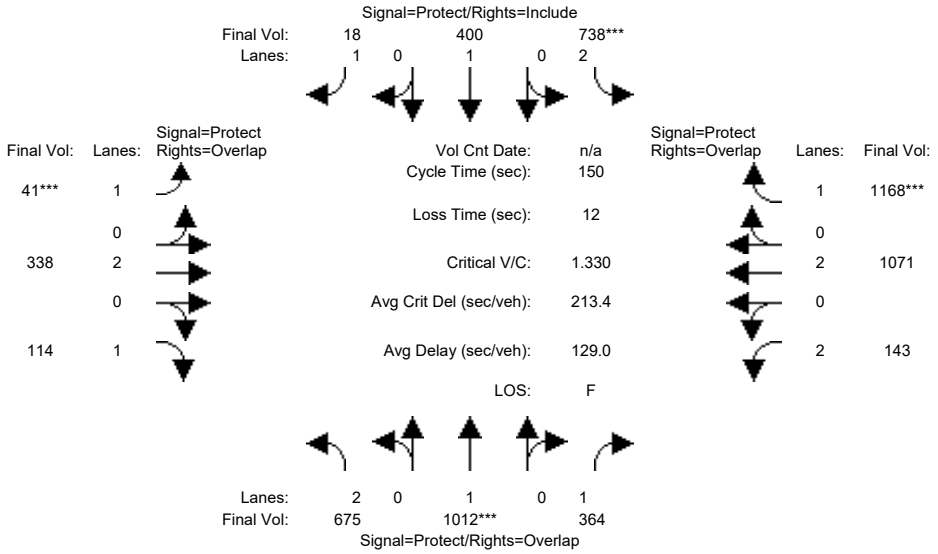
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	621	931	335	679	368	17	38	311	105	132	985	1075
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	621	931	335	679	368	17	38	311	105	132	985	1075
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	621	931	335	679	368	17	38	311	105	132	985	1075
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	675	1012	364	738	400	18	41	338	114	143	1071	1168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	675	1012	364	738	400	18	41	338	114	143	1071	1168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	675	1012	364	738	400	18	41	338	114	143	1071	1168
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.21	0.53	0.21	0.23	0.21	0.01	0.02	0.09	0.07	0.05	0.28	0.67
Crit Moves:		****		****			****					****
Green Time:	42.9	59.0	77.0	26.0	42.1	42.1	5.0	35.1	77.9	18.0	48.0	74.0
Volume/Cap:	0.75	1.35	0.41	1.35	0.75	0.04	0.71	0.38	0.13	0.38	0.88	1.35
Delay/Veh:	52.2	213	22.7	233.0	55.0	39.2	104.8	48.6	18.6	61.5	55.9	204.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.2	213	22.7	233.0	55.0	39.2	104.8	48.6	18.6	61.5	55.9	204.8
LOS by Move:	D	F	C	F	E	D	F	D	B	E	E	F
HCM2k95thQ:	30	118	20	57	31	1	5	12	6	7	39	144

Note: Queue reported is the number of cars per lane.

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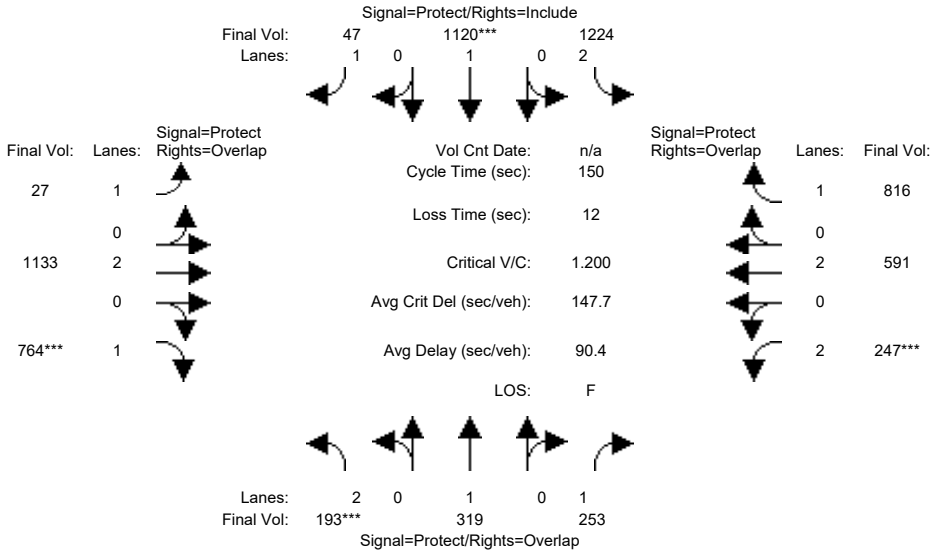
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	185	306	243	1175	1075	45	26	1088	733	237	567	783
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	185	306	243	1175	1075	45	26	1088	733	237	567	783
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	185	306	243	1175	1075	45	26	1088	733	237	567	783
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	193	319	253	1224	1120	47	27	1133	764	247	591	816
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	193	319	253	1224	1120	47	27	1133	764	247	591	816
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	193	319	253	1224	1120	47	27	1133	764	247	591	816
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.17	0.14	0.39	0.59	0.03	0.02	0.30	0.44	0.08	0.16	0.47
Crit Moves:	****				****				****	****		
Green Time:	10.0	24.9	34.6	57.8	72.7	72.7	9.8	45.6	55.6	9.7	45.5	103.3
Volume/Cap:	0.92	1.01	0.63	1.01	1.22	0.06	0.24	0.98	1.18	1.22	0.51	0.68
Delay/Veh:	109.5	115	55.0	74.1	146	20.5	67.7	73.6	142.3	203.6	43.5	15.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	109.5	115	55.0	74.1	146	20.5	67.7	73.6	142.3	203.6	43.5	15.2
LOS by Move:	F	F	D	E	F	C	E	E	F	F	D	B
HCM2k95thQ:	12	31	20	64	115	2	3	47	82	19	20	39

Note: Queue reported is the number of cars per lane.

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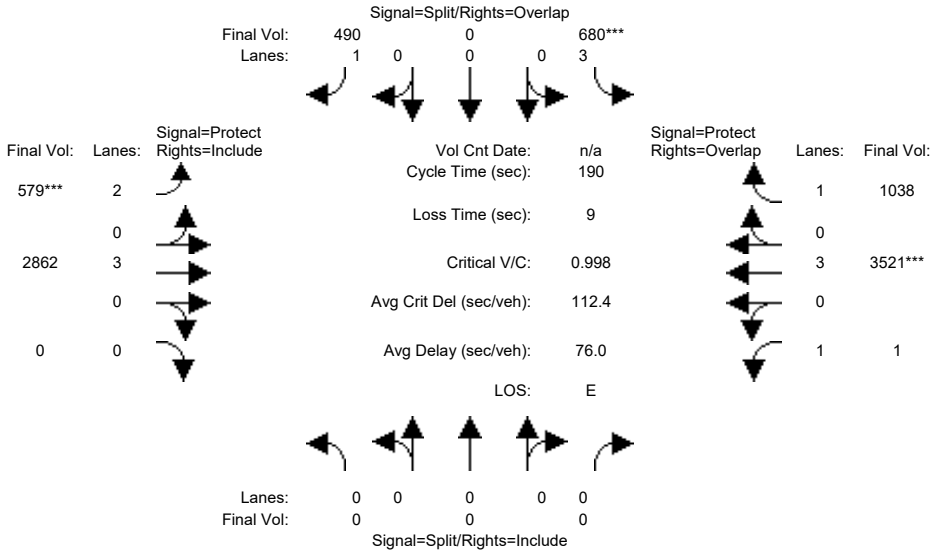
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	680	0	490	579	3290	0	1	4047	1038
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	680	0	490	579	3290	0	1	4047	1038
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	680	0	490	579	3290	0	1	4047	1038
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	680	0	490	579	2862	0	1	3521	1038
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	680	0	490	579	2862	0	1	3521	1038
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	680	0	490	579	2862	0	1	3521	1038
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.80	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	3.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	4551	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.28	0.18	0.50	0.00	0.00	0.62	0.59
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	1.12	0.00	1.26	2.07	0.71	0.00	0.01	0.90	0.72
Delay/Veh:	0.0	0.0	0.0	155.5	0.0	209.2	579.1	16.5	0.0	84.8	27.4	9.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	155.5	0.0	209.2	579.1	16.5	0.0	84.8	27.4	9.3
LOS by Move:	A	A	A	F	A	F	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	38	0	70	67	50	0	0	79	43

Note: Queue reported is the number of cars per lane.

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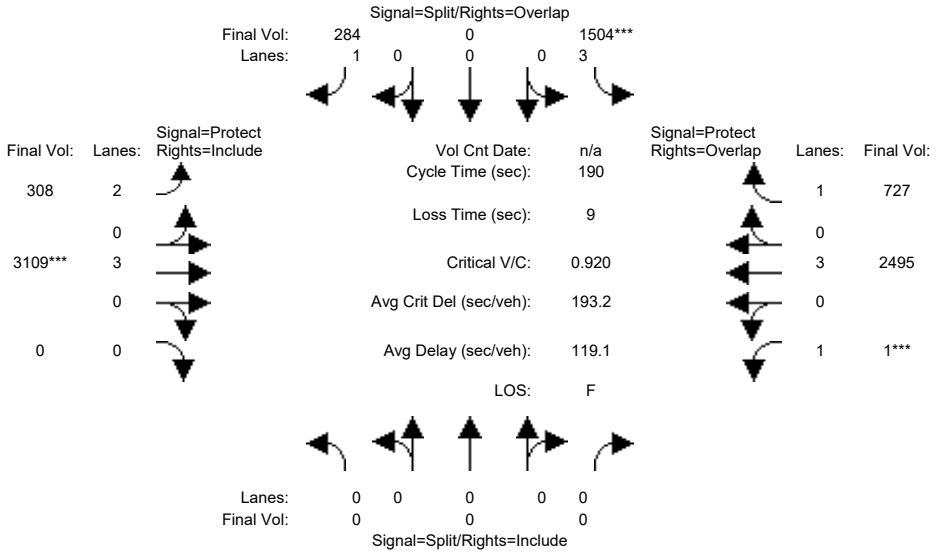
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	1504	0	284	308	3886	0	1	3669	727
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1504	0	284	308	3886	0	1	3669	727
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1504	0	284	308	3886	0	1	3669	727
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1504	0	284	308	3109	0	1	2495	727
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1504	0	284	308	3109	0	1	2495	727
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1504	0	284	308	3109	0	1	2495	727
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.80	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	3.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	4551	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.00	0.16	0.10	0.55	0.00	0.00	0.44	0.42
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	2.03	0.00	0.59	0.88	0.79	0.00	0.01	0.69	0.52
Delay/Veh:	0.0	0.0	0.0	548.9	0.0	61.8	104.9	21.1	0.0	84.8	22.9	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	548.9	0.0	61.8	104.9	21.1	0.0	84.8	22.9	6.9
LOS by Move:	A	A	A	F	A	E	F	C	A	F	C	A
HCM2k95thQ:	0	0	0	113	0	27	24	64	0	0	46	26

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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2000 HCM Operations (Future Volume Alternative)
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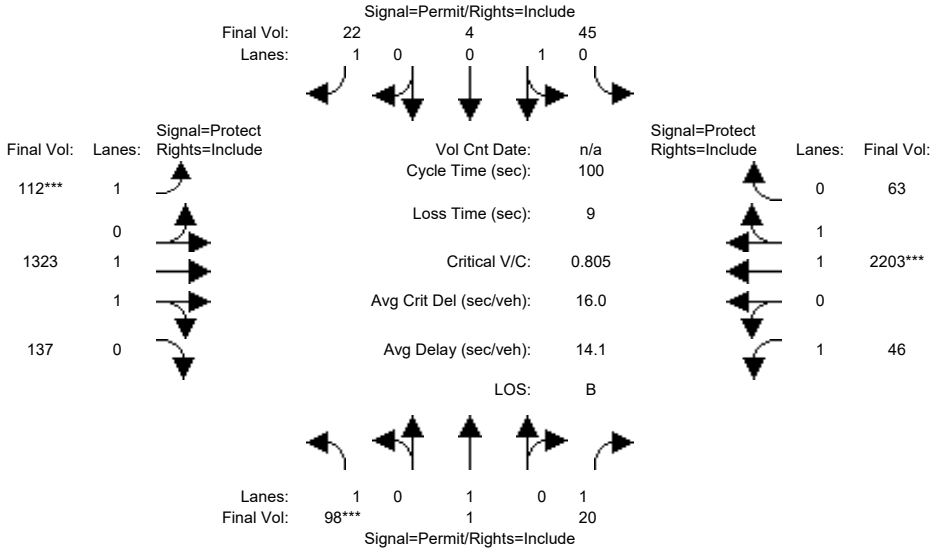
Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	92	1	19	42	4	21	105	1244	129	43	2071	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	1	19	42	4	21	105	1244	129	43	2071	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	92	1	19	42	4	21	105	1244	129	43	2071	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	98	1	20	45	4	22	112	1323	137	46	2203	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	1	20	45	4	22	112	1323	137	46	2203	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	1	20	45	4	22	112	1323	137	46	2203	63
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.91	0.09	1.00	1.00	1.81	0.19	1.00	1.94	0.06
Final Sat.:	1750	1900	1750	1643	157	1750	1750	3352	348	1750	3597	102
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.01	0.03	0.03	0.01	0.06	0.39	0.39	0.03	0.61	0.61
Crit Moves:	****						****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	7.6	68.8	68.8	12.2	73.4	73.4
Volume/Cap:	0.56	0.01	0.12	0.27	0.27	0.13	0.83	0.57	0.57	0.21	0.83	0.83
Delay/Veh:	46.9	40.5	41.3	42.5	42.5	41.4	79.8	8.4	8.4	40.1	11.6	11.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	40.5	41.3	42.5	42.5	41.4	79.8	8.4	8.4	40.1	11.6	11.6
LOS by Move:	D	D	D	D	D	D	E	A	A	D	B	B
HCM2k95thQ:	8	0	1	3	3	2	8	21	21	3	38	38

Note: Queue reported is the number of cars per lane.

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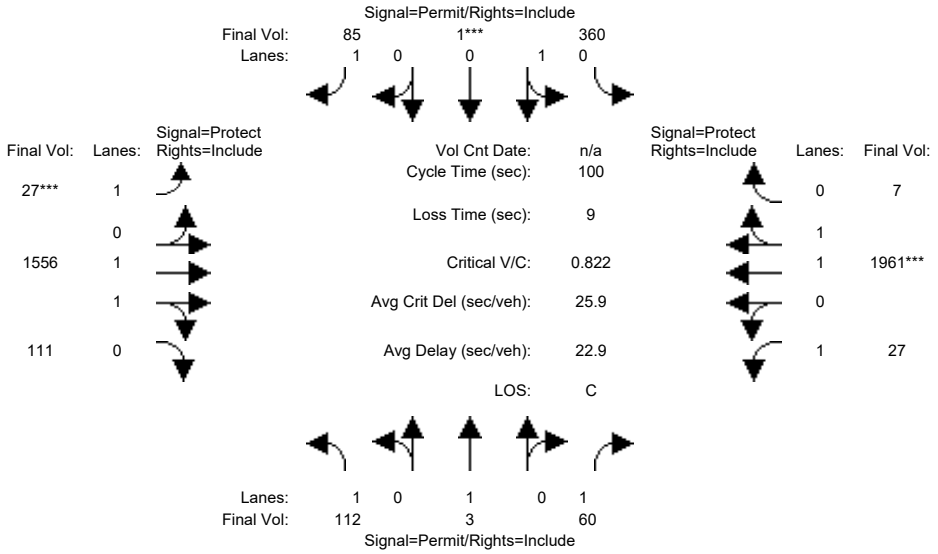
2040 NoProj w FC - PM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	3	58	349	1	82	26	1509	108	26	1902	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	3	58	349	1	82	26	1509	108	26	1902	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	3	58	349	1	82	26	1509	108	26	1902	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	112	3	60	360	1	85	27	1556	111	27	1961	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	3	60	360	1	85	27	1556	111	27	1961	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	3	60	360	1	85	27	1556	111	27	1961	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.99	0.01	1.00	1.00	1.86	0.14	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1795	5	1750	1750	3453	247	1750	3686	14
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.20	0.20	0.05	0.02	0.45	0.45	0.02	0.53	0.53
Crit Moves:					****		****				****	
Green Time:	23.0	23.0	23.0	23.0	23.0	23.0	7.0	58.9	58.9	9.1	61.0	61.0
Volume/Cap:	0.28	0.01	0.15	0.87	0.87	0.21	0.22	0.77	0.77	0.17	0.87	0.87
Delay/Veh:	32.1	29.7	30.9	55.0	55.0	31.4	44.8	17.1	17.1	42.4	20.3	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	29.7	30.9	55.0	55.0	31.4	44.8	17.1	17.1	42.4	20.3	20.3
LOS by Move:	C	C	C	E	E	C	D	B	B	D	C	C
HCM2k95thQ:	6	0	3	26	26	5	2	31	31	2	44	44

Note: Queue reported is the number of cars per lane.

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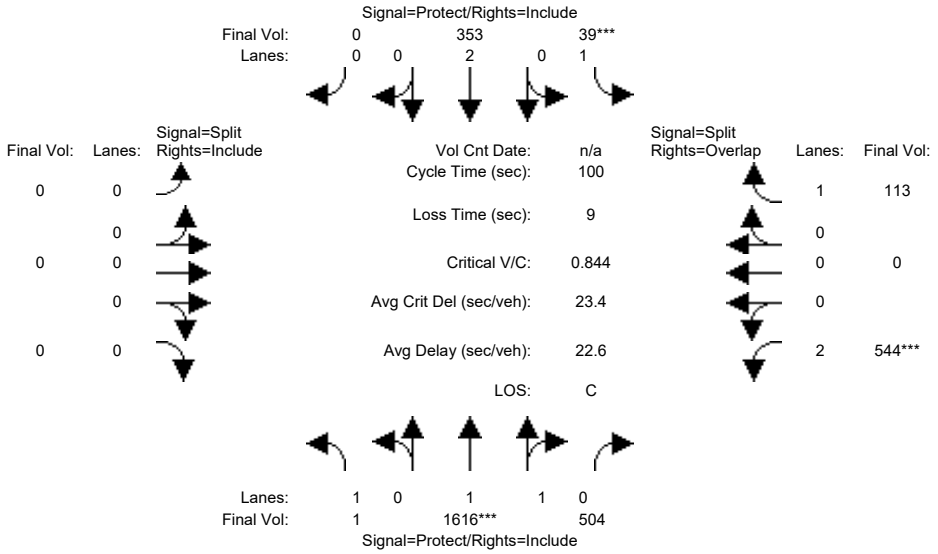
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	1	1616	504	39	353	0	0	0	0	544	0	113
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1616	504	39	353	0	0	0	0	544	0	113
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1616	504	39	353	0	0	0	0	544	0	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	1616	504	39	353	0	0	0	0	544	0	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	1616	504	39	353	0	0	0	0	544	0	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	1616	504	39	353	0	0	0	0	544	0	113
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.51	0.49	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	2820	879	1750	3800	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.57	0.57	0.02	0.09	0.00	0.00	0.00	0.00	0.17	0.00	0.06
Crit Moves:		****		****						****		
Green Time:	20.2	66.9	66.9	4.0	50.6	0.0	0.0	0.0	0.0	20.1	0.0	24.1
Volume/Cap:	0.00	0.86	0.86	0.56	0.18	0.00	0.00	0.00	0.00	0.86	0.00	0.27
Delay/Veh:	31.8	16.1	16.1	56.7	13.5	0.0	0.0	0.0	0.0	49.7	0.0	31.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.8	16.1	16.1	56.7	13.5	0.0	0.0	0.0	0.0	49.7	0.0	31.1
LOS by Move:	C	B	B	E	B	A	A	A	A	D	A	C
HCM2k95thQ:	0	45	45	4	6	0	0	0	0	23	0	6

Note: Queue reported is the number of cars per lane.

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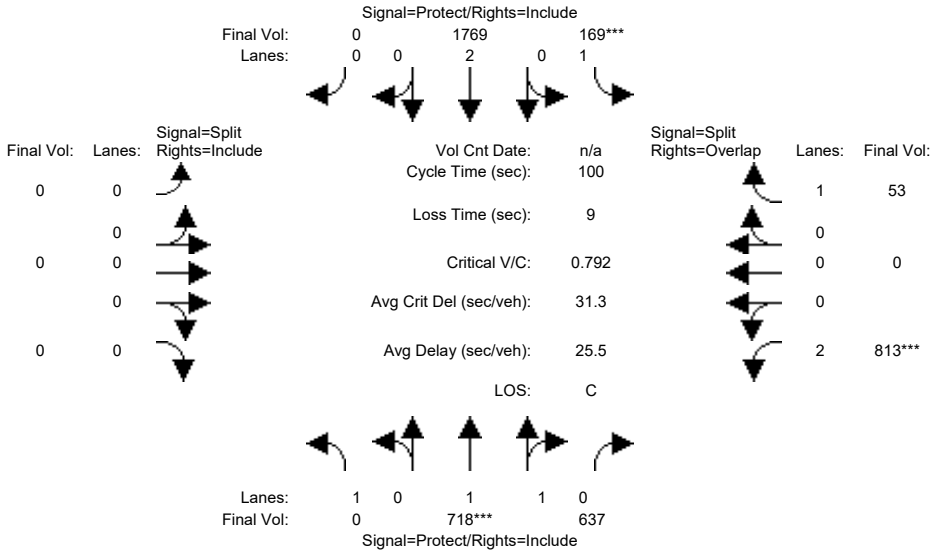
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	0	718	637	169	1769	0	0	0	0	813	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	718	637	169	1769	0	0	0	0	813	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	718	637	169	1769	0	0	0	0	813	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	718	637	169	1769	0	0	0	0	813	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	718	637	169	1769	0	0	0	0	813	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	718	637	169	1769	0	0	0	0	813	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.03	0.97	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	1959	1738	1750	3800	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.10	0.47	0.00	0.00	0.00	0.00	0.26	0.00	0.03
Crit Moves:		****		****						****		
Green Time:	0.0	46.2	46.2	12.2	58.4	0.0	0.0	0.0	0.0	32.6	0.0	44.8
Volume/Cap:	0.00	0.79	0.79	0.79	0.80	0.00	0.00	0.00	0.00	0.79	0.00	0.07
Delay/Veh:	0.0	25.4	25.4	60.8	18.3	0.0	0.0	0.0	0.0	34.9	0.0	15.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	25.4	25.4	60.8	18.3	0.0	0.0	0.0	0.0	34.9	0.0	15.8
LOS by Move:	A	C	C	E	B	A	A	A	A	C	A	B
HCM2k95thQ:	0	32	32	14	38	0	0	0	0	27	0	2

Note: Queue reported is the number of cars per lane.

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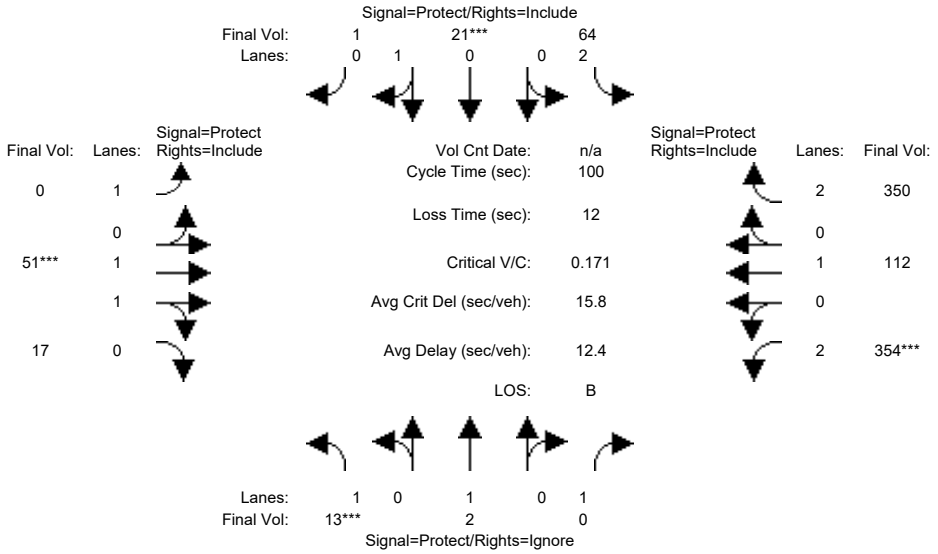
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	12	2	934	58	19	1	0	46	15	319	101	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	2	934	58	19	1	0	46	15	319	101	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	2	934	58	19	1	0	46	15	319	101	315
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	13	2	0	64	21	1	0	51	17	354	112	350
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	2	0	64	21	1	0	51	17	354	112	350
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	2	0	64	21	1	0	51	17	354	112	350
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.95	0.05	1.00	1.49	0.51	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1710	90	1750	2789	910	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.11	0.06	0.11
Crit Moves:	****				****			****			****	
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.1	10.1	61.9	72.0	72.0
Volume/Cap:	0.10	0.01	0.00	0.26	0.15	0.15	0.00	0.18	0.18	0.18	0.08	0.15
Delay/Veh:	42.9	42.4	0.0	43.7	43.4	43.4	0.0	41.4	41.4	8.2	4.2	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	42.4	0.0	43.7	43.4	43.4	0.0	41.4	41.4	8.2	4.2	4.4
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	3	2	2	0	2	2	5	2	4

Note: Queue reported is the number of cars per lane.

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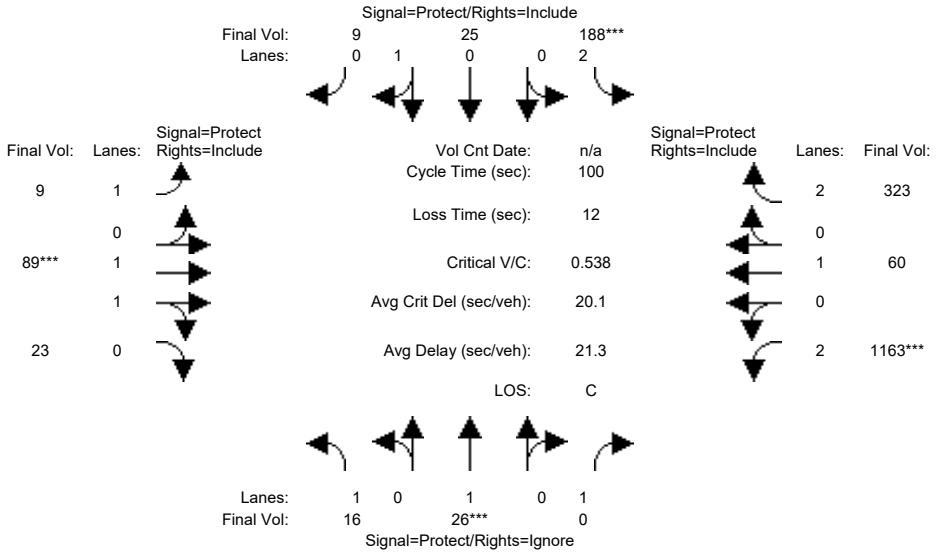
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	25	568	179	24	9	9	85	22	1105	57	307
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	25	568	179	24	9	9	85	22	1105	57	307
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	25	568	179	24	9	9	85	22	1105	57	307
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	26	0	188	25	9	9	89	23	1163	60	323
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	0	188	25	9	9	89	23	1163	60	323
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	26	0	188	25	9	9	89	23	1163	60	323
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1309	491	1750	2939	761	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.06	0.02	0.02	0.01	0.03	0.03	0.37	0.03	0.10
Crit Moves:		****		****				****		****		
Green Time:	8.9	8.0	0.0	9.8	8.9	8.9	34.7	10.0	10.0	60.2	35.6	35.6
Volume/Cap:	0.10	0.17	0.00	0.61	0.22	0.22	0.02	0.30	0.30	0.61	0.09	0.29
Delay/Veh:	42.2	43.5	0.0	46.9	43.0	43.0	21.5	42.2	42.2	13.1	21.5	23.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.2	43.5	0.0	46.9	43.0	43.0	21.5	42.2	42.2	13.1	21.5	23.3
LOS by Move:	D	D	A	D	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	9	3	3	0	4	4	23	2	8

Note: Queue reported is the number of cars per lane.

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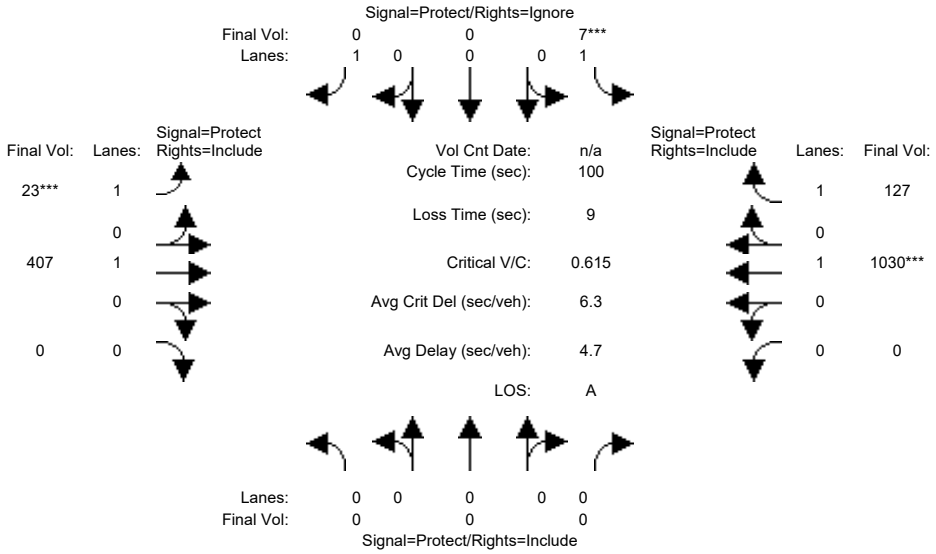
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	7	0	10	22	383	0	0	968	119
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	7	0	10	22	383	0	0	968	119
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	7	0	10	22	383	0	0	968	119
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	7	0	0	23	407	0	0	1030	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	7	0	0	23	407	0	0	1030	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	7	0	0	23	407	0	0	1030	127
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.21	0.00	0.00	0.54	0.07
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.09	0.00	0.00	0.27	0.25	0.00	0.00	0.67	0.09
Delay/Veh:	0.0	0.0	0.0	45.7	0.0	0.0	47.4	1.3	0.0	0.0	5.1	2.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.7	0.0	0.0	47.4	1.3	0.0	0.0	5.1	2.0
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	1	0	0	1	4	0	0	22	2

Note: Queue reported is the number of cars per lane.

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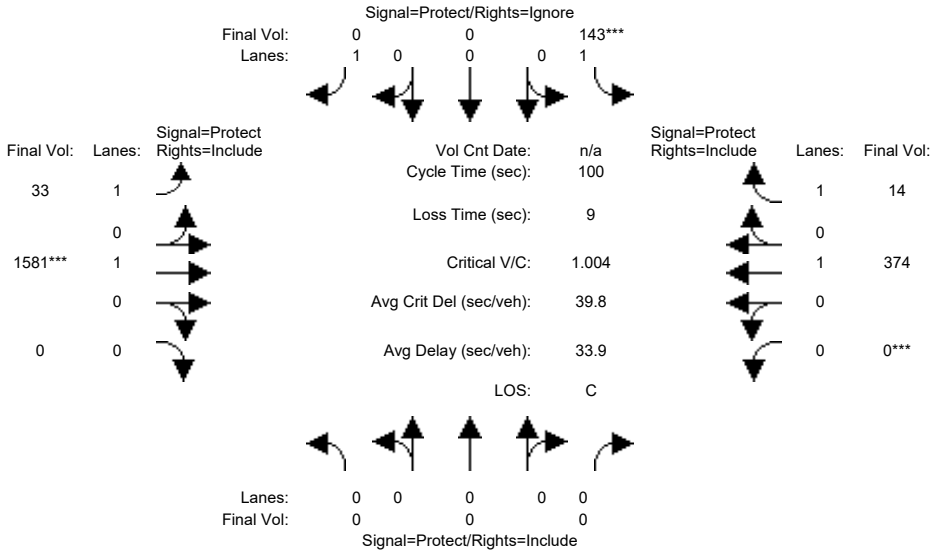
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	129	0	54	30	1423	0	0	337	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	129	0	54	30	1423	0	0	337	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	129	0	54	30	1423	0	0	337	13
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	143	0	0	33	1581	0	0	374	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	143	0	0	33	1581	0	0	374	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	143	0	0	33	1581	0	0	374	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.00	0.02	0.83	0.00	0.00	0.20	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	8.2	0.0	0.0	16.8	82.8	0.0	0.0	66.1	66.1
Volume/Cap:	0.00	0.00	0.00	1.00	0.00	0.00	0.11	1.00	0.00	0.00	0.30	0.01
Delay/Veh:	0.0	0.0	0.0	122.4	0.0	0.0	35.5	32.3	0.0	0.0	7.3	5.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	122.4	0.0	0.0	35.5	32.3	0.0	0.0	7.3	5.8
LOS by Move:	A	A	A	F	A	A	D	C	A	A	A	A
HCM2k95thQ:	0	0	0	16	0	0	2	76	0	0	9	0

Note: Queue reported is the number of cars per lane.

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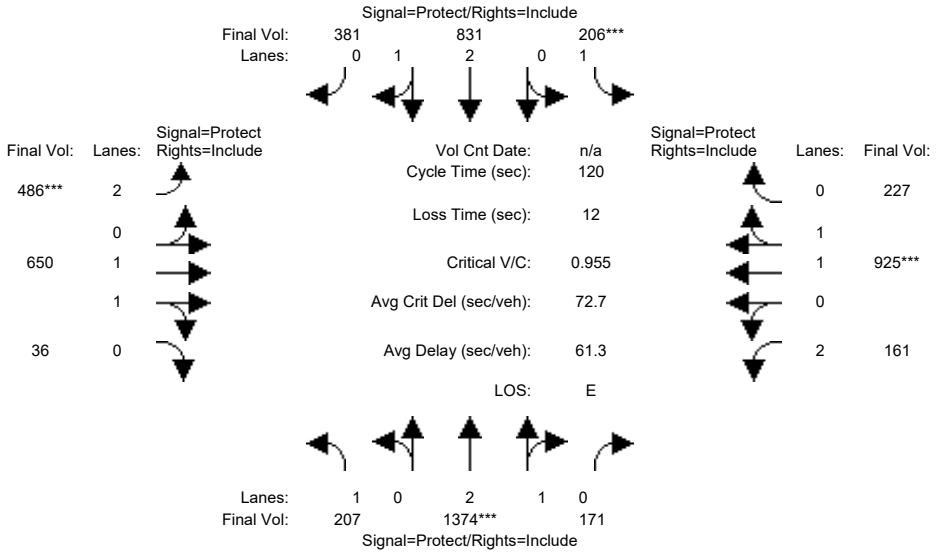
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module:												
Base Vol:	207	1374	171	206	831	381	486	650	36	161	925	227
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1374	171	206	831	381	486	650	36	161	925	227
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1374	171	206	831	381	486	650	36	161	925	227
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1374	171	206	831	381	486	650	36	161	925	227
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1374	171	206	831	381	486	650	36	161	925	227
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1374	171	206	831	381	486	650	36	161	925	227
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.66	0.34	1.00	2.02	0.98	2.00	1.89	0.11	2.00	1.60	0.40
Final Sat.:	1750	4979	620	1750	3837	1759	3150	3506	194	3150	2970	729
Capacity Analysis Module:												
Vol/Sat:	0.12	0.28	0.28	0.12	0.22	0.22	0.15	0.19	0.19	0.05	0.31	0.31
Crit Moves:		****		****			****				****	
Green Time:	21.1	32.7	32.7	20.0	31.6	31.6	18.3	33.0	33.0	22.3	37.0	37.0
Volume/Cap:	0.67	1.01	1.01	0.71	0.82	0.82	1.01	0.67	0.67	0.28	1.01	1.01
Delay/Veh:	52.0	69.5	69.5	54.9	45.3	45.3	94.8	40.5	40.5	42.2	71.0	71.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.0	69.5	69.5	54.9	45.3	45.3	94.8	40.5	40.5	42.2	71.0	71.0
LOS by Move:	D	E	E	D	D	D	F	D	D	D	E	E
HCM2k95thQ:	14	35	35	15	26	26	22	20	20	6	43	43

Note: Queue reported is the number of cars per lane.

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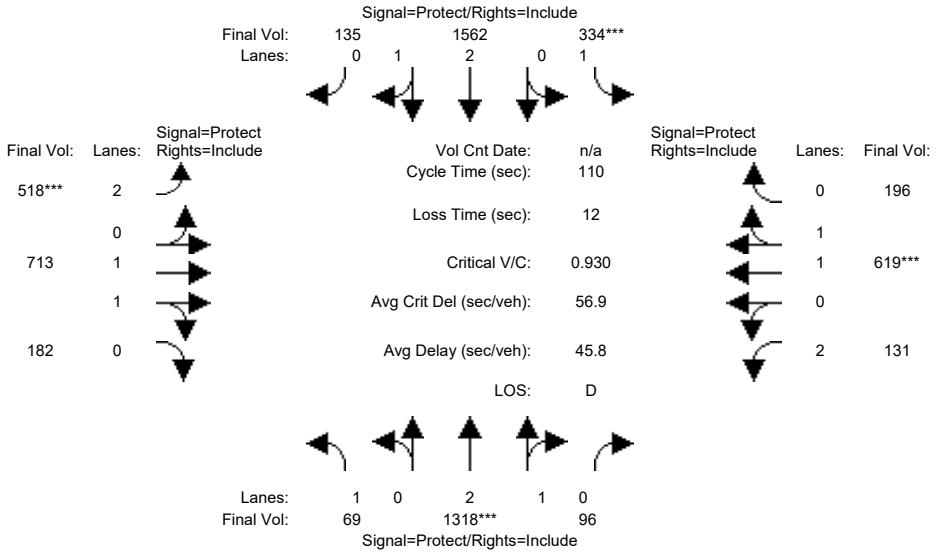
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	1318	96	334	1562	135	518	713	182	131	619	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	1318	96	334	1562	135	518	713	182	131	619	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	1318	96	334	1562	135	518	713	182	131	619	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	1318	96	334	1562	135	518	713	182	131	619	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	1318	96	334	1562	135	518	713	182	131	619	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	1318	96	334	1562	135	518	713	182	131	619	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.79	0.21	1.00	2.75	0.25	2.00	1.58	0.42	2.00	1.51	0.49
Final Sat.:	1750	5219	380	1750	5154	445	3150	2947	752	3150	2810	890
Capacity Analysis Module:												
Vol/Sat:	0.04	0.25	0.25	0.19	0.30	0.30	0.16	0.24	0.24	0.04	0.22	0.22
Crit Moves:		****		****			****				****	
Green Time:	9.1	29.9	29.9	22.6	43.4	43.4	19.5	36.0	36.0	9.5	26.1	26.1
Volume/Cap:	0.48	0.93	0.93	0.93	0.77	0.77	0.93	0.74	0.74	0.48	0.93	0.93
Delay/Veh:	50.6	49.5	49.5	73.0	30.7	30.7	66.8	35.2	35.2	49.3	57.0	57.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	49.5	49.5	73.0	30.7	30.7	66.8	35.2	35.2	49.3	57.0	57.0
LOS by Move:	D	D	D	E	C	C	E	D	D	D	E	E
HCM2k95thQ:	5	31	31	24	29	29	21	24	24	5	28	28

Note: Queue reported is the number of cars per lane.

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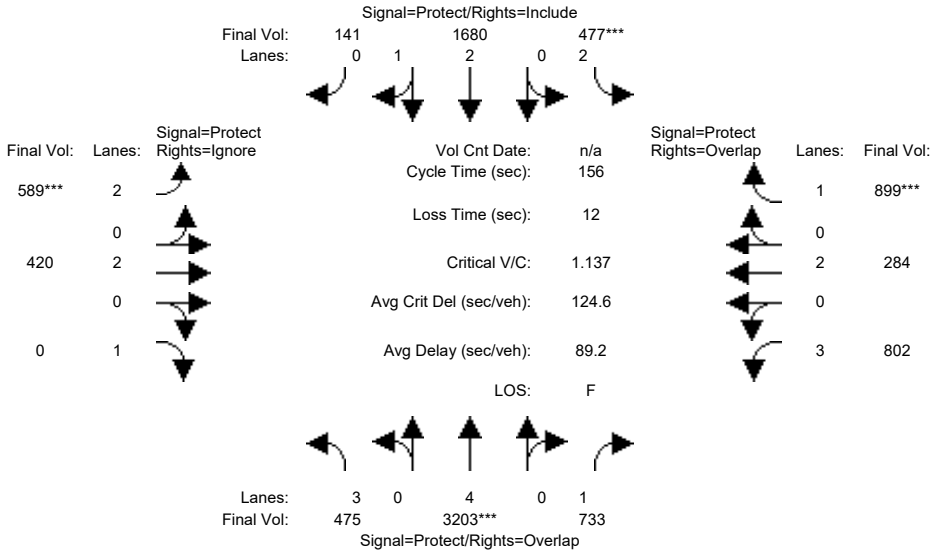
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	475	3203	733	477	1680	141	589	420	193	802	284	899
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	475	3203	733	477	1680	141	589	420	193	802	284	899
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	475	3203	733	477	1680	141	589	420	193	802	284	899
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	475	3203	733	477	1680	141	589	420	0	802	284	899
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	475	3203	733	477	1680	141	589	420	0	802	284	899
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	475	3203	733	477	1680	141	589	420	0	802	284	899
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.77	0.23	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5259	441	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.42	0.39	0.13	0.32	0.32	0.16	0.11	0.00	0.14	0.07	0.47
Crit Moves:		****		****			****					****
Green Time:	15.5	57.8	96.4	17.2	59.5	59.5	21.3	30.3	0.0	38.6	47.7	64.9
Volume/Cap:	0.84	1.14	0.62	1.14	0.84	0.84	1.14	0.57	0.00	0.57	0.24	1.14
Delay/Veh:	82.8	116	21.0	156.3	47.9	47.9	150.5	60.1	0.0	53.1	41.1	122.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	82.8	116	21.0	156.3	47.9	47.9	150.5	60.1	0.0	53.1	41.1	122.4
LOS by Move:	F	F	C	F	D	D	F	E	A	D	D	F
HCM2k95thQ:	15	86	37	24	39	39	33	16	0	18	9	86

Note: Queue reported is the number of cars per lane.

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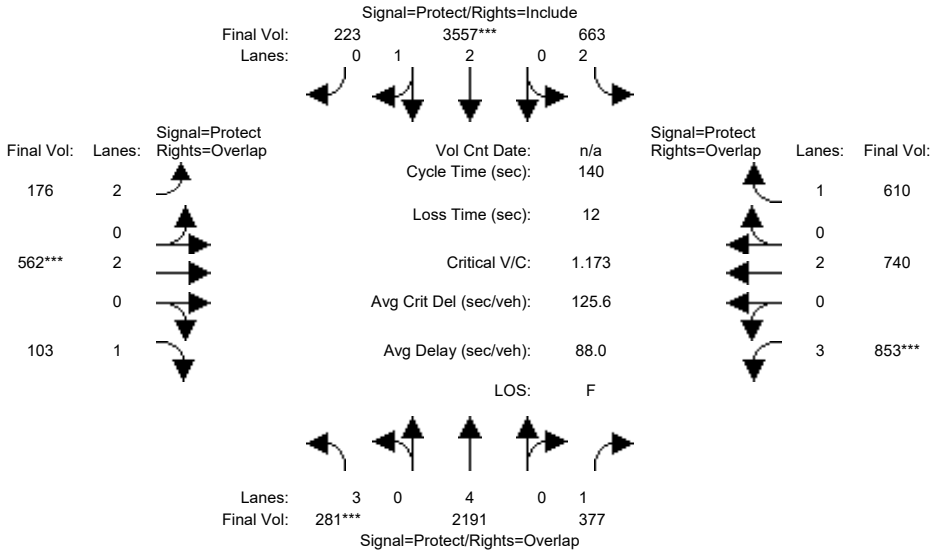
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	281	2191	377	663	3557	223	176	562	103	853	740	610
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	2191	377	663	3557	223	176	562	103	853	740	610
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	2191	377	663	3557	223	176	562	103	853	740	610
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	2191	377	663	3557	223	176	562	103	853	740	610
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	2191	377	663	3557	223	176	562	103	853	740	610
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	2191	377	663	3557	223	176	562	103	853	740	610
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.82	0.18	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5269	330	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.22	0.21	0.68	0.68	0.06	0.15	0.06	0.19	0.19	0.35
Crit Moves:	****				****			****		****		
Green Time:	7.4	50.8	73.2	37.1	80.6	80.6	8.9	17.7	25.0	22.4	31.1	68.2
Volume/Cap:	1.17	0.79	0.41	0.79	1.17	1.17	0.88	1.17	0.33	1.17	0.88	0.72
Delay/Veh:	179.1	41.5	20.6	53.1	111	111.0	97.3	159	50.8	150.7	62.8	31.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	179.1	41.5	20.6	53.1	111	111.0	97.3	159	50.8	150.7	62.8	31.1
LOS by Move:	F	D	C	D	F	F	F	F	D	F	E	C
HCM2k95thQ:	15	36	19	26	112	112	10	31	8	35	25	35

Note: Queue reported is the number of cars per lane.

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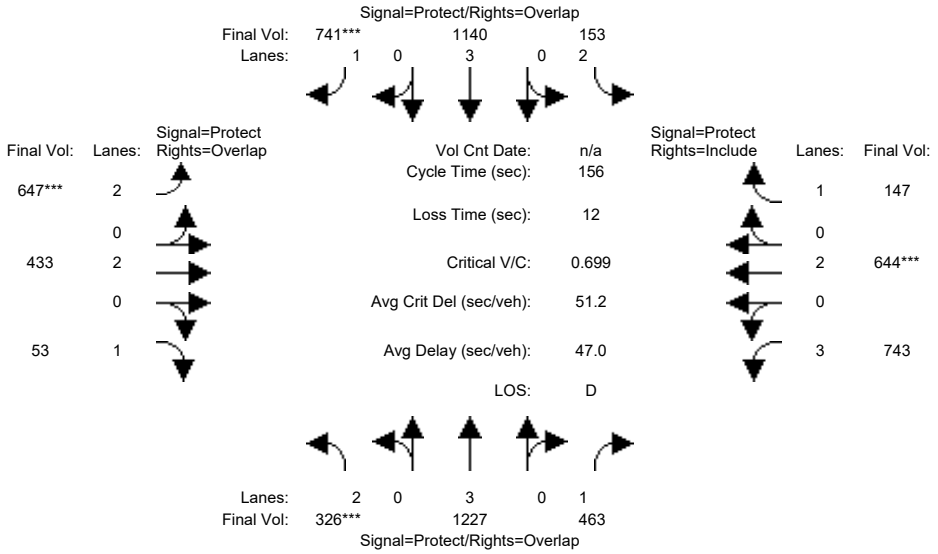
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	326	1227	463	153	1140	741	647	433	53	743	644	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	1227	463	153	1140	741	647	433	53	743	644	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	1227	463	153	1140	741	647	433	53	743	644	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	1227	463	153	1140	741	647	433	53	743	644	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	1227	463	153	1140	741	647	433	53	743	644	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	1227	463	153	1140	741	647	433	53	743	644	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5700	1900	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.22	0.24	0.04	0.20	0.39	0.17	0.11	0.03	0.13	0.17	0.08
Crit Moves:	****					****	****				****	
Green Time:	19.1	56.4	96.9	11.8	49.0	87.0	38.0	35.4	54.5	40.5	37.8	37.8
Volume/Cap:	0.70	0.60	0.39	0.53	0.64	0.70	0.70	0.50	0.08	0.50	0.70	0.32
Delay/Veh:	74.1	41.8	15.8	76.4	47.6	28.8	58.2	54.7	34.2	50.4	58.3	50.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	74.1	41.8	15.8	76.4	47.6	28.8	58.2	54.7	34.2	50.4	58.3	50.3
LOS by Move:	E	D	B	E	D	C	E	D	C	D	E	D
HCM2k95thQ:	14	27	19	7	26	42	23	15	4	17	24	11

Note: Queue reported is the number of cars per lane.

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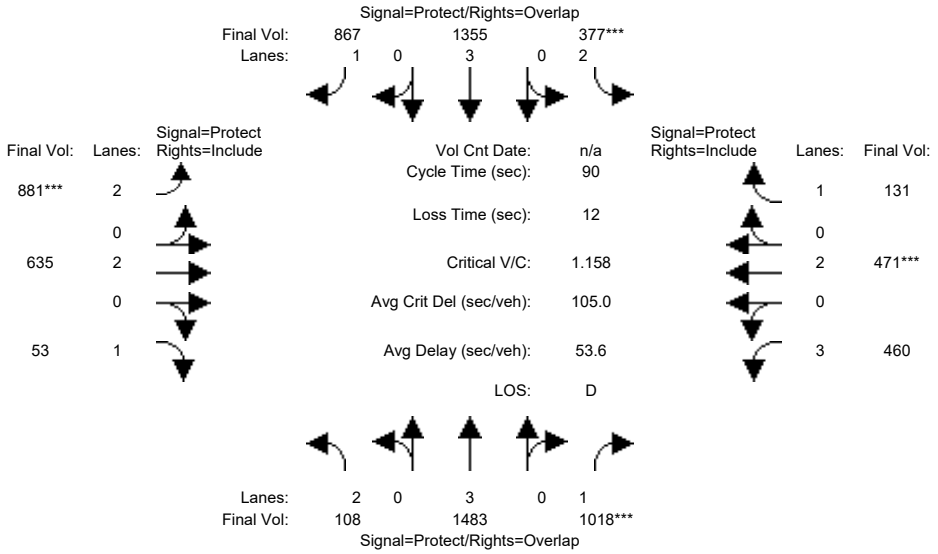
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	108	1483	1018	377	1355	867	881	635	53	460	471	131
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	1483	1018	377	1355	867	881	635	53	460	471	131
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	1483	1018	377	1355	867	881	635	53	460	471	131
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	1483	1018	377	1355	867	881	635	53	460	471	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	1483	1018	377	1355	867	881	635	53	460	471	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	1483	1018	377	1355	867	881	635	53	460	471	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.26	0.58	0.12	0.24	0.50	0.28	0.17	0.03	0.10	0.12	0.07
Crit Moves:			****	****			****				****	
Green Time:	11.4	37.1	49.1	9.2	35.0	56.6	21.6	19.7	19.7	11.9	10.0	10.0
Volume/Cap:	0.27	0.63	1.07	1.16	0.61	0.79	1.16	0.76	0.14	0.76	1.12	0.67
Delay/Veh:	35.9	21.5	69.3	142.9	22.6	16.2	122.4	37.2	28.5	43.4	119	47.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.9	21.5	69.3	142.9	22.6	16.2	122.4	37.2	28.5	43.4	119	47.4
LOS by Move:	D	C	E	F	C	B	F	D	C	D	F	D
HCM2k95thQ:	3	20	67	20	18	33	40	15	2	11	19	8

Note: Queue reported is the number of cars per lane.

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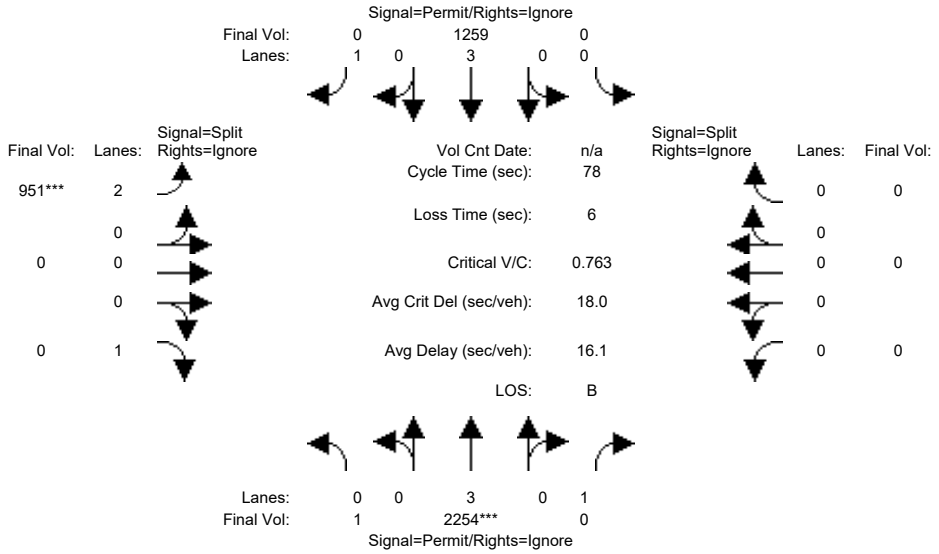
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	2254	248	0	1259	664	951	0	485	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	2254	248	0	1259	664	951	0	485	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	2254	248	0	1259	664	951	0	485	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	1	2254	0	0	1259	0	951	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	2254	0	0	1259	0	951	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	1	2254	0	0	1259	0	951	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.01	2.99	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	2	5598	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.40	0.40	0.00	0.00	0.22	0.00	0.30	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	41.1	41.1	0.0	0.0	41.1	0.0	30.9	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.76	0.76	0.00	0.00	0.42	0.00	0.76	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	15.8	15.8	0.0	0.0	11.3	0.0	23.3	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.8	15.8	0.0	0.0	11.3	0.0	23.3	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	A	C	A	A	A	A	A
HCM2k95thQ:	25	25	0	0	11	0	24	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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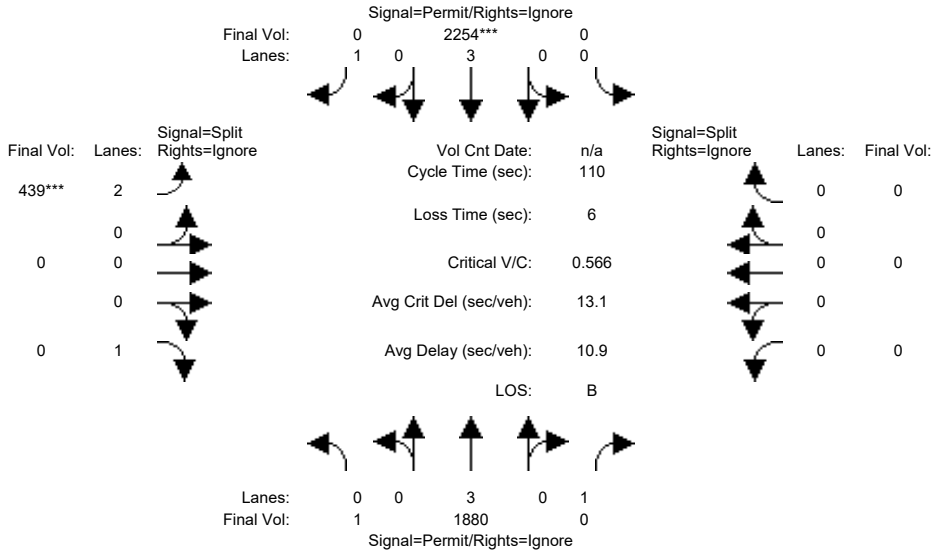
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	1880	789	0	2254	1244	439	0	348	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1880	789	0	2254	1244	439	0	348	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1880	789	0	2254	1244	439	0	348	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	1	1880	0	0	2254	0	439	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	1880	0	0	2254	0	439	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	1	1880	0	0	2254	0	439	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.01	2.99	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3	5597	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.34	0.34	0.00	0.00	0.40	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	76.9	76.9	0.0	0.0	76.9	0.0	27.1	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.48	0.48	0.00	0.00	0.57	0.00	0.57	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	7.6	7.6	0.0	0.0	8.4	0.0	37.3	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.6	7.6	0.0	0.0	8.4	0.0	37.3	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	17	17	0	0	22	0	16	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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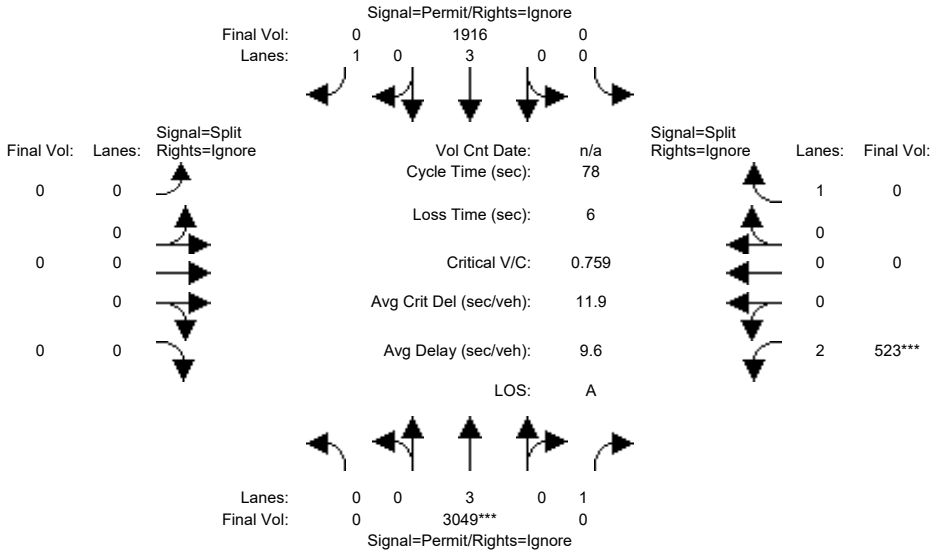
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module:												
Base Vol:	0	3049	153	0	1916	543	0	0	0	523	0	2054
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3049	153	0	1916	543	0	0	0	523	0	2054
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3049	153	0	1916	543	0	0	0	523	0	2054
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	3049	0	0	1916	0	0	0	0	523	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3049	0	0	1916	0	0	0	0	523	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	3049	0	0	1916	0	0	0	0	523	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Crit Moves:		****								****		
Green Time:	0.0	54.9	0.0	0.0	54.9	0.0	0.0	0.0	0.0	17.1	0.0	0.0
Volume/Cap:	0.00	0.76	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.76	0.00	0.00
Delay/Veh:	0.0	8.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	33.5	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.2	0.0	0.0	5.2	0.0	0.0	0.0	0.0	33.5	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2k95thQ:	0	27	0	0	13	0	0	0	0	17	0	0

Note: Queue reported is the number of cars per lane.

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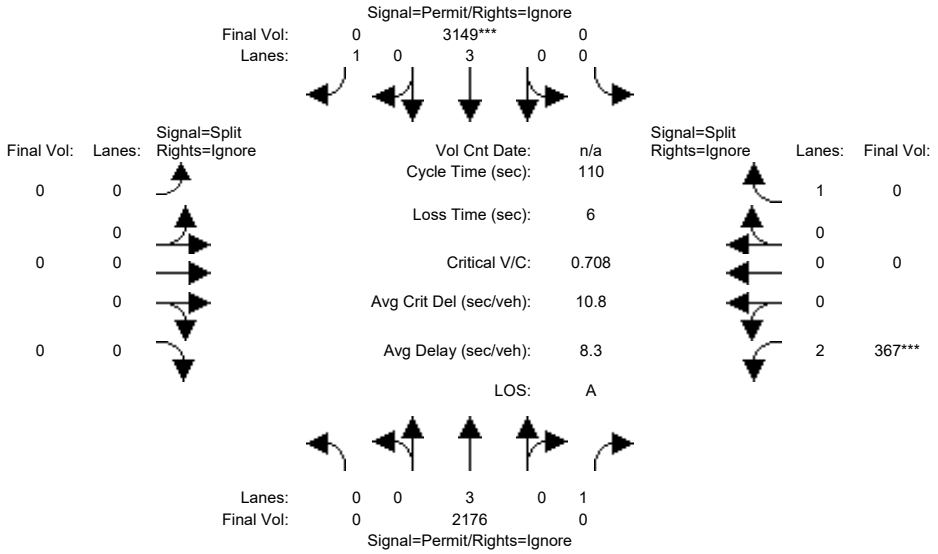
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:5:00 - 6:00 PM												
Base Vol:	0	2176	298	0	3149	1422	0	0	0	367	0	1050
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2176	298	0	3149	1422	0	0	0	367	0	1050
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2176	298	0	3149	1422	0	0	0	367	0	1050
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2176	0	0	3149	0	0	0	0	367	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2176	0	0	3149	0	0	0	0	367	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2176	0	0	3149	0	0	0	0	367	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	85.9	0.0	0.0	85.9	0.0	0.0	0.0	0.0	18.1	0.0	0.0
Volume/Cap:	0.00	0.49	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.71	0.00	0.00
Delay/Veh:	0.0	4.4	0.0	0.0	6.4	0.0	0.0	0.0	0.0	47.9	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.4	0.0	0.0	6.4	0.0	0.0	0.0	0.0	47.9	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	16	0	0	31	0	0	0	0	16	0	0

Note: Queue reported is the number of cars per lane.

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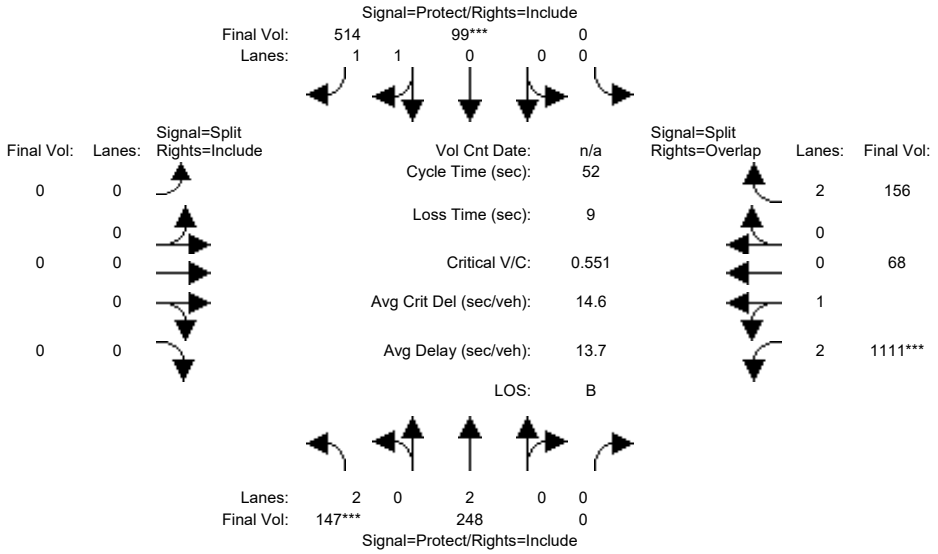
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	147	248	0	0	99	514	0	0	0	1111	68	156
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	248	0	0	99	514	0	0	0	1111	68	156
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	248	0	0	99	514	0	0	0	1111	68	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	248	0	0	99	514	0	0	0	1111	68	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	248	0	0	99	514	0	0	0	1111	68	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	248	0	0	99	514	0	0	0	1111	68	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.86	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.32	1.68	0.00	0.00	0.00	2.84	0.16	2.00
Final Sat.:	3150	3800	0	0	581	3019	0	0	0	4662	285	3150
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.24	0.24	0.05
Crit Moves:	****				****					****		
Green Time:	7.0	22.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0	21.0	21.0	21.0
Volume/Cap:	0.35	0.15	0.00	0.00	0.59	0.59	0.00	0.00	0.00	0.59	0.59	0.12
Delay/Veh:	20.9	9.3	0.0	0.0	16.8	16.8	0.0	0.0	0.0	12.6	12.6	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	9.3	0.0	0.0	16.8	16.8	0.0	0.0	0.0	12.6	12.6	9.8
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	A
HCM2k95thQ:	3	2	0	0	9	9	0	0	0	12	12	2

Note: Queue reported is the number of cars per lane.

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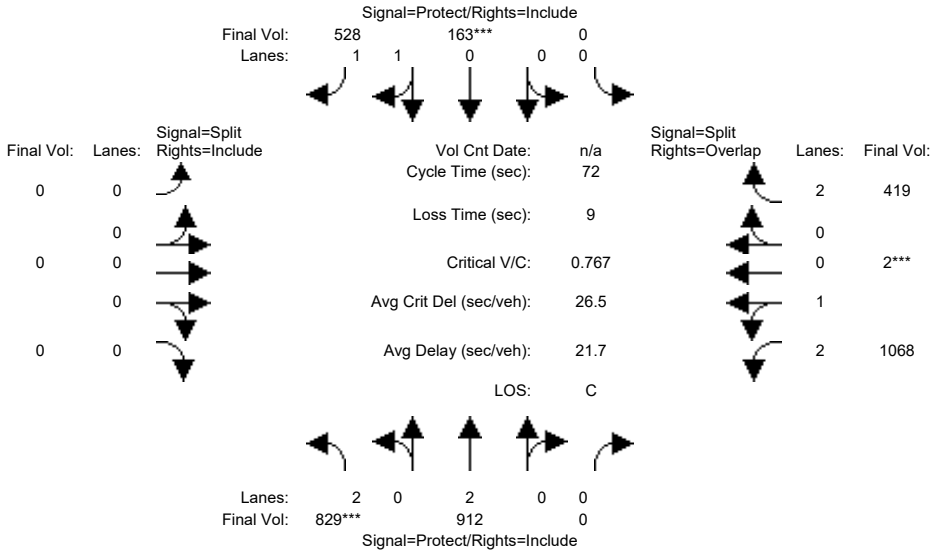
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	829	912	0	0	163	528	0	0	0	1068	2	419
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	829	912	0	0	163	528	0	0	0	1068	2	419
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	829	912	0	0	163	528	0	0	0	1068	2	419
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	829	912	0	0	163	528	0	0	0	1068	2	419
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	829	912	0	0	163	528	0	0	0	1068	2	419
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	829	912	0	0	163	528	0	0	0	1068	2	419
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.87	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.47	1.53	0.00	0.00	0.00	2.99	0.01	2.00
Final Sat.:	3150	3800	0	0	849	2751	0	0	0	4941	9	3150
Capacity Analysis Module:												
Vol/Sat:	0.26	0.24	0.00	0.00	0.19	0.19	0.00	0.00	0.00	0.22	0.22	0.13
Crit Moves:	****				****						****	
Green Time:	24.7	42.7	0.0	0.0	18.0	18.0	0.0	0.0	0.0	20.3	20.3	20.3
Volume/Cap:	0.77	0.40	0.00	0.00	0.77	0.77	0.00	0.00	0.00	0.77	0.77	0.47
Delay/Veh:	24.5	8.0	0.0	0.0	29.1	29.1	0.0	0.0	0.0	26.3	26.3	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.5	8.0	0.0	0.0	29.1	29.1	0.0	0.0	0.0	26.3	26.3	21.8
LOS by Move:	C	A	A	A	C	C	A	A	A	C	C	C
HCM2k95thQ:	18	10	0	0	15	15	0	0	0	19	19	10

Note: Queue reported is the number of cars per lane.

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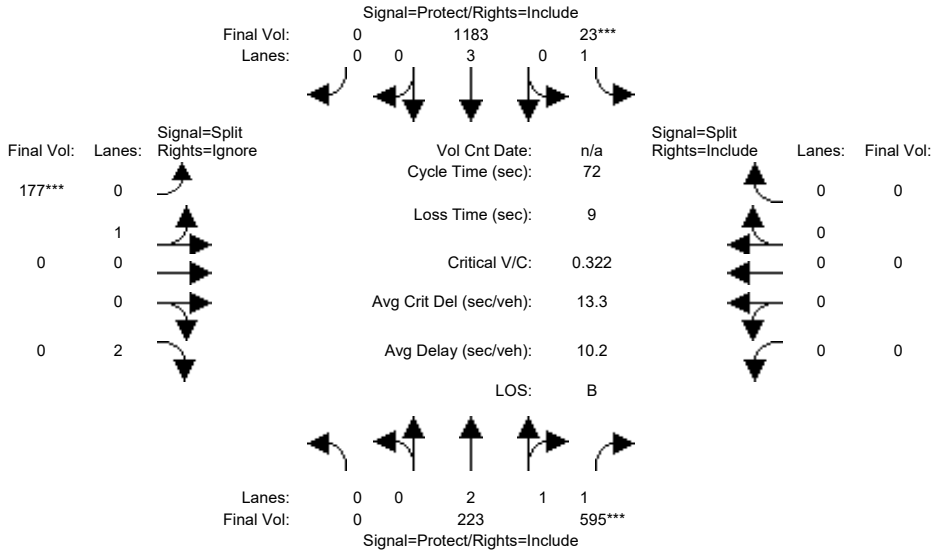
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	223	595	23	1183	0	177	0	1857	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	223	595	23	1183	0	177	0	1857	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	223	595	23	1183	0	177	0	1857	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	223	595	23	1183	0	177	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	223	595	23	1183	0	177	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	223	595	23	1183	0	177	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1800	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.06	0.17	0.01	0.21	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	35.5	35.5	7.0	42.5	0.0	20.5	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.12	0.34	0.14	0.35	0.00	0.34	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	9.8	11.2	30.1	7.7	0.0	20.8	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	9.8	11.2	30.1	7.7	0.0	20.8	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	B	C	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	3	8	1	9	0	7	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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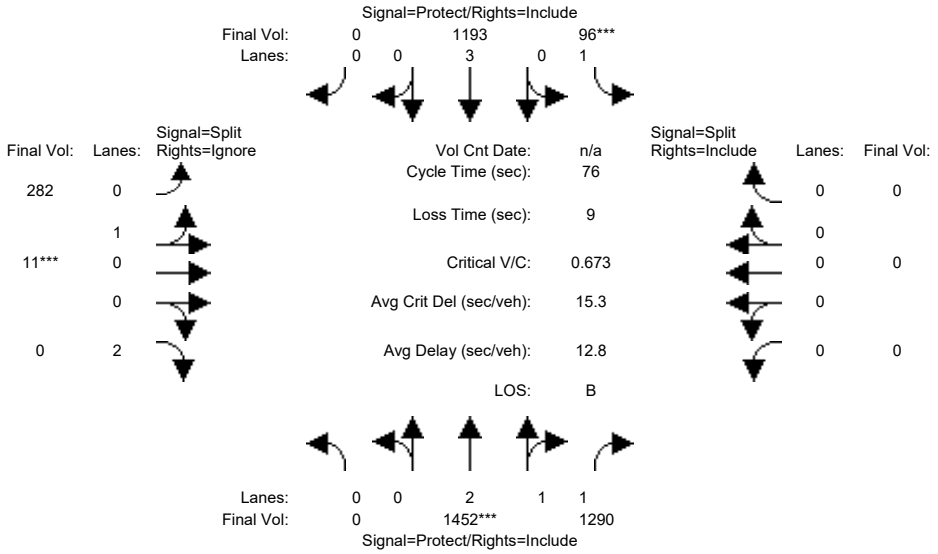
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1452	1290	96	1193	0	282	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1452	1290	96	1193	0	282	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1452	1290	96	1193	0	282	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	1452	1290	96	1193	0	282	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1452	1290	96	1193	0	282	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	1452	1290	96	1193	0	282	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.04	1.96	1.00	3.00	0.00	0.96	0.04	2.00	0.00	0.00	0.00
Final Sat.:	0	3869	3437	1750	5700	0	1732	68	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.05	0.21	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Crit Moves:		****		****				****				
Green Time:	0.0	41.9	41.9	7.0	48.9	0.0	18.1	18.1	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.68	0.68	0.60	0.33	0.00	0.68	0.68	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	12.8	12.8	39.1	6.2	0.0	30.7	30.7	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.8	12.8	39.1	6.2	0.0	30.7	30.7	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	D	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	20	20	5	8	0	15	15	0	0	0	0

Note: Queue reported is the number of cars per lane.

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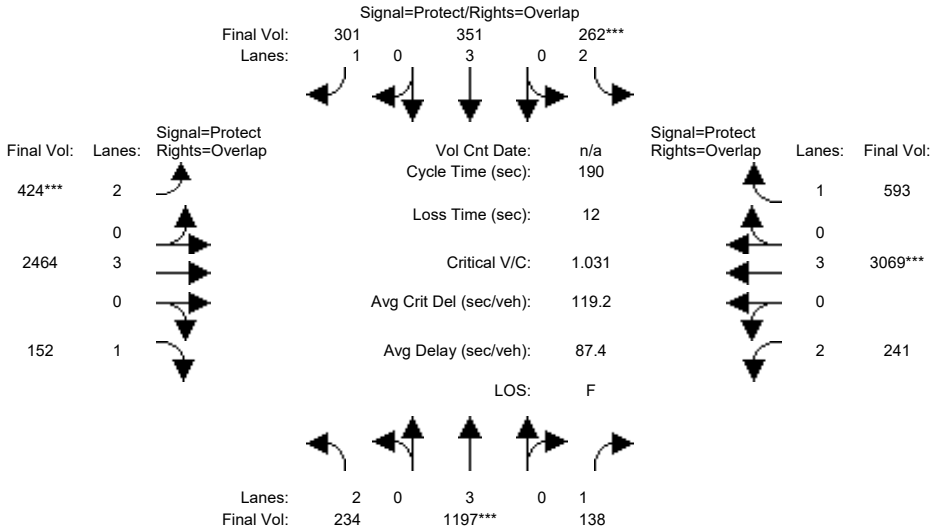
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	234	1197	138	262	351	301	424	2464	152	241	3069	593
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	1197	138	262	351	301	424	2464	152	241	3069	593
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	1197	138	262	351	301	424	2464	152	241	3069	593
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	1197	138	262	351	301	424	2464	152	241	3069	593
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	1197	138	262	351	301	424	2464	152	241	3069	593
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	1197	138	262	351	301	424	2464	152	241	3069	593
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.08	0.08	0.06	0.17	0.13	0.43	0.09	0.08	0.54	0.34
Crit Moves:		****		****			****				****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.64	0.95	0.24	1.05	0.33	0.49	0.80	0.81	0.13	0.73	1.15	0.62
Delay/Veh:	84.1	88.0	47.0	159.4	67.6	48.7	84.3	48.8	19.4	90.2	133	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.1	88.0	47.0	159.4	67.6	48.7	84.3	48.8	19.4	90.2	133	39.7
LOS by Move:	F	F	D	F	E	D	F	D	B	F	F	D
HCM2k95thQ:	14	38	11	20	11	25	28	67	11	18	115	48

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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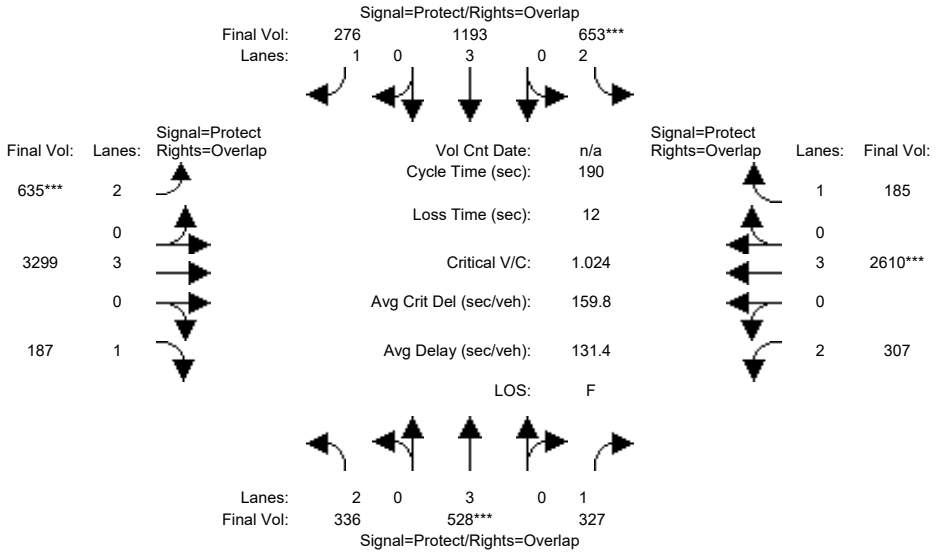
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	336	528	327	653	1193	276	635	3299	187	307	2610	185
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	336	528	327	653	1193	276	635	3299	187	307	2610	185
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	336	528	327	653	1193	276	635	3299	187	307	2610	185
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	336	528	327	653	1193	276	635	3299	187	307	2610	185
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	336	528	327	653	1193	276	635	3299	187	307	2610	185
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	336	528	327	653	1193	276	635	3299	187	307	2610	185
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.09	0.19	0.21	0.21	0.16	0.20	0.58	0.11	0.10	0.46	0.11
Crit Moves:		****			****			****			****	
Green Time:	20.6	39.0	55.8	22.3	40.7	62.4	21.7	99.9	120.5	16.8	95.0	117.3
Volume/Cap:	0.98	0.45	0.64	1.77	0.98	0.48	1.77	1.10	0.17	1.10	0.92	0.17
Delay/Veh:	128.5	66.4	60.9	439.3	94.6	51.5	447.1	130	30.8	170.3	38.8	8.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	128.5	66.4	60.9	439.3	94.6	51.5	447.1	130	30.8	170.3	38.8	8.3
LOS by Move:	F	E	E	F	F	D	F	F	C	F	D	A
HCM2k95thQ:	24	16	30	66	40	23	67	117	17	28	71	5

Note: Queue reported is the number of cars per lane.

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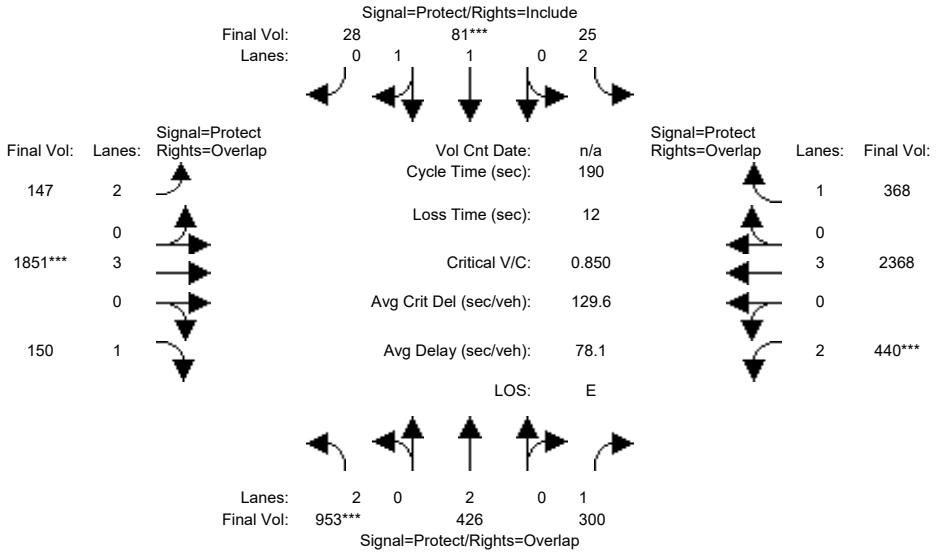
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	38	52	52	10	24	24	16	92	92	24	100	100
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	953	426	300	25	81	28	147	1851	150	440	2368	368
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	953	426	300	25	81	28	147	1851	150	440	2368	368
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	953	426	300	25	81	28	147	1851	150	440	2368	368
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	953	426	300	25	81	28	147	1851	150	440	2368	368
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	953	426	300	25	81	28	147	1851	150	440	2368	368
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	953	426	300	25	81	28	147	1851	150	440	2368	368
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.47	0.53	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	2749	950	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.30	0.11	0.17	0.01	0.03	0.03	0.05	0.32	0.09	0.14	0.42	0.21
Crit Moves:	****				****			****			****	
Green Time:	38.0	52.0	76.0	10.0	24.0	24.0	16.0	92.0	130.0	24.0	100	110.0
Volume/Cap:	1.51	0.41	0.43	0.15	0.23	0.23	0.55	0.67	0.13	1.11	0.79	0.36
Delay/Veh:	314.9	56.7	41.7	86.4	75.0	75.0	86.1	30.2	3.4	159.9	27.9	13.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	314.9	56.7	41.7	86.4	75.0	75.0	86.1	30.2	3.4	159.9	27.9	13.5
LOS by Move:	F	E	D	F	E	E	F	C	A	F	C	B
HCM2k95thQ:	86	18	23	2	6	6	11	37	2	31	47	13

Note: Queue reported is the number of cars per lane.

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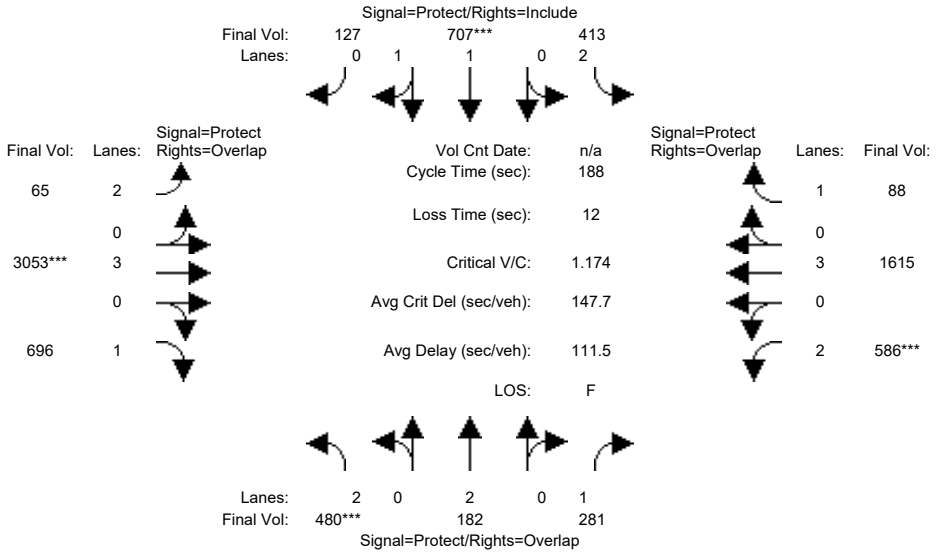
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	480	182	281	413	707	127	65	3053	696	586	1615	88
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	480	182	281	413	707	127	65	3053	696	586	1615	88
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	480	182	281	413	707	127	65	3053	696	586	1615	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	480	182	281	413	707	127	65	3053	696	586	1615	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	480	182	281	413	707	127	65	3053	696	586	1615	88
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	480	182	281	413	707	127	65	3053	696	586	1615	88
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.69	0.31	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3136	563	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.05	0.16	0.13	0.23	0.23	0.02	0.54	0.40	0.19	0.28	0.05
Crit Moves:	****				****			****			****	
Green Time:	22.1	39.0	65.9	18.1	35.0	35.0	12.7	92.0	114.1	26.9	106	124.3
Volume/Cap:	1.30	0.23	0.46	1.36	1.21	1.21	0.30	1.09	0.66	1.30	0.50	0.08
Delay/Veh:	235.9	62.2	47.8	268.9	185	184.6	84.2	108	35.5	230.4	16.3	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	235.9	62.2	47.8	268.9	185	184.6	84.2	108	35.5	230.4	16.3	4.6
LOS by Move:	F	E	D	F	F	F	F	F	D	F	B	A
HCM2k95thQ:	41	8	23	36	52	52	5	108	54	48	22	1

Note: Queue reported is the number of cars per lane.

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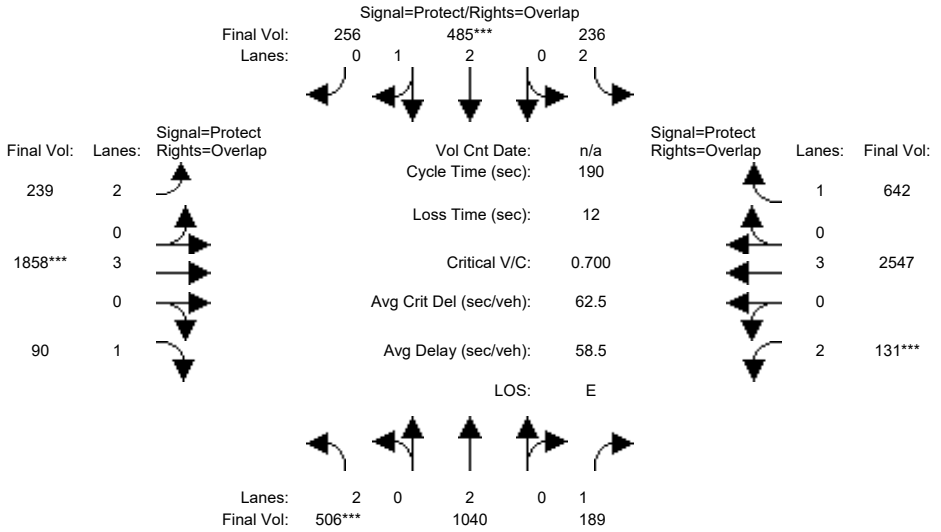
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	506	1040	189	236	485	256	239	1858	90	131	2547	642
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	506	1040	189	236	485	256	239	1858	90	131	2547	642
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	506	1040	189	236	485	256	239	1858	90	131	2547	642
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	506	1040	189	236	485	256	239	1858	90	131	2547	642
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	506	1040	189	236	485	256	239	1858	90	131	2547	642
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	506	1040	189	236	485	256	239	1858	90	131	2547	642
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.11	0.07	0.13	0.15	0.08	0.33	0.05	0.04	0.45	0.37
Crit Moves:	****				****			****			****	
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.13	1.02	0.29	0.84	0.59	0.47	0.80	0.68	0.08	0.42	0.92	0.64
Delay/Veh:	164.7	103	42.7	104.4	67.7	53.1	98.5	31.2	7.5	81.2	42.0	18.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	164.7	103	42.7	104.4	67.7	53.1	98.5	31.2	7.5	81.2	42.0	18.7
LOS by Move:	F	F	D	F	E	D	F	C	A	F	D	B
HCM2k95thQ:	39	55	15	16	22	23	16	37	2	8	71	32

Note: Queue reported is the number of cars per lane.

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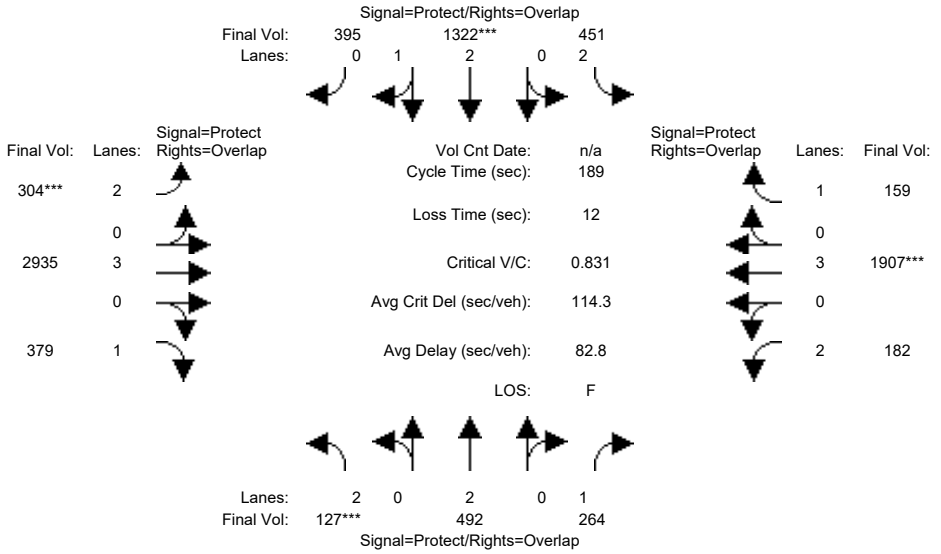
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module:												
Base Vol:	127	492	264	451	1322	395	304	2935	379	182	1907	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	492	264	451	1322	395	304	2935	379	182	1907	159
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	492	264	451	1322	395	304	2935	379	182	1907	159
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	127	492	264	451	1322	395	304	2935	379	182	1907	159
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	492	264	451	1322	395	304	2935	379	182	1907	159
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	492	264	451	1322	395	304	2935	379	182	1907	159
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.28	0.72	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	4310	1288	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.13	0.15	0.14	0.31	0.31	0.10	0.51	0.22	0.06	0.33	0.09
Crit Moves:	****				****		****				****	
Green Time:	13.0	31.2	47.5	28.2	46.4	61.0	14.6	101	114.4	16.2	103	131.2
Volume/Cap:	0.59	0.78	0.60	0.96	1.25	0.95	1.25	0.96	0.36	0.67	0.61	0.13
Delay/Veh:	89.5	82.0	64.7	111.4	190	74.1	228.8	62.8	26.6	90.3	29.8	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.5	82.0	64.7	111.4	190	74.1	228.8	62.8	26.6	90.3	29.8	9.8
LOS by Move:	F	F	E	F	F	E	F	E	C	F	C	A
HCM2k95thQ:	9	25	25	31	74	57	25	80	27	12	41	6

Note: Queue reported is the number of cars per lane.

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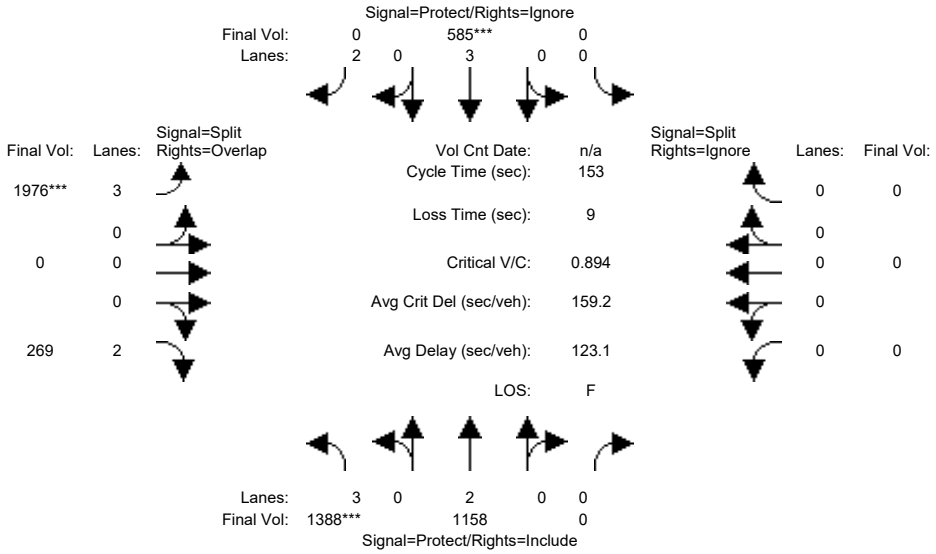
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	27	79	0		0	50	50		67	0	67		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	1388	1158	0		0	585	2034		1976	0	269		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1388	1158	0		0	585	2034		1976	0	269		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1388	1158	0		0	585	2034		1976	0	269		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1388	1158	0		0	585	0		1976	0	269		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1388	1158	0		0	585	0		1976	0	269		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1388	1158	0		0	585	0		1976	0	269		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.80	1.00	0.92		0.92	1.00	0.83		0.80	1.00	0.83		0.92	1.00	0.92	
Lanes:	3.00	2.00	0.00		0.00	3.00	2.00		3.00	0.00	2.00		0.00	0.00	0.00	
Final Sat.:	4551	3800	0		0	5700	3150		4551	0	3150		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.30	0.30	0.00		0.00	0.10	0.00		0.43	0.00	0.09		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green Time:	28.6	78.0	0.0		0.0	49.4	0.0		66.1	0.0	94.8		0.0	0.0	0.0	
Volume/Cap:	1.63	0.60	0.00		0.00	0.32	0.00		1.00	0.00	0.14		0.00	0.00	0.00	
Delay/Veh:	351.9	27.3	0.0		0.0	39.7	0.0		59.1	0.0	6.5		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	351.9	27.3	0.0		0.0	39.7	0.0		59.1	0.0	6.5		0.0	0.0	0.0	
LOS by Move:	F	C	A		A	D	A		E	A	A		A	A	A	
HCM2k95thQ:	85	33	0		0	13	0		67	0	3		0	0	0	

Note: Queue reported is the number of cars per lane.

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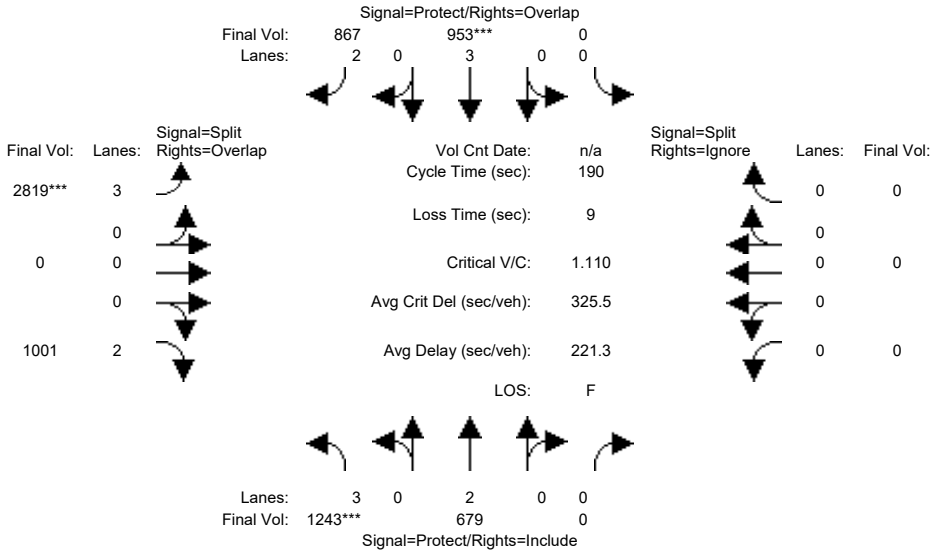
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1243	679	0	0	953	867	2819	0	1001	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1243	679	0	0	953	867	2819	0	1001	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1243	679	0	0	953	867	2819	0	1001	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	1243	679	0	0	953	867	2819	0	1001	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1243	679	0	0	953	867	2819	0	1001	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	1243	679	0	0	953	867	2819	0	1001	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.80	1.00	0.83	0.92	1.00	0.92
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	3.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	4551	3800	0	0	5700	3150	4551	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.27	0.18	0.00	0.00	0.17	0.28	0.62	0.00	0.32	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	3.20	0.46	0.00	0.00	0.55	0.32	1.10	0.00	0.49	0.00	0.00	0.00
Delay/Veh:	1086	45.0	0.0	0.0	57.8	2.4	80.5	0.0	8.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	1086	45.0	0.0	0.0	57.8	2.4	80.5	0.0	8.2	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	F	A	A	A	A	A
HCM2k95thQ:	113	26	0	0	27	11	121	0	15	0	0	0

Note: Queue reported is the number of cars per lane.

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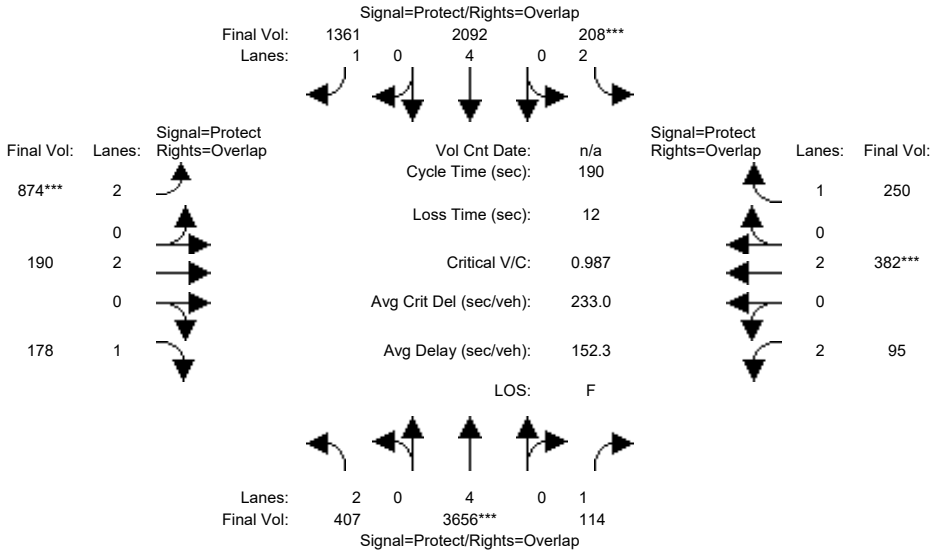
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	407	3656	114	208	2092	1361	874	190	178	95	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3656	114	208	2092	1361	874	190	178	95	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3656	114	208	2092	1361	874	190	178	95	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3656	114	208	2092	1361	874	190	178	95	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3656	114	208	2092	1361	874	190	178	95	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3656	114	208	2092	1361	874	190	178	95	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.48	0.07	0.07	0.28	0.78	0.28	0.05	0.10	0.03	0.10	0.14
Crit Moves:		****		****			****				****	
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.82	0.10	0.63	0.50	1.23	3.51	0.29	0.32	0.44	0.62	0.53
Delay/Veh:	102.6	19.7	4.9	85.2	17.8	129.4	1229	68.5	49.8	86.4	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	19.7	4.9	85.2	17.8	129.4	1229	68.5	49.8	86.4	75.8	60.5
LOS by Move:	F	B	A	F	B	F	F	E	D	F	E	E
HCM2k95thQ:	29	52	2	15	22	176	114	9	15	6	18	23

Note: Queue reported is the number of cars per lane.

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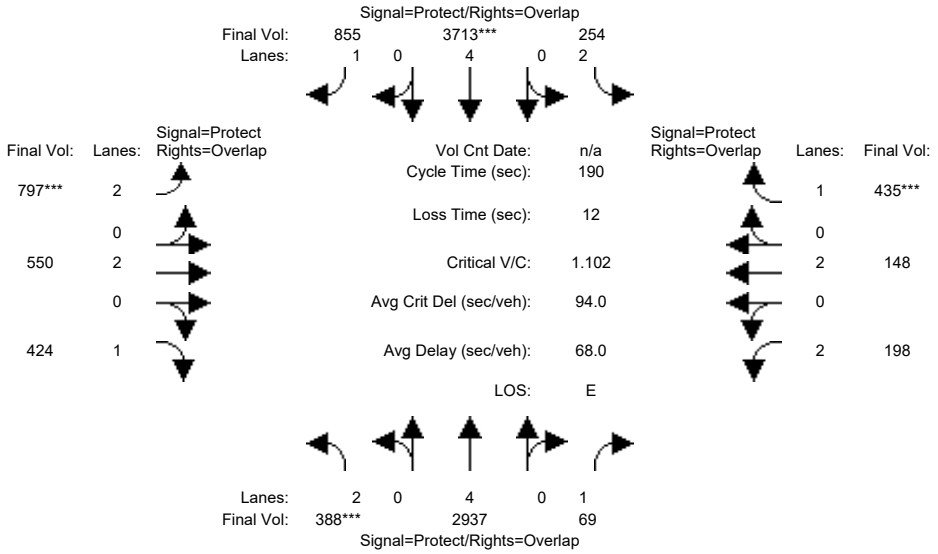
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module:												
Base Vol:	388	2937	69	254	3713	855	797	550	424	198	148	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	2937	69	254	3713	855	797	550	424	198	148	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	388	2937	69	254	3713	855	797	550	424	198	148	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	388	2937	69	254	3713	855	797	550	424	198	148	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	388	2937	69	254	3713	855	797	550	424	198	148	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	388	2937	69	254	3713	855	797	550	424	198	148	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.39	0.04	0.08	0.49	0.49	0.25	0.14	0.24	0.06	0.04	0.25
Crit Moves:	****				****		****					****
Green Time:	19.2	94.8	107.6	22.4	98.0	137.4	39.4	48.1	67.2	12.8	27.0	49.4
Volume/Cap:	1.22	0.77	0.07	0.68	0.95	0.68	1.22	0.57	0.68	0.94	0.27	0.96
Delay/Veh:	210.0	30.9	12.1	85.7	60.9	26.3	188.3	62.8	55.5	132.3	73.0	100.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	210.0	30.9	12.1	85.7	60.9	26.3	188.3	62.8	55.5	132.3	73.0	100.5
LOS by Move:	F	C	B	F	E	C	F	E	E	F	E	F
HCM2k95thQ:	35	48	2	18	85	62	60	24	37	15	7	47

Note: Queue reported is the number of cars per lane.

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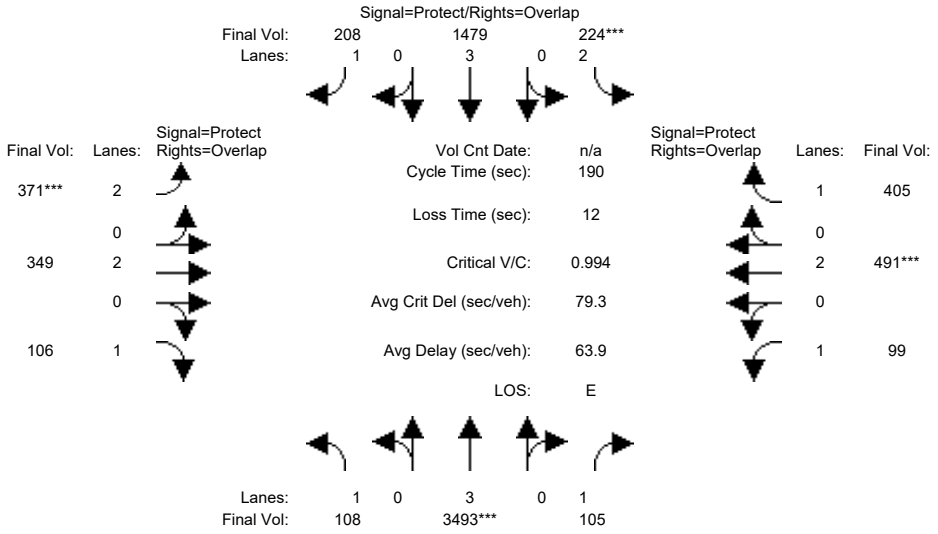
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	108	4109	105	224	1740	208	371	349	106	99	491	405
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	4109	105	224	1740	208	371	349	106	99	491	405
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	4109	105	224	1740	208	371	349	106	99	491	405
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	108	3493	105	224	1479	208	371	349	106	99	491	405
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	3493	105	224	1479	208	371	349	106	99	491	405
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	3493	105	224	1479	208	371	349	106	99	491	405
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.61	0.06	0.07	0.26	0.12	0.12	0.09	0.06	0.06	0.13	0.23
Crit Moves:		****			****			****			****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.69	1.07	0.09	1.13	0.47	0.18	1.12	0.45	0.21	0.60	0.66	0.90
Delay/Veh:	96.2	63.3	4.2	190.7	18.2	5.7	170.5	66.5	50.5	88.4	73.0	88.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	96.2	63.3	4.2	190.7	18.2	5.7	170.5	66.5	50.5	88.4	73.0	88.3
LOS by Move:	F	E	A	F	B	A	F	E	D	F	E	F
HCM2k95thQ:	12	109	2	19	21	4	32	17	9	13	24	45

Note: Queue reported is the number of cars per lane.

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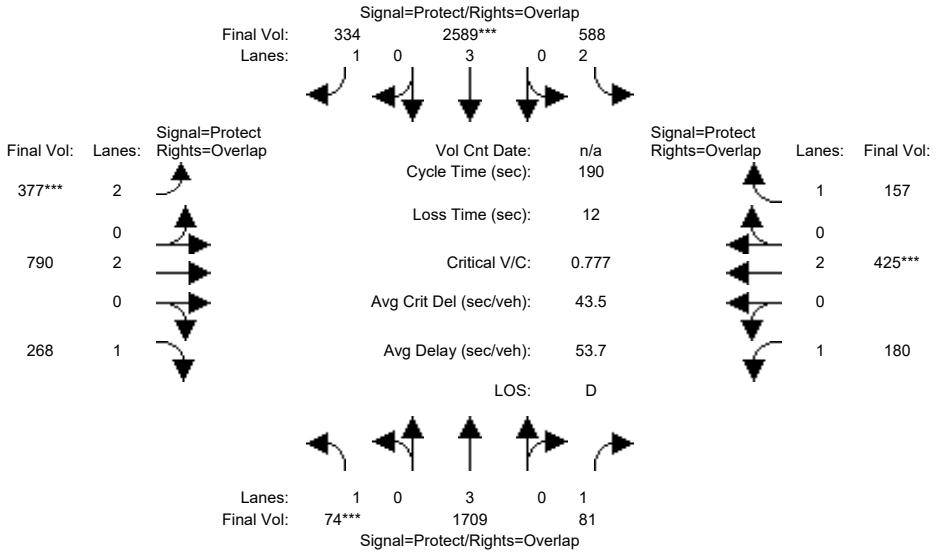
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	74	2374	81	588	3547	334	377	790	268	180	425	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	2374	81	588	3547	334	377	790	268	180	425	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	2374	81	588	3547	334	377	790	268	180	425	157
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	1709	81	588	2589	334	377	790	268	180	425	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1709	81	588	2589	334	377	790	268	180	425	157
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1709	81	588	2589	334	377	790	268	180	425	157
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.30	0.05	0.19	0.45	0.19	0.12	0.21	0.15	0.10	0.11	0.09
Crit Moves:	****				****		****				****	
Green Time:	11.0	78.0	98.6	35.0	102	127.0	25.0	44.4	55.4	20.6	40.0	75.0
Volume/Cap:	0.73	0.73	0.09	1.01	0.85	0.29	0.91	0.89	0.53	0.95	0.53	0.23
Delay/Veh:	111.5	42.8	17.0	118.2	28.7	5.0	105.0	81.6	57.3	134.1	67.4	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	42.8	17.0	118.2	28.7	5.0	105.0	81.6	57.3	134.1	67.4	38.4
LOS by Move:	F	D	B	F	C	A	F	F	E	F	E	D
HCM2k95thQ:	9	40	3	40	59	7	28	41	25	26	20	12

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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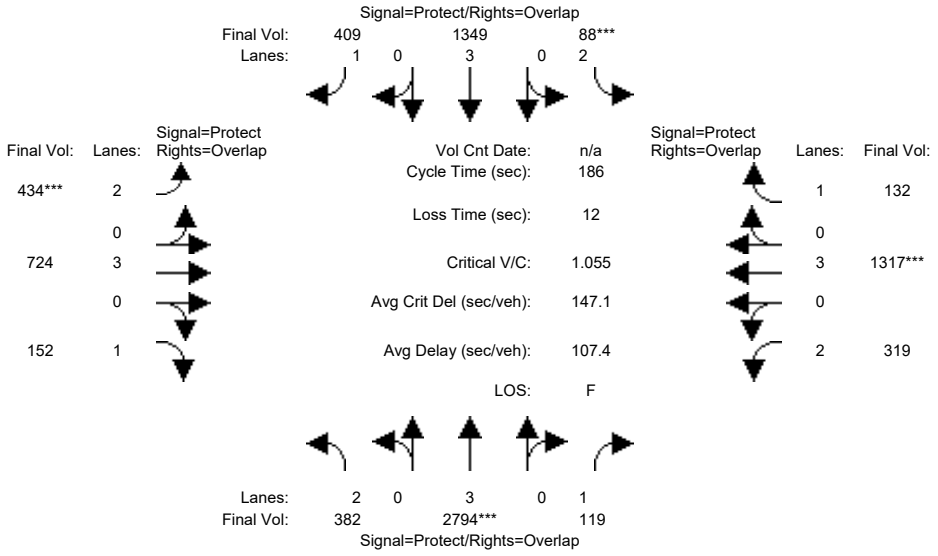
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	382	3287	119	88	1587	409	434	724	152	319	1317	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	382	3287	119	88	1587	409	434	724	152	319	1317	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	382	3287	119	88	1587	409	434	724	152	319	1317	132
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	382	2794	119	88	1349	409	434	724	152	319	1317	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	382	2794	119	88	1349	409	434	724	152	319	1317	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	382	2794	119	88	1349	409	434	724	152	319	1317	132
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.59	0.07	0.03	0.24	0.23	0.14	0.13	0.09	0.10	0.23	0.08
Crit Moves:		****		****			****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	0.84	1.13	0.10	0.35	0.52	0.39	0.99	0.66	0.26	0.72	1.19	0.28
Delay/Veh:	98.7	142	26.4	81.7	43.0	27.6	118.8	70.7	44.8	82.5	171	53.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.7	142	26.4	81.7	43.0	27.6	118.8	70.7	44.8	82.5	171	53.3
LOS by Move:	F	F	C	F	D	C	F	E	D	F	F	D
HCM2k95thQ:	24	102	11	6	34	29	29	22	12	19	55	12

Note: Queue reported is the number of cars per lane.

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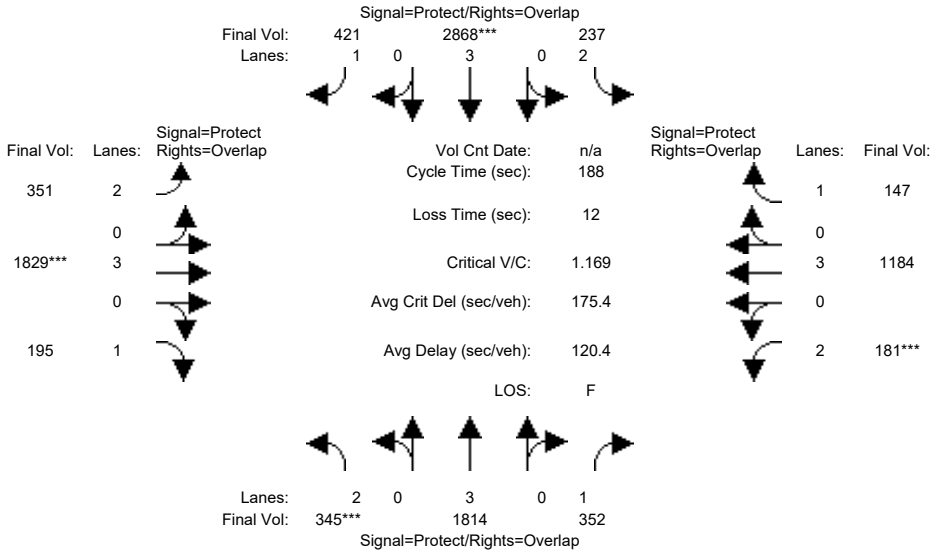
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	345	2159	352	237	3497	421	351	1829	195	181	1184	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	345	2159	352	237	3497	421	351	1829	195	181	1184	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	345	2159	352	237	3497	421	351	1829	195	181	1184	147
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	345	1814	352	237	2868	421	351	1829	195	181	1184	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	345	1814	352	237	2868	421	351	1829	195	181	1184	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	345	1814	352	237	2868	421	351	1829	195	181	1184	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.20	0.08	0.61	0.24	0.11	0.32	0.11	0.06	0.21	0.08
Crit Moves:	****				****			****			****	
Green Time:	16.4	84.5	100.5	22.5	90.6	113.6	23.0	53.0	69.4	16.0	46.0	68.5
Volume/Cap:	1.26	0.71	0.38	0.63	1.26	0.40	0.91	1.14	0.30	0.68	0.85	0.23
Delay/Veh:	227.8	50.4	33.1	89.2	198	39.4	106.6	138	42.4	90.2	72.8	41.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	227.8	50.4	33.1	89.2	198	39.4	106.6	138	42.4	90.2	72.8	41.6
LOS by Move:	F	D	C	F	F	D	F	F	D	F	E	D
HCM2k95thQ:	30	49	27	14	115	35	22	67	15	12	38	12

Note: Queue reported is the number of cars per lane.

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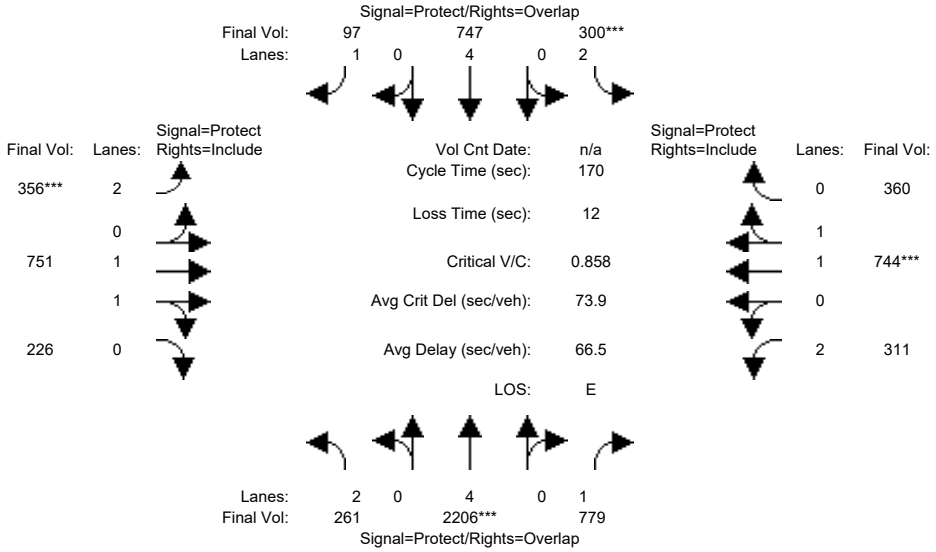
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 FC NoProj - AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	261	2206	779	300	747	97	356	751	226	311	744	360
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	261	2206	779	300	747	97	356	751	226	311	744	360
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	261	2206	779	300	747	97	356	751	226	311	744	360
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	261	2206	779	300	747	97	356	751	226	311	744	360
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	261	2206	779	300	747	97	356	751	226	311	744	360
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	261	2206	779	300	747	97	356	751	226	311	744	360
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.52	0.48	2.00	1.33	0.67
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2843	856	3150	2493	1206
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.45	0.10	0.10	0.06	0.11	0.26	0.26	0.10	0.30	0.30
Crit Moves:		****		****			****				****	
Green Time:	18.4	73.0	96.4	16.0	70.6	93.6	23.0	45.6	45.6	23.4	46.0	46.0
Volume/Cap:	0.76	0.68	0.79	1.01	0.24	0.10	0.84	0.98	0.98	0.72	1.10	1.10
Delay/Veh:	83.6	39.6	32.9	132.3	32.3	18.2	85.0	86.4	86.4	75.9	123	123.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.6	39.6	32.9	132.3	32.3	18.2	85.0	86.4	86.4	75.9	123	123.0
LOS by Move:	F	D	C	F	C	B	F	F	F	E	F	F
HCM2k95thQ:	14	39	56	21	14	7	21	48	48	18	59	59

Note: Queue reported is the number of cars per lane.

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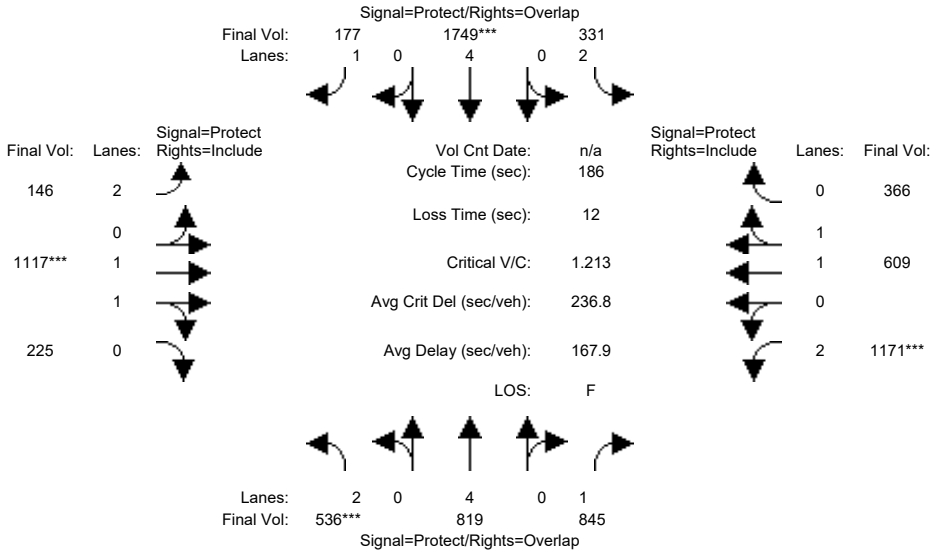
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 FC NoProj - PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	536	819	845	331	1749	177	146	1117	225	1171	609	366
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	536	819	845	331	1749	177	146	1117	225	1171	609	366
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	536	819	845	331	1749	177	146	1117	225	1171	609	366
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	536	819	845	331	1749	177	146	1117	225	1171	609	366
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	536	819	845	331	1749	177	146	1117	225	1171	609	366
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	536	819	845	331	1749	177	146	1117	225	1171	609	366
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.66	0.34	2.00	1.23	0.77
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3079	620	3150	2310	1388
Capacity Analysis Module:												
Vol/Sat:	0.17	0.11	0.48	0.11	0.23	0.10	0.05	0.36	0.36	0.37	0.26	0.26
Crit Moves:	****				****			****		****		
Green Time:	19.0	58.8	99.8	28.2	68.0	107.0	39.0	46.0	46.0	41.0	48.0	48.0
Volume/Cap:	1.67	0.34	0.90	0.69	0.63	0.18	0.22	1.47	1.47	1.69	1.02	1.02
Delay/Veh:	396.5	48.9	50.2	79.1	49.1	18.7	61.1	286	286.1	387.6	104	103.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	396.5	48.9	50.2	79.1	49.1	18.7	61.1	286	286.1	387.6	104	103.7
LOS by Move:	F	D	D	E	D	B	E	F	F	F	F	F
HCM2k95thQ:	53	17	77	20	36	13	8	99	99	112	53	53

Note: Queue reported is the number of cars per lane.

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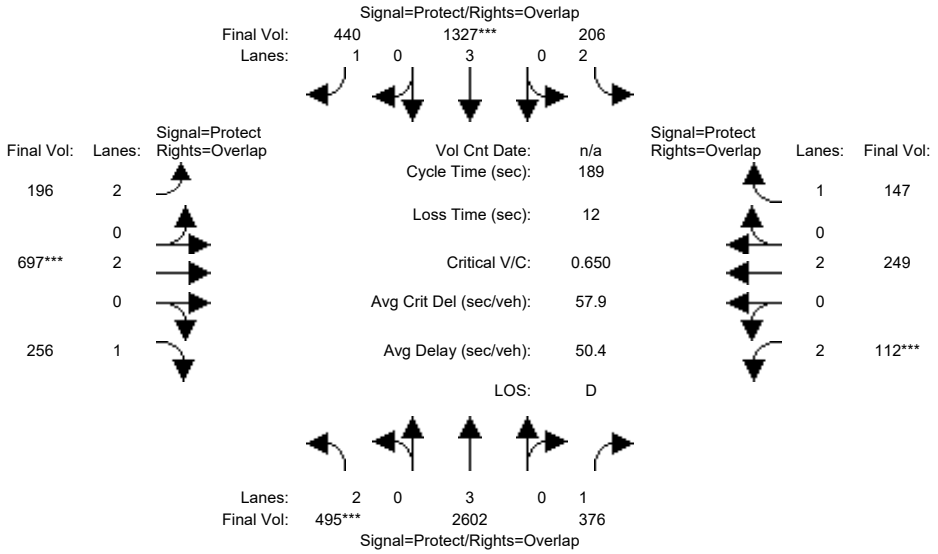
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	495	2991	376	206	1525	440	196	697	256	112	249	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	495	2991	376	206	1525	440	196	697	256	112	249	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	495	2991	376	206	1525	440	196	697	256	112	249	147
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	495	2602	376	206	1327	440	196	697	256	112	249	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	495	2602	376	206	1327	440	196	697	256	112	249	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	495	2602	376	206	1327	440	196	697	256	112	249	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.46	0.21	0.07	0.23	0.25	0.06	0.18	0.16	0.04	0.07	0.08
Crit Moves:	****				****			****			****	
Green Time:	32.8	107	120.6	18.1	92.0	108.7	16.7	38.2	71.0	14.0	35.6	53.7
Volume/Cap:	0.91	0.81	0.34	0.68	0.48	0.44	0.71	0.91	0.43	0.48	0.35	0.30
Delay/Veh:	95.4	45.6	23.4	88.9	25.6	14.7	91.8	88.0	44.3	85.6	66.9	53.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	95.4	45.6	23.4	88.9	25.6	14.7	91.8	88.0	44.3	85.6	66.9	53.2
LOS by Move:	F	D	C	F	C	B	F	F	D	F	E	D
HCM2k95thQ:	34	69	26	13	23	18	15	38	21	7	11	13

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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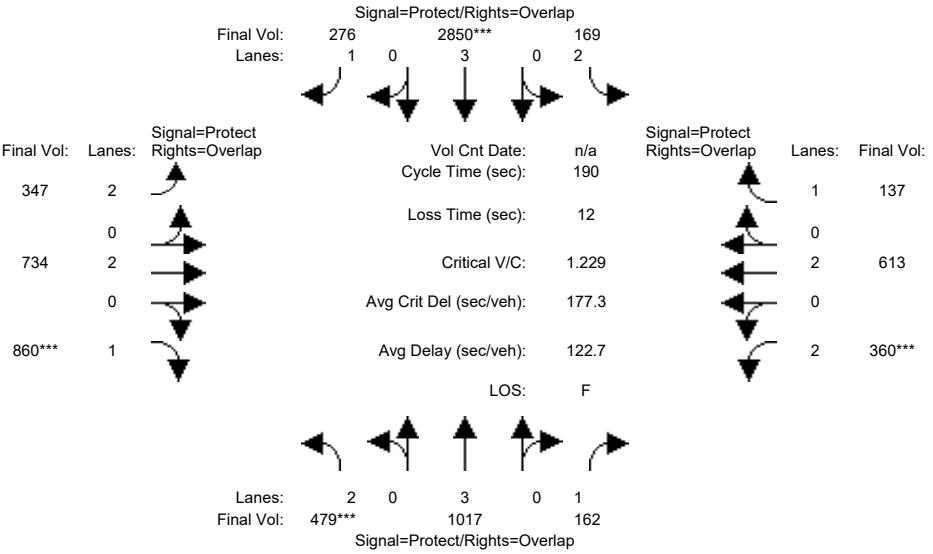
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	479	1518	162	169	3563	276	347	734	860	360	613	137
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	479	1518	162	169	3563	276	347	734	860	360	613	137
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	479	1518	162	169	3563	276	347	734	860	360	613	137
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	479	1017	162	169	2850	276	347	734	860	360	613	137
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	479	1017	162	169	2850	276	347	734	860	360	613	137
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	479	1017	162	169	2850	276	347	734	860	360	613	137
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.18	0.09	0.05	0.50	0.16	0.11	0.19	0.54	0.11	0.16	0.08
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	1.31	0.39	0.16	0.68	1.20	0.28	0.74	0.69	1.36	0.90	0.63	0.23
Delay/Veh:	243.3	29.0	11.6	92.6	159	28.6	83.2	63.2	229.9	105.4	64.1	45.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	243.3	29.0	11.6	92.6	159	28.6	83.2	63.2	229.9	105.4	64.1	45.8
LOS by Move:	F	C	B	F	F	C	F	E	F	F	E	D
HCM2k95thQ:	44	18	5	11	113	21	23	33	126	22	26	11

Note: Queue reported is the number of cars per lane.

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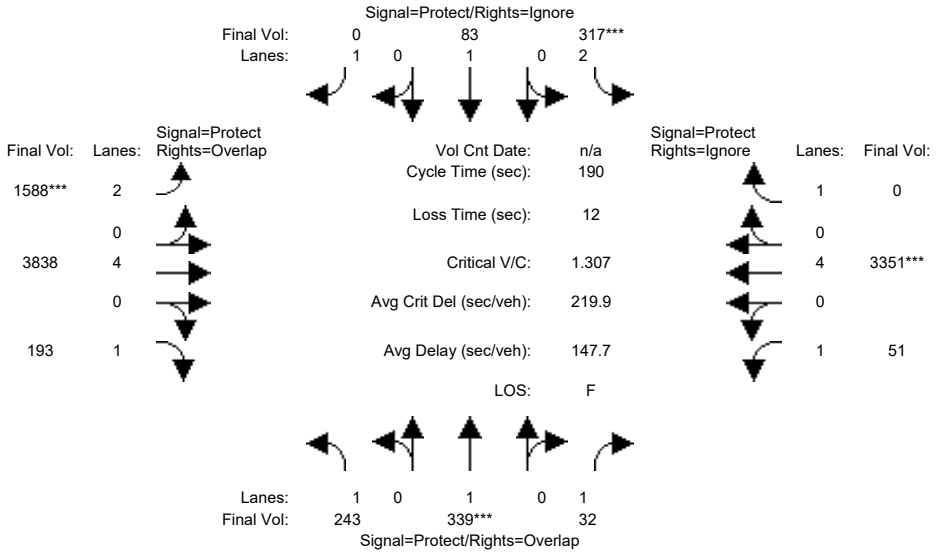
Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	243	339	32	317	83	559	1588	3838	193	51	3351	633
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	243	339	32	317	83	559	1588	3838	193	51	3351	633
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	243	339	32	317	83	559	1588	3838	193	51	3351	633
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	243	339	32	317	83	0	1588	3838	193	51	3351	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	243	339	32	317	83	0	1588	3838	193	51	3351	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	243	339	32	317	83	0	1588	3838	193	51	3351	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.18	0.02	0.10	0.04	0.00	0.50	0.51	0.11	0.03	0.44	0.00
Crit Moves:		****		****			****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.82	1.06	0.08	1.59	0.69	0.00	1.60	0.79	0.14	0.46	1.13	0.00
Delay/Veh:	93.3	146	57.2	378.4	103	0.0	358.1	54.9	14.8	92.8	147	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.3	146	57.2	378.4	103	0.0	358.1	54.9	14.8	92.8	147	0.0
LOS by Move:	F	F	E	F	F	A	F	D	B	F	F	A
HCM2k95thQ:	29	42	3	36	11	0	147	79	16	7	95	0

Note: Queue reported is the number of cars per lane.

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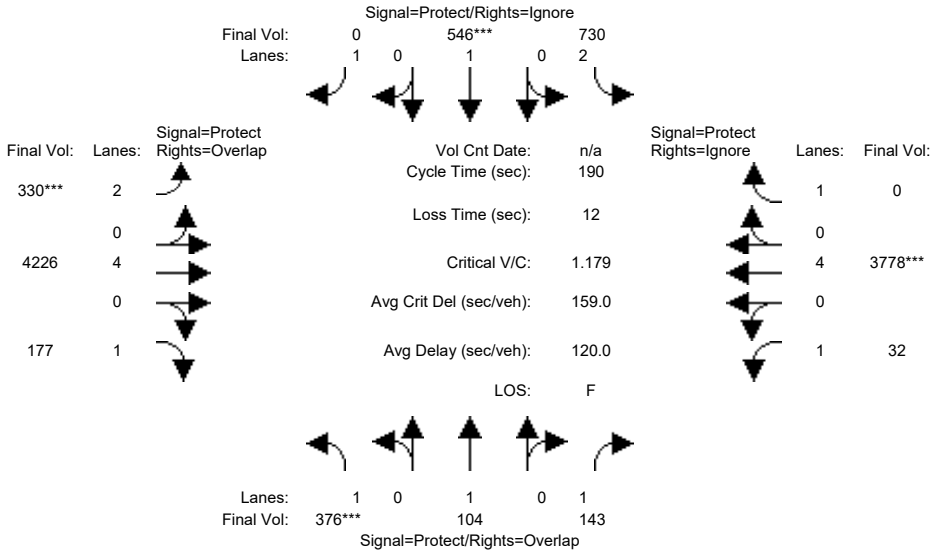
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	376	104	143	730	546	1174	330	4226	177	32	3778	440
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	376	104	143	730	546	1174	330	4226	177	32	3778	440
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	376	104	143	730	546	1174	330	4226	177	32	3778	440
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	376	104	143	730	546	0	330	4226	177	32	3778	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	376	104	143	730	546	0	330	4226	177	32	3778	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	376	104	143	730	546	0	330	4226	177	32	3778	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.21	0.05	0.08	0.23	0.29	0.00	0.10	0.56	0.10	0.02	0.50	0.00
Crit Moves:	****				****		****				****	
Green Time:	31.7	27.5	35.6	46.5	42.3	0.0	24.0	95.8	127.5	8.2	80.0	0.0
Volume/Cap:	1.29	0.38	0.44	0.95	1.29	0.00	0.83	1.10	0.15	0.43	1.18	0.00
Delay/Veh:	232.8	74.4	69.2	90.9	221	0.0	94.6	86.5	4.3	92.5	148	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	232.8	74.4	69.2	90.9	221	0.0	94.6	86.5	4.3	92.5	148	0.0
LOS by Move:	F	E	E	F	F	A	F	F	A	F	F	A
HCM2k95thQ:	58	11	15	47	74	0	24	113	3	5	110	0

Note: Queue reported is the number of cars per lane.

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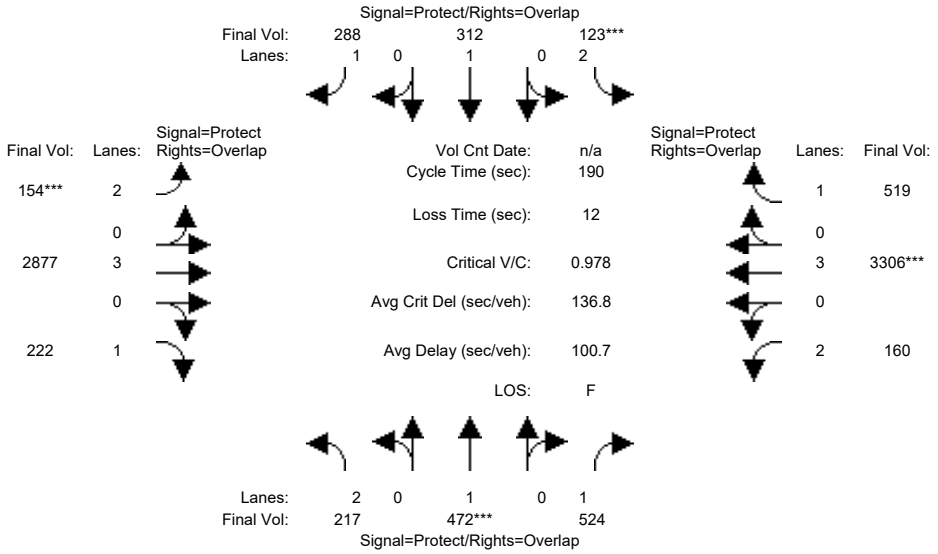
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	217	472	524	123	312	288	154	3307	222	160	3800	519
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	472	524	123	312	288	154	3307	222	160	3800	519
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	217	472	524	123	312	288	154	3307	222	160	3800	519
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	217	472	524	123	312	288	154	2877	222	160	3306	519
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	472	524	123	312	288	154	2877	222	160	3306	519
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	472	524	123	312	288	154	2877	222	160	3306	519
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.30	0.04	0.16	0.16	0.05	0.50	0.13	0.05	0.58	0.30
Crit Moves:		****		****			****				****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.53	0.96	0.89	0.57	0.83	0.59	0.58	1.05	0.21	0.65	1.23	0.55
Delay/Veh:	78.8	99.8	75.0	89.2	88.2	60.6	87.0	83.1	16.8	91.2	146	20.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.8	99.8	75.0	89.2	88.2	60.6	87.0	83.1	16.8	91.2	146	20.5
LOS by Move:	E	F	E	F	F	E	F	F	B	F	F	C
HCM2k95thQ:	14	49	54	10	34	30	11	99	12	12	133	26

Note: Queue reported is the number of cars per lane.

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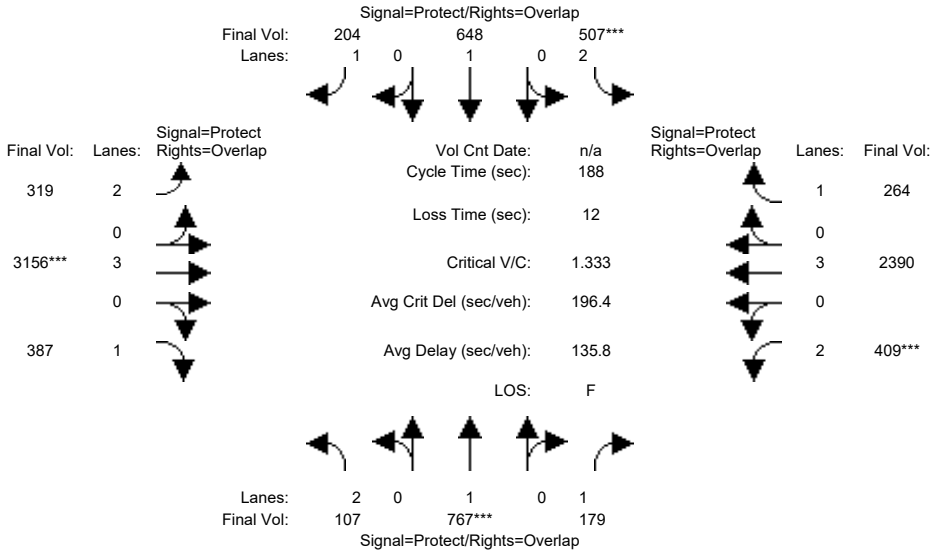
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	107	767	179	507	648	204	319	3945	387	409	3514	264
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	767	179	507	648	204	319	3945	387	409	3514	264
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	767	179	507	648	204	319	3945	387	409	3514	264
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	767	179	507	648	204	319	3156	387	409	2390	264
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	767	179	507	648	204	319	3156	387	409	2390	264
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	767	179	507	648	204	319	3156	387	409	2390	264
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.40	0.10	0.16	0.34	0.12	0.10	0.55	0.22	0.13	0.42	0.15
Crit Moves:		****		****				****		****		
Green Time:	12.0	49.0	71.0	20.0	57.0	79.0	22.0	85.0	97.0	22.0	85.0	105.0
Volume/Cap:	0.53	1.55	0.27	1.51	1.12	0.28	0.87	1.22	0.43	1.11	0.93	0.27
Delay/Veh:	88.0	326	40.8	329.7	142	36.0	100.3	148	21.3	162.8	64.2	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	88.0	326	40.8	329.7	142	36.0	100.3	148	21.3	162.8	64.2	28.7
LOS by Move:	F	F	D	F	F	D	F	F	C	F	E	C
HCM2k95thQ:	7	115	14	50	75	15	24	126	19	34	73	20

Note: Queue reported is the number of cars per lane.

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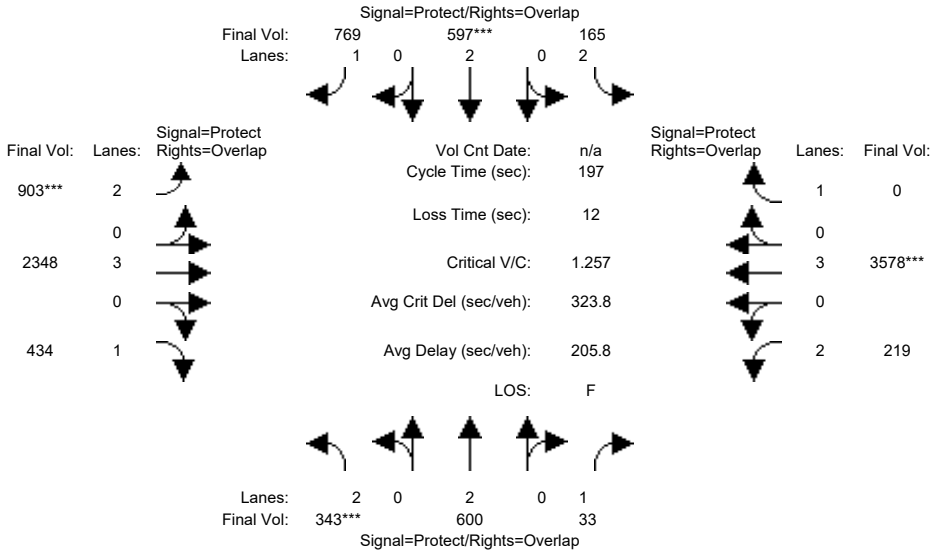
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	343	600	33	165	597	769	903	2699	434	219	4113	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	343	600	33	165	597	769	903	2699	434	219	4113	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	343	600	33	165	597	769	903	2699	434	219	4113	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	343	600	33	165	597	769	903	2348	434	219	3578	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	343	600	33	165	597	769	903	2348	434	219	3578	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	343	600	33	165	597	769	903	2348	434	219	3578	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.16	0.02	0.05	0.16	0.44	0.29	0.41	0.25	0.07	0.63	0.00
Crit Moves:	****				****		****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	1.33	0.74	0.07	0.46	0.64	1.05	1.66	0.84	0.44	1.08	1.65	0.00
Delay/Veh:	264.3	75.9	52.4	82.6	68.1	105.1	387.0	46.4	24.5	177.5	356	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	264.3	75.9	52.4	82.6	68.1	105.1	387.0	46.4	24.5	177.5	356	0.0
LOS by Move:	F	E	D	F	E	F	F	D	C	F	F	A
HCM2k95thQ:	32	29	3	11	28	90	88	63	27	16	186	0

Note: Queue reported is the number of cars per lane.

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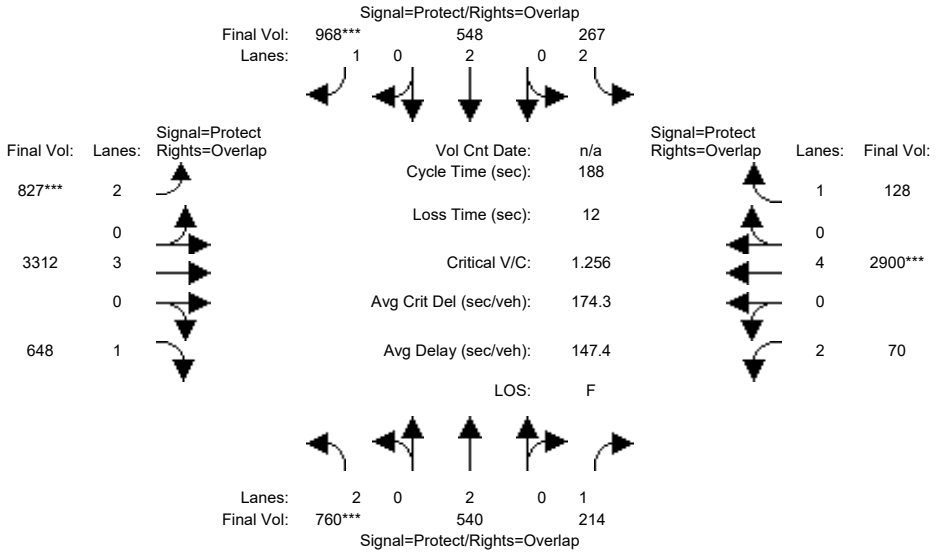
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	760	540	214	267	548	968	827	4301	648	70	2900	128
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	760	540	214	267	548	968	827	4301	648	70	2900	128
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	760	540	214	267	548	968	827	4301	648	70	2900	128
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	760	540	214	267	548	968	827	3312	648	70	2900	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	760	540	214	267	548	968	827	3312	648	70	2900	128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	760	540	214	267	548	968	827	3312	648	70	2900	128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.14	0.12	0.08	0.14	0.55	0.26	0.58	0.37	0.02	0.38	0.07
Crit Moves:	****					****	****				****	
Green Time:	33.7	40.3	50.3	34.0	48.0	84.7	36.7	91.7	125.4	10.0	65.0	99.0
Volume/Cap:	1.35	0.66	0.46	0.47	0.56	1.23	1.35	1.19	0.56	0.42	1.10	0.14
Delay/Veh:	244.2	69.6	58.1	69.6	61.7	165.4	254.0	169	39.2	91.1	136	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	244.2	69.6	58.1	69.6	61.7	165.4	254.0	169	39.2	91.1	136	39.7
LOS by Move:	F	E	E	E	E	F	F	F	D	F	F	D
HCM2k95thQ:	63	25	20	16	24	126	67	125	53	5	77	12

Note: Queue reported is the number of cars per lane.

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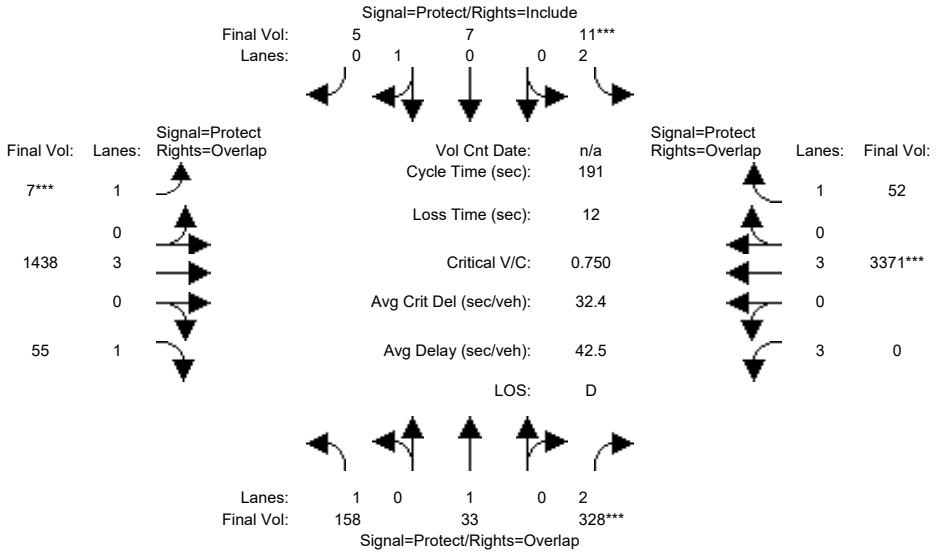
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	158	33	377	11	7	5	7	1653	55	0	3875	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	158	33	377	11	7	5	7	1653	55	0	3875	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	33	377	11	7	5	7	1653	55	0	3875	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	158	33	328	11	7	5	7	1438	55	0	3371	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	158	33	328	11	7	5	7	1438	55	0	3371	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	158	33	328	11	7	5	7	1438	55	0	3371	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.02	0.10	0.00	0.01	0.01	0.00	0.25	0.03	0.00	0.59	0.03
Crit Moves:			****	****			****				****	
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	1.01	0.15	0.22	0.11	0.09	0.09	0.08	0.73	0.07	0.00	0.91	0.04
Delay/Veh:	161.2	76.6	29.6	90.3	82.4	82.4	86.4	55.8	31.3	0.0	32.4	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	161.2	76.6	29.6	90.3	82.4	82.4	86.4	55.8	31.3	0.0	32.4	10.0
LOS by Move:	F	E	C	F	F	F	F	E	C	A	C	A
HCM2k95thQ:	22	3	12	1	1	1	1	40	4	0	80	2

Note: Queue reported is the number of cars per lane.

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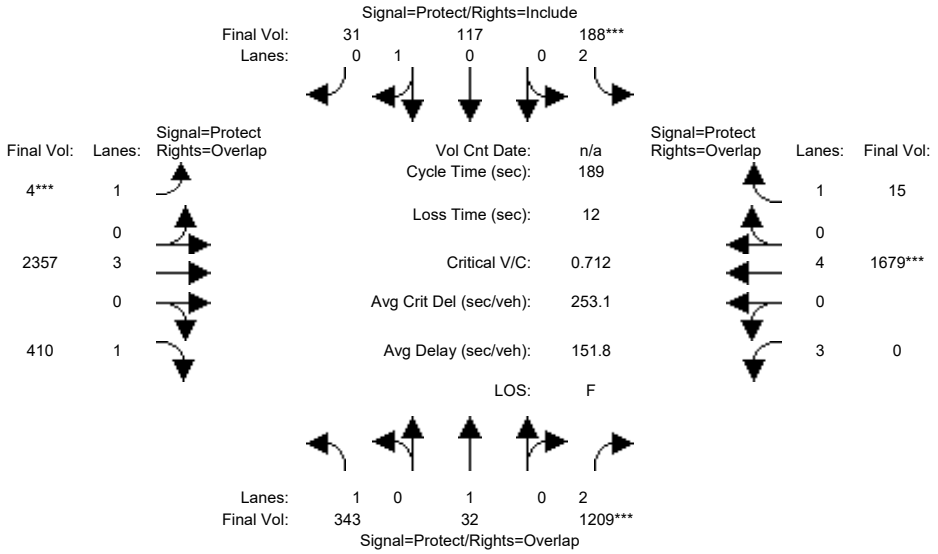
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	343	32	1474	188	117	31	4	2984	410	0	1679	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	343	32	1474	188	117	31	4	2984	410	0	1679	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	343	32	1474	188	117	31	4	2984	410	0	1679	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	343	32	1209	188	117	31	4	2357	410	0	1679	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	343	32	1209	188	117	31	4	2357	410	0	1679	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	343	32	1209	188	117	31	4	2357	410	0	1679	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.02	0.38	0.06	0.08	0.08	0.00	0.41	0.23	0.00	0.22	0.01
Crit Moves:			****	****			****				****	
Green Time:	24.0	34.0	34.0	25.0	35.0	35.0	7.0	118	142.0	0.0	111	136.0
Volume/Cap:	1.54	0.09	2.13	0.45	0.44	0.44	0.06	0.66	0.31	0.00	0.38	0.01
Delay/Veh:	348.2	64.8	593.2	76.4	69.3	69.3	88.2	23.2	7.8	0.0	28.4	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	348.2	64.8	593.2	76.4	69.3	69.3	88.2	23.2	7.8	0.0	28.4	12.9
LOS by Move:	F	E	F	E	E	E	F	C	A	A	C	B
HCM2k95thQ:	59	3	132	12	15	15	0	44	15	0	28	1

Note: Queue reported is the number of cars per lane.

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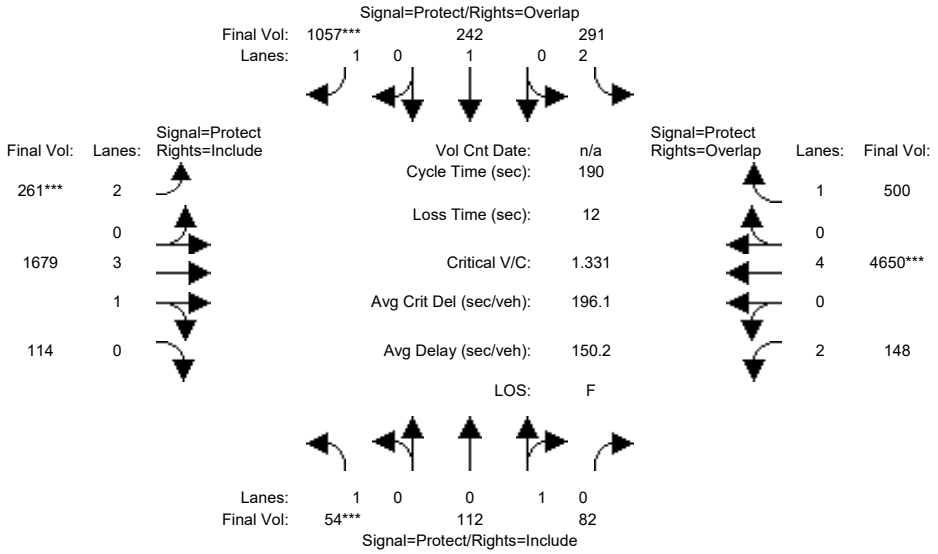
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:7:00-9:00												
Base Vol:	54	112	82	291	242	1057	261	1679	114	148	4650	500
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	112	82	291	242	1057	261	1679	114	148	4650	500
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	112	82	291	242	1057	261	1679	114	148	4650	500
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	112	82	291	242	1057	261	1679	114	148	4650	500
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	112	82	291	242	1057	261	1679	114	148	4650	500
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	112	82	291	242	1057	261	1679	114	148	4650	500
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.58	0.42	2.00	1.00	1.00	2.00	3.74	0.26	2.00	4.00	1.00
Final Sat.:	1750	1039	761	3150	1900	1750	3150	7022	477	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.09	0.13	0.60	0.08	0.24	0.24	0.05	0.61	0.29
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.44	0.71	0.71	1.48	0.88	2.44	0.81	0.41	0.41	0.55	1.08	0.45
Delay/Veh:	87.3	85.1	85.1	328.5	105	724.8	97.4	21.9	21.9	85.8	82.8	18.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.3	85.1	85.1	328.5	105	724.8	97.4	21.9	21.9	85.8	82.8	18.7
LOS by Move:	F	F	F	F	F	F	F	C	C	F	F	B
HCM2k95thQ:	7	22	22	30	26	219	17	24	24	11	121	28

Note: Queue reported is the number of cars per lane.

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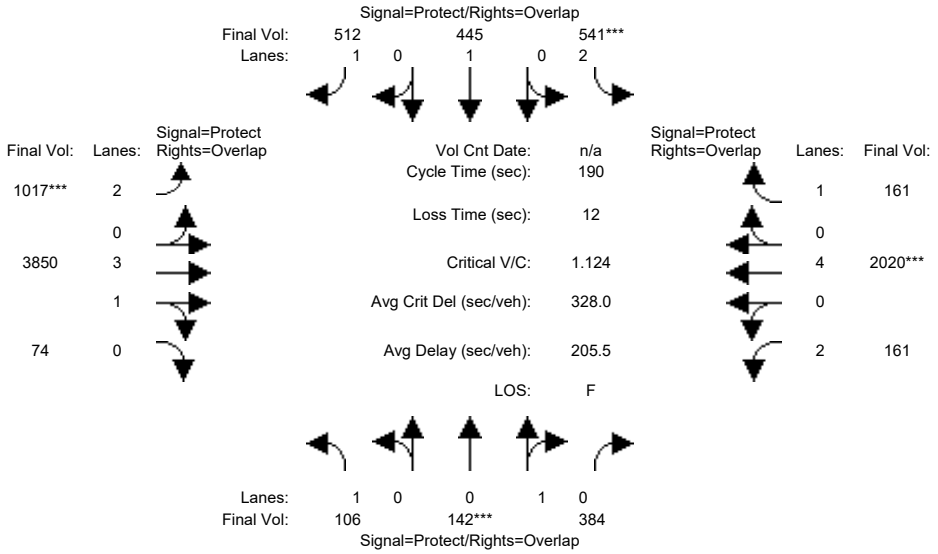
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	106	142	384	541	445	512	1017	3850	74	161	2020	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	142	384	541	445	512	1017	3850	74	161	2020	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	106	142	384	541	445	512	1017	3850	74	161	2020	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	142	384	541	445	512	1017	3850	74	161	2020	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	142	384	541	445	512	1017	3850	74	161	2020	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	142	384	541	445	512	1017	3850	74	161	2020	161
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.27	0.73	2.00	1.00	1.00	2.00	3.94	0.06	2.00	4.00	1.00
Final Sat.:	1750	486	1314	3150	1900	1750	3150	5546	107	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.29	0.29	0.17	0.23	0.29	0.32	0.69	0.69	0.05	0.27	0.09
Crit Moves:		****		****			****				****	
Green Time:	10.5	23.0	37.0	28.0	40.5	65.5	25.0	113	123.5	14.0	102	130.0
Volume/Cap:	1.10	2.41	1.50	1.17	1.10	0.85	2.45	1.17	1.07	0.69	0.50	0.13
Delay/Veh:	210.4	734	316.2	176.7	149	68.5	752.3	155	111.5	99.2	49.3	25.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	210.4	734	316.2	176.7	149	68.5	752.3	155	111.5	99.2	49.3	25.6
LOS by Move:	F	F	F	F	F	E	F	F	F	F	D	C
HCM2k95thQ:	19	108	84	42	52	50	118	111	132	13	41	14

Note: Queue reported is the number of cars per lane.

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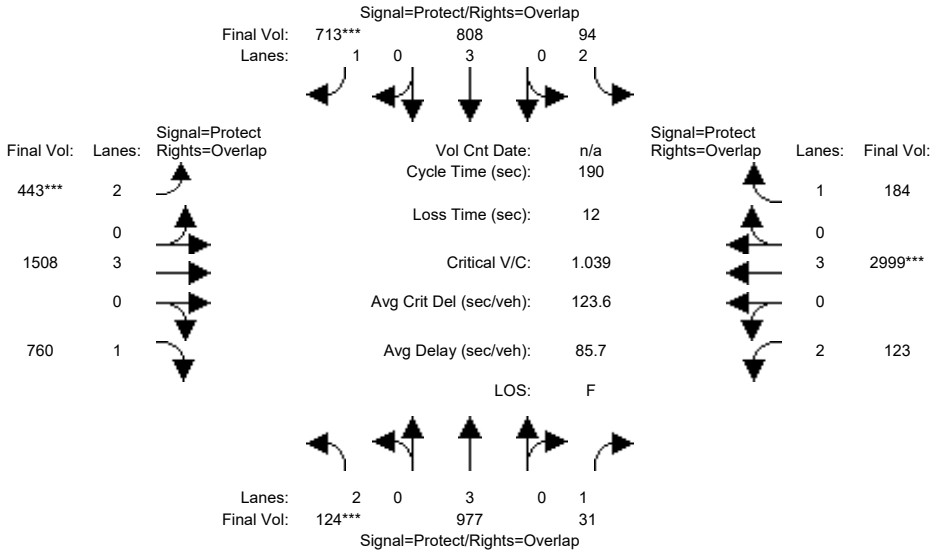
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - AM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	977	31	94	808	713	443	1733	760	123	3447	184
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	977	31	94	808	713	443	1733	760	123	3447	184
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	977	31	94	808	713	443	1733	760	123	3447	184
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	977	31	94	808	713	443	1508	760	123	2999	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	977	31	94	808	713	443	1508	760	123	2999	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	977	31	94	808	713	443	1508	760	123	2999	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.02	0.03	0.14	0.41	0.14	0.26	0.43	0.04	0.53	0.11
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.48	0.86	0.07	0.44	0.76	1.20	0.91	0.47	0.68	0.69	1.14	0.20
Delay/Veh:	84.7	80.0	53.5	86.6	76.9	168.3	100.5	25.2	23.3	98.6	118	23.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	80.0	53.5	86.6	76.9	168.3	100.5	25.2	23.3	98.6	118	23.6
LOS by Move:	F	E	D	F	E	F	F	C	C	F	F	C
HCM2k95thQ:	8	33	3	6	27	93	27	28	47	11	111	11

Note: Queue reported is the number of cars per lane.

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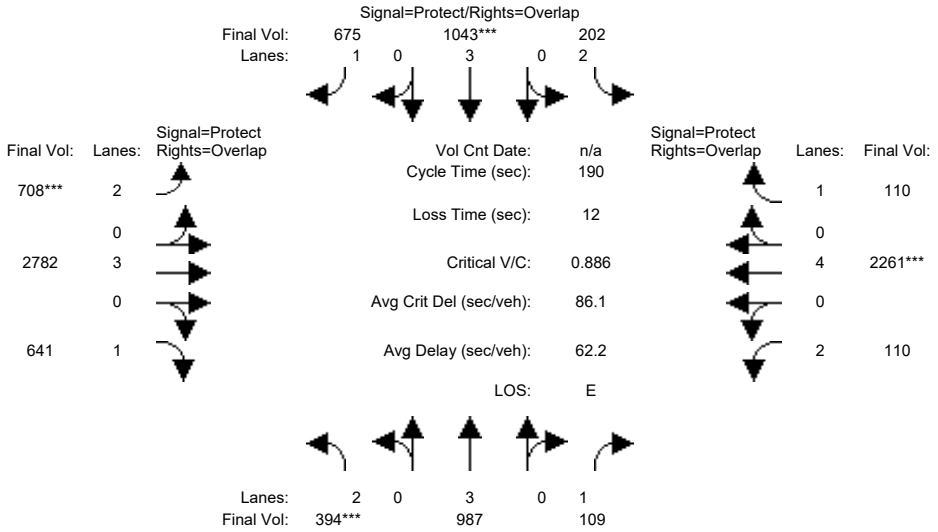
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 NoProj w FC - PM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	394	987	109	202	1043	675	708	3434	641	110	2261	110
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	394	987	109	202	1043	675	708	3434	641	110	2261	110
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	394	987	109	202	1043	675	708	3434	641	110	2261	110
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	394	987	109	202	1043	675	708	2782	641	110	2261	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	394	987	109	202	1043	675	708	2782	641	110	2261	110
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	394	987	109	202	1043	675	708	2782	641	110	2261	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.17	0.06	0.06	0.18	0.39	0.22	0.49	0.37	0.03	0.30	0.06
Crit Moves:	****				****		****				****	
Green Time:	21.1	48.9	60.8	13.2	41.0	78.9	37.9	104	125.1	11.9	78.0	91.2
Volume/Cap:	1.13	0.67	0.19	0.92	0.85	0.93	1.13	0.89	0.56	0.56	0.72	0.13
Delay/Veh:	171.4	64.6	47.0	127.4	77.2	71.1	152.1	29.8	7.8	90.0	54.7	33.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	171.4	64.6	47.0	127.4	77.2	71.1	152.1	29.8	7.8	90.0	54.7	33.4
LOS by Move:	F	E	D	F	E	E	F	C	A	F	D	C
HCM2k95thQ:	31	29	9	15	34	67	47	61	17	9	48	9

Note: Queue reported is the number of cars per lane.

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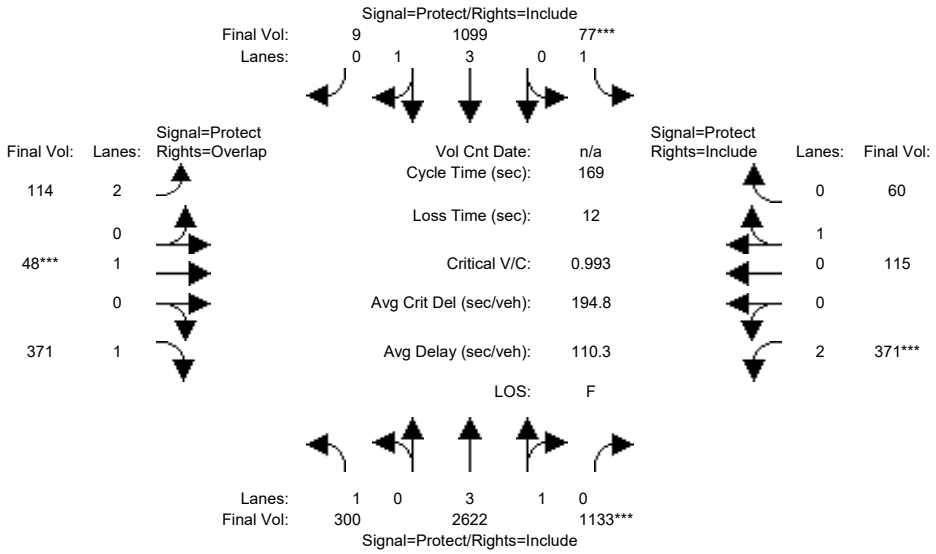
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2622	1133	77	1099	9	114	48	371	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2622	1133	77	1099	9	114	48	371	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2622	1133	77	1099	9	114	48	371	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2622	1133	77	1099	9	114	48	371	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2622	1133	77	1099	9	114	48	371	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2622	1133	77	1099	9	114	48	371	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	5700	1750	1750	7439	61	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.46	0.65	0.04	0.15	0.15	0.07	0.06	0.30	0.17	0.24	0.24
Crit Moves:			****	****				****		****		
Green Time:	33.1	71.4	82.3	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	1.09	1.33	0.64	0.50	0.50	1.06	0.29	0.73	1.08	0.80	0.80
Delay/Veh:	87.6	102	203.8	87.2	52.7	52.7	184.1	56.3	47.2	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	102	203.8	87.2	52.7	52.7	184.1	56.3	47.2	143.4	72.2	72.2
LOS by Move:	F	F	F	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	29	83	147	9	22	22	12	5	31	29	20	20

Note: Queue reported is the number of cars per lane.

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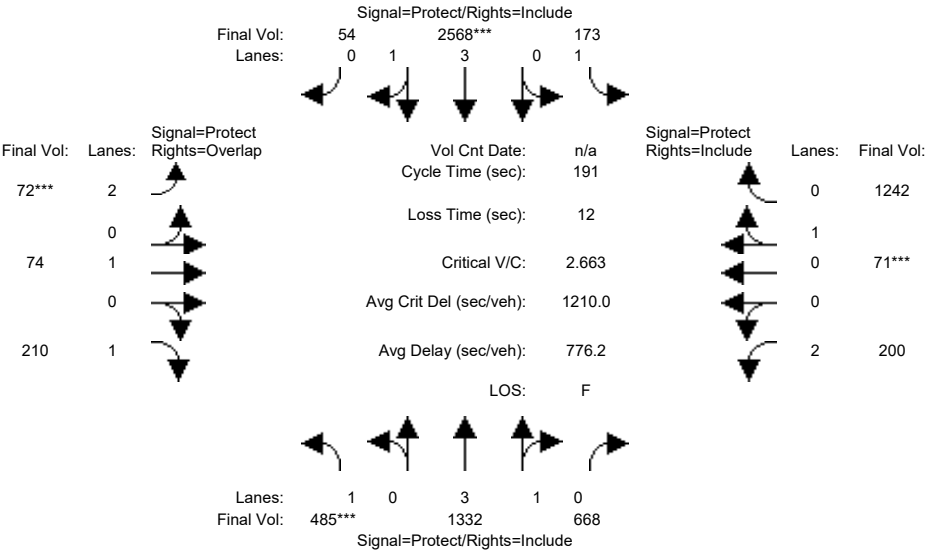
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1332	668	173	2568	54	72	74	210	200	71	1242
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	668	173	2568	54	72	74	210	200	71	1242
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	668	173	2568	54	72	74	210	200	71	1242
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	668	173	2568	54	72	74	210	200	71	1242
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	668	173	2568	54	72	74	210	200	71	1242
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	668	173	2568	54	72	74	210	200	71	1242
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.05	0.95
Final Sat.:	1750	5700	1750	1750	7345	154	1575	760	1225	2205	39	681
Capacity Analysis Module:												
Vol/Sat:	0.28	0.23	0.38	0.10	0.35	0.35	0.05	0.10	0.17	0.09	1.82	1.82
Crit Moves:	****				****		****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.50	0.82	0.68	1.16	1.16	0.68	0.61	0.37	0.86	9.26	9.26
Delay/Veh:	80.8	29.0	38.1	84.9	148	148.0	103.1	84.0	33.3	109.6	3809	3809
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	29.0	38.1	84.9	148	148.0	103.1	84.0	33.3	109.6	3809	3809
LOS by Move:	F	C	D	F	F	F	F	F	C	F	F	F
HCM2k95thQ:	49	25	53	19	76	76	7	10	16	17	344	344

Note: Queue reported is the number of cars per lane.

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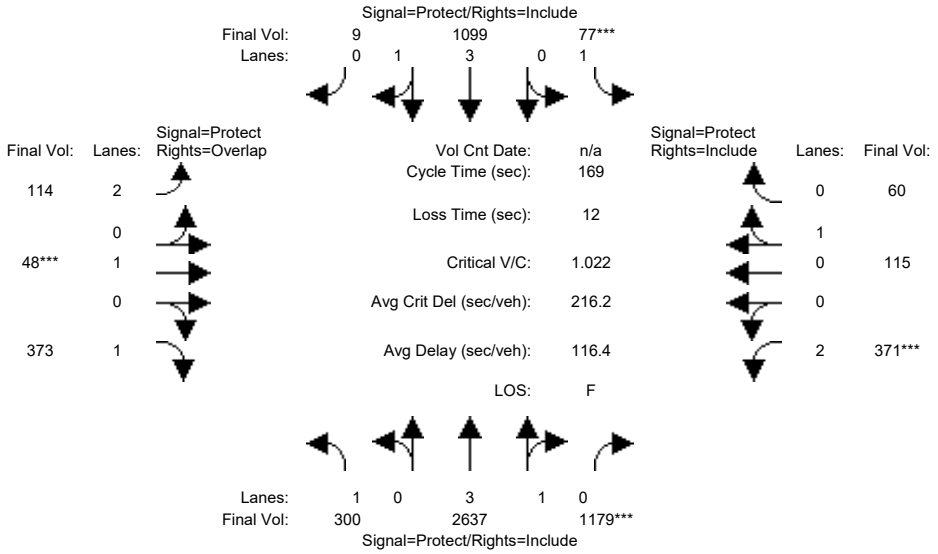
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	2637	1179	77	1099	9	114	48	373	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	2637	1179	77	1099	9	114	48	373	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	2637	1179	77	1099	9	114	48	373	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	2637	1179	77	1099	9	114	48	373	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	2637	1179	77	1099	9	114	48	373	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	2637	1179	77	1099	9	114	48	373	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	5700	1750	1750	7439	61	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.46	0.67	0.04	0.15	0.15	0.07	0.06	0.30	0.17	0.24	0.24
Crit Moves:			****	****				****		****		
Green Time:	33.1	71.4	82.3	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	1.09	1.38	0.64	0.50	0.50	1.06	0.29	0.74	1.08	0.80	0.80
Delay/Veh:	87.6	104	227.9	87.2	52.7	52.7	184.1	56.3	47.5	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	104	227.9	87.2	52.7	52.7	184.1	56.3	47.5	143.4	72.2	72.2
LOS by Move:	F	F	F	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	29	83	159	9	22	22	12	5	32	29	20	20

Note: Queue reported is the number of cars per lane.

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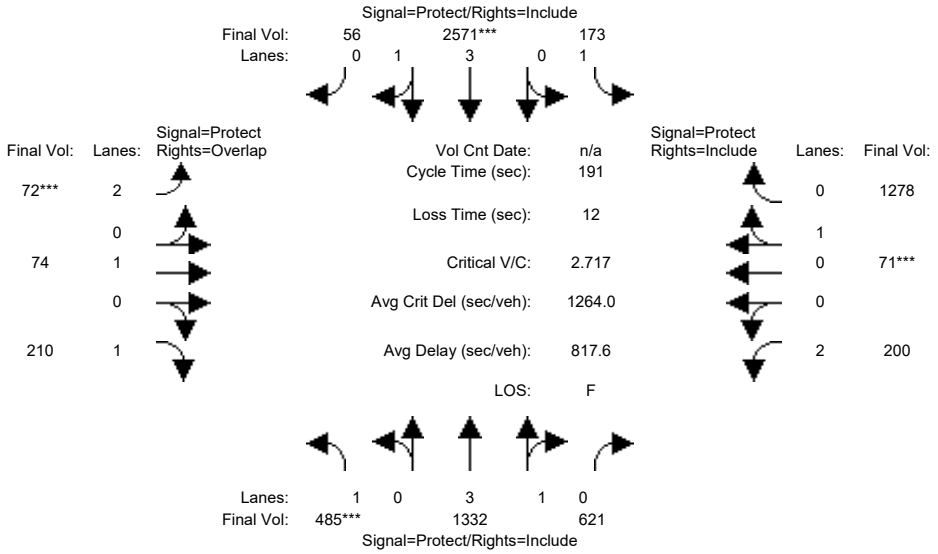
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1332	621	173	2571	56	72	74	210	200	71	1278
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1332	621	173	2571	56	72	74	210	200	71	1278
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1332	621	173	2571	56	72	74	210	200	71	1278
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1332	621	173	2571	56	72	74	210	200	71	1278
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1332	621	173	2571	56	72	74	210	200	71	1278
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1332	621	173	2571	56	72	74	210	200	71	1278
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.91	0.09	2.00	1.00	1.00	2.00	0.05	0.95
Final Sat.:	1750	5700	1750	1750	7340	160	1575	760	1225	2205	38	682
Capacity Analysis Module:												
Vol/Sat:	0.28	0.23	0.35	0.10	0.35	0.35	0.05	0.10	0.17	0.09	1.87	1.87
Crit Moves:	****				****		****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.50	0.76	0.68	1.16	1.16	0.68	0.61	0.37	0.86	9.52	9.52
Delay/Veh:	80.8	29.0	35.7	84.9	149	148.9	103.1	84.0	33.3	109.6	3923	3923
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	29.0	35.7	84.9	149	148.9	103.1	84.0	33.3	109.6	3923	3923
LOS by Move:	F	C	D	F	F	F	F	F	C	F	F	F
HCM2k95thQ:	49	25	46	19	77	77	7	10	16	17	354	354

Note: Queue reported is the number of cars per lane.

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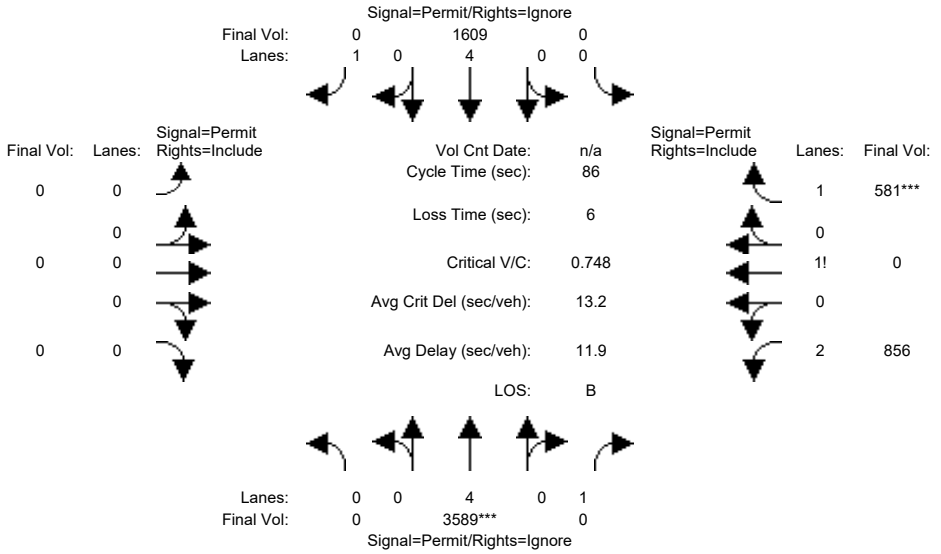
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	3589	0	0	1609	505	0	0	0	856	0	581
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3589	0	0	1609	505	0	0	0	856	0	581
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3589	0	0	1609	505	0	0	0	856	0	581
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3589	0	0	1609	0	0	0	0	856	0	581
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3589	0	0	1609	0	0	0	0	856	0	581
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3589	0	0	1609	0	0	0	0	856	0	581
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.84	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.52	0.00	1.48
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4036	0	2595
Capacity Analysis Module:												
Vol/Sat:	0.00	0.47	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.21	0.00	0.22
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.78	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.79	0.00	0.69
Delay/Veh:	0.0	8.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	31.8	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	31.8	0.0	26.3
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	23	0	0	6	0	0	0	0	22	0	20

Note: Queue reported is the number of cars per lane.

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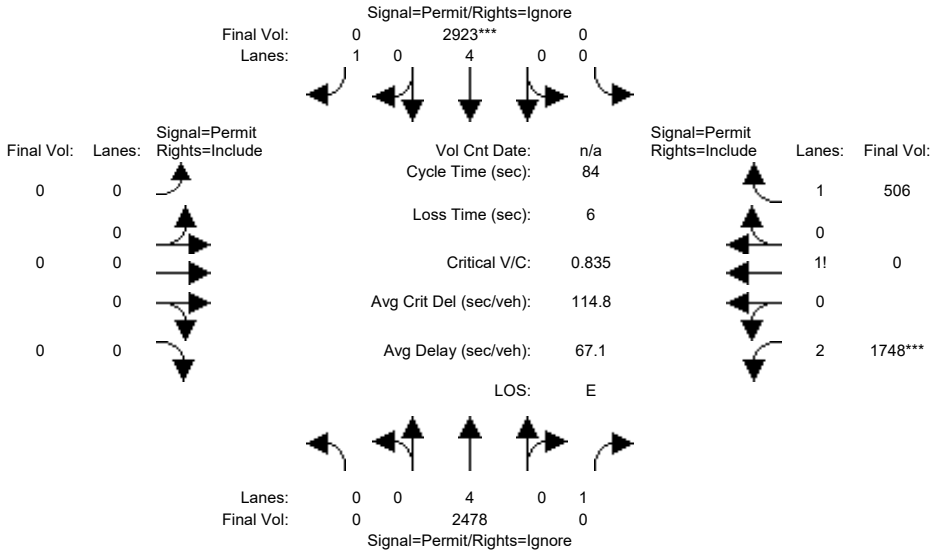
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2478	0	0	2923	349	0	0	0	1748	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2478	0	0	2923	349	0	0	0	1748	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2478	0	0	2923	349	0	0	0	1748	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2478	0	0	2923	0	0	0	0	1748	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2478	0	0	2923	0	0	0	0	1748	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2478	0	0	2923	0	0	0	0	1748	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.87	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.71	0.00	1.29
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4471	0	2258
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.39	0.00	0.22
Crit Moves:					****					****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.53	0.00	0.00	0.62	0.00	0.00	0.00	0.00	1.49	0.00	0.86
Delay/Veh:	0.0	13.2	0.0	0.0	5.6	0.0	0.0	0.0	0.0	256.4	0.0	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.2	0.0	0.0	5.6	0.0	0.0	0.0	0.0	256.4	0.0	32.5
LOS by Move:	A	B	A	A	A	A	A	A	A	F	A	C
HCM2k95thQ:	0	21	0	0	12	0	0	0	0	78	0	24

Note: Queue reported is the number of cars per lane.

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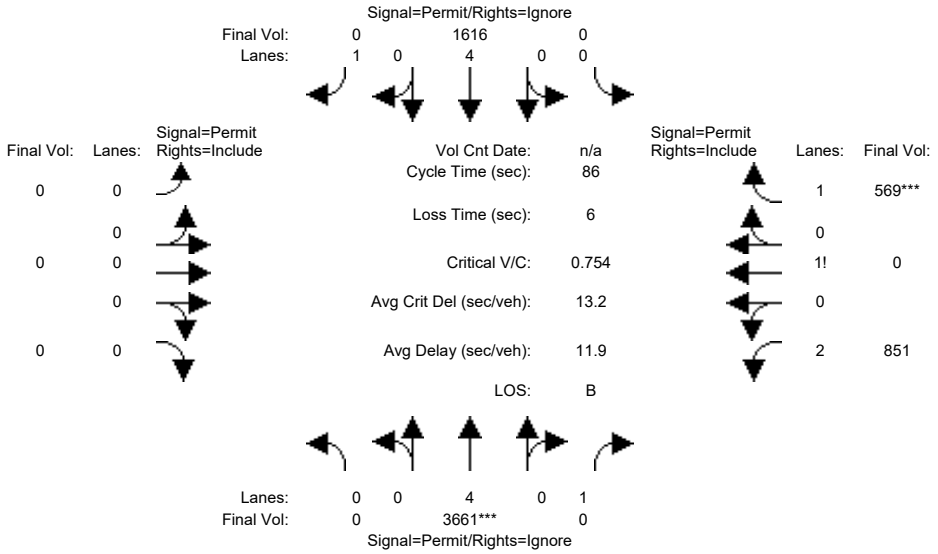
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	52	0	0	52	0	0	0	0	23	23	23
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	3661	0	0	1616	505	0	0	0	851	0	569
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3661	0	0	1616	505	0	0	0	851	0	569
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3661	0	0	1616	505	0	0	0	851	0	569
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3661	0	0	1616	0	0	0	0	851	0	569
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3661	0	0	1616	0	0	0	0	851	0	569
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3661	0	0	1616	0	0	0	0	851	0	569
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.84	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.52	0.00	1.48
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4044	0	2588
Capacity Analysis Module:												
Vol/Sat:	0.00	0.48	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.21	0.00	0.22
Crit Moves:		****										****
Green Time:	0.0	52.1	0.0	0.0	52.1	0.0	0.0	0.0	0.0	23.0	23.0	27.9
Volume/Cap:	0.00	0.80	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.79	0.00	0.68
Delay/Veh:	0.0	8.2	0.0	0.0	4.8	0.0	0.0	0.0	0.0	31.6	0.0	26.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.2	0.0	0.0	4.8	0.0	0.0	0.0	0.0	31.6	0.0	26.1
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2k95thQ:	0	24	0	0	6	0	0	0	0	22	0	19

Note: Queue reported is the number of cars per lane.

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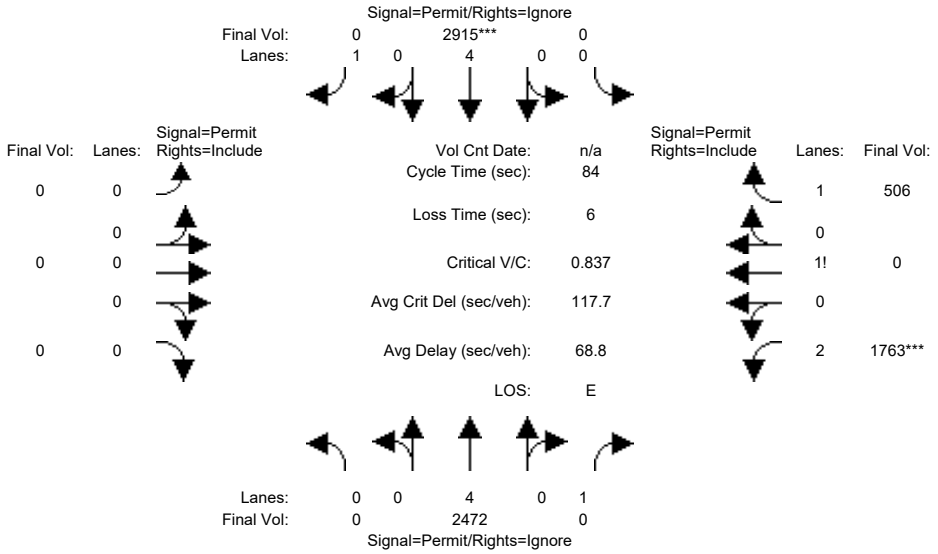
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #26: (3) Lawrence Expwy & US 101 NB Ramps



Street Name:	Lawrence Expwy						US 101 NB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	52	0	0	52	0	0	0	0	22	22	22
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	0.0	0.0	0.0	5.0	0.0	5.0
Volume Module:												
Base Vol:	0	2472	0	0	2915	349	0	0	0	1763	0	506
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2472	0	0	2915	349	0	0	0	1763	0	506
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2472	0	0	2915	349	0	0	0	1763	0	506
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2472	0	0	2915	0	0	0	0	1763	0	506
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2472	0	0	2915	0	0	0	0	1763	0	506
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2472	0	0	2915	0	0	0	0	1763	0	506
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.87	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	0.00	0.00	0.00	2.71	0.00	1.29
Final Sat.:	0	7600	1750	0	7600	1750	0	0	0	4474	0	2255
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.39	0.00	0.22
Crit Moves:					****					****		
Green Time:	0.0	51.8	0.0	0.0	51.8	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Volume/Cap:	0.00	0.53	0.00	0.00	0.62	0.00	0.00	0.00	0.00	1.50	0.00	0.86
Delay/Veh:	0.0	13.2	0.0	0.0	5.6	0.0	0.0	0.0	0.0	261.6	0.0	32.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.2	0.0	0.0	5.6	0.0	0.0	0.0	0.0	261.6	0.0	32.5
LOS by Move:	A	B	A	A	A	A	A	A	A	F	A	C
HCM2k95thQ:	0	21	0	0	12	0	0	0	0	79	0	24

Note: Queue reported is the number of cars per lane.

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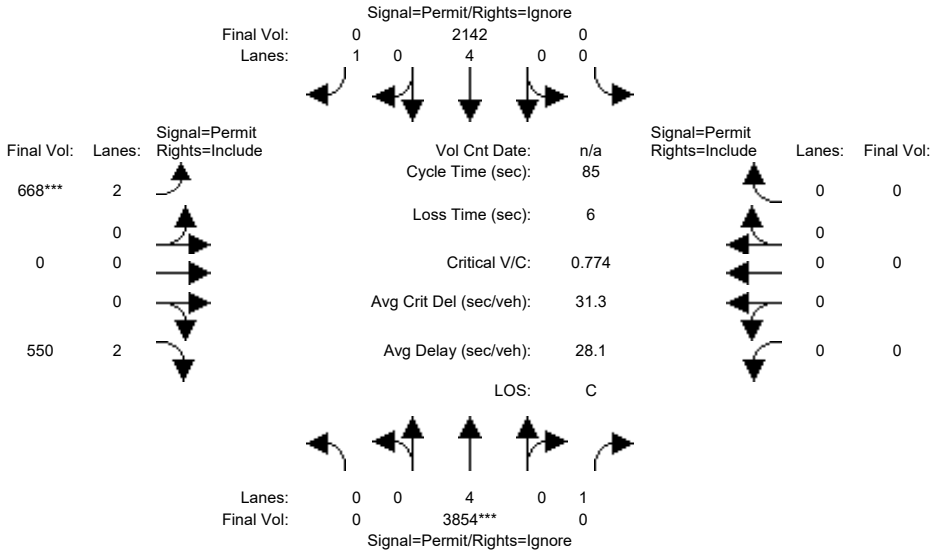
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	3854	1061	0	2142	0	668	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3854	1061	0	2142	0	668	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3854	1061	0	2142	0	668	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3854	0	0	2142	0	668	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3854	0	0	2142	0	668	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3854	0	0	2142	0	668	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.00	0.00	0.28	0.00	0.21	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	13.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.72	0.00	0.00	0.40	0.00	1.34	0.00	1.10	0.00	0.00	0.00
Delay/Veh:	0.0	2.1	0.0	0.0	1.3	0.0	199.9	0.0	105.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	2.1	0.0	0.0	1.3	0.0	199.9	0.0	105.9	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	11	0	0	4	0	42	0	29	0	0	0

Note: Queue reported is the number of cars per lane.

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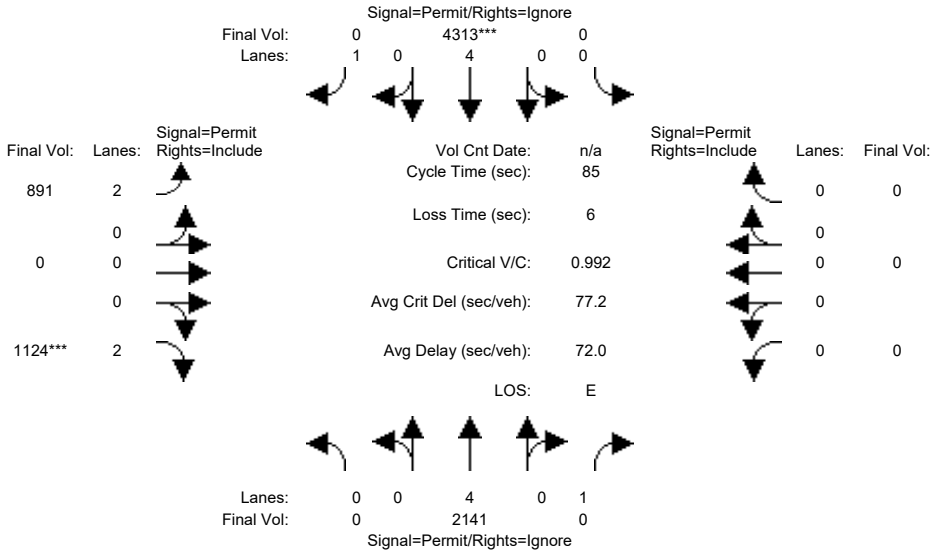
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	2141	440	0	4313	196	891	0	1124	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2141	440	0	4313	196	891	0	1124	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2141	440	0	4313	196	891	0	1124	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2141	0	0	4313	0	891	0	1124	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2141	0	0	4313	0	891	0	1124	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2141	0	0	4313	0	891	0	1124	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.57	0.00	0.28	0.00	0.36	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.38	0.00	0.00	0.76	0.00	1.37	0.00	1.73	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.6	0.0	212.8	0.0	371.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.6	0.0	212.8	0.0	371.2	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	4	0	55	0	84	0	0	0

Note: Queue reported is the number of cars per lane.

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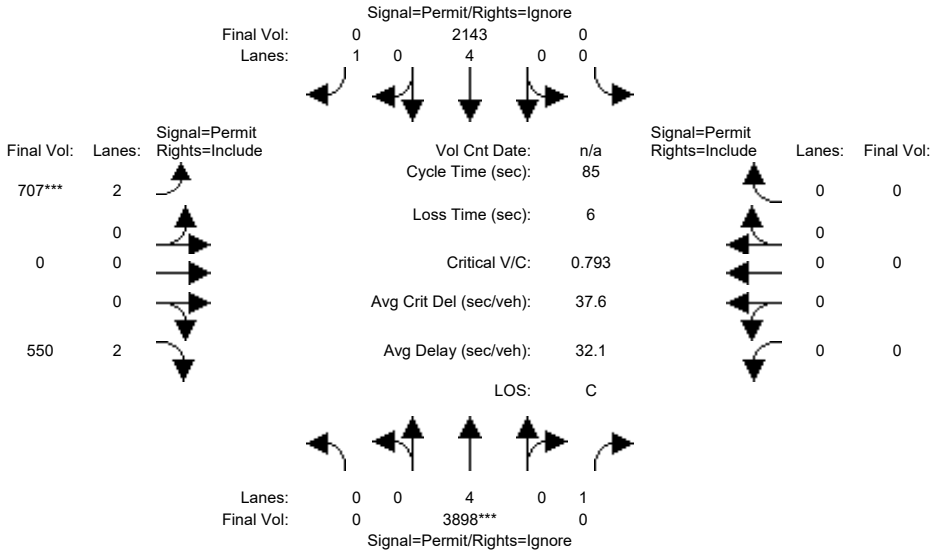
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	60	0	0	60	0	14	14	14	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	3898	1082	0	2143	0	707	0	550	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3898	1082	0	2143	0	707	0	550	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3898	1082	0	2143	0	707	0	550	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3898	0	0	2143	0	707	0	550	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3898	0	0	2143	0	707	0	550	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3898	0	0	2143	0	707	0	550	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.00	0.00	0.28	0.00	0.22	0.00	0.17	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	0.0	60.2	0.0	0.0	59.8	0.0	13.5	13.5	13.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.72	0.00	0.00	0.40	0.00	1.41	0.00	1.10	0.00	0.00	0.00
Delay/Veh:	0.0	2.1	0.0	0.0	1.3	0.0	233.4	0.0	105.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	2.1	0.0	0.0	1.3	0.0	233.4	0.0	105.9	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	12	0	0	4	0	46	0	29	0	0	0

Note: Queue reported is the number of cars per lane.

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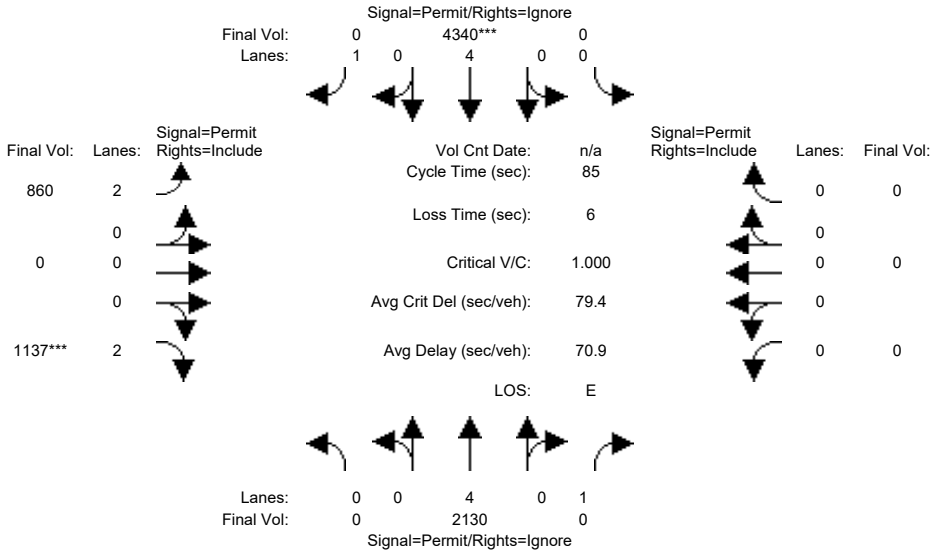
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #27: (4) Lawrence Expwy & US 101 SB Ramps



Street Name:	Lawrence Expwy						US 101 SB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	64	0	0	64	0	18	18	18	0	0	0
Y+R:	0.0	6.2	0.0	0.0	6.2	0.0	5.5	0.0	5.5	0.0	0.0	0.0
Volume Module:												
Base Vol:	0	2130	424	0	4340	174	860	0	1137	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2130	424	0	4340	174	860	0	1137	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2130	424	0	4340	174	860	0	1137	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2130	0	0	4340	0	860	0	1137	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2130	0	0	4340	0	860	0	1137	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2130	0	0	4340	0	860	0	1137	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.83	0.92	1.00	0.92
Lanes:	0.00	4.00	1.00	0.00	4.00	1.00	2.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	7600	1750	0	7600	1750	3150	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.00	0.00	0.57	0.00	0.27	0.00	0.36	0.00	0.00	0.00
Crit Moves:					****				****			
Green Time:	0.0	63.4	0.0	0.0	63.8	0.0	17.5	17.5	17.5	0.0	0.0	0.0
Volume/Cap:	0.00	0.38	0.00	0.00	0.76	0.00	1.33	0.00	1.75	0.00	0.00	0.00
Delay/Veh:	0.0	0.1	0.0	0.0	0.6	0.0	192.2	0.0	380.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.1	0.0	0.0	0.6	0.0	192.2	0.0	380.2	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	F	A	F	A	A	A
HCM2k95thQ:	0	1	0	0	4	0	51	0	85	0	0	0

Note: Queue reported is the number of cars per lane.

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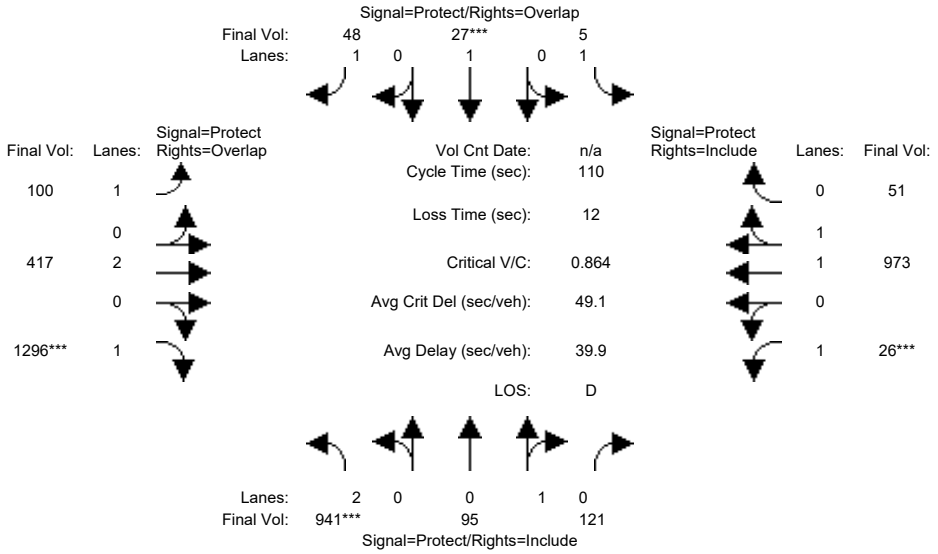
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	894	90	115	5	26	46	95	396	1231	25	924	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	894	90	115	5	26	46	95	396	1231	25	924	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	894	90	115	5	26	46	95	396	1231	25	924	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	941	95	121	5	27	48	100	417	1296	26	973	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	941	95	121	5	27	48	100	417	1296	26	973	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	941	95	121	5	27	48	100	417	1296	26	973	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.44	0.56	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.90	0.10
Final Sat.:	3150	790	1010	1750	1900	1750	1750	3800	1750	1750	3517	183
Capacity Analysis Module:												
Vol/Sat:	0.30	0.12	0.12	0.00	0.01	0.03	0.06	0.11	0.74	0.02	0.28	0.28
Crit Moves:	****				****				****	****		
Green Time:	33.1	28.2	28.2	12.8	8.0	19.9	11.9	48.9	82.0	8.0	45.1	45.1
Volume/Cap:	0.99	0.47	0.47	0.03	0.20	0.15	0.53	0.25	0.99	0.21	0.68	0.68
Delay/Veh:	65.9	35.3	35.3	43.1	48.7	38.2	49.3	19.1	37.0	48.8	27.7	27.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.9	35.3	35.3	43.1	48.7	38.2	49.3	19.1	37.0	48.8	27.7	27.7
LOS by Move:	E	D	D	D	D	D	D	B	D	D	C	C
HCM2k95thQ:	42	13	13	0	2	3	7	8	83	2	25	25

Note: Queue reported is the number of cars per lane.

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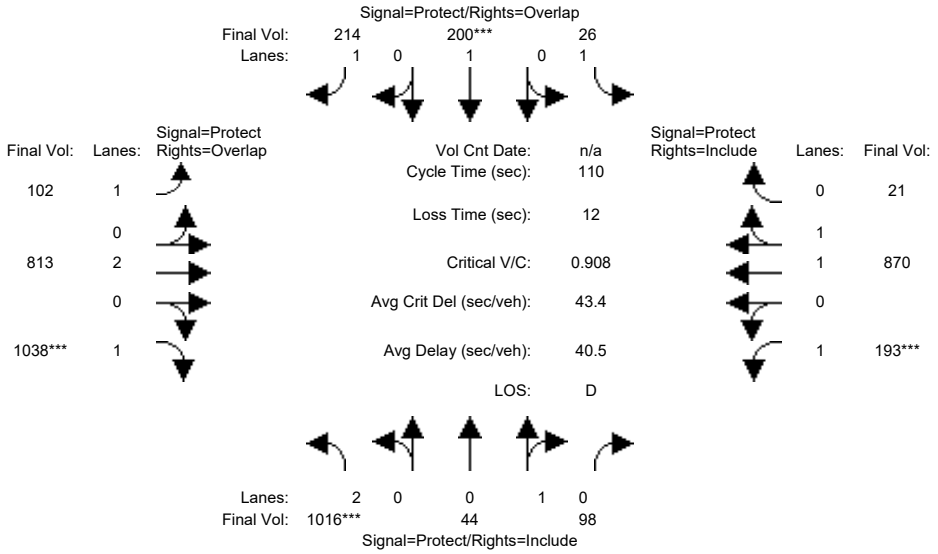
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	986	43	95	25	194	208	99	789	1007	187	844	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	986	43	95	25	194	208	99	789	1007	187	844	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	986	43	95	25	194	208	99	789	1007	187	844	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1016	44	98	26	200	214	102	813	1038	193	870	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1016	44	98	26	200	214	102	813	1038	193	870	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1016	44	98	26	200	214	102	813	1038	193	870	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.31	0.69	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	3150	561	1239	1750	1900	1750	1750	3800	1750	1750	3614	86
Capacity Analysis Module:												
Vol/Sat:	0.32	0.08	0.08	0.01	0.11	0.12	0.06	0.21	0.59	0.11	0.24	0.24
Crit Moves:	****				****				****	****		
Green Time:	39.1	30.7	30.7	21.2	12.8	23.5	10.7	32.8	71.9	13.4	35.4	35.4
Volume/Cap:	0.91	0.28	0.28	0.08	0.91	0.57	0.60	0.72	0.91	0.91	0.75	0.75
Delay/Veh:	44.4	31.4	31.4	36.5	84.5	41.0	53.4	36.7	26.7	85.1	35.9	35.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.4	31.4	31.4	36.5	84.5	41.0	53.4	36.7	26.7	85.1	35.9	35.9
LOS by Move:	D	C	C	D	F	D	D	D	C	F	D	D
HCM2k95thQ:	39	8	8	2	18	14	7	22	56	15	25	25

Note: Queue reported is the number of cars per lane.

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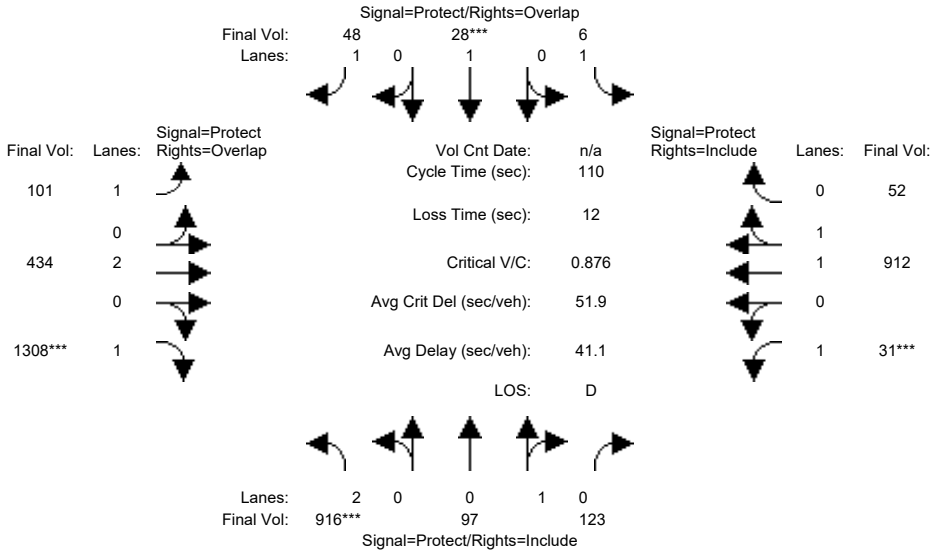
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	870	92	117	6	27	46	96	412	1243	29	866	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	870	92	117	6	27	46	96	412	1243	29	866	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	870	92	117	6	27	46	96	412	1243	29	866	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	916	97	123	6	28	48	101	434	1308	31	912	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	916	97	123	6	28	48	101	434	1308	31	912	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	916	97	123	6	28	48	101	434	1308	31	912	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.44	0.56	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.89	0.11
Final Sat.:	3150	792	1008	1750	1900	1750	1750	3800	1750	1750	3502	198
Capacity Analysis Module:												
Vol/Sat:	0.29	0.12	0.12	0.00	0.01	0.03	0.06	0.11	0.75	0.02	0.26	0.26
Crit Moves:	****				****				****	****		
Green Time:	31.9	27.6	27.6	12.3	8.0	20.7	12.7	50.1	82.0	8.0	45.4	45.4
Volume/Cap:	1.00	0.49	0.49	0.03	0.21	0.15	0.50	0.25	1.00	0.24	0.63	0.63
Delay/Veh:	69.6	36.0	36.0	43.6	48.7	37.5	47.6	18.5	39.6	49.1	26.5	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.6	36.0	36.0	43.6	48.7	37.5	47.6	18.5	39.6	49.1	26.5	26.5
LOS by Move:	E	D	D	D	D	D	D	B	D	D	C	C
HCM2k95thQ:	42	13	13	0	2	3	7	8	87	2	23	23

Note: Queue reported is the number of cars per lane.

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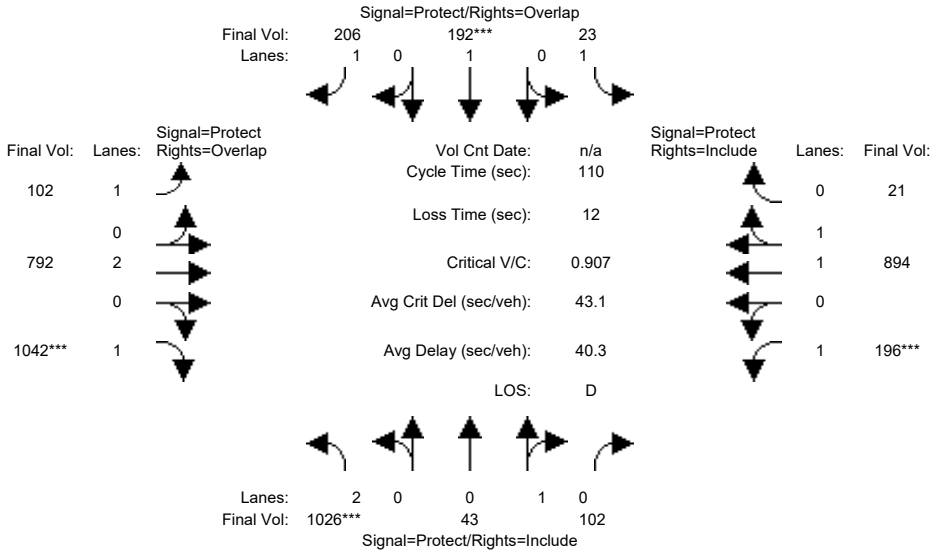
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	995	42	99	22	186	200	99	768	1011	190	867	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	995	42	99	22	186	200	99	768	1011	190	867	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	995	42	99	22	186	200	99	768	1011	190	867	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1026	43	102	23	192	206	102	792	1042	196	894	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1026	43	102	23	192	206	102	792	1042	196	894	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1026	43	102	23	192	206	102	792	1042	196	894	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.30	0.70	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	3150	536	1264	1750	1900	1750	1750	3800	1750	1750	3617	83
Capacity Analysis Module:												
Vol/Sat:	0.33	0.08	0.08	0.01	0.10	0.12	0.06	0.21	0.60	0.11	0.25	0.25
Crit Moves:	****				****				****	****		
Green Time:	39.5	30.9	30.9	20.8	12.2	22.8	10.5	32.7	72.2	13.6	35.8	35.8
Volume/Cap:	0.91	0.29	0.29	0.07	0.91	0.57	0.61	0.70	0.91	0.91	0.76	0.76
Delay/Veh:	44.1	31.3	31.3	36.7	85.8	41.4	54.2	36.3	26.5	84.5	36.2	36.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.1	31.3	31.3	36.7	85.8	41.4	54.2	36.3	26.5	84.5	36.2	36.2
LOS by Move:	D	C	C	D	F	D	D	D	C	F	D	D
HCM2k95thQ:	39	8	8	1	18	14	7	22	56	15	25	25

Note: Queue reported is the number of cars per lane.

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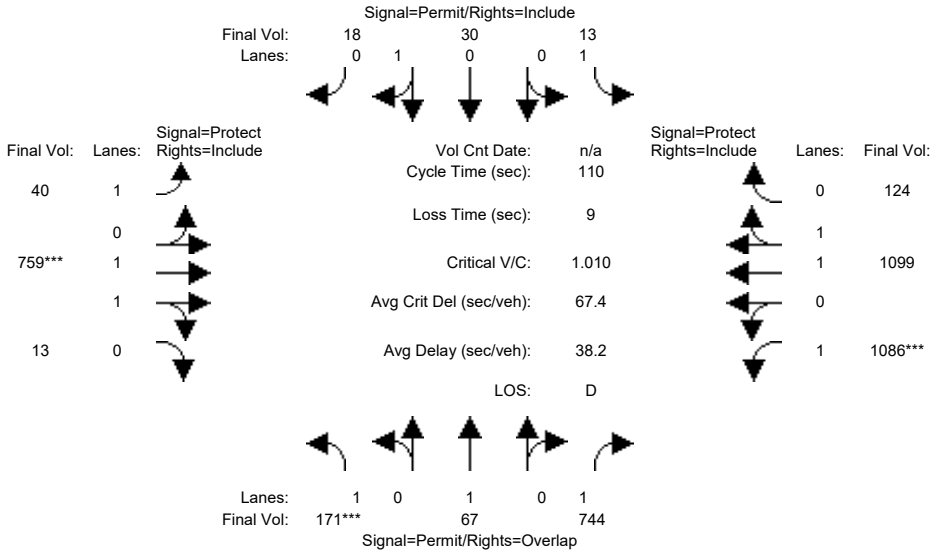
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	159	62	692	12	28	17	37	706	12	1010	1022	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	159	62	692	12	28	17	37	706	12	1010	1022	115
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	159	62	692	12	28	17	37	706	12	1010	1022	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	171	67	744	13	30	18	40	759	13	1086	1099	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	171	67	744	13	30	18	40	759	13	1086	1099	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	171	67	744	13	30	18	40	759	13	1086	1099	124
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.62	0.38	1.00	1.97	0.03	1.00	1.79	0.21
Final Sat.:	1750	1900	1750	1750	1120	680	1750	3638	62	1750	3325	374
Capacity Analysis Module:												
Vol/Sat:	0.10	0.04	0.43	0.01	0.03	0.03	0.02	0.21	0.21	0.62	0.33	0.33
Crit Moves:	****							****		****		
Green Time:	10.6	10.6	78.3	10.6	10.6	10.6	10.9	22.7	22.7	67.6	79.4	79.4
Volume/Cap:	1.01	0.36	0.60	0.08	0.28	0.28	0.23	1.01	1.01	1.01	0.46	0.46
Delay/Veh:	121.3	47.7	8.8	45.4	47.0	47.0	46.3	78.5	78.5	51.0	6.5	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	121.3	47.7	8.8	45.4	47.0	47.0	46.3	78.5	78.5	51.0	6.5	6.5
LOS by Move:	F	D	A	D	D	D	D	E	E	D	A	A
HCM2k95thQ:	19	5	25	1	4	4	3	29	29	71	16	16

Note: Queue reported is the number of cars per lane.

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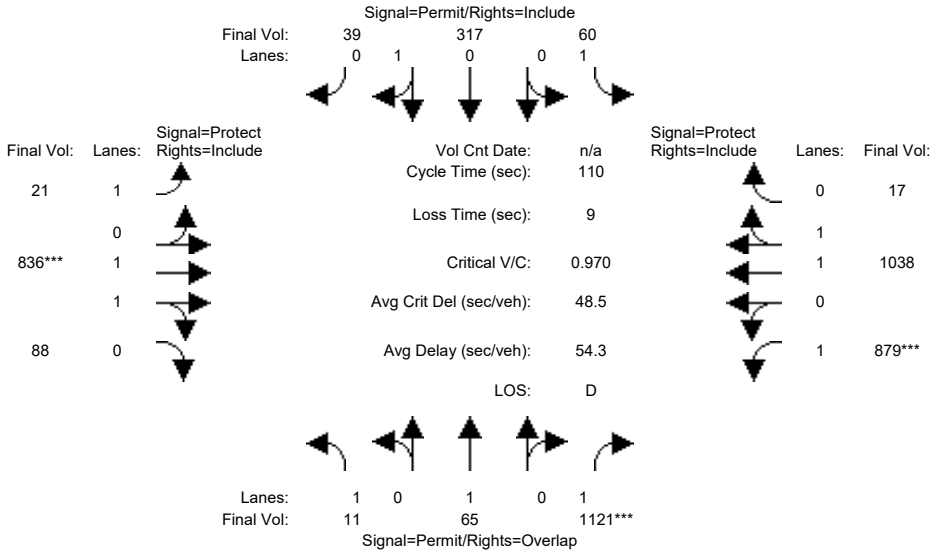
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	11	62	1076	58	304	37	20	803	84	844	996	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	62	1076	58	304	37	20	803	84	844	996	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	62	1076	58	304	37	20	803	84	844	996	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	11	65	1121	60	317	39	21	836	88	879	1038	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	65	1121	60	317	39	21	836	88	879	1038	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	65	1121	60	317	39	21	836	88	879	1038	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.89	0.11	1.00	1.81	0.19	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1605	195	1750	3349	350	1750	3641	58
Capacity Analysis Module:												
Vol/Sat:	0.01	0.03	0.64	0.03	0.20	0.20	0.01	0.25	0.25	0.50	0.28	0.28
Crit Moves:			****					****		****		
Green Time:	15.7	15.7	72.7	15.7	15.7	15.7	11.7	28.3	28.3	57.0	73.6	73.6
Volume/Cap:	0.05	0.24	0.97	0.24	1.39	1.39	0.11	0.97	0.97	0.97	0.43	0.43
Delay/Veh:	40.8	42.3	37.1	42.4	243	243.0	44.7	62.4	62.4	48.3	8.5	8.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.8	42.3	37.1	42.4	243	243.0	44.7	62.4	62.4	48.3	8.5	8.5
LOS by Move:	D	D	D	D	F	F	D	E	E	D	A	A
HCM2k95thQ:	1	4	70	4	45	45	1	31	31	48	15	15

Note: Queue reported is the number of cars per lane.

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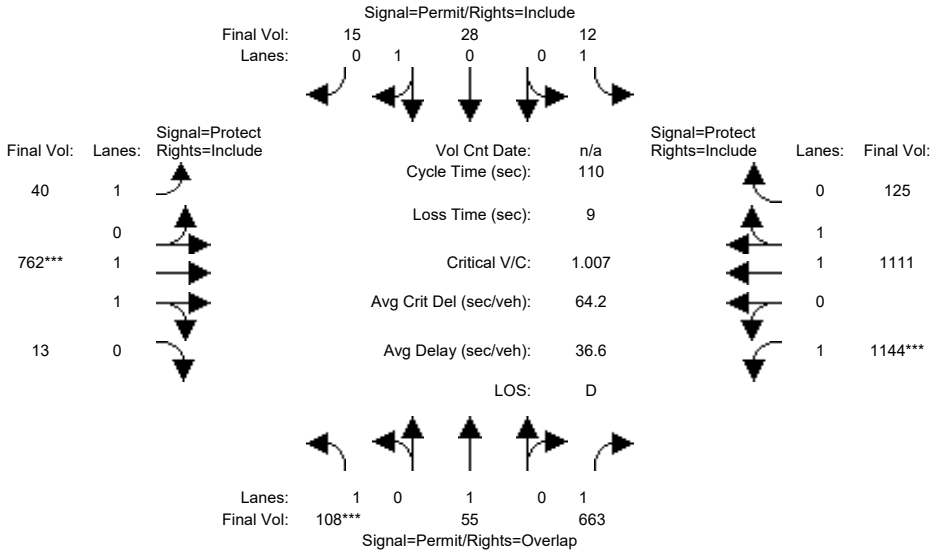
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	100	51	617	11	26	14	37	709	12	1064	1033	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	51	617	11	26	14	37	709	12	1064	1033	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	51	617	11	26	14	37	709	12	1064	1033	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	108	55	663	12	28	15	40	762	13	1144	1111	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	108	55	663	12	28	15	40	762	13	1144	1111	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	108	55	663	12	28	15	40	762	13	1144	1111	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.97	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.65	0.35	1.00	1.97	0.03	1.00	1.79	0.21
Final Sat.:	1750	1900	1750	1750	1170	630	1750	3638	62	1750	3326	374
Capacity Analysis Module:												
Vol/Sat:	0.06	0.03	0.38	0.01	0.02	0.02	0.02	0.21	0.21	0.65	0.33	0.33
Crit Moves:	****							****		****		
Green Time:	6.7	6.7	78.1	6.7	6.7	6.7	11.3	22.9	22.9	71.4	83.0	83.0
Volume/Cap:	1.01	0.47	0.53	0.11	0.39	0.39	0.22	1.01	1.01	1.01	0.44	0.44
Delay/Veh:	140.7	53.0	7.9	49.3	52.0	52.0	45.9	77.8	77.8	47.8	5.1	5.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	140.7	53.0	7.9	49.3	52.0	52.0	45.9	77.8	77.8	47.8	5.1	5.1
LOS by Move:	F	D	A	D	D	D	D	E	E	D	A	A
HCM2k95thQ:	14	5	21	1	4	4	3	29	29	73	14	14

Note: Queue reported is the number of cars per lane.

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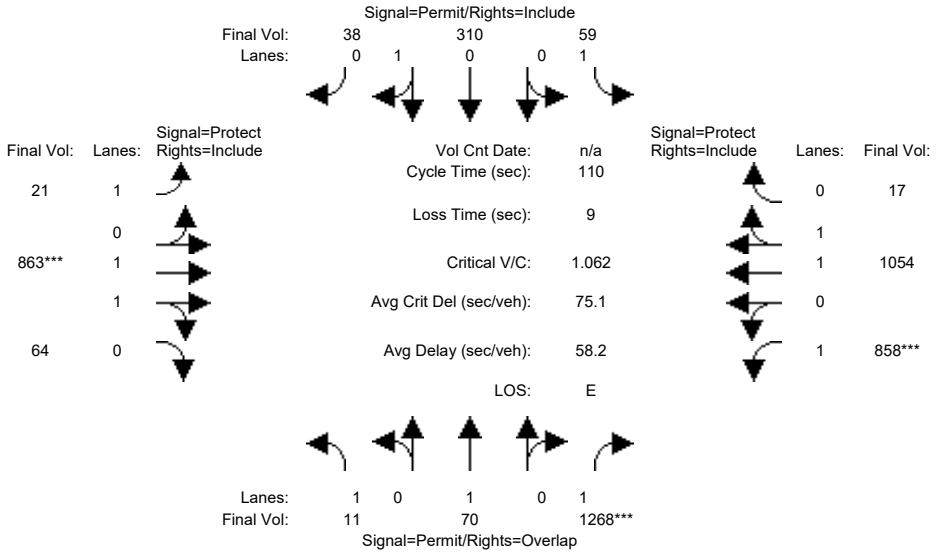
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	11	67	1217	57	298	36	20	828	61	824	1012	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	67	1217	57	298	36	20	828	61	824	1012	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	67	1217	57	298	36	20	828	61	824	1012	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	11	70	1268	59	310	38	21	863	64	858	1054	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	70	1268	59	310	38	21	863	64	858	1054	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	70	1268	59	310	38	21	863	64	858	1054	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.89	0.11	1.00	1.86	0.14	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1606	194	1750	3446	254	1750	3642	58
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.72	0.03	0.19	0.19	0.01	0.25	0.25	0.49	0.29	0.29
Crit Moves:			****					****		****		
Green Time:	24.2	24.2	75.1	24.2	24.2	24.2	10.4	25.9	25.9	50.8	66.3	66.3
Volume/Cap:	0.03	0.17	1.06	0.15	0.88	0.88	0.13	1.06	1.06	1.06	0.48	0.48
Delay/Veh:	33.7	34.9	61.5	34.8	60.7	60.7	46.0	90.2	90.2	78.9	12.4	12.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.7	34.9	61.5	34.8	60.7	60.7	46.0	90.2	90.2	78.9	12.4	12.4
LOS by Move:	C	C	E	C	E	E	D	F	F	E	B	B
HCM2k95thQ:	1	4	93	4	27	27	1	35	35	57	18	18

Note: Queue reported is the number of cars per lane.

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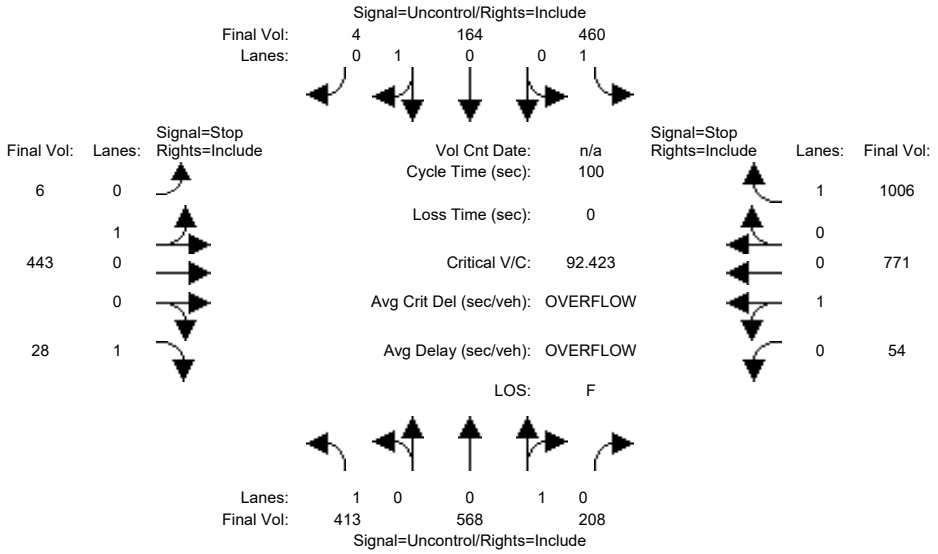
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	372	511	187	414	148	4	5	399	25	49	694	905
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	511	187	414	148	4	5	399	25	49	694	905
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	372	511	187	414	148	4	5	399	25	49	694	905
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	413	568	208	460	164	4	6	443	28	54	771	1006
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	413	568	208	460	164	4	6	443	28	54	771	1006
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	169	xxxx	xxxxx	776	xxxx	xxxxx	3473	2689	167	2821	2587	672
Potent Cap.:	1421	xxxx	xxxxx	849	xxxx	xxxxx	4	22	883	12	26	459
Move Cap.:	1421	xxxx	xxxxx	849	xxxx	xxxxx	0	7	883	0	8	459
Volume/Cap:	0.29	xxxx	xxxx	0.54	xxxx	xxxx	xxxx	61.82	0.03	xxxx	92.42	2.19
Level Of Service Module:												
2Way95thQ:	1.2	xxxx	xxxxx	3.3	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	73.4
Control Del:	8.6	xxxx	xxxxx	14.1	xxxx	xxxxx	xxxxx	xxxx	9.2	xxxxx	xxxx	561.7
LOS by Move:	A	*	*	B	*	*	*	*	A	*	*	F
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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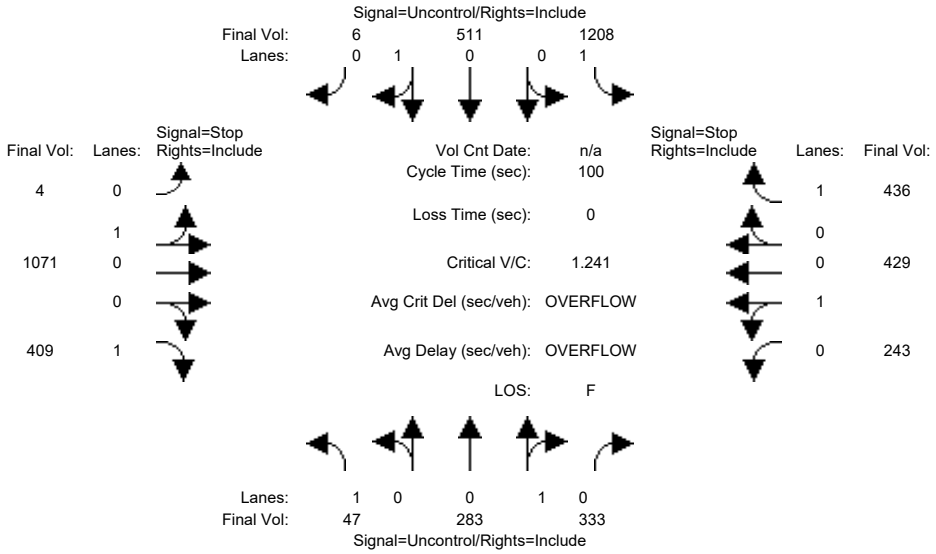
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	42	255	300	1087	460	5	4	964	368	219	386	392
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	255	300	1087	460	5	4	964	368	219	386	392
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	255	300	1087	460	5	4	964	368	219	386	392
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	47	283	333	1208	511	6	4	1071	409	243	429	436
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	47	283	333	1208	511	6	4	1071	409	243	429	436
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	517	xxxx	xxxxx	617	xxxx	xxxxx	3905	3639	514	4213	3476	450
Potent Cap.:	1059	xxxx	xxxxx	973	xxxx	xxxxx	2	5	565	1	7	613
Move Cap.:	1059	xxxx	xxxxx	973	xxxx	xxxxx	0	0	565	0	0	613
Volume/Cap:	0.04	xxxx	xxxx	1.24	xxxx	xxxx	xxxx	xxxx	0.72	xxxx	xxxx	0.71
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	40.5	xxxx	xxxxx	xxxx	xxxx	6.0	xxxx	xxxx	5.8
Control Del:	8.6	xxxx	xxxxx	133.8	xxxx	xxxxx	xxxxx	xxxx	26.3	xxxxx	xxxx	23.9
LOS by Move:	A	*	*	F	*	*	*	*	D	*	*	C
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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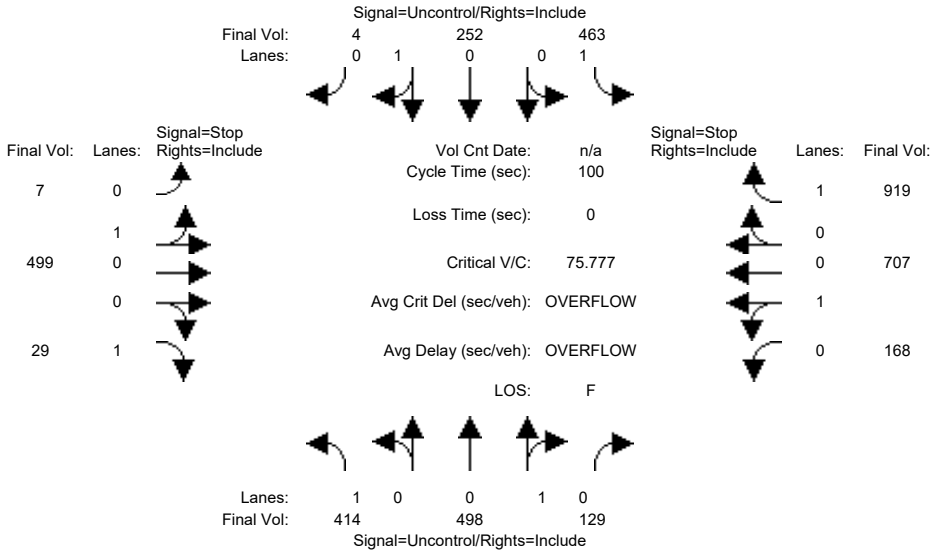
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	373	448	116	417	227	4	6	449	26	151	636	827
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	448	116	417	227	4	6	449	26	151	636	827
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	373	448	116	417	227	4	6	449	26	151	636	827
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	414	498	129	463	252	4	7	499	29	168	707	919
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	414	498	129	463	252	4	7	499	29	168	707	919
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	257	xxxx	xxxxx	627	xxxx	xxxxx	3385	2637	254	2836	2574	562
Potent Cap.:	1320	xxxx	xxxxx	965	xxxx	xxxxx	4	24	789	11	26	530
Move Cap.:	1320	xxxx	xxxxx	965	xxxx	xxxxx	0	9	789	0	9	530
Volume/Cap:	0.31	xxxx	xxxx	0.48	xxxx	xxxx	xxxx	58.68	0.04	xxxx	75.78	1.73
Level Of Service Module:												
2Way95thQ:	1.4	xxxx	xxxxx	2.7	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	54.9
Control Del:	9.0	xxxx	xxxxx	12.1	xxxx	xxxxx	xxxxx	xxxx	9.7	xxxxx	xxxx	357.1
LOS by Move:	A	*	*	B	*	*	*	*	A	*	*	F
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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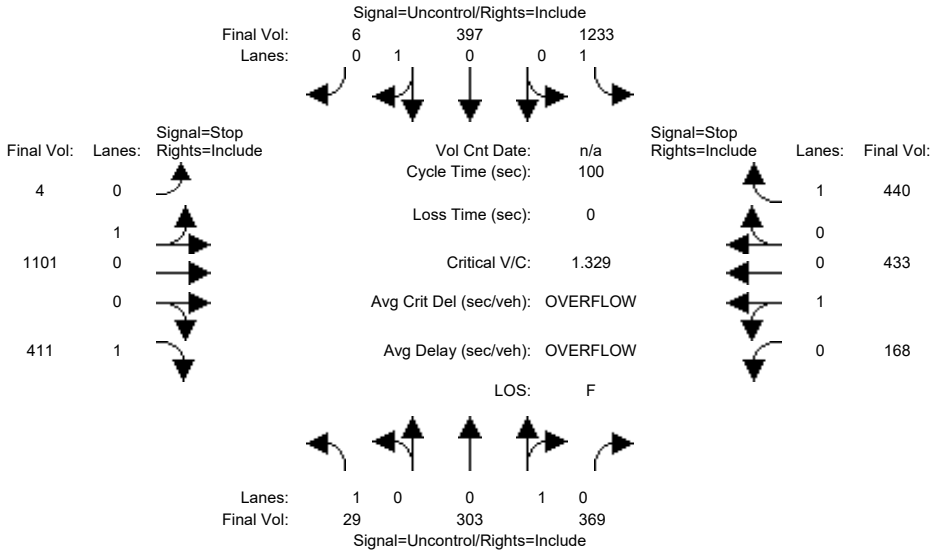
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	26	273	332	1110	357	5	4	991	370	151	390	396
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	273	332	1110	357	5	4	991	370	151	390	396
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	273	332	1110	357	5	4	991	370	151	390	396
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	29	303	369	1233	397	6	4	1101	411	168	433	440
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	29	303	369	1233	397	6	4	1101	411	168	433	440
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	402	xxxx	xxxxx	672	xxxx	xxxxx	3848	3596	399	4168	3414	488
Potent Cap.:	1167	xxxx	xxxxx	928	xxxx	xxxxx	2	6	655	1	7	584
Move Cap.:	1167	xxxx	xxxxx	928	xxxx	xxxxx	0	0	655	0	0	584
Volume/Cap:	0.02	xxxx	xxxx	1.33	xxxx	xxxx	xxxx	xxxx	0.63	xxxx	xxxx	0.75
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	47.8	xxxx	xxxxx	xxxx	xxxx	4.4	xxxx	xxxx	6.7
Control Del:	8.2	xxxx	xxxxx	171.2	xxxx	xxxxx	xxxxx	xxxx	19.3	xxxxx	xxxx	27.6
LOS by Move:	A	*	*	F	*	*	*	*	C	*	*	D
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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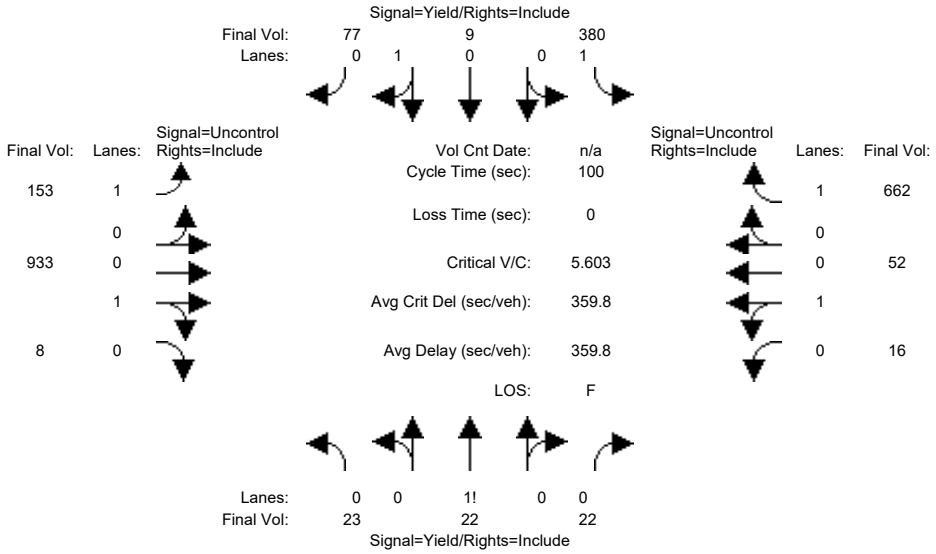
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	21	20	20	342	8	69	138	840	7	14	47	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	20	20	342	8	69	138	840	7	14	47	596
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	20	20	342	8	69	138	840	7	14	47	596
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	23	22	22	380	9	77	153	933	8	16	52	662
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	23	22	22	380	9	77	153	933	8	16	52	662
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1701	1989	937	1349	1331	52	714	xxxx	xxxxx	941	xxxx	xxxxx
Potent Cap.:	73	62	324	129	156	1021	895	xxxx	xxxxx	737	xxxx	xxxxx
Move Cap.:	55	50	324	68	126	1021	895	xxxx	xxxxx	737	xxxx	xxxxx
Volume/Cap:	0.42	0.45	0.07	5.60	0.07	0.08	0.17	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	42.4	xxxx	xxxxx	0.6	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	2192	xxxx	xxxxx	9.9	xxxx	xxxxx	10.0	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	72	xxxxx	xxxx	xxxx	588	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.8	xxxxx	xxxxx	xxxx	0.5	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	187	xxxxx	xxxxx	xxxx	12.2	xxxxx	xxxx	xxxxx	10.0	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	B	*	*	*	A	*	*
ApproachDel:	186.5			1791.5			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

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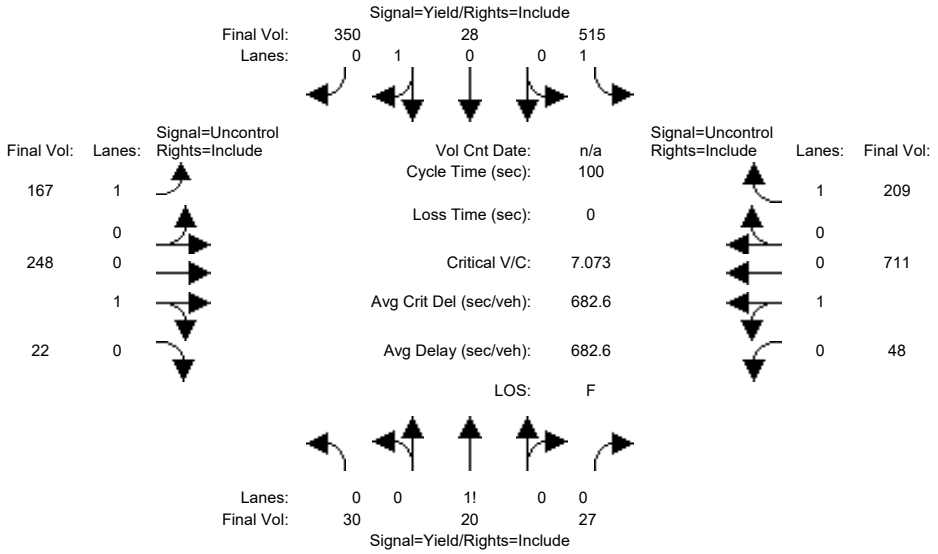
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	28	18	25	474	26	322	154	228	20	44	654	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	18	25	474	26	322	154	228	20	44	654	192
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	18	25	474	26	322	154	228	20	44	654	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	30	20	27	515	28	350	167	248	22	48	711	209
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	30	20	27	515	28	350	167	248	22	48	711	209
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1693	1609	259	1423	1411	711	920	xxxx	xxxxx	270	xxxx	xxxxx
Potent Cap.:	74	106	785	115	140	436	751	xxxx	xxxxx	1306	xxxx	xxxxx
Move Cap.:	9	79	785	73	104	436	751	xxxx	xxxxx	1306	xxxx	xxxxx
Volume/Cap:	3.21	0.25	0.03	7.07	0.27	0.80	0.22	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	58.6	xxxx	xxxxx	0.9	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	2844	xxxx	xxxxx	11.2	xxxx	xxxxx	7.9	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	22	xxxxx	xxxx	xxxx	353	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	9.8	xxxxx	xxxxx	xxxx	13.6	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	1484	xxxxx	xxxxx	xxxx	103.7	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	A	*	*
ApproachDel:	1484.3			1683.6			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

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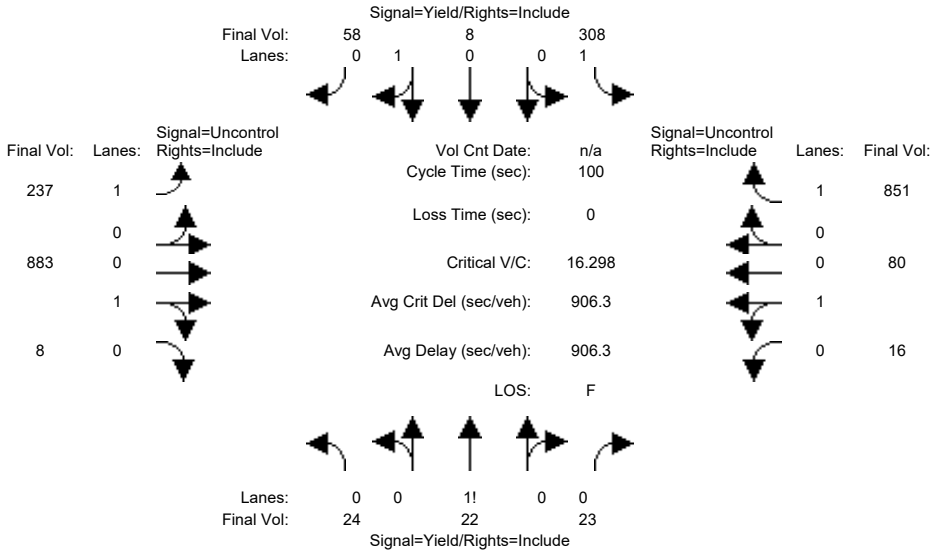
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	22	20	21	277	7	52	213	795	7	14	72	766
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	20	21	277	7	52	213	795	7	14	72	766
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	20	21	277	7	52	213	795	7	14	72	766
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	24	22	23	308	8	58	237	883	8	16	80	851
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	24	22	23	308	8	58	237	883	8	16	80	851
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1930	2323	887	1494	1476	80	931	xxxx	xxxxx	891	xxxx	xxxxx
Potent Cap.:	51	38	346	102	128	986	743	xxxx	xxxxx	769	xxxx	xxxxx
Move Cap.:	33	25	346	19	85	986	743	xxxx	xxxxx	769	xxxx	xxxxx
Volume/Cap:	0.74	0.88	0.07	16.30	0.09	0.06	0.32	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	39.1	xxxx	xxxxx	1.4	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7277	xxxx	xxxxx	12.1	xxxx	xxxxx	9.8	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	42	xxxxx	xxxx	xxxx	437	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	7.2	xxxxx	xxxxx	xxxx	0.5	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	545	xxxxx	xxxxx	xxxx	14.7	xxxxx	xxxx	xxxxx	9.8	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	B	*	*	*	A	*	*
ApproachDel:	544.7			6001.8			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

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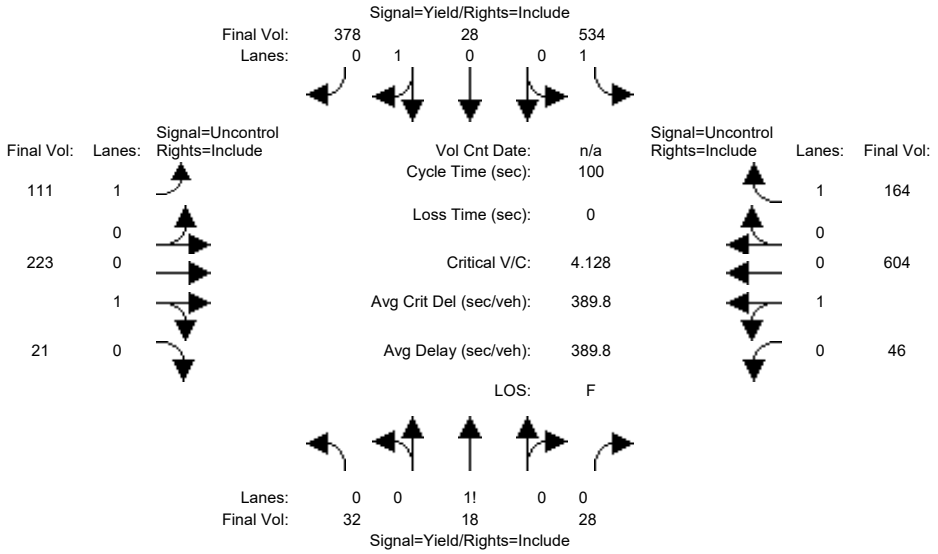
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	29	17	26	491	26	348	102	205	19	42	556	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	17	26	491	26	348	102	205	19	42	556	151
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	29	17	26	491	26	348	102	205	19	42	556	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	32	18	28	534	28	378	111	223	21	46	604	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	32	18	28	534	28	378	111	223	21	46	604	164
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1436	1315	233	1174	1161	604	768	xxxx	xxxxx	243	xxxx	xxxxx
Potent Cap.:	112	159	811	170	197	502	855	xxxx	xxxxx	1335	xxxx	xxxxx
Move Cap.:	21	134	811	129	165	502	855	xxxx	xxxxx	1335	xxxx	xxxxx
Volume/Cap:	1.49	0.14	0.03	4.13	0.17	0.75	0.13	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	54.2	xxxx	xxxxx	0.4	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	1476	xxxx	xxxxx	9.8	xxxx	xxxxx	7.8	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	47	xxxxx	xxxx	xxxx	440	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	7.7	xxxxx	xxxxx	xxxx	10.5	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	512	xxxxx	xxxxx	xxxx	57.0	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	A	*	*
ApproachDel:	512.2			862.5			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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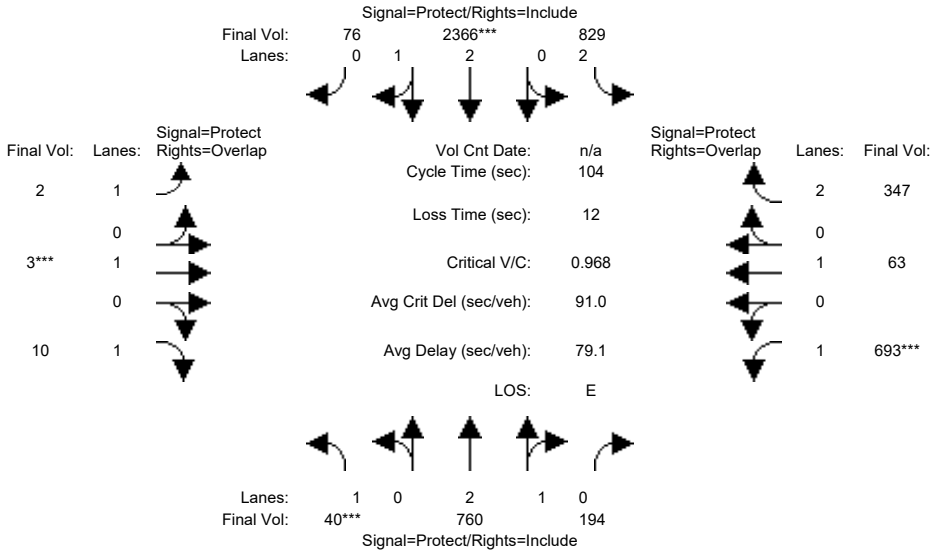
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	36	684	175	746	2129	68	2	3	9	624	57	312
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	684	175	746	2129	68	2	3	9	624	57	312
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	684	175	746	2129	68	2	3	9	624	57	312
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	760	194	829	2366	76	2	3	10	693	63	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	760	194	829	2366	76	2	3	10	693	63	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	760	194	829	2366	76	2	3	10	693	63	347
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.37	0.63	2.00	2.90	0.10	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4458	1140	3150	5426	173	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.02	0.17	0.17	0.26	0.44	0.44	0.00	0.00	0.01	0.40	0.03	0.11
Crit Moves:	****				****			****			****	
Green Time:	4.0	17.6	17.6	27.2	40.9	40.9	20.9	10.0	14.0	37.1	26.2	53.4
Volume/Cap:	0.59	1.01	1.01	1.01	1.11	1.11	0.01	0.02	0.04	1.11	0.13	0.21
Delay/Veh:	62.7	73.7	73.7	71.0	88.1	88.1	33.2	42.6	39.2	103.3	30.2	13.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.7	73.7	73.7	71.0	88.1	88.1	33.2	42.6	39.2	103.3	30.2	13.9
LOS by Move:	E	E	E	E	F	F	C	D	D	F	C	B
HCM2k95thQ:	3	24	24	34	60	60	0	0	1	59	3	7

Note: Queue reported is the number of cars per lane.

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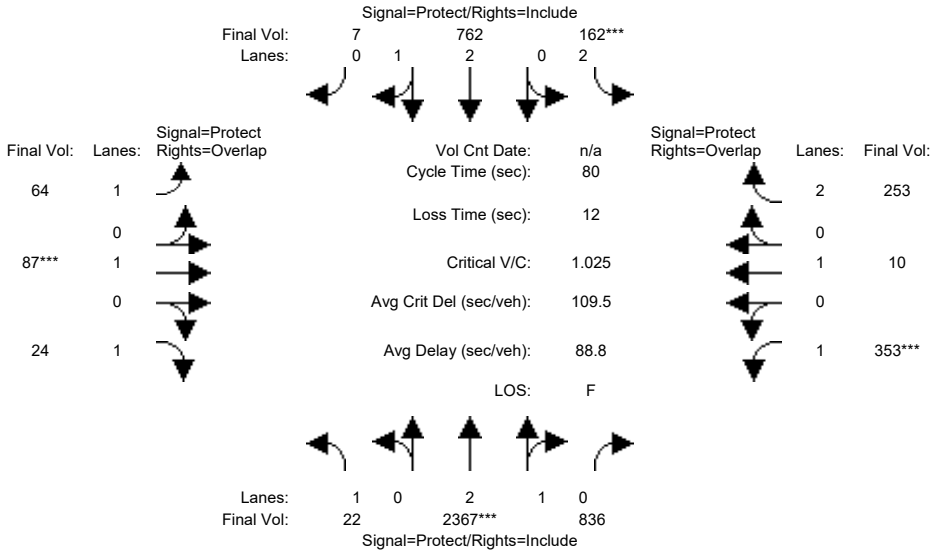
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	21	2225	786	152	716	7	60	82	23	332	9	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	2225	786	152	716	7	60	82	23	332	9	238
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	2225	786	152	716	7	60	82	23	332	9	238
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	2367	836	162	762	7	64	87	24	353	10	253
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	2367	836	162	762	7	64	87	24	353	10	253
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	2367	836	162	762	7	64	87	24	353	10	253
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.19	0.81	2.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4136	1461	3150	5546	54	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.57	0.57	0.05	0.14	0.14	0.04	0.05	0.01	0.20	0.01	0.08
Crit Moves:		****		****				****		****		
Green Time:	11.9	38.4	38.4	6.0	32.6	32.6	10.5	10.0	21.9	13.6	13.1	19.1
Volume/Cap:	0.09	1.19	1.19	0.68	0.34	0.34	0.28	0.37	0.05	1.19	0.03	0.34
Delay/Veh:	29.5	111	110.7	44.1	16.4	16.4	32.0	33.1	21.5	147.6	28.2	25.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	111	110.7	44.1	16.4	16.4	32.0	33.1	21.5	147.6	28.2	25.5
LOS by Move:	C	F	F	D	B	B	C	C	C	F	C	C
HCM2k95thQ:	1	74	74	5	8	8	4	5	1	34	0	7

Note: Queue reported is the number of cars per lane.

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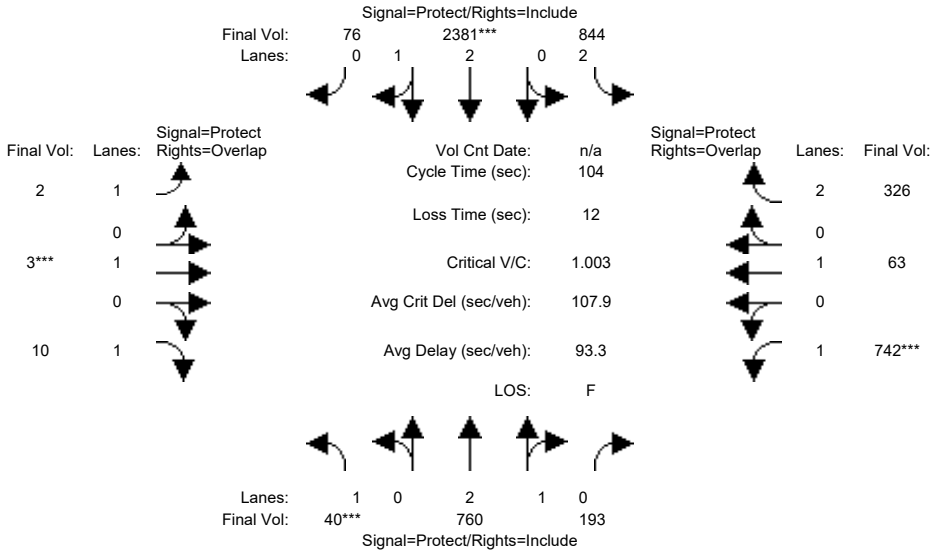
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	36	684	174	760	2143	68	2	3	9	668	57	293
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	684	174	760	2143	68	2	3	9	668	57	293
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	684	174	760	2143	68	2	3	9	668	57	293
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	40	760	193	844	2381	76	2	3	10	742	63	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	760	193	844	2381	76	2	3	10	742	63	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	40	760	193	844	2381	76	2	3	10	742	63	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.37	0.63	2.00	2.90	0.10	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4463	1135	3150	5428	172	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.02	0.17	0.17	0.27	0.44	0.44	0.00	0.00	0.01	0.42	0.03	0.10
Crit Moves:	****				****			****			****	
Green Time:	4.0	17.0	17.0	26.7	39.7	39.7	21.5	10.0	14.0	38.3	26.9	53.6
Volume/Cap:	0.59	1.04	1.04	1.04	1.15	1.15	0.01	0.02	0.04	1.15	0.13	0.20
Delay/Veh:	62.7	85.5	85.5	82.4	106	105.8	32.8	42.6	39.2	117.6	29.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.7	85.5	85.5	82.4	106	105.8	32.8	42.6	39.2	117.6	29.7	13.7
LOS by Move:	E	F	F	F	F	F	C	D	D	F	C	B
HCM2k95thQ:	3	25	25	36	64	64	0	0	1	65	3	7

Note: Queue reported is the number of cars per lane.

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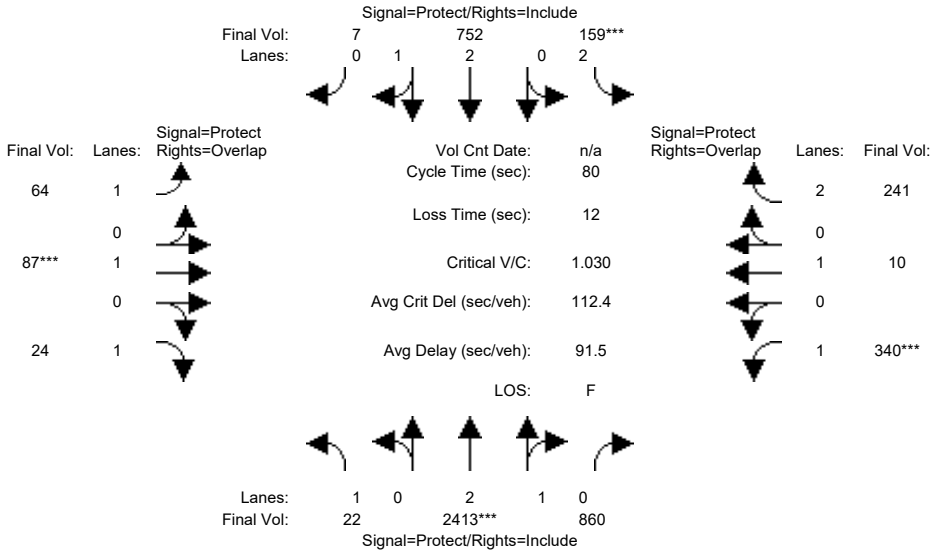
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #47: (12) Great America Pkwy & Great America Way



Street Name:	Great America Pkwy						Great America Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	6	10	10	4	10	10	6	5	5
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	21	2268	808	149	707	7	60	82	23	320	9	227
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	2268	808	149	707	7	60	82	23	320	9	227
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	2268	808	149	707	7	60	82	23	320	9	227
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	22	2413	860	159	752	7	64	87	24	340	10	241
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	2413	860	159	752	7	64	87	24	340	10	241
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	2413	860	159	752	7	64	87	24	340	10	241
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.83
Lanes:	1.00	2.18	0.82	2.00	2.97	0.03	1.00	1.00	1.00	1.00	1.00	2.00
Final Sat.:	1750	4127	1470	3150	5545	55	1750	1900	1750	1750	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.58	0.58	0.05	0.14	0.14	0.04	0.05	0.01	0.19	0.01	0.08
Crit Moves:		****		****				****		****		
Green Time:	12.1	39.0	39.0	6.0	32.9	32.9	10.2	10.0	22.1	13.0	12.8	18.8
Volume/Cap:	0.08	1.20	1.20	0.67	0.33	0.33	0.29	0.37	0.05	1.20	0.03	0.33
Delay/Veh:	29.3	114	113.7	43.3	16.1	16.1	32.3	33.1	21.3	151.8	28.4	25.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.3	114	113.7	43.3	16.1	16.1	32.3	33.1	21.3	151.8	28.4	25.6
LOS by Move:	C	F	F	D	B	B	C	C	C	F	C	C
HCM2k95thQ:	1	76	76	5	8	8	4	5	1	34	0	6

Note: Queue reported is the number of cars per lane.

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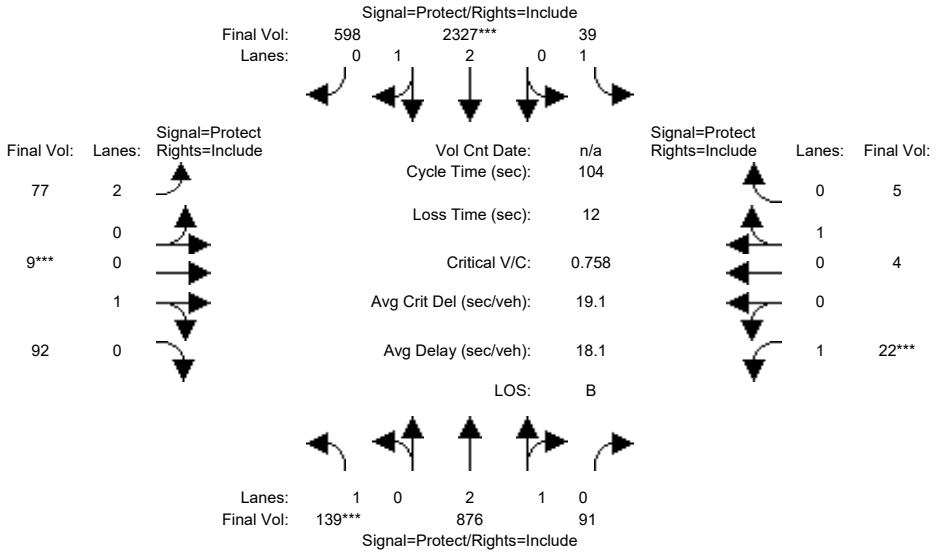
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	129	815	85	36	2164	556	72	8	86	20	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	815	85	36	2164	556	72	8	86	20	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	815	85	36	2164	556	72	8	86	20	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	139	876	91	39	2327	598	77	9	92	22	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	876	91	39	2327	598	77	9	92	22	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	876	91	39	2327	598	77	9	92	22	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.71	0.29	1.00	2.36	0.64	2.00	0.09	0.91	1.00	0.44	0.56
Final Sat.:	1750	5070	529	1750	4454	1144	3150	153	1647	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.17	0.02	0.52	0.52	0.02	0.06	0.06	0.01	0.01	0.01
Crit Moves:	****				****			****			****	
Green Time:	10.1	60.2	60.2	16.8	66.9	66.9	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.81	0.30	0.30	0.14	0.81	0.81	0.48	0.58	0.58	0.26	0.06	0.06
Delay/Veh:	70.8	11.2	11.2	37.6	15.4	15.4	50.2	50.0	50.0	49.3	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	70.8	11.2	11.2	37.6	15.4	15.4	50.2	50.0	50.0	49.3	43.2	43.2
LOS by Move:	E	B	B	D	B	B	D	D	D	D	D	D
HCM2k95thQ:	10	10	10	2	37	37	4	8	8	2	1	1

Note: Queue reported is the number of cars per lane.

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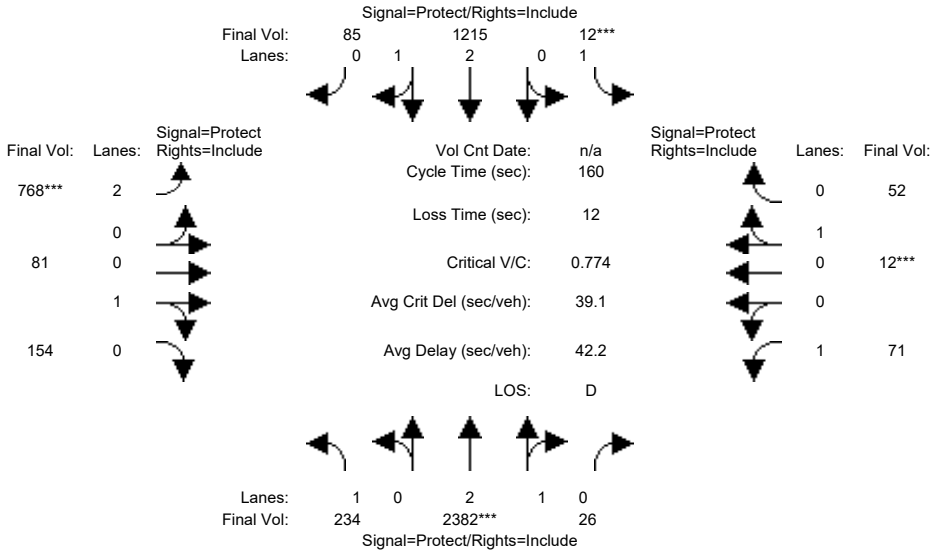
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	222	2263	25	11	1154	81	730	77	146	67	11	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	222	2263	25	11	1154	81	730	77	146	67	11	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	222	2263	25	11	1154	81	730	77	146	67	11	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	234	2382	26	12	1215	85	768	81	154	71	12	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	2382	26	12	1215	85	768	81	154	71	12	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	2382	26	12	1215	85	768	81	154	71	12	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.97	0.03	1.00	2.80	0.20	2.00	0.35	0.65	1.00	0.18	0.82
Final Sat.:	1750	5539	61	1750	5232	367	3150	622	1178	1750	330	1470
Capacity Analysis Module:												
Vol/Sat:	0.13	0.43	0.43	0.01	0.23	0.23	0.24	0.13	0.13	0.04	0.04	0.04
Crit Moves:		****			****			****			****	
Green Time:	33.0	85.5	85.5	5.0	57.5	57.5	48.5	43.9	43.9	13.6	9.0	9.0
Volume/Cap:	0.65	0.80	0.80	0.21	0.65	0.65	0.80	0.48	0.48	0.48	0.62	0.62
Delay/Veh:	62.2	32.1	32.1	77.5	43.5	43.5	56.4	49.1	49.1	72.2	85.4	85.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.2	32.1	32.1	77.5	43.5	43.5	56.4	49.1	49.1	72.2	85.4	85.4
LOS by Move:	E	C	C	E	D	D	E	D	D	E	F	F
HCM2k95thQ:	21	53	53	1	30	30	37	19	19	8	8	8

Note: Queue reported is the number of cars per lane.

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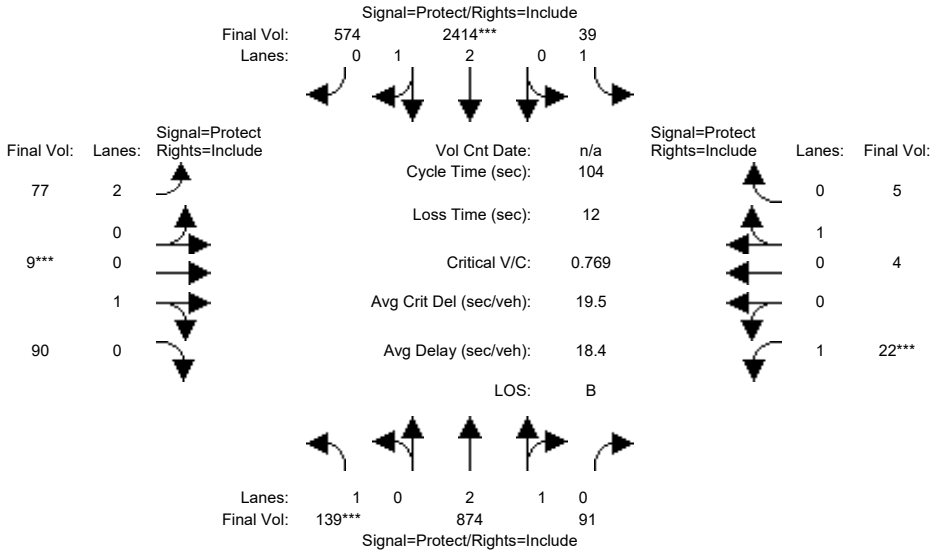
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	129	813	85	36	2245	534	72	8	84	20	4	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	129	813	85	36	2245	534	72	8	84	20	4	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	129	813	85	36	2245	534	72	8	84	20	4	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	139	874	91	39	2414	574	77	9	90	22	4	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	139	874	91	39	2414	574	77	9	90	22	4	5
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	139	874	91	39	2414	574	77	9	90	22	4	5
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.71	0.29	1.00	2.40	0.60	2.00	0.09	0.91	1.00	0.44	0.56
Final Sat.:	1750	5069	530	1750	4523	1076	3150	157	1643	1750	800	1000
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.17	0.02	0.53	0.53	0.02	0.05	0.05	0.01	0.01	0.01
Crit Moves:	****				****			****		****		
Green Time:	10.0	60.2	60.2	16.8	67.0	67.0	5.4	10.0	10.0	5.0	9.6	9.6
Volume/Cap:	0.83	0.30	0.30	0.14	0.83	0.83	0.48	0.57	0.57	0.26	0.06	0.06
Delay/Veh:	73.8	11.2	11.2	37.6	15.8	15.8	50.2	49.5	49.5	49.3	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	73.8	11.2	11.2	37.6	15.8	15.8	50.2	49.5	49.5	49.3	43.2	43.2
LOS by Move:	E	B	B	D	B	B	D	D	D	D	D	D
HCM2k95thQ:	10	10	10	2	38	38	4	8	8	2	1	1

Note: Queue reported is the number of cars per lane.

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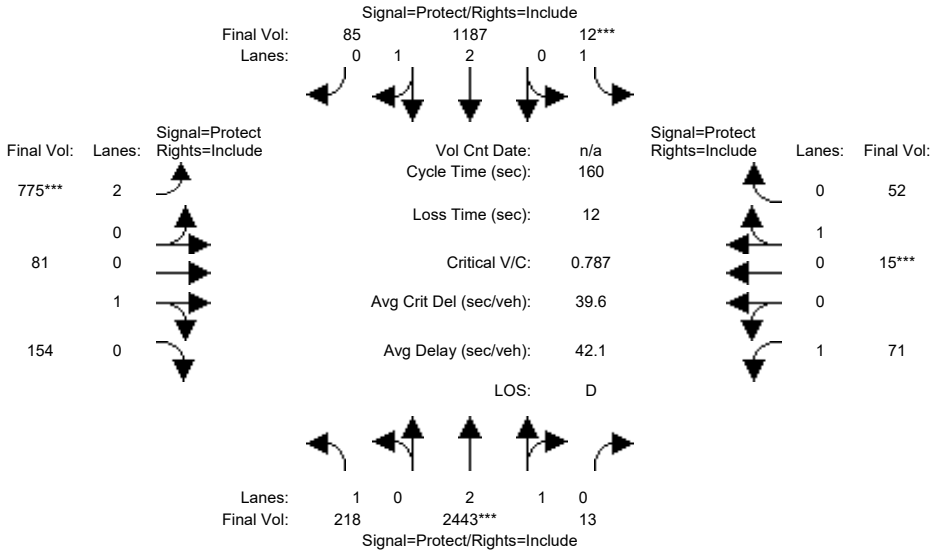
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #48: (13) GREAT AMERICA / ALVISO



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	5	10	10	5	10	10	5	9	9
Y+R:	5.0	5.7	5.7	5.0	5.7	5.7	4.5	5.1	5.1	4.5	5.1	5.1
Volume Module:												
Base Vol:	207	2321	12	11	1128	81	736	77	146	67	14	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	2321	12	11	1128	81	736	77	146	67	14	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	2321	12	11	1128	81	736	77	146	67	14	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	218	2443	13	12	1187	85	775	81	154	71	15	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	2443	13	12	1187	85	775	81	154	71	15	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	2443	13	12	1187	85	775	81	154	71	15	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.83	0.95	0.95	0.92	0.95	0.95
Lanes:	1.00	2.98	0.02	1.00	2.79	0.21	2.00	0.35	0.65	1.00	0.22	0.78
Final Sat.:	1750	5571	29	1750	5224	375	3150	622	1178	1750	400	1400
Capacity Analysis Module:												
Vol/Sat:	0.12	0.44	0.44	0.01	0.23	0.23	0.25	0.13	0.13	0.04	0.04	0.04
Crit Moves:		****			****			****			****	
Green Time:	32.2	85.9	85.9	5.0	58.7	58.7	48.1	43.7	43.7	13.5	9.0	9.0
Volume/Cap:	0.62	0.82	0.82	0.21	0.62	0.62	0.82	0.48	0.48	0.48	0.65	0.65
Delay/Veh:	61.7	32.5	32.5	77.5	42.1	42.1	57.5	49.4	49.4	72.3	88.4	88.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.7	32.5	32.5	77.5	42.1	42.1	57.5	49.4	49.4	72.3	88.4	88.4
LOS by Move:	E	C	C	E	D	D	E	D	D	E	F	F
HCM2k95thQ:	19	55	55	1	29	29	38	19	19	8	9	9

Note: Queue reported is the number of cars per lane.

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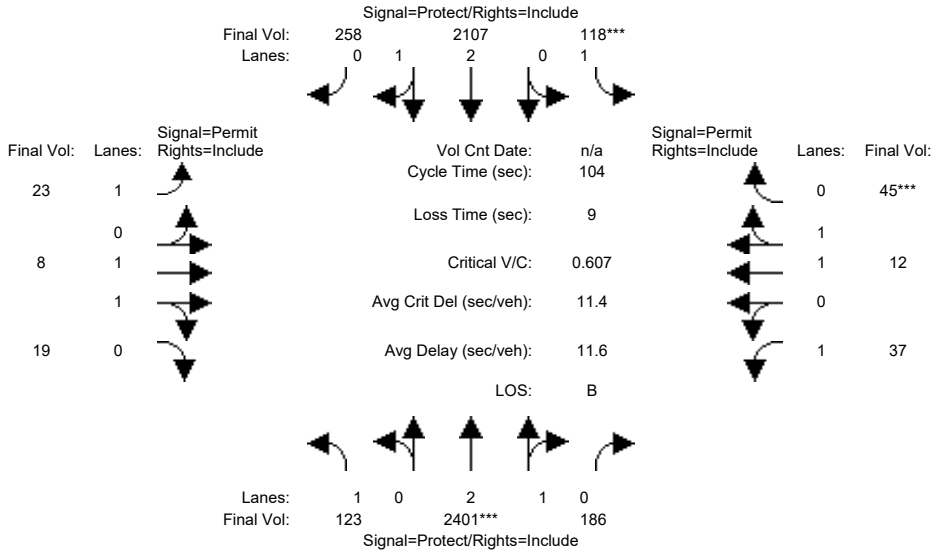
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	112	2185	169	107	1917	235	21	7	17	34	11	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	2185	169	107	1917	235	21	7	17	34	11	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	2185	169	107	1917	235	21	7	17	34	11	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	2401	186	118	2107	258	23	8	19	37	12	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	2401	186	118	2107	258	23	8	19	37	12	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	2401	186	118	2107	258	23	8	19	37	12	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.78	0.22	1.00	2.66	0.34	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5197	402	1750	4988	611	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.46	0.46	0.07	0.42	0.42	0.01	0.00	0.01	0.02	0.01	0.03
Crit Moves:		****			****							****
Green Time:	12.0	73.3	73.3	10.7	72.0	72.0	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.61	0.66	0.66	0.66	0.61	0.61	0.12	0.04	0.10	0.20	0.06	0.24
Delay/Veh:	49.1	8.8	8.8	53.4	8.8	8.8	42.4	41.8	42.2	43.0	41.9	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.1	8.8	8.8	53.4	8.8	8.8	42.4	41.8	42.2	43.0	41.9	43.2
LOS by Move:	D	A	A	D	A	A	D	D	D	D	D	D
HCM2k95thQ:	8	26	26	8	24	24	2	1	1	3	1	3

Note: Queue reported is the number of cars per lane.

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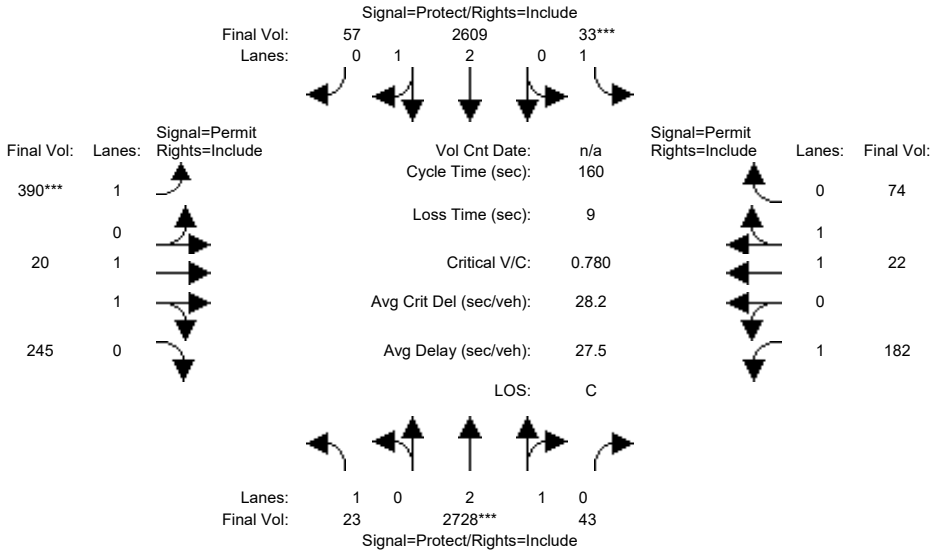
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	22	2619	41	32	2505	55	374	19	235	175	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	2619	41	32	2505	55	374	19	235	175	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	2619	41	32	2505	55	374	19	235	175	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	2728	43	33	2609	57	390	20	245	182	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	2728	43	33	2609	57	390	20	245	182	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	2728	43	33	2609	57	390	20	245	182	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.95	0.05	1.00	2.93	0.07	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5514	86	1750	5480	120	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.49	0.49	0.02	0.48	0.48	0.22	0.01	0.14	0.10	0.01	0.04
Crit Moves:		****			****			****				
Green Time:	5.3	101	101.4	4.0	100	100.1	45.6	45.6	45.6	45.6	45.6	45.6
Volume/Cap:	0.40	0.78	0.78	0.76	0.76	0.76	0.78	0.04	0.49	0.37	0.04	0.15
Delay/Veh:	80.3	22.4	22.4	132.2	22.4	22.4	60.4	41.3	48.2	46.1	41.4	42.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.3	22.4	22.4	132.2	22.4	22.4	60.4	41.3	48.2	46.1	41.4	42.8
LOS by Move:	F	C	C	F	C	C	E	D	D	D	D	D
HCM2k95thQ:	2	52	52	4	51	51	34	1	20	14	2	6

Note: Queue reported is the number of cars per lane.

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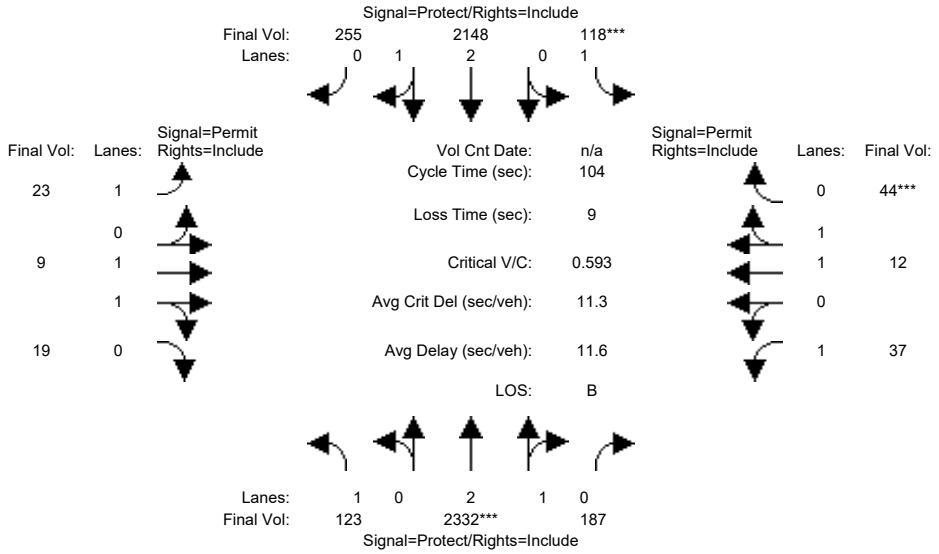
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	112	2122	170	107	1955	232	21	8	17	34	11	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	2122	170	107	1955	232	21	8	17	34	11	40
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	2122	170	107	1955	232	21	8	17	34	11	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	123	2332	187	118	2148	255	23	9	19	37	12	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	123	2332	187	118	2148	255	23	9	19	37	12	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	123	2332	187	118	2148	255	23	9	19	37	12	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.77	0.23	1.00	2.67	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5184	415	1750	5005	594	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.45	0.45	0.07	0.43	0.43	0.01	0.00	0.01	0.02	0.01	0.03
Crit Moves:		****		****								****
Green Time:	11.8	73.1	73.1	10.9	72.2	72.2	11.0	11.0	11.0	11.0	11.0	11.0
Volume/Cap:	0.62	0.64	0.64	0.64	0.62	0.62	0.12	0.04	0.10	0.20	0.06	0.24
Delay/Veh:	49.7	8.7	8.7	52.1	8.8	8.8	42.4	41.8	42.2	43.0	41.9	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.7	8.7	8.7	52.1	8.8	8.8	42.4	41.8	42.2	43.0	41.9	43.2
LOS by Move:	D	A	A	D	A	A	D	D	D	D	D	D
HCM2k95thQ:	8	26	26	8	25	25	2	1	1	3	1	3

Note: Queue reported is the number of cars per lane.

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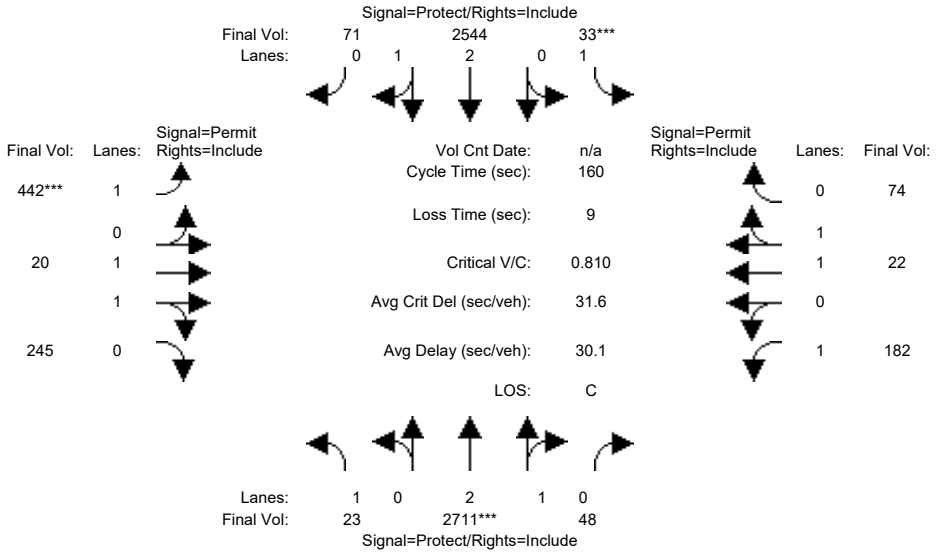
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #51: (14) GREAT AMERICA / BUNKER HILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	10	11	11	11	11	11	11
Y+R:	4.0	6.7	6.7	4.0	6.7	6.7	5.1	5.1	5.1	5.1	5.1	5.1
Volume Module:												
Base Vol:	22	2603	46	32	2442	68	424	19	235	175	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	2603	46	32	2442	68	424	19	235	175	21	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	2603	46	32	2442	68	424	19	235	175	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	23	2711	48	33	2544	71	442	20	245	182	22	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	2711	48	33	2544	71	442	20	245	182	22	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	2711	48	33	2544	71	442	20	245	182	22	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.95	0.05	1.00	2.92	0.08	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	5503	97	1750	5448	152	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.49	0.49	0.02	0.47	0.47	0.25	0.01	0.14	0.10	0.01	0.04
Crit Moves:		****		****			****					
Green Time:	5.1	97.2	97.2	4.0	96.1	96.1	49.8	49.8	49.8	49.8	49.8	49.8
Volume/Cap:	0.41	0.81	0.81	0.76	0.78	0.78	0.81	0.03	0.45	0.33	0.04	0.14
Delay/Veh:	80.7	25.8	25.8	132.2	25.2	25.2	59.7	38.4	44.7	42.7	38.4	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.7	25.8	25.8	132.2	25.2	25.2	59.7	38.4	44.7	42.7	38.4	39.7
LOS by Move:	F	C	C	F	C	C	E	D	D	D	D	D
HCM2k95thQ:	2	55	55	4	53	53	38	1	19	14	1	5

Note: Queue reported is the number of cars per lane.

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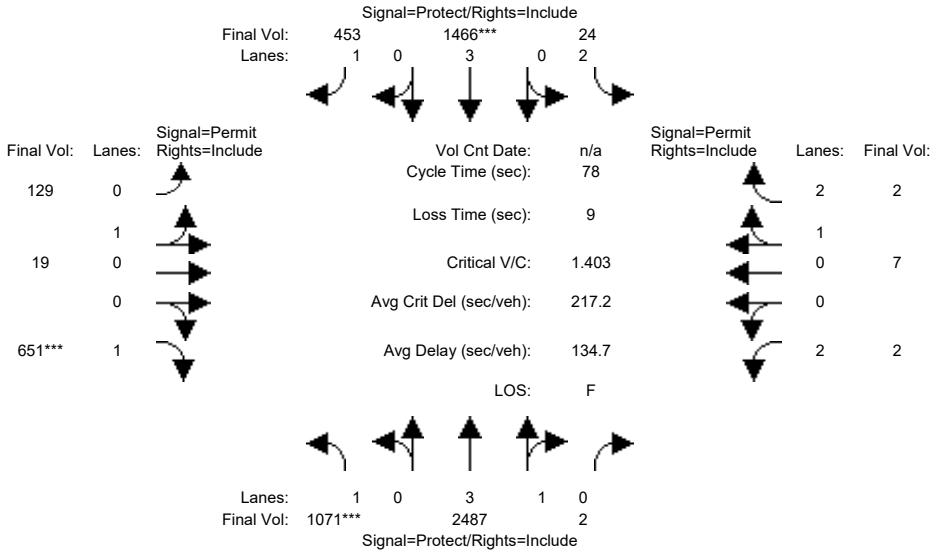
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	964	2238	2	22	1319	408	116	17	586	2	6	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	964	2238	2	22	1319	408	116	17	586	2	6	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	964	2238	2	22	1319	408	116	17	586	2	6	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1071	2487	2	24	1466	453	129	19	651	2	7	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1071	2487	2	24	1466	453	129	19	651	2	7	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1071	2487	2	24	1466	453	129	19	651	2	7	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	0.87	0.13	1.00	2.00	1.00	2.00
Final Sat.:	1750	7493	7	3150	5700	1750	1570	230	1750	3150	1800	3600
Capacity Analysis Module:												
Vol/Sat:	0.61	0.33	0.33	0.01	0.26	0.26	0.08	0.08	0.37	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	34.0	34.9	34.9	13.5	14.3	14.3	20.7	20.7	20.7	20.7	20.7	20.7
Volume/Cap:	1.40	0.74	0.74	0.04	1.40	1.41	0.31	0.31	1.40	0.00	0.01	0.00
Delay/Veh:	211.3	18.8	18.8	26.9	219	235.5	23.3	23.3	222.7	21.1	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	211.3	18.8	18.8	26.9	219	235.5	23.3	23.3	222.7	21.1	21.1	21.1
LOS by Move:	F	B	B	C	F	F	C	C	F	C	C	C
HCM2k95thQ:	104	23	23	1	47	48	6	6	68	0	0	0

Note: Queue reported is the number of cars per lane.

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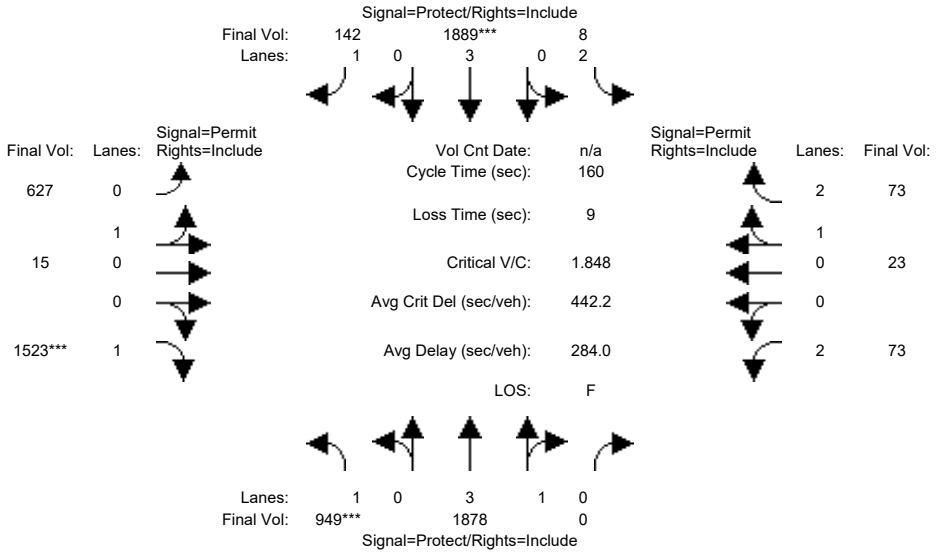
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	902	1784	0	8	1795	135	596	14	1447	69	22	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	902	1784	0	8	1795	135	596	14	1447	69	22	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	902	1784	0	8	1795	135	596	14	1447	69	22	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	949	1878	0	8	1889	142	627	15	1523	73	23	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	949	1878	0	8	1889	142	627	15	1523	73	23	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	949	1878	0	8	1889	142	627	15	1523	73	23	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	0.98	0.02	1.00	2.00	0.73	2.27
Final Sat.:	1750	7500	0	3150	5700	1750	1759	41	1750	3150	1305	4095
Capacity Analysis Module:												
Vol/Sat:	0.54	0.25	0.00	0.00	0.33	0.08	0.36	0.36	0.87	0.02	0.02	0.02
Crit Moves:	****				****				****			
Green Time:	47.0	60.5	0.0	15.1	28.7	28.7	75.3	75.3	75.3	75.3	75.3	75.3
Volume/Cap:	1.85	0.66	0.00	0.03	1.85	0.45	0.76	0.76	1.85	0.05	0.04	0.04
Delay/Veh:	445.8	41.8	0.0	65.8	451	59.7	38.8	38.8	428.8	22.9	22.8	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	445.8	41.8	0.0	65.8	451	59.7	38.8	38.8	428.8	22.9	22.8	22.8
LOS by Move:	F	D	A	E	F	E	D	D	F	C	C	C
HCM2k95thQ:	160	33	0	0	99	13	45	45	256	2	2	2

Note: Queue reported is the number of cars per lane.

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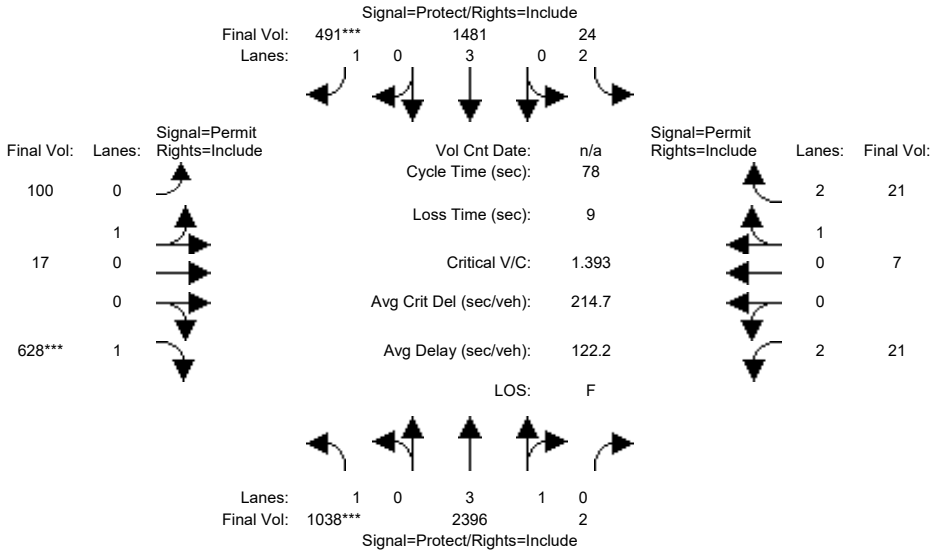
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	934	2156	2	22	1333	442	90	15	565	19	6	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	934	2156	2	22	1333	442	90	15	565	19	6	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	934	2156	2	22	1333	442	90	15	565	19	6	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1038	2396	2	24	1481	491	100	17	628	21	7	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1038	2396	2	24	1481	491	100	17	628	21	7	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1038	2396	2	24	1481	491	100	17	628	21	7	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	0.86	0.14	1.00	2.00	0.72	2.28
Final Sat.:	1750	7493	7	3150	5700	1750	1543	257	1750	3150	1296	4104
Capacity Analysis Module:												
Vol/Sat:	0.59	0.32	0.32	0.01	0.26	0.28	0.06	0.06	0.36	0.01	0.01	0.01
Crit Moves:	****					****			****			
Green Time:	33.2	34.9	34.9	14.0	15.7	15.7	20.1	20.1	20.1	20.1	20.1	20.1
Volume/Cap:	1.39	0.71	0.71	0.04	1.29	1.39	0.25	0.25	1.39	0.03	0.02	0.02
Delay/Veh:	207.5	18.2	18.2	26.5	168	224.6	23.3	23.3	219.0	21.7	21.6	21.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	207.5	18.2	18.2	26.5	168	224.6	23.3	23.3	219.0	21.7	21.6	21.6
LOS by Move:	F	B	B	C	F	F	C	C	F	C	C	C
HCM2k95thQ:	100	22	22	1	43	51	5	5	65	0	0	0

Note: Queue reported is the number of cars per lane.

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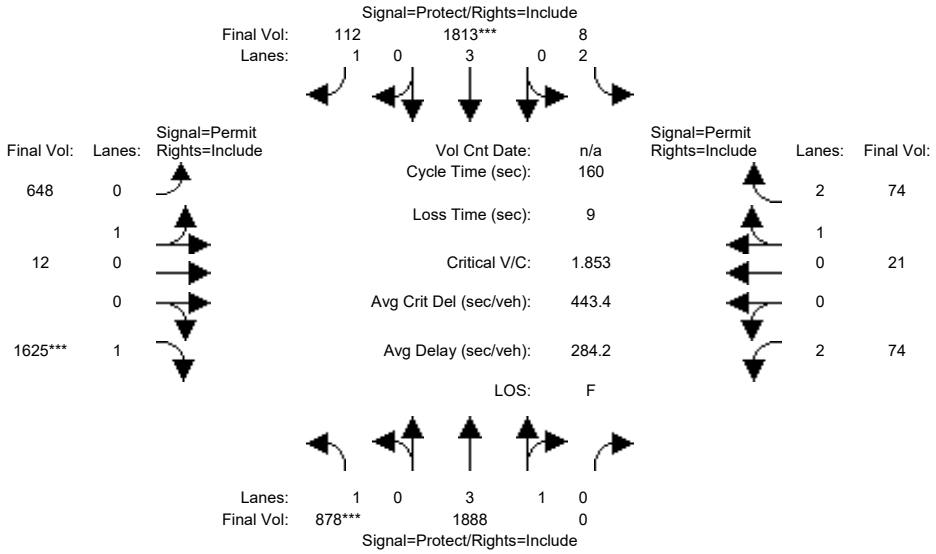
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	834	1794	0	8	1722	106	616	11	1544	70	20	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	834	1794	0	8	1722	106	616	11	1544	70	20	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	834	1794	0	8	1722	106	616	11	1544	70	20	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	878	1888	0	8	1813	112	648	12	1625	74	21	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	878	1888	0	8	1813	112	648	12	1625	74	21	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	878	1888	0	8	1813	112	648	12	1625	74	21	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	0.98	0.02	1.00	2.00	0.67	2.33
Final Sat.:	1750	7500	0	3150	5700	1750	1768	32	1750	3150	1200	4200
Capacity Analysis Module:												
Vol/Sat:	0.50	0.25	0.00	0.00	0.32	0.06	0.37	0.37	0.93	0.02	0.02	0.02
Crit Moves:	****				****				****			
Green Time:	43.3	56.7	0.0	14.1	27.5	27.5	80.2	80.2	80.2	80.2	80.2	80.2
Volume/Cap:	1.85	0.71	0.00	0.03	1.85	0.37	0.73	0.73	1.85	0.05	0.03	0.03
Delay/Veh:	450.1	45.5	0.0	66.8	454	59.4	34.5	34.5	428.0	20.4	20.3	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	450.1	45.5	0.0	66.8	454	59.4	34.5	34.5	428.0	20.4	20.3	20.3
LOS by Move:	F	D	A	E	F	E	C	C	F	C	C	C
HCM2k95thQ:	148	34	0	0	95	10	44	44	273	2	2	2

Note: Queue reported is the number of cars per lane.

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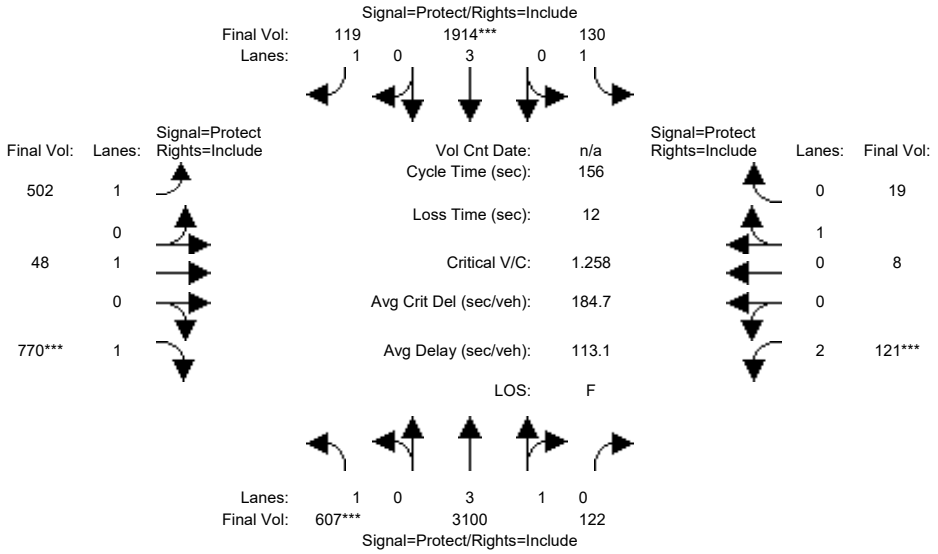
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	546	2790	110	117	1723	107	452	43	693	109	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	546	2790	110	117	1723	107	452	43	693	109	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	2790	110	117	1723	107	452	43	693	109	7	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	607	3100	122	130	1914	119	502	48	770	121	8	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	607	3100	122	130	1914	119	502	48	770	121	8	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	607	3100	122	130	1914	119	502	48	770	121	8	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.84	0.16	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.29	0.71
Final Sat.:	1750	7215	284	1750	5700	1750	1750	1900	1750	3150	525	1275
Capacity Analysis Module:												
Vol/Sat:	0.35	0.43	0.43	0.07	0.34	0.07	0.29	0.03	0.44	0.04	0.01	0.01
Crit Moves:	****				****				****	****		
Green Time:	42.6	71.5	71.5	12.4	41.3	41.3	47.4	54.1	54.1	6.0	12.7	12.7
Volume/Cap:	1.27	0.94	0.94	0.94	1.27	0.26	0.94	0.07	1.27	1.00	0.18	0.18
Delay/Veh:	193.4	45.9	45.9	128.8	184	45.5	78.9	34.2	184.7	156.6	67.4	67.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	193.4	45.9	45.9	128.8	184	45.5	78.9	34.2	184.7	156.6	67.4	67.4
LOS by Move:	F	D	D	F	F	D	E	C	F	F	E	E
HCM2k95thQ:	72	56	56	15	73	9	48	3	95	12	3	3

Note: Queue reported is the number of cars per lane.

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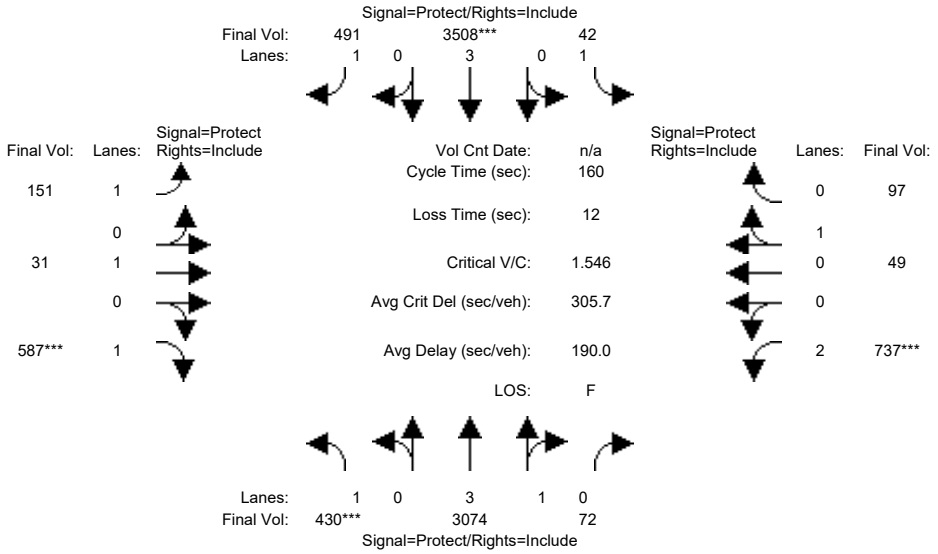
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	400	2859	67	39	3262	457	140	29	546	685	46	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	400	2859	67	39	3262	457	140	29	546	685	46	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	400	2859	67	39	3262	457	140	29	546	685	46	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	430	3074	72	42	3508	491	151	31	587	737	49	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	430	3074	72	42	3508	491	151	31	587	737	49	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	430	3074	72	42	3508	491	151	31	587	737	49	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.90	0.10	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.34	0.66
Final Sat.:	1750	7328	172	1750	5700	1750	1750	1900	1750	3150	609	1191
Capacity Analysis Module:												
Vol/Sat:	0.25	0.42	0.42	0.02	0.62	0.28	0.09	0.02	0.34	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	25.4	81.8	81.8	7.3	63.7	63.7	30.3	34.7	34.7	24.2	28.6	28.6
Volume/Cap:	1.55	0.82	0.82	0.52	1.55	0.71	0.45	0.08	1.55	1.55	0.45	0.45
Delay/Veh:	330.3	34.4	34.4	80.9	296	43.6	58.5	50.0	321.3	324.1	59.7	59.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	330.3	34.4	34.4	80.9	296	43.6	58.5	50.0	321.3	324.1	59.7	59.7
LOS by Move:	F	C	C	F	F	D	E	D	F	F	E	E
HCM2k95thQ:	65	49	49	4	159	36	14	2	90	65	13	13

Note: Queue reported is the number of cars per lane.

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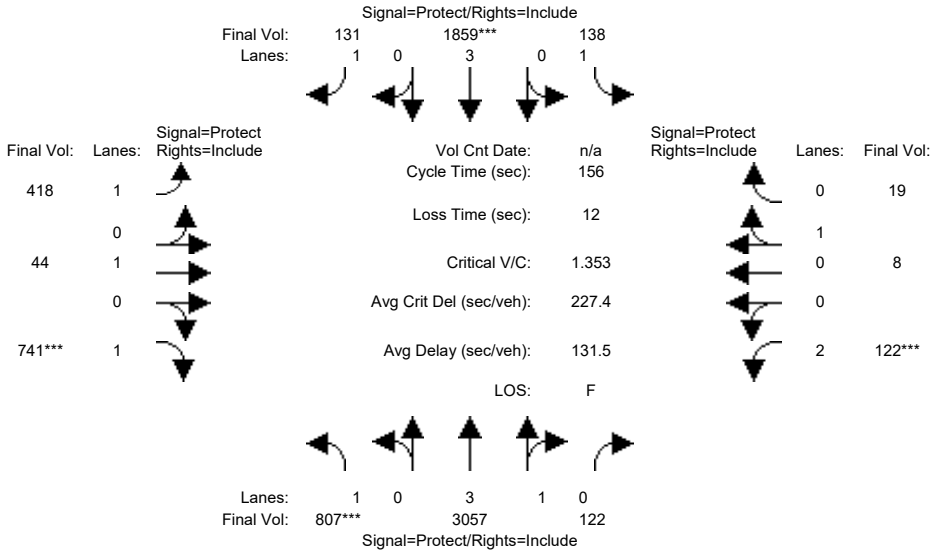
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	726	2751	110	124	1673	118	376	40	667	110	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	726	2751	110	124	1673	118	376	40	667	110	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	726	2751	110	124	1673	118	376	40	667	110	7	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	807	3057	122	138	1859	131	418	44	741	122	8	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	807	3057	122	138	1859	131	418	44	741	122	8	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	807	3057	122	138	1859	131	418	44	741	122	8	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.84	0.16	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.29	0.71
Final Sat.:	1750	7211	288	1750	5700	1750	1750	1900	1750	3150	525	1275
Capacity Analysis Module:												
Vol/Sat:	0.46	0.42	0.42	0.08	0.33	0.07	0.24	0.02	0.42	0.04	0.01	0.01
Crit Moves:	****				****				****	****		
Green Time:	52.5	75.7	75.7	14.1	37.2	37.2	41.0	48.3	48.3	6.0	13.2	13.2
Volume/Cap:	1.37	0.87	0.87	0.87	1.37	0.31	0.91	0.08	1.37	1.01	0.17	0.17
Delay/Veh:	228.2	38.5	38.5	108.0	230	49.4	77.1	38.1	231.2	159.1	66.9	66.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	228.2	38.5	38.5	108.0	230	49.4	77.1	38.1	231.2	159.1	66.9	66.9
LOS by Move:	F	D	D	F	F	D	E	D	F	F	E	E
HCM2k95thQ:	103	51	51	15	76	10	40	3	99	12	3	3

Note: Queue reported is the number of cars per lane.

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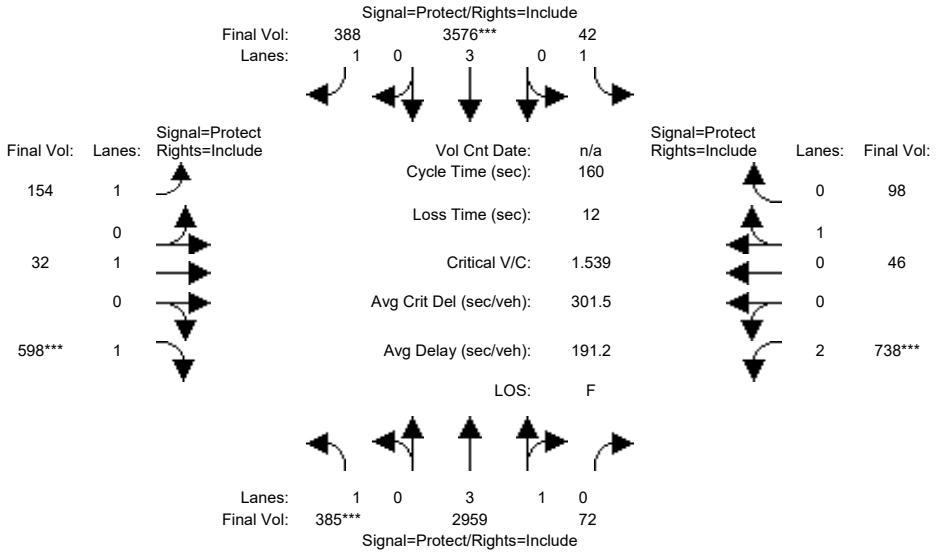
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	358	2752	67	39	3326	361	143	30	556	686	43	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	358	2752	67	39	3326	361	143	30	556	686	43	91
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	358	2752	67	39	3326	361	143	30	556	686	43	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	385	2959	72	42	3576	388	154	32	598	738	46	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	385	2959	72	42	3576	388	154	32	598	738	46	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	385	2959	72	42	3576	388	154	32	598	738	46	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.90	0.10	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.32	0.68
Final Sat.:	1750	7321	178	1750	5700	1750	1750	1900	1750	3150	578	1222
Capacity Analysis Module:												
Vol/Sat:	0.22	0.40	0.40	0.02	0.63	0.22	0.09	0.02	0.34	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	22.9	80.6	80.6	7.5	65.2	65.2	31.3	35.5	35.5	24.4	28.5	28.5
Volume/Cap:	1.54	0.80	0.80	0.51	1.54	0.54	0.45	0.08	1.54	1.54	0.45	0.45
Delay/Veh:	330.0	34.3	34.3	79.9	292	36.9	57.7	49.3	317.2	320.5	59.7	59.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	330.0	34.3	34.3	79.9	292	36.9	57.7	49.3	317.2	320.5	59.7	59.7
LOS by Move:	F	C	C	E	F	D	E	D	F	F	E	E
HCM2k95thQ:	58	47	47	4	161	27	14	3	91	65	13	13

Note: Queue reported is the number of cars per lane.

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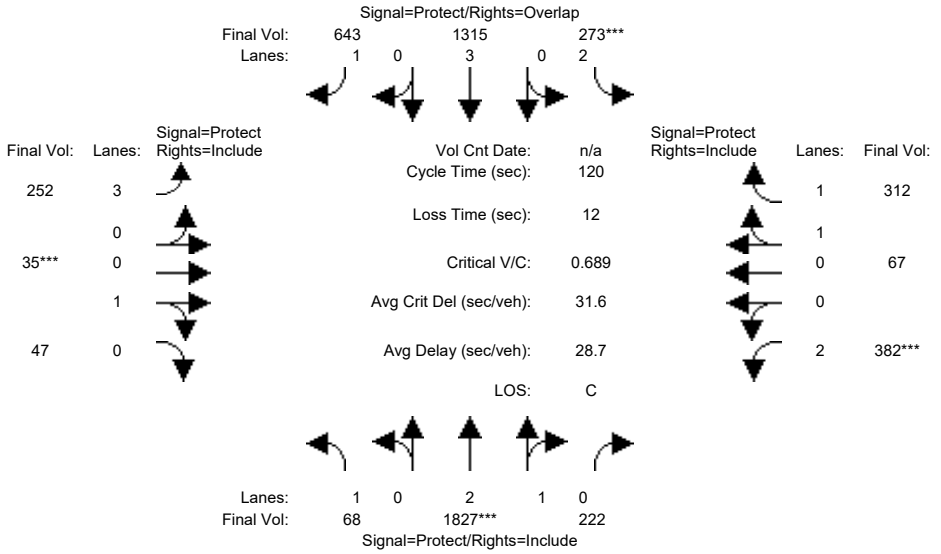
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	62	1663	202	248	1197	585	229	32	43	348	61	284
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	1663	202	248	1197	585	229	32	43	348	61	284
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	1663	202	248	1197	585	229	32	43	348	61	284
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	68	1827	222	273	1315	643	252	35	47	382	67	312
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	1827	222	273	1315	643	252	35	47	382	67	312
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	1827	222	273	1315	643	252	35	47	382	67	312
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.66	0.34	2.00	3.00	1.00	3.00	0.43	0.57	2.00	0.35	1.65
Final Sat.:	1750	4993	606	3150	5700	1750	4551	768	1032	3150	637	2963
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.09	0.23	0.37	0.06	0.05	0.05	0.12	0.11	0.11
Crit Moves:		****		****				****		****		
Green Time:	13.3	61.2	61.2	14.5	62.4	76.6	14.3	12.0	12.0	20.3	18.0	18.0
Volume/Cap:	0.35	0.72	0.72	0.72	0.44	0.58	0.46	0.46	0.46	0.72	0.70	0.70
Delay/Veh:	50.4	23.6	23.6	57.3	18.1	13.1	49.9	52.8	52.8	51.8	52.5	52.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	23.6	23.6	57.3	18.1	13.1	49.9	52.8	52.8	51.8	52.5	52.5
LOS by Move:	D	C	C	E	B	B	D	D	D	D	D	D
HCM2k95thQ:	5	31	31	11	18	25	8	7	7	17	16	16

Note: Queue reported is the number of cars per lane.

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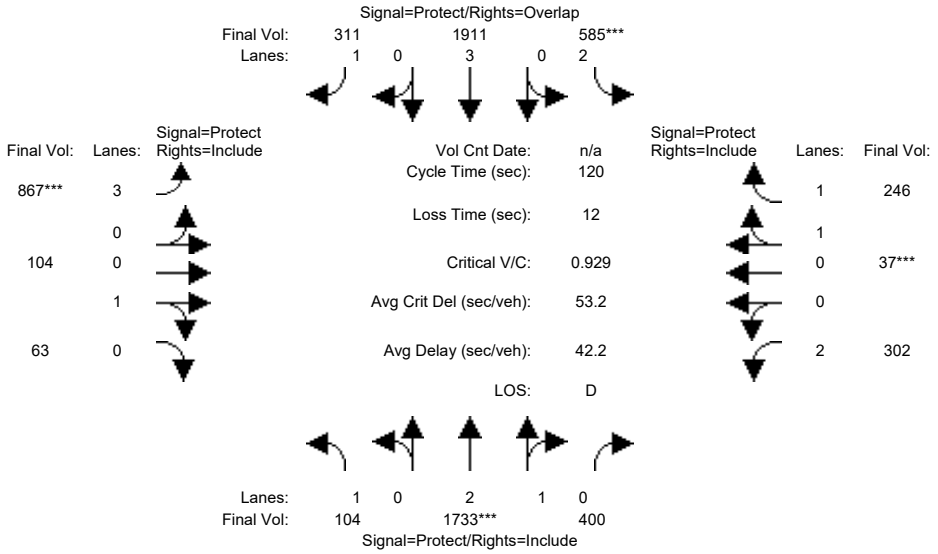
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	99	1646	380	556	1815	295	824	99	60	287	35	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	1646	380	556	1815	295	824	99	60	287	35	234
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	1646	380	556	1815	295	824	99	60	287	35	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	104	1733	400	585	1911	311	867	104	63	302	37	246
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	1733	400	585	1911	311	867	104	63	302	37	246
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	1733	400	585	1911	311	867	104	63	302	37	246
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.42	0.58	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.26	1.74
Final Sat.:	1750	4548	1050	3150	5700	1750	4551	1121	679	3150	468	3132
Capacity Analysis Module:												
Vol/Sat:	0.06	0.38	0.38	0.19	0.34	0.18	0.19	0.09	0.09	0.10	0.08	0.08
Crit Moves:		****		****			****				****	
Green Time:	12.1	49.2	49.2	24.0	61.1	85.7	24.6	17.8	17.8	17.0	10.2	10.2
Volume/Cap:	0.59	0.93	0.93	0.93	0.66	0.25	0.93	0.63	0.63	0.68	0.93	0.93
Delay/Veh:	56.6	41.1	41.1	67.4	22.3	6.1	62.0	52.8	52.8	53.0	88.0	88.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	56.6	41.1	41.1	67.4	22.3	6.1	62.0	52.8	52.8	53.0	88.0	88.0
LOS by Move:	E	D	D	E	C	A	E	D	D	D	F	F
HCM2k95thQ:	7	40	40	25	29	8	30	13	13	14	16	16

Note: Queue reported is the number of cars per lane.

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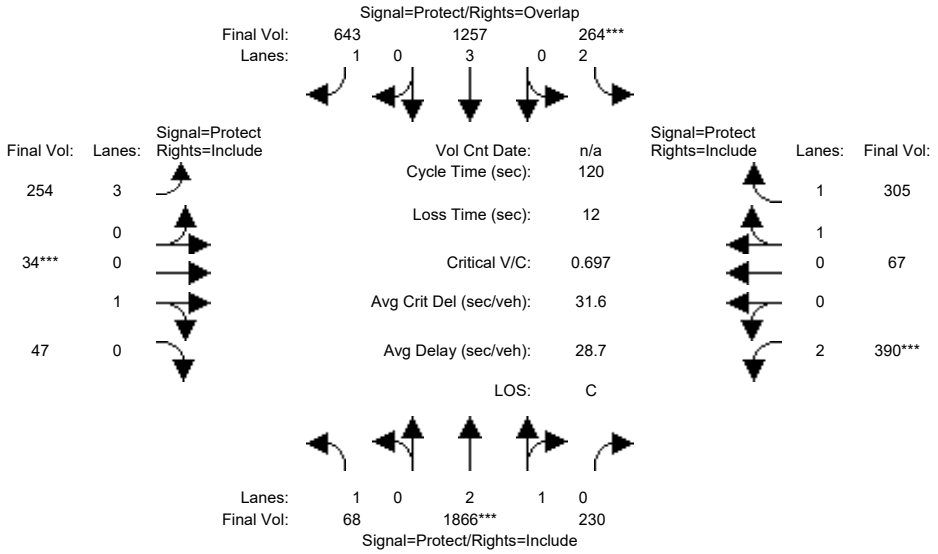
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	62	1698	209	240	1144	585	231	31	43	355	61	278
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	62	1698	209	240	1144	585	231	31	43	355	61	278
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	1698	209	240	1144	585	231	31	43	355	61	278
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	68	1866	230	264	1257	643	254	34	47	390	67	305
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	1866	230	264	1257	643	254	34	47	390	67	305
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	1866	230	264	1257	643	254	34	47	390	67	305
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.66	0.34	2.00	3.00	1.00	3.00	0.42	0.58	2.00	0.36	1.64
Final Sat.:	1750	4985	614	3150	5700	1750	4551	754	1046	3150	648	2952
Capacity Analysis Module:												
Vol/Sat:	0.04	0.37	0.37	0.08	0.22	0.37	0.06	0.05	0.05	0.12	0.10	0.10
Crit Moves:		****		****				****		****		
Green Time:	13.3	61.8	61.8	13.8	62.2	76.7	14.5	12.0	12.0	20.4	18.0	18.0
Volume/Cap:	0.35	0.73	0.73	0.73	0.43	0.57	0.46	0.45	0.45	0.73	0.69	0.69
Delay/Veh:	50.4	23.5	23.5	58.5	17.9	13.1	49.8	52.7	52.7	52.1	52.2	52.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	23.5	23.5	58.5	17.9	13.1	49.8	52.7	52.7	52.1	52.2	52.2
LOS by Move:	D	C	C	E	B	B	D	D	D	D	D	D
HCM2k95thQ:	5	32	32	11	17	25	8	7	7	18	15	15

Note: Queue reported is the number of cars per lane.

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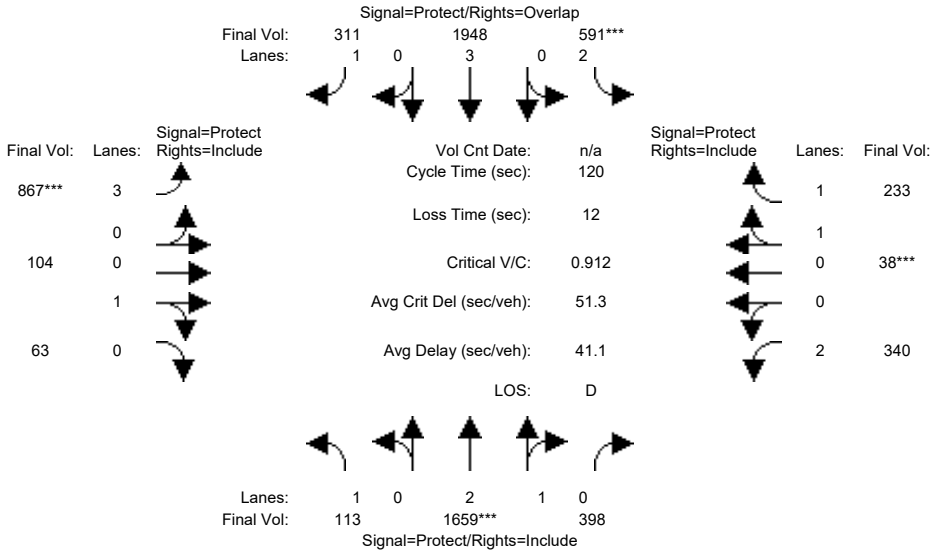
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #58: (21) BOWERS AV / AUGUSTINE DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	4	15	15	10	12	12	10	5	5
Y+R:	3.0	5.5	5.5	4.0	5.5	5.5	5.0	5.0	5.0	4.0	5.0	5.0
Volume Module:												
Base Vol:	107	1576	378	561	1851	295	824	99	60	323	36	221
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	1576	378	561	1851	295	824	99	60	323	36	221
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	1576	378	561	1851	295	824	99	60	323	36	221
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	113	1659	398	591	1948	311	867	104	63	340	38	233
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	1659	398	591	1948	311	867	104	63	340	38	233
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	1659	398	591	1948	311	867	104	63	340	38	233
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.80	0.95	0.95	0.83	0.95	0.95
Lanes:	1.00	2.40	0.60	2.00	3.00	1.00	3.00	0.62	0.38	2.00	0.28	1.72
Final Sat.:	1750	4515	1083	3150	5700	1750	4551	1121	679	3150	504	3096
Capacity Analysis Module:												
Vol/Sat:	0.06	0.37	0.37	0.19	0.34	0.18	0.19	0.09	0.09	0.11	0.08	0.08
Crit Moves:		****		****			****				****	
Green Time:	11.9	48.4	48.4	24.7	61.1	86.2	25.1	16.8	16.8	18.2	9.9	9.9
Volume/Cap:	0.65	0.91	0.91	0.91	0.67	0.25	0.91	0.66	0.66	0.71	0.91	0.91
Delay/Veh:	60.3	39.9	39.9	63.8	22.6	5.9	59.1	55.4	55.4	53.5	85.1	85.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.3	39.9	39.9	63.8	22.6	5.9	59.1	55.4	55.4	53.5	85.1	85.1
LOS by Move:	E	D	D	E	C	A	E	E	E	D	F	F
HCM2k95thQ:	8	38	38	25	30	8	29	14	14	16	15	15

Note: Queue reported is the number of cars per lane.

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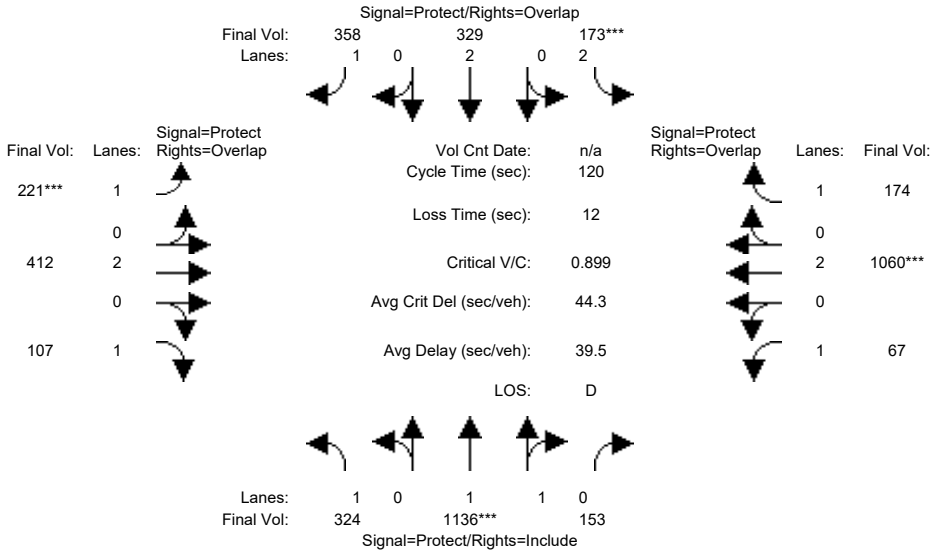
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	292	1022	138	156	296	322	199	371	96	60	954	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	1022	138	156	296	322	199	371	96	60	954	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	1022	138	156	296	322	199	371	96	60	954	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1136	153	173	329	358	221	412	107	67	1060	174
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1136	153	173	329	358	221	412	107	67	1060	174
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1136	153	173	329	358	221	412	107	67	1060	174
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.76	0.24	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3259	440	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.35	0.35	0.06	0.09	0.20	0.13	0.11	0.06	0.04	0.28	0.10
Crit Moves:		****		****			****				****	
Green Time:	37.0	46.2	46.2	8.0	17.3	34.0	16.8	38.9	75.8	14.9	37.0	45.0
Volume/Cap:	0.60	0.90	0.90	0.83	0.60	0.72	0.90	0.34	0.10	0.31	0.90	0.27
Delay/Veh:	26.7	28.7	28.7	75.3	44.6	33.6	84.1	30.9	8.7	48.6	49.8	26.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.7	28.7	28.7	75.3	44.6	33.6	84.1	30.9	8.7	48.6	49.8	26.2
LOS by Move:	C	C	C	E	D	C	F	C	A	D	D	C
HCM2k95thQ:	17	39	39	8	10	21	18	11	3	5	37	9

Note: Queue reported is the number of cars per lane.

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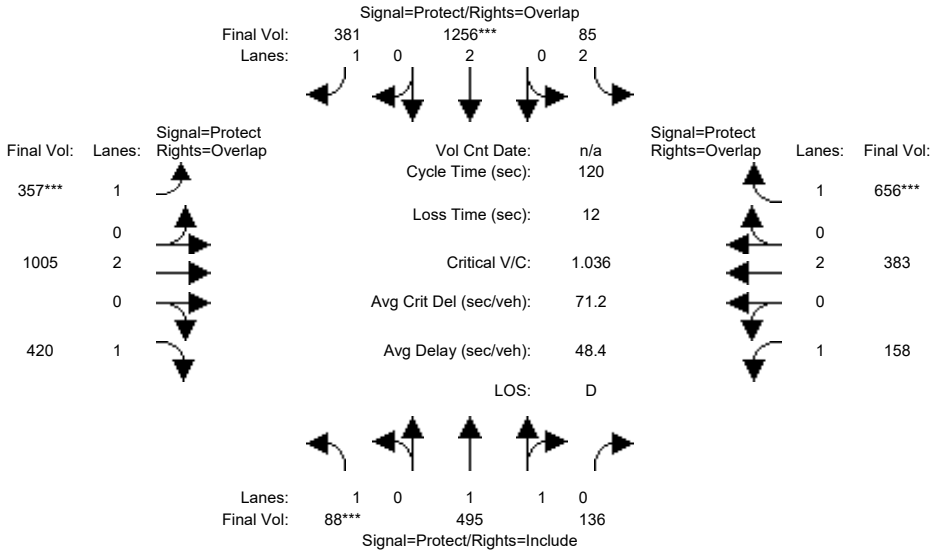
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	87	490	135	84	1243	377	353	995	416	156	379	649
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	490	135	84	1243	377	353	995	416	156	379	649
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	490	135	84	1243	377	353	995	416	156	379	649
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	88	495	136	85	1256	381	357	1005	420	158	383	656
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	495	136	85	1256	381	357	1005	420	158	383	656
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	495	136	85	1256	381	357	1005	420	158	383	656
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.56	0.44	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	2900	799	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.17	0.17	0.03	0.33	0.22	0.20	0.26	0.24	0.09	0.10	0.37
Crit Moves:	****				****		****					****
Green Time:	5.8	31.7	31.7	12.4	38.3	61.9	23.6	44.2	50.1	15.1	35.7	48.1
Volume/Cap:	1.04	0.65	0.65	0.26	1.04	0.42	1.04	0.72	0.58	0.72	0.34	0.94
Delay/Veh:	162.9	31.3	31.3	46.2	63.6	5.5	106.2	34.3	28.0	61.3	33.1	54.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	162.9	31.3	31.3	46.2	63.6	5.5	106.2	34.3	28.0	61.3	33.1	54.2
LOS by Move:	F	C	C	D	E	A	F	C	C	E	C	D
HCM2k95thQ:	10	17	17	3	42	6	32	28	23	14	11	48

Note: Queue reported is the number of cars per lane.

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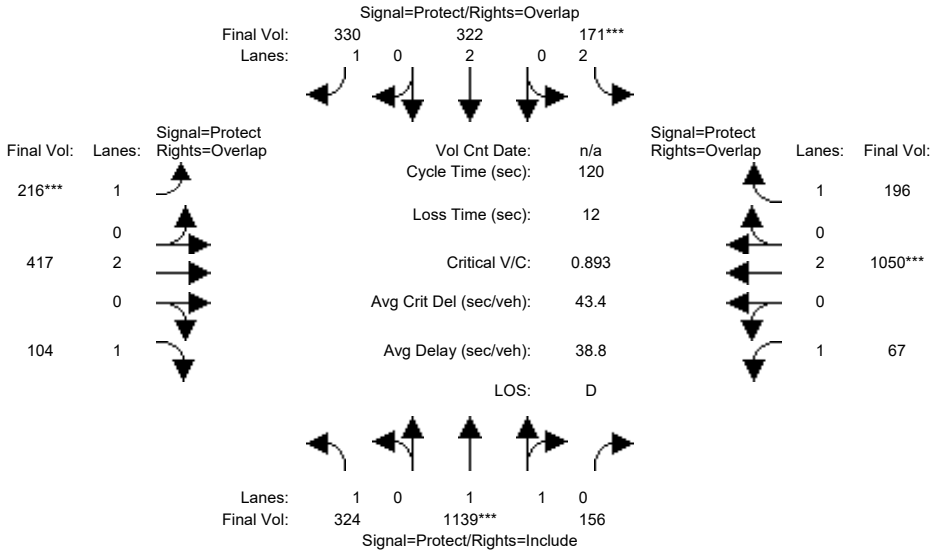
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	292	1025	140	154	290	297	194	375	94	60	945	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	1025	140	154	290	297	194	375	94	60	945	176
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	1025	140	154	290	297	194	375	94	60	945	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	324	1139	156	171	322	330	216	417	104	67	1050	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	324	1139	156	171	322	330	216	417	104	67	1050	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	324	1139	156	171	322	330	216	417	104	67	1050	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.75	0.25	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	3255	445	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.19	0.35	0.35	0.05	0.08	0.19	0.12	0.11	0.06	0.04	0.28	0.11
Crit Moves:		****		****			****				****	
Green Time:	37.5	46.7	46.7	8.0	17.2	33.6	16.4	38.6	76.2	14.7	36.9	44.9
Volume/Cap:	0.59	0.90	0.90	0.81	0.59	0.67	0.90	0.34	0.09	0.31	0.90	0.30
Delay/Veh:	26.0	27.8	27.8	73.8	44.5	32.1	83.6	31.2	8.6	48.9	49.3	26.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.0	27.8	27.8	73.8	44.5	32.1	83.6	31.2	8.6	48.9	49.3	26.7
LOS by Move:	C	C	C	E	D	C	F	C	A	D	D	C
HCM2k95thQ:	17	38	38	8	10	19	18	11	3	5	37	11

Note: Queue reported is the number of cars per lane.

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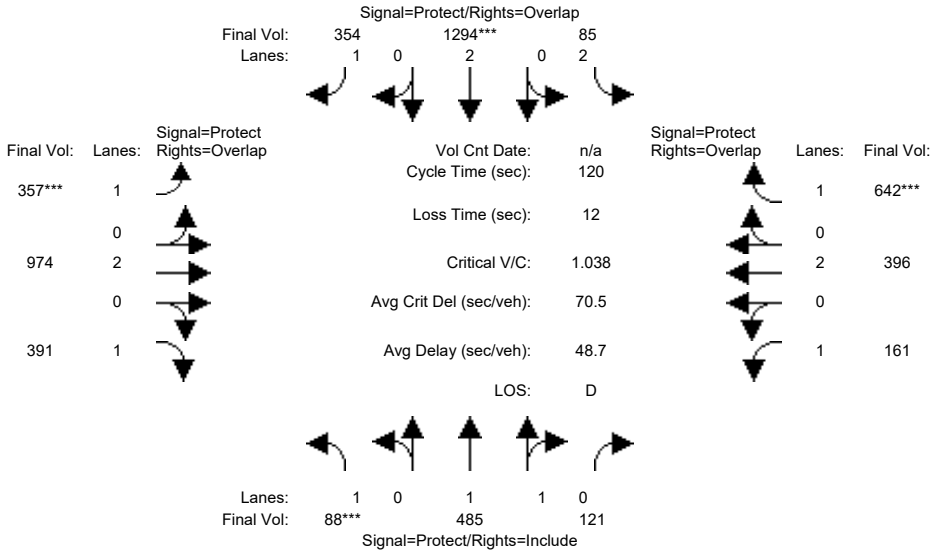
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #61: (24) BOWERS AV / KIFER RD-WALSH AV



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	5	10	10	8	10	10	5	5	5	5	5	5
Y+R:	4.1	5.0	5.0	4.0	5.0	5.0	4.1	4.6	4.6	4.0	5.0	5.0
Volume Module:												
Base Vol:	87	480	120	84	1281	350	353	964	387	159	392	636
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	480	120	84	1281	350	353	964	387	159	392	636
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	480	120	84	1281	350	353	964	387	159	392	636
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	88	485	121	85	1294	354	357	974	391	161	396	642
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	485	121	85	1294	354	357	974	391	161	396	642
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	485	121	85	1294	354	357	974	391	161	396	642
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.59	0.41	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	2959	740	3150	3800	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.16	0.16	0.03	0.34	0.20	0.20	0.26	0.22	0.09	0.10	0.37
Crit Moves:	****				****		****					****
Green Time:	5.8	32.1	32.1	13.1	39.3	62.9	23.5	42.9	48.7	15.4	34.7	47.8
Volume/Cap:	1.04	0.61	0.61	0.25	1.04	0.39	1.04	0.72	0.55	0.72	0.36	0.92
Delay/Veh:	163.9	30.3	30.3	45.4	63.3	4.8	107.1	35.2	28.2	60.8	34.0	52.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	163.9	30.3	30.3	45.4	63.3	4.8	107.1	35.2	28.2	60.8	34.0	52.1
LOS by Move:	F	C	C	D	E	A	F	D	C	E	C	D
HCM2k95thQ:	10	16	16	3	44	5	32	27	21	14	11	46

Note: Queue reported is the number of cars per lane.

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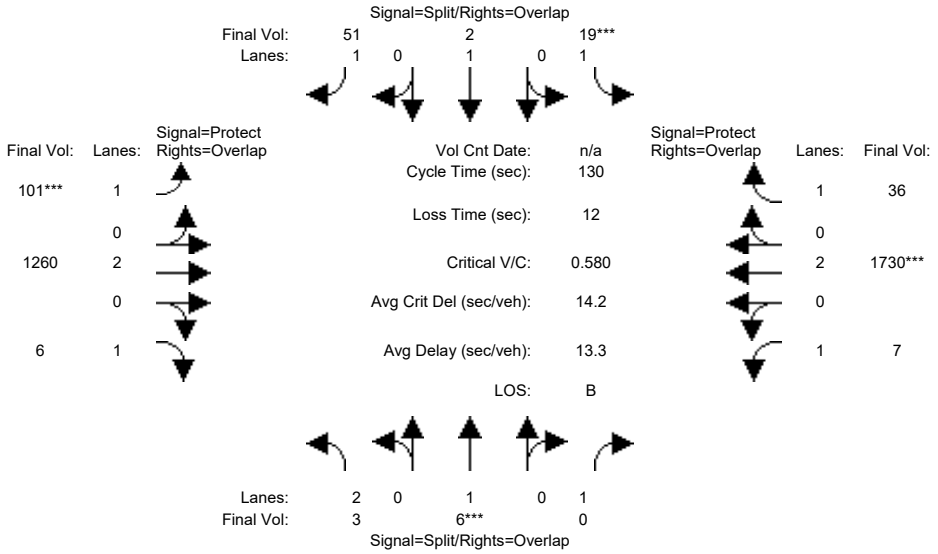
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	3	5	0	17	2	46	91	1134	5	6	1557	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	17	2	46	91	1134	5	6	1557	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	17	2	46	91	1134	5	6	1557	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	19	2	51	101	1260	6	7	1730	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	19	2	51	101	1260	6	7	1730	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	19	2	51	101	1260	6	7	1730	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.06	0.33	0.00	0.00	0.46	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	18.7	11.7	87.7	94.7	16.3	92.3	99.3
Volume/Cap:	0.02	0.05	0.00	0.20	0.02	0.20	0.64	0.49	0.00	0.03	0.64	0.03
Delay/Veh:	58.3	58.6	0.0	59.9	58.3	49.5	65.8	10.4	4.8	50.0	10.6	3.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.9	58.3	49.5	65.8	10.4	4.8	50.0	10.6	3.7
LOS by Move:	E	E	A	E	E	D	E	B	A	D	B	A
HCM2k95thQ:	0	1	0	2	0	4	8	22	0	1	32	1

Note: Queue reported is the number of cars per lane.

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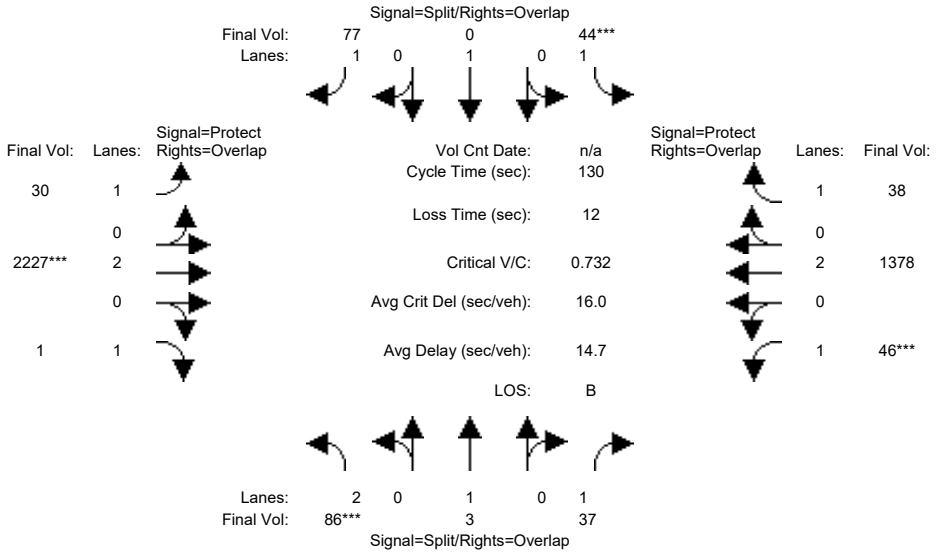
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	81	3	35	41	0	72	28	2093	1	43	1295	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	72	28	2093	1	43	1295	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	72	28	2093	1	43	1295	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	77	30	2227	1	46	1378	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	77	30	2227	1	46	1378	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	77	30	2227	1	46	1378	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.04	0.02	0.59	0.00	0.03	0.36	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	18.7	11.7	96.0	103.0	8.0	92.3	99.3
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.30	0.19	0.79	0.00	0.42	0.51	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	50.5	55.3	12.4	2.8	61.5	8.8	3.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	50.5	55.3	12.4	2.8	61.5	8.8	3.7
LOS by Move:	E	E	D	E	A	D	E	B	A	E	A	A
HCM2k95thQ:	6	0	3	5	0	6	2	44	0	4	22	1

Note: Queue reported is the number of cars per lane.

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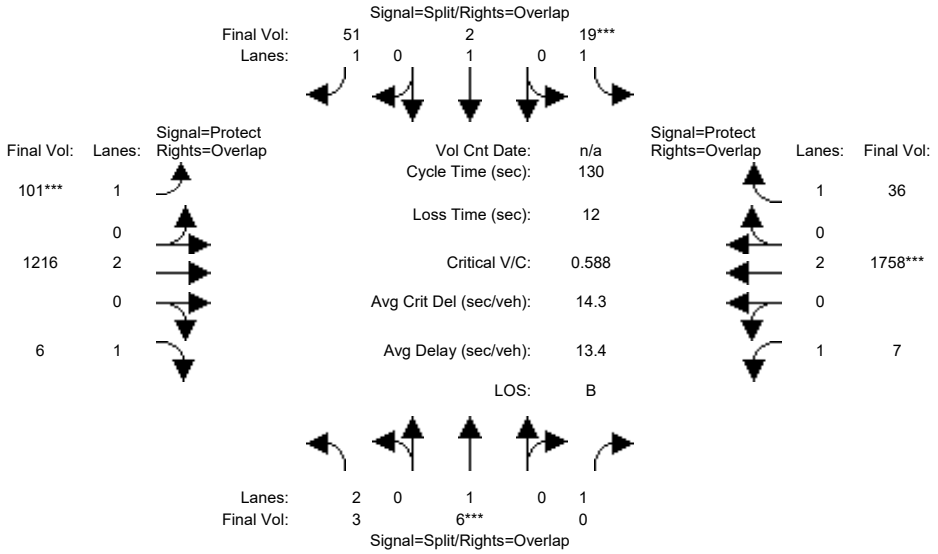
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	3	5	0	17	2	46	91	1094	5	6	1582	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	5	0	17	2	46	91	1094	5	6	1582	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	5	0	17	2	46	91	1094	5	6	1582	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	3	6	0	19	2	51	101	1216	6	7	1758	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	6	0	19	2	51	101	1216	6	7	1758	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	6	0	19	2	51	101	1216	6	7	1758	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.03	0.06	0.32	0.00	0.00	0.46	0.02
Crit Moves:		****		****			****				****	
Green Time:	7.0	7.0	0.0	7.0	7.0	18.5	11.5	87.2	94.2	16.8	92.5	99.5
Volume/Cap:	0.02	0.05	0.00	0.20	0.02	0.20	0.65	0.48	0.00	0.03	0.65	0.03
Delay/Veh:	58.3	58.6	0.0	59.9	58.3	49.6	66.6	10.5	4.9	49.5	10.7	3.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.3	58.6	0.0	59.9	58.3	49.6	66.6	10.5	4.9	49.5	10.7	3.7
LOS by Move:	E	E	A	E	E	D	E	B	A	D	B	A
HCM2k95thQ:	0	1	0	2	0	4	8	21	0	1	32	1

Note: Queue reported is the number of cars per lane.

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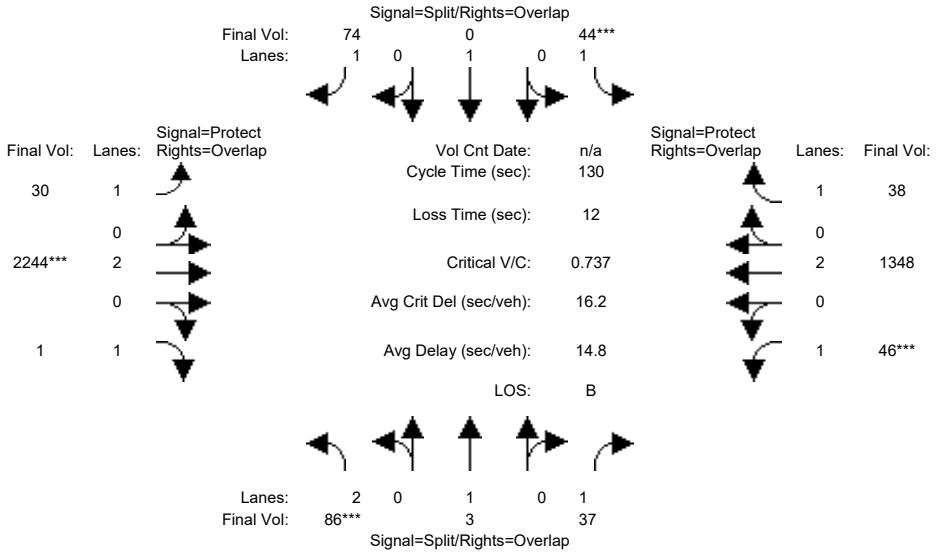
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #69: (36) CONVENTION CENTER / Tasman Dr



Street Name:	CONVENTION CENTER						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	7	7	7	7	7	6	15	15	8	10	10
Y+R:	5.5	5.5	5.5	5.5	5.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	81	3	35	41	0	70	28	2109	1	43	1267	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	3	35	41	0	70	28	2109	1	43	1267	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	3	35	41	0	70	28	2109	1	43	1267	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	86	3	37	44	0	74	30	2244	1	46	1348	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	3	37	44	0	74	30	2244	1	46	1348	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	3	37	44	0	74	30	2244	1	46	1348	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.02	0.02	0.00	0.04	0.02	0.59	0.00	0.03	0.35	0.02
Crit Moves:	****			****				****		****		
Green Time:	7.0	7.0	15.0	7.0	0.0	19.0	12.0	96.0	103.0	8.0	92.0	99.0
Volume/Cap:	0.51	0.03	0.18	0.46	0.00	0.29	0.18	0.80	0.00	0.42	0.50	0.03
Delay/Veh:	62.3	58.4	52.4	63.2	0.0	50.2	55.1	12.6	2.8	61.5	8.7	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.3	58.4	52.4	63.2	0.0	50.2	55.1	12.6	2.8	61.5	8.7	3.8
LOS by Move:	E	E	D	E	A	D	E	B	A	E	A	A
HCM2k95thQ:	6	0	3	5	0	6	2	45	0	4	22	1

Note: Queue reported is the number of cars per lane.

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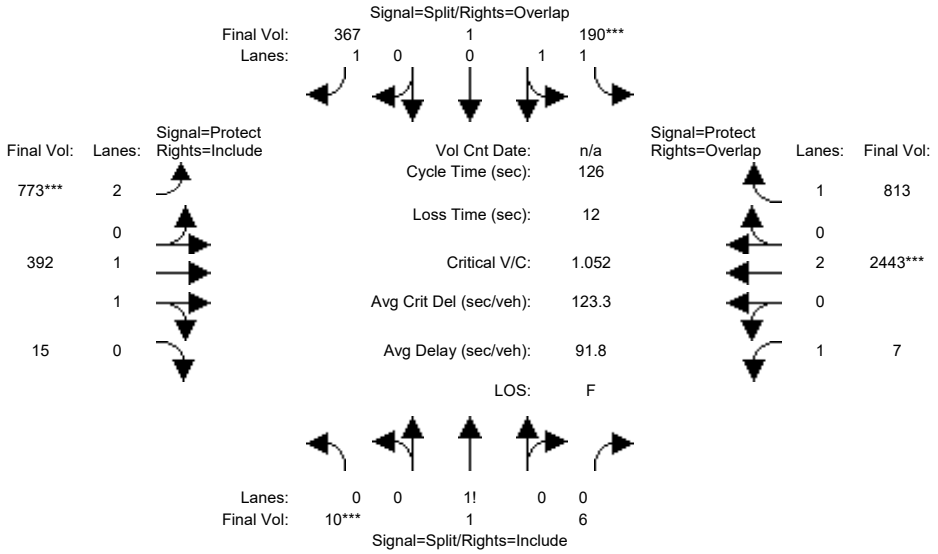
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	10	1	6	182	1	352	742	376	14	7	2345	780
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	6	182	1	352	742	376	14	7	2345	780
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	6	182	1	352	742	376	14	7	2345	780
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	1	6	190	1	367	773	392	15	7	2443	813
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	6	190	1	367	773	392	15	7	2443	813
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	6	190	1	367	773	392	15	7	2443	813
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.59	0.06	0.35	1.99	0.01	1.00	2.00	1.93	0.07	1.00	2.00	1.00
Final Sat.:	1029	103	618	3531	19	1750	3150	3567	133	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.05	0.05	0.21	0.25	0.11	0.11	0.00	0.64	0.46
Crit Moves:	****			****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	36.0	26.0	75.2	75.2	18.8	68.0	78.0
Volume/Cap:	0.13	0.13	0.13	0.68	0.68	0.73	1.19	0.18	0.18	0.03	1.19	0.75
Delay/Veh:	54.4	54.4	54.4	62.9	62.9	46.3	150.5	11.5	11.5	45.8	120	20.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.4	62.9	62.9	46.3	150.5	11.5	11.5	45.8	120	20.0
LOS by Move:	D	D	D	E	E	D	F	B	B	D	F	B
HCM2k95thQ:	2	2	2	10	10	26	46	7	7	1	108	41

Note: Queue reported is the number of cars per lane.

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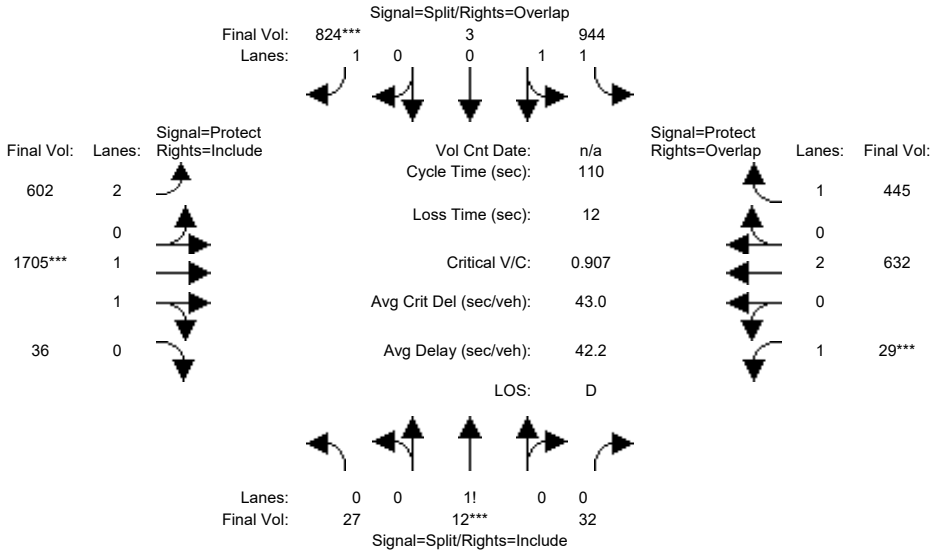
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	25	11	29	859	3	750	548	1552	33	26	575	405
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	11	29	859	3	750	548	1552	33	26	575	405
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	11	29	859	3	750	548	1552	33	26	575	405
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	27	12	32	944	3	824	602	1705	36	29	632	445
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	12	32	944	3	824	602	1705	36	29	632	445
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	12	32	944	3	824	602	1705	36	29	632	445
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.38	0.17	0.45	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	673	296	781	3538	12	1750	3150	3623	77	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.27	0.27	0.47	0.19	0.47	0.47	0.02	0.17	0.25
Crit Moves:		****				****		****		****		
Green Time:	10.0	10.0	10.0	30.9	30.9	60.2	29.2	52.1	52.1	5.0	27.8	58.8
Volume/Cap:	0.45	0.45	0.45	0.95	0.95	0.86	0.72	0.99	0.99	0.36	0.66	0.48
Delay/Veh:	49.4	49.4	49.4	56.2	56.2	29.3	39.7	49.0	49.0	53.7	38.5	16.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.4	49.4	49.4	56.2	56.2	29.3	39.7	49.0	49.0	53.7	38.5	16.4
LOS by Move:	D	D	D	E	E	C	D	D	D	D	D	B
HCM2k95thQ:	6	6	6	36	36	46	21	57	57	2	18	18

Note: Queue reported is the number of cars per lane.

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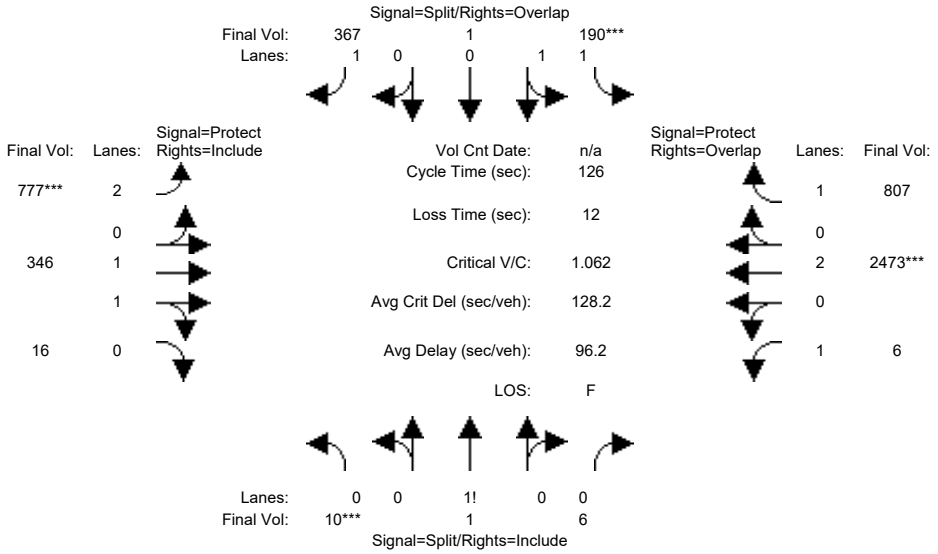
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	10	1	6	182	1	352	746	332	15	6	2374	775
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	1	6	182	1	352	746	332	15	6	2374	775
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	1	6	182	1	352	746	332	15	6	2374	775
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	1	6	190	1	367	777	346	16	6	2473	807
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	1	6	190	1	367	777	346	16	6	2473	807
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	1	6	190	1	367	777	346	16	6	2473	807
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.59	0.06	0.35	1.99	0.01	1.00	2.00	1.91	0.09	1.00	2.00	1.00
Final Sat.:	1029	103	618	3531	19	1750	3150	3540	160	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.05	0.05	0.21	0.25	0.10	0.10	0.00	0.65	0.46
Crit Moves:	****			****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	35.8	25.8	75.2	75.2	18.8	68.2	78.2
Volume/Cap:	0.13	0.13	0.13	0.68	0.68	0.74	1.20	0.16	0.16	0.02	1.20	0.74
Delay/Veh:	54.4	54.4	54.4	62.9	62.9	46.5	155.7	11.4	11.4	45.8	125	19.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.4	62.9	62.9	46.5	155.7	11.4	11.4	45.8	125	19.7
LOS by Move:	D	D	D	E	E	D	F	B	B	D	F	B
HCM2k95thQ:	2	2	2	10	10	27	46	6	6	0	111	40

Note: Queue reported is the number of cars per lane.

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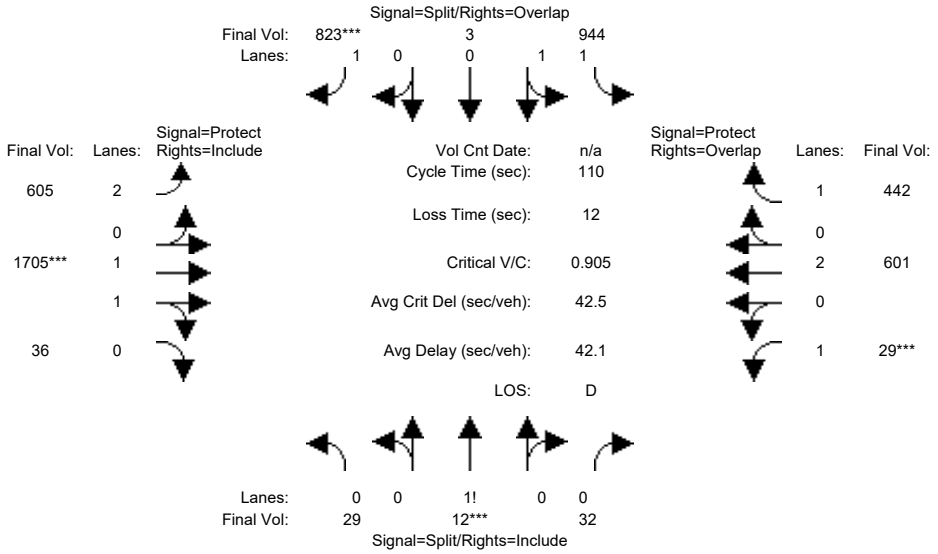
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #71: (37) TASMAN / CENTENNIAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	20	20	5	20	20
Y+R:	5.5	5.5	5.5	6.0	6.0	6.0	5.5	6.0	6.0	6.0	6.0	6.0
Volume Module:												
Base Vol:	26	11	29	859	3	749	551	1552	33	26	547	402
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	11	29	859	3	749	551	1552	33	26	547	402
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	11	29	859	3	749	551	1552	33	26	547	402
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	29	12	32	944	3	823	605	1705	36	29	601	442
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	12	32	944	3	823	605	1705	36	29	601	442
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	12	32	944	3	823	605	1705	36	29	601	442
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.93	0.95	0.92	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.39	0.17	0.44	1.99	0.01	1.00	2.00	1.96	0.04	1.00	2.00	1.00
Final Sat.:	689	292	769	3538	12	1750	3150	3623	77	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.27	0.27	0.47	0.19	0.47	0.47	0.02	0.16	0.25
Crit Moves:		****				****		****		****		
Green Time:	10.0	10.0	10.0	30.8	30.8	60.2	29.4	52.2	52.2	5.0	27.8	58.6
Volume/Cap:	0.46	0.46	0.46	0.95	0.95	0.86	0.72	0.99	0.99	0.36	0.63	0.47
Delay/Veh:	49.5	49.5	49.5	57.0	57.0	29.2	39.6	48.4	48.4	53.7	37.8	16.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.5	49.5	49.5	57.0	57.0	29.2	39.6	48.4	48.4	53.7	37.8	16.4
LOS by Move:	D	D	D	E	E	C	D	D	D	D	D	B
HCM2k95thQ:	6	6	6	37	37	46	21	57	57	2	17	18

Note: Queue reported is the number of cars per lane.

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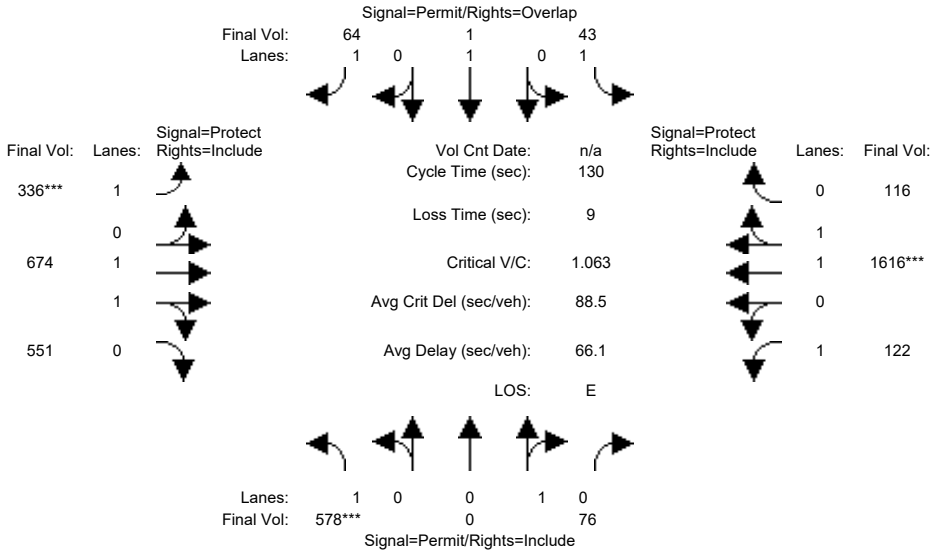
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	520	0	68	39	1	58	302	607	496	110	1454	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	520	0	68	39	1	58	302	607	496	110	1454	104
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	520	0	68	39	1	58	302	607	496	110	1454	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	578	0	76	43	1	64	336	674	551	122	1616	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	578	0	76	43	1	64	336	674	551	122	1616	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	578	0	76	43	1	64	336	674	551	122	1616	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.95	0.92	0.98	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.08	0.92	1.00	1.86	0.14
Final Sat.:	1750	0	1800	1750	1900	1750	1750	2035	1663	1750	3453	247
Capacity Analysis Module:												
Vol/Sat:	0.33	0.00	0.04	0.02	0.00	0.04	0.19	0.33	0.33	0.07	0.47	0.47
Crit Moves:	****						****				****	
Green Time:	40.4	0.0	40.4	40.4	40.4	63.8	23.4	66.6	66.6	14.0	57.2	57.2
Volume/Cap:	1.06	0.00	0.14	0.08	0.00	0.08	1.06	0.65	0.65	0.65	1.06	1.06
Delay/Veh:	101.4	0.0	32.4	31.8	30.9	17.5	121.7	23.9	23.9	63.2	77.7	77.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	101.4	0.0	32.4	31.8	30.9	17.5	121.7	23.9	23.9	63.2	77.7	77.7
LOS by Move:	F	A	C	C	C	B	F	C	C	E	E	E
HCM2k95thQ:	54	0	5	3	0	3	32	30	30	10	70	70

Note: Queue reported is the number of cars per lane.

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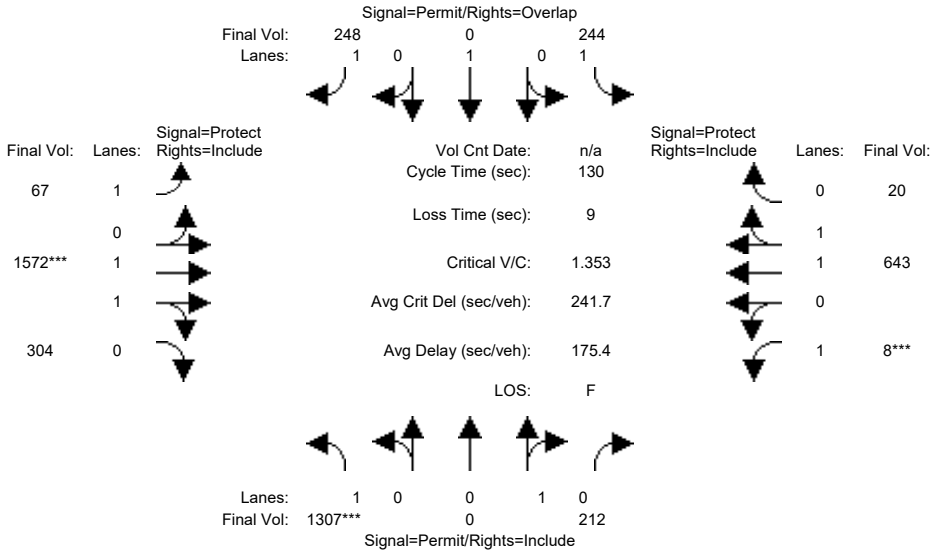
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	1268	0	206	237	0	241	65	1525	295	8	624	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1268	0	206	237	0	241	65	1525	295	8	624	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1268	0	206	237	0	241	65	1525	295	8	624	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1307	0	212	244	0	248	67	1572	304	8	643	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1307	0	212	244	0	248	67	1572	304	8	643	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1307	0	212	244	0	248	67	1572	304	8	643	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.67	0.33	1.00	1.94	0.06
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3100	600	1750	3591	109
Capacity Analysis Module:												
Vol/Sat:	0.75	0.00	0.12	0.14	0.00	0.14	0.04	0.51	0.51	0.00	0.18	0.18
Crit Moves:	****							****		****		
Green Time:	67.3	0.0	67.3	67.3	0.0	81.0	13.7	45.7	45.7	8.0	40.0	40.0
Volume/Cap:	1.44	0.00	0.23	0.27	0.00	0.23	0.36	1.44	1.44	0.08	0.58	0.58
Delay/Veh:	236.9	0.0	17.3	17.7	0.0	10.9	55.3	246	245.8	57.8	38.8	38.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	236.9	0.0	17.3	17.7	0.0	10.9	55.3	246	245.8	57.8	38.8	38.8
LOS by Move:	F	A	B	B	A	B	E	F	F	E	D	D
HCM2k95thQ:	163	0	9	11	0	9	5	109	109	1	20	20

Note: Queue reported is the number of cars per lane.

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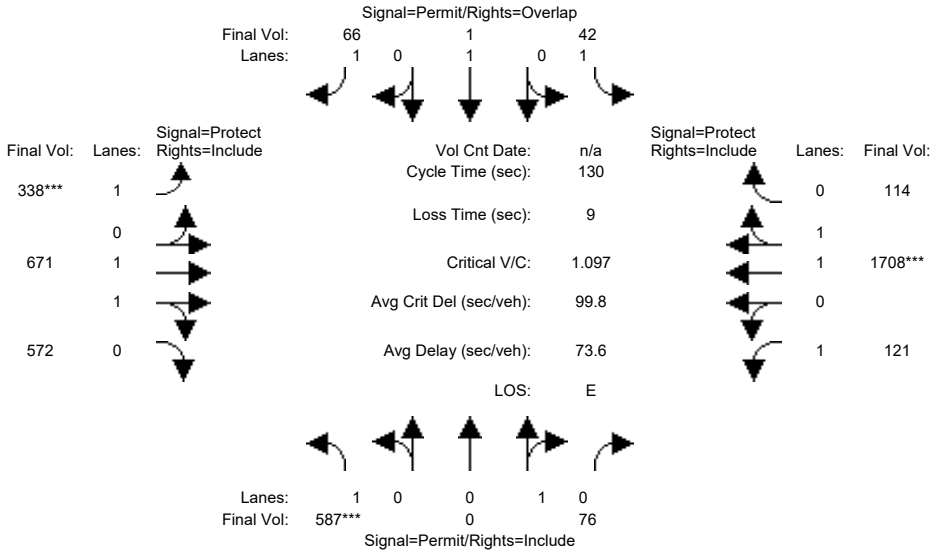
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	528	0	68	38	1	59	304	604	515	109	1537	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	528	0	68	38	1	59	304	604	515	109	1537	103
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	528	0	68	38	1	59	304	604	515	109	1537	103
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	587	0	76	42	1	66	338	671	572	121	1708	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	587	0	76	42	1	66	338	671	572	121	1708	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	587	0	76	42	1	66	338	671	572	121	1708	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.95	0.92	0.98	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.05	0.95	1.00	1.87	0.13
Final Sat.:	1750	0	1800	1750	1900	1750	1750	1996	1702	1750	3467	232
Capacity Analysis Module:												
Vol/Sat:	0.34	0.00	0.04	0.02	0.00	0.04	0.19	0.34	0.34	0.07	0.49	0.49
Crit Moves:	****						****				****	
Green Time:	39.7	0.0	39.7	39.7	39.7	62.6	22.9	67.4	67.4	13.9	58.4	58.4
Volume/Cap:	1.10	0.00	0.14	0.08	0.00	0.08	1.10	0.65	0.65	0.65	1.10	1.10
Delay/Veh:	113.1	0.0	32.8	32.2	31.4	18.2	133.3	23.5	23.5	63.5	89.3	89.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	113.1	0.0	32.8	32.2	31.4	18.2	133.3	23.5	23.5	63.5	89.3	89.3
LOS by Move:	F	A	C	C	C	B	F	C	C	E	F	F
HCM2k95thQ:	57	0	5	3	0	3	33	31	31	10	77	77

Note: Queue reported is the number of cars per lane.

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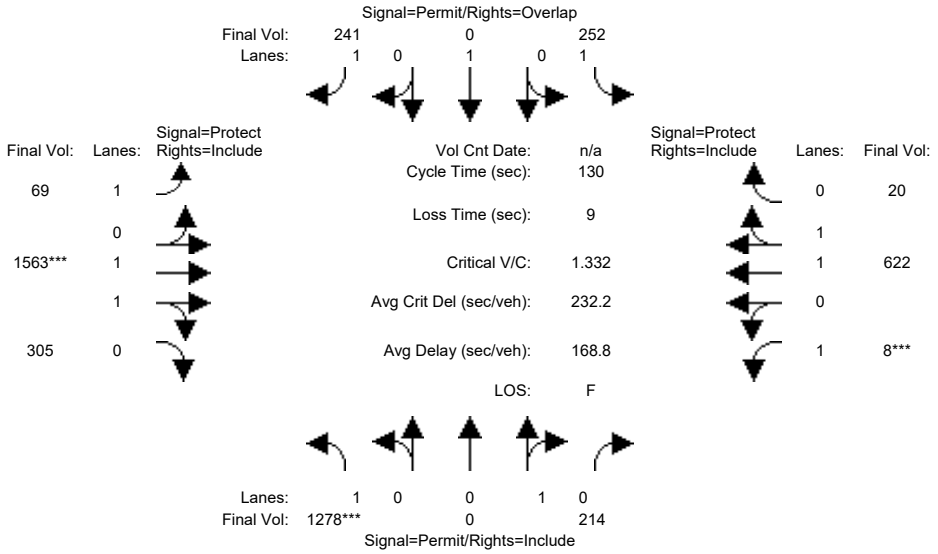
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #73: (27) FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	1240	0	208	244	0	234	67	1516	296	8	603	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1240	0	208	244	0	234	67	1516	296	8	603	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1240	0	208	244	0	234	67	1516	296	8	603	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1278	0	214	252	0	241	69	1563	305	8	622	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1278	0	214	252	0	241	69	1563	305	8	622	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1278	0	214	252	0	241	69	1563	305	8	622	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.66	0.34	1.00	1.94	0.06
Final Sat.:	1750	0	1800	1750	1900	1750	1750	3095	604	1750	3587	113
Capacity Analysis Module:												
Vol/Sat:	0.73	0.00	0.12	0.14	0.00	0.14	0.04	0.50	0.50	0.00	0.17	0.17
Crit Moves:	****							****		****		
Green Time:	66.8	0.0	66.8	66.8	0.0	81.0	14.2	46.2	46.2	8.0	40.0	40.0
Volume/Cap:	1.42	0.00	0.23	0.28	0.00	0.22	0.36	1.42	1.42	0.08	0.56	0.56
Delay/Veh:	227.7	0.0	17.6	18.1	0.0	10.8	54.9	236	236.0	57.8	38.3	38.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	227.7	0.0	17.6	18.1	0.0	10.8	54.9	236	236.0	57.8	38.3	38.3
LOS by Move:	F	A	B	B	A	B	D	F	F	E	D	D
HCM2k95thQ:	157	0	9	12	0	9	5	107	107	1	20	20

Note: Queue reported is the number of cars per lane.

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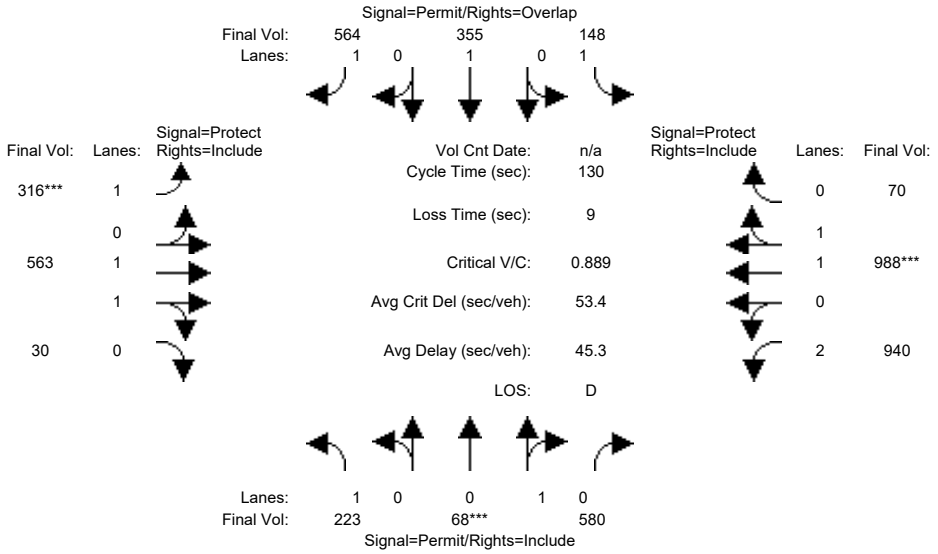
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	203	62	528	135	323	513	288	512	27	855	899	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	203	62	528	135	323	513	288	512	27	855	899	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	203	62	528	135	323	513	288	512	27	855	899	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	223	68	580	148	355	564	316	563	30	940	988	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	68	580	148	355	564	316	563	30	940	988	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	68	580	148	355	564	316	563	30	940	988	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	0.11	0.89	1.00	1.00	1.00	1.00	1.90	0.10	2.00	1.86	0.14
Final Sat.:	1750	189	1611	1750	1900	1750	1750	3515	185	3150	3454	246
Capacity Analysis Module:												
Vol/Sat:	0.13	0.36	0.36	0.08	0.19	0.32	0.18	0.16	0.16	0.30	0.29	0.29
Crit Moves:		****					****				****	
Green Time:	52.7	52.7	52.7	52.7	52.7	79.2	26.5	23.9	23.9	44.4	41.8	41.8
Volume/Cap:	0.31	0.89	0.89	0.21	0.46	0.53	0.89	0.87	0.87	0.87	0.89	0.89
Delay/Veh:	26.6	48.8	48.8	25.3	28.7	15.2	73.1	63.5	63.5	48.1	50.3	50.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.6	48.8	48.8	25.3	28.7	15.2	73.1	63.5	63.5	48.1	50.3	50.3
LOS by Move:	C	D	D	C	C	B	E	E	E	D	D	D
HCM2k95thQ:	12	46	46	8	18	25	26	23	23	36	36	36

Note: Queue reported is the number of cars per lane.

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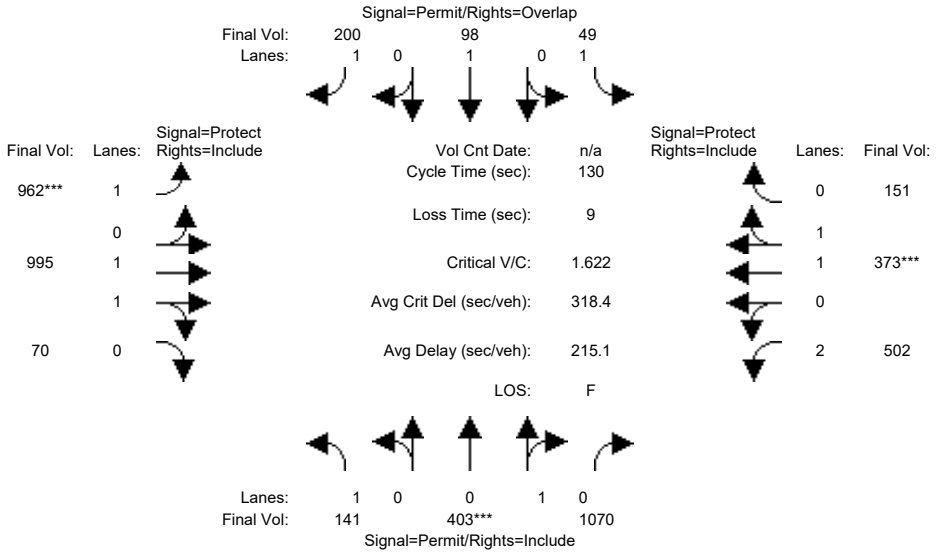
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	137	391	1038	48	95	194	933	965	68	487	362	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	391	1038	48	95	194	933	965	68	487	362	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	391	1038	48	95	194	933	965	68	487	362	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	141	403	1070	49	98	200	962	995	70	502	373	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	403	1070	49	98	200	962	995	70	502	373	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	403	1070	49	98	200	962	995	70	502	373	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	0.27	0.73	1.00	1.00	1.00	1.00	1.86	0.14	2.00	1.41	0.59
Final Sat.:	1750	493	1307	1750	1900	1750	1750	3456	244	3150	2636	1063
Capacity Analysis Module:												
Vol/Sat:	0.08	0.82	0.82	0.03	0.05	0.11	0.55	0.29	0.29	0.16	0.14	0.14
Crit Moves:		****					****				****	
Green Time:	63.4	63.4	63.4	63.4	63.4	106.0	42.6	37.1	37.1	20.5	15.0	15.0
Volume/Cap:	0.17	1.68	1.68	0.06	0.11	0.14	1.68	1.01	1.01	1.01	1.23	1.23
Delay/Veh:	18.6	343	343.3	17.6	18.0	2.5	356.3	76.6	76.6	97.5	179	178.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.6	343	343.3	17.6	18.0	2.5	356.3	76.6	76.6	97.5	179	178.9
LOS by Move:	B	F	F	B	B	A	F	E	E	F	F	F
HCM2k95thQ:	7	206	206	2	4	4	138	43	43	26	30	30

Note: Queue reported is the number of cars per lane.

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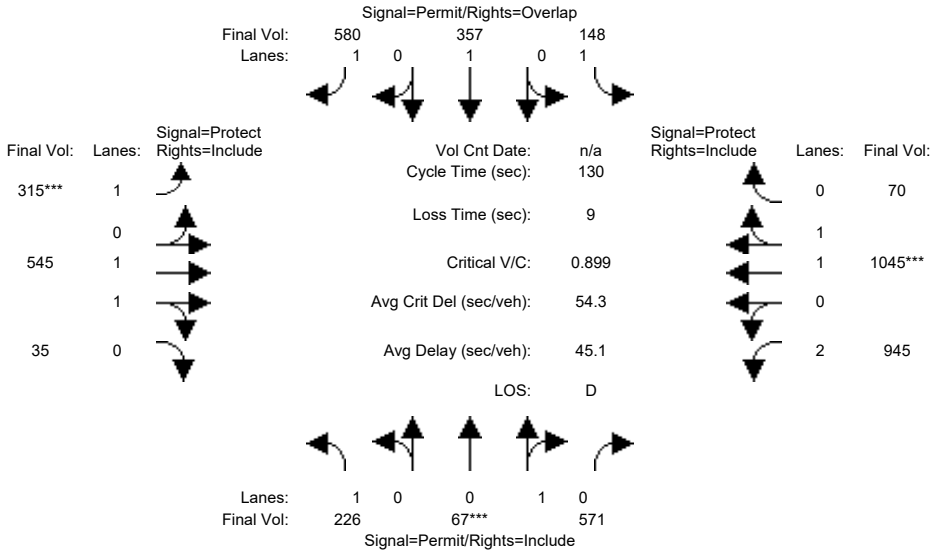
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	206	61	520	135	325	528	287	496	32	860	951	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	61	520	135	325	528	287	496	32	860	951	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	206	61	520	135	325	528	287	496	32	860	951	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	226	67	571	148	357	580	315	545	35	945	1045	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	67	571	148	357	580	315	545	35	945	1045	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	67	571	148	357	580	315	545	35	945	1045	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	0.10	0.90	1.00	1.00	1.00	1.00	1.88	0.12	2.00	1.87	0.13
Final Sat.:	1750	189	1611	1750	1900	1750	1750	3476	224	3150	3467	233
Capacity Analysis Module:												
Vol/Sat:	0.13	0.35	0.35	0.08	0.19	0.33	0.18	0.16	0.16	0.30	0.30	0.30
Crit Moves:		****					****				****	
Green Time:	51.3	51.3	51.3	51.3	51.3	77.4	26.1	23.9	23.9	45.8	43.6	43.6
Volume/Cap:	0.33	0.90	0.90	0.21	0.48	0.56	0.90	0.85	0.85	0.85	0.90	0.90
Delay/Veh:	27.6	51.2	51.2	26.2	29.8	16.6	75.4	61.4	61.4	45.5	50.1	50.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.6	51.2	51.2	26.2	29.8	16.6	75.4	61.4	61.4	45.5	50.1	50.1
LOS by Move:	C	D	D	C	C	B	E	E	E	D	D	D
HCM2k95thQ:	13	46	46	8	19	26	26	22	22	36	37	37

Note: Queue reported is the number of cars per lane.

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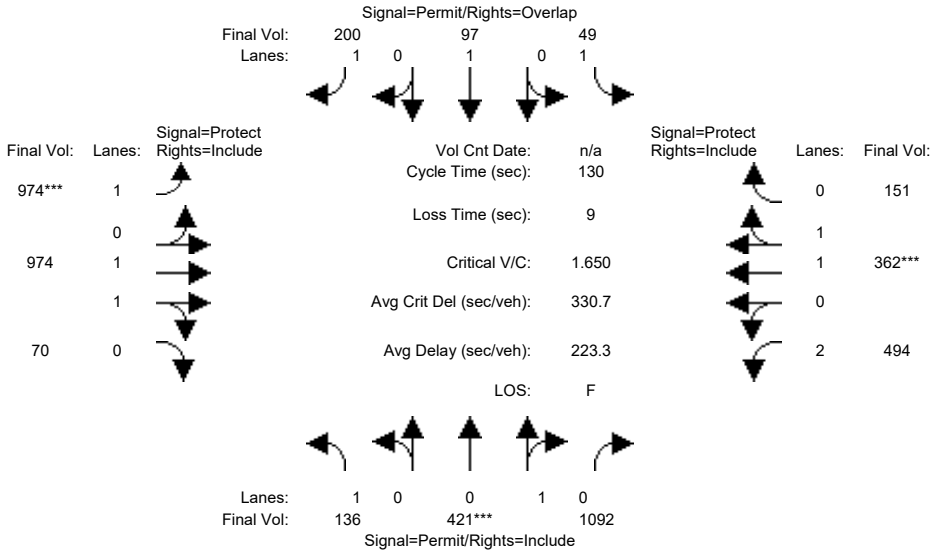
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #74: (28) FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	132	408	1059	48	94	194	945	945	68	479	351	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	408	1059	48	94	194	945	945	68	479	351	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	132	408	1059	48	94	194	945	945	68	479	351	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	136	421	1092	49	97	200	974	974	70	494	362	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	421	1092	49	97	200	974	974	70	494	362	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	421	1092	49	97	200	974	974	70	494	362	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	0.28	0.72	1.00	1.00	1.00	1.00	1.86	0.14	2.00	1.40	0.60
Final Sat.:	1750	501	1299	1750	1900	1750	1750	3451	248	3150	2612	1087
Capacity Analysis Module:												
Vol/Sat:	0.08	0.84	0.84	0.03	0.05	0.11	0.56	0.28	0.28	0.16	0.14	0.14
Crit Moves:		****					****				****	
Green Time:	63.8	63.8	63.8	63.8	63.8	106.0	42.2	36.8	36.8	20.4	15.0	15.0
Volume/Cap:	0.16	1.71	1.71	0.06	0.10	0.14	1.71	1.00	1.00	1.00	1.20	1.20
Delay/Veh:	18.4	359	358.9	17.4	17.8	2.5	372.2	73.6	73.6	94.4	168	168.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.4	359	358.9	17.4	17.8	2.5	372.2	73.6	73.6	94.4	168	168.3
LOS by Move:	B	F	F	B	B	A	F	E	E	F	F	F
HCM2k95thQ:	6	215	215	2	4	4	142	42	42	26	29	29

Note: Queue reported is the number of cars per lane.

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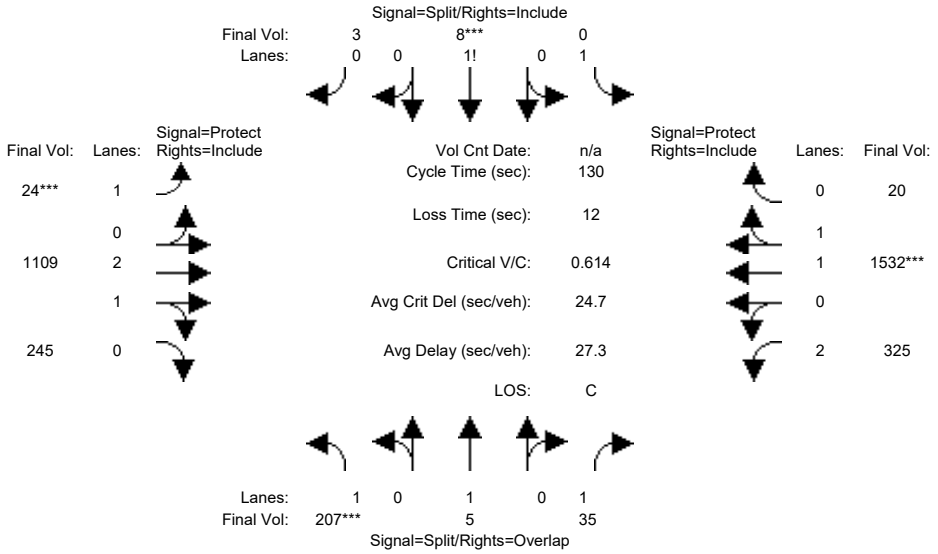
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	190	5	32	0	7	3	22	1020	225	299	1409	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	190	5	32	0	7	3	22	1020	225	299	1409	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	190	5	32	0	7	3	22	1020	225	299	1409	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	207	5	35	0	8	3	24	1109	245	325	1532	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	5	35	0	8	3	24	1109	245	325	1532	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	5	35	0	8	3	24	1109	245	325	1532	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.99	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.44	0.56	2.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1260	540	1750	4587	1012	3150	3653	47
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.02	0.00	0.01	0.01	0.01	0.24	0.24	0.10	0.42	0.42
Crit Moves:	****				****		****				****	
Green Time:	21.7	21.7	49.6	0.0	10.0	10.0	9.0	58.4	58.4	27.9	77.3	77.3
Volume/Cap:	0.71	0.02	0.05	0.00	0.08	0.08	0.20	0.54	0.54	0.48	0.71	0.71
Delay/Veh:	58.7	45.2	25.4	0.0	56.0	56.0	57.9	26.2	26.2	45.3	19.5	19.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	45.2	25.4	0.0	56.0	56.0	57.9	26.2	26.2	45.3	19.5	19.5
LOS by Move:	E	D	C	A	E	E	E	C	C	D	B	B
HCM2k95thQ:	18	0	2	0	1	1	2	22	22	12	35	35

Note: Queue reported is the number of cars per lane.

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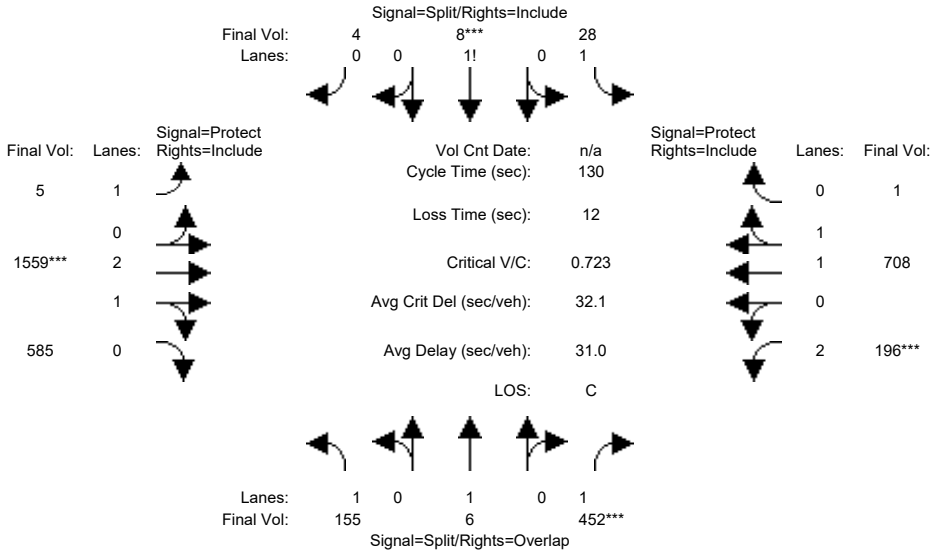
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	150	6	438	27	8	4	5	1512	567	190	687	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	6	438	27	8	4	5	1512	567	190	687	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	6	438	27	8	4	5	1512	567	190	687	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	155	6	452	28	8	4	5	1559	585	196	708	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	6	452	28	8	4	5	1559	585	196	708	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	6	452	28	8	4	5	1559	585	196	708	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.15	0.85	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	4071	1527	3150	3695	5
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.26	0.01	0.02	0.02	0.00	0.38	0.38	0.06	0.19	0.19
Crit Moves:			****		****			****		****		
Green Time:	25.2	25.2	40.2	10.0	10.0	10.0	22.0	67.8	67.8	15.0	60.8	60.8
Volume/Cap:	0.46	0.02	0.83	0.14	0.20	0.20	0.02	0.73	0.73	0.54	0.41	0.41
Delay/Veh:	47.3	42.4	52.4	56.2	56.7	56.7	45.1	25.1	25.1	55.9	22.9	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.3	42.4	52.4	56.2	56.7	56.7	45.1	25.1	25.1	55.9	22.9	22.9
LOS by Move:	D	D	D	E	E	E	D	C	C	E	C	C
HCM2k95thQ:	12	0	34	2	2	2	0	35	35	9	17	17

Note: Queue reported is the number of cars per lane.

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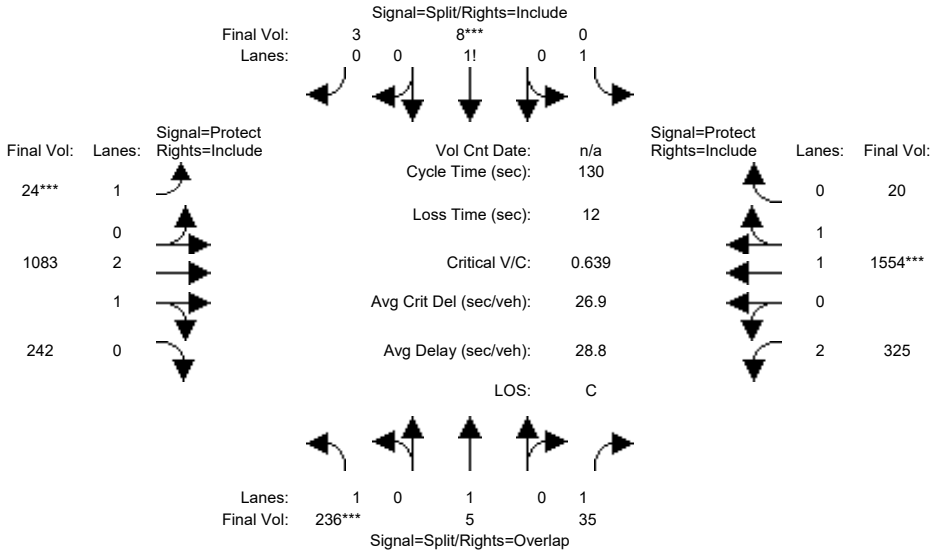
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	217	5	32	0	7	3	22	996	223	299	1430	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	217	5	32	0	7	3	22	996	223	299	1430	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	217	5	32	0	7	3	22	996	223	299	1430	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	236	5	35	0	8	3	24	1083	242	325	1554	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	5	35	0	8	3	24	1083	242	325	1554	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	236	5	35	0	8	3	24	1083	242	325	1554	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.99	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.70	0.30	1.00	2.43	0.57	2.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1260	540	1750	4574	1024	3150	3654	46
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.02	0.00	0.01	0.01	0.01	0.24	0.24	0.10	0.43	0.43
Crit Moves:	****				****		****				****	
Green Time:	23.8	23.8	51.4	0.0	10.0	10.0	9.0	56.6	56.6	27.6	75.2	75.2
Volume/Cap:	0.74	0.02	0.05	0.00	0.08	0.08	0.20	0.54	0.54	0.49	0.74	0.74
Delay/Veh:	58.7	43.5	24.3	0.0	56.0	56.0	57.9	27.4	27.4	45.5	21.5	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	43.5	24.3	0.0	56.0	56.0	57.9	27.4	27.4	45.5	21.5	21.5
LOS by Move:	E	D	C	A	E	E	E	C	C	D	C	C
HCM2k95thQ:	20	0	2	0	1	1	2	22	22	12	37	37

Note: Queue reported is the number of cars per lane.

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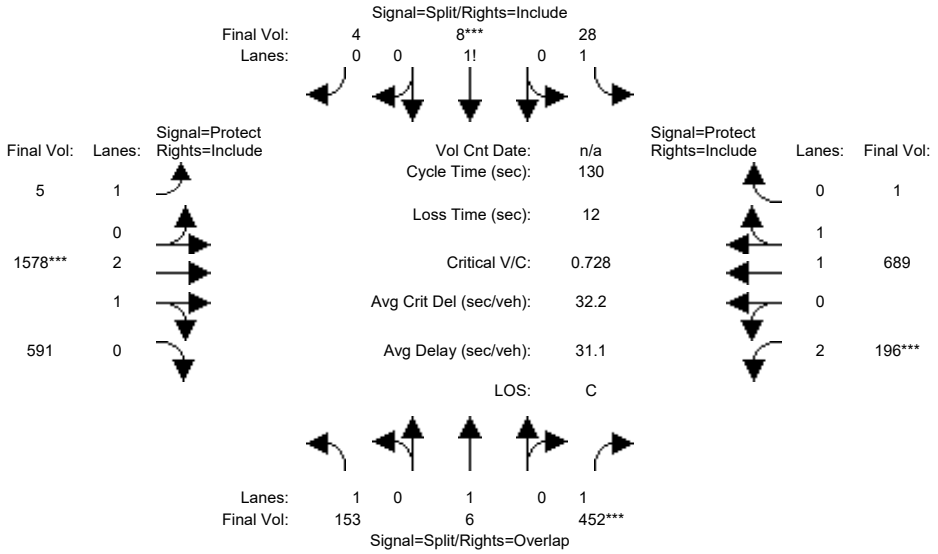
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #75: (30) JULIETTE / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	9	15	15	15	15	15
Y+R:	4.1	4.1	4.1	4.1	4.1	4.1	4.0	5.0	5.0	4.0	4.9	4.9
Volume Module:												
Base Vol:	148	6	438	27	8	4	5	1531	573	190	668	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	148	6	438	27	8	4	5	1531	573	190	668	1
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	148	6	438	27	8	4	5	1531	573	190	668	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	153	6	452	28	8	4	5	1578	591	196	689	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	153	6	452	28	8	4	5	1578	591	196	689	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	153	6	452	28	8	4	5	1578	591	196	689	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.95	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.53	0.31	0.16	1.00	2.15	0.85	2.00	1.99	0.01
Final Sat.:	1750	1900	1750	2676	549	275	1750	4073	1524	3150	3694	6
Capacity Analysis Module:												
Vol/Sat:	0.09	0.00	0.26	0.01	0.02	0.02	0.00	0.39	0.39	0.06	0.19	0.19
Crit Moves:			****		****			****		****		
Green Time:	25.0	25.0	40.0	10.0	10.0	10.0	22.5	68.0	68.0	15.0	60.5	60.5
Volume/Cap:	0.45	0.02	0.84	0.14	0.20	0.20	0.02	0.74	0.74	0.54	0.40	0.40
Delay/Veh:	47.4	42.5	53.1	56.2	56.7	56.7	44.6	25.2	25.2	55.9	23.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.4	42.5	53.1	56.2	56.7	56.7	44.6	25.2	25.2	55.9	23.0	23.0
LOS by Move:	D	D	D	E	E	E	D	C	C	E	C	C
HCM2k95thQ:	12	0	35	2	2	2	0	35	35	9	17	17

Note: Queue reported is the number of cars per lane.

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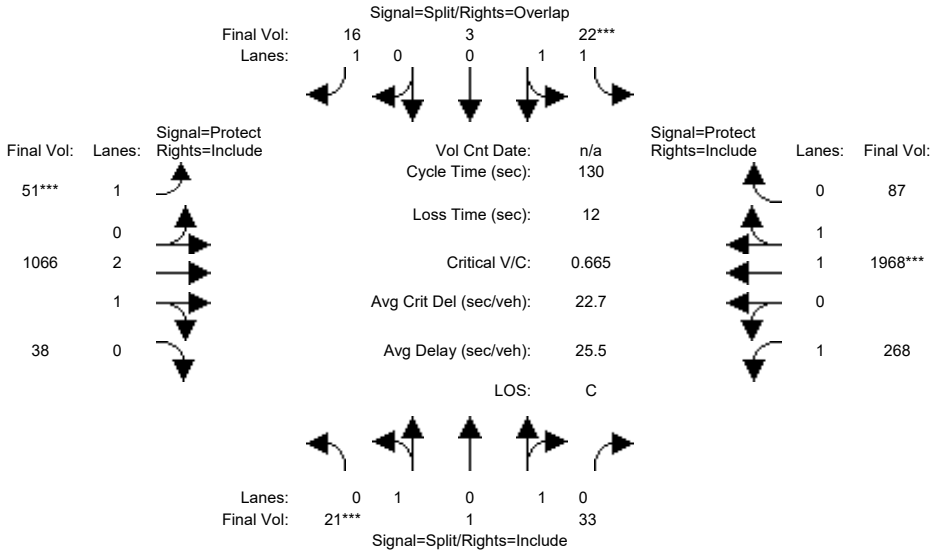
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	19	1	30	20	3	14	46	959	34	241	1771	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	14	46	959	34	241	1771	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	14	46	959	34	241	1771	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	16	51	1066	38	268	1968	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	16	51	1066	38	268	1968	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	16	51	1066	38	268	1968	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.89	0.11	1.00	1.91	0.09
Final Sat.:	1710	90	1800	3087	463	1750	1750	5408	192	1750	3544	156
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.20	0.20	0.15	0.56	0.56
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	53.5	53.5	41.5	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.06	0.38	0.48	0.48	0.48	0.85	0.85
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	28.2	28.2	36.2	20.6	20.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	28.2	28.2	36.2	20.6	20.6
LOS by Move:	D	D	D	D	D	D	E	C	C	D	C	C
HCM2k95thQ:	2	2	3	1	1	1	4	19	19	17	55	55

Note: Queue reported is the number of cars per lane.

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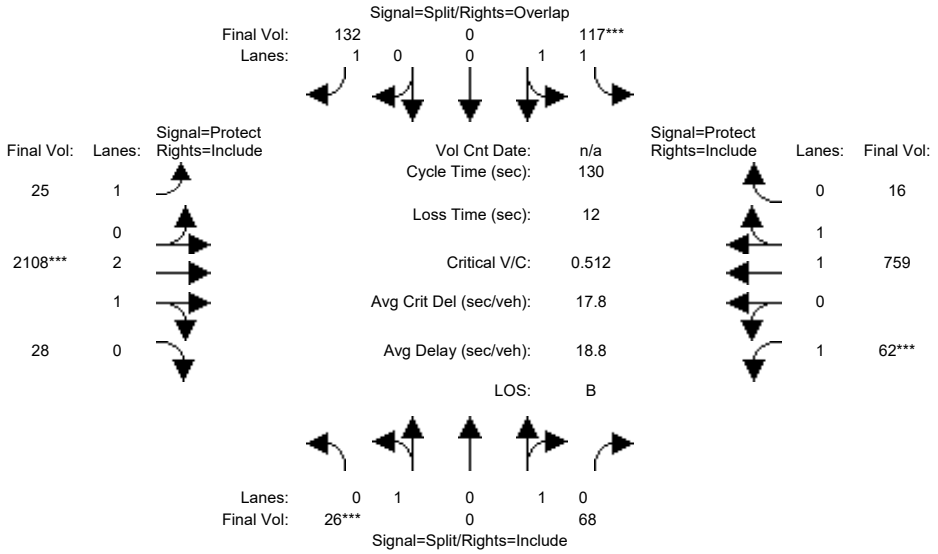
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	25	0	65	111	0	125	24	2003	27	59	721	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	125	24	2003	27	59	721	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	125	24	2003	27	59	721	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	132	25	2108	28	62	759	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	132	25	2108	28	62	759	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	132	25	2108	28	62	759	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.96	0.04	1.00	1.96	0.04
Final Sat.:	1800	0	1800	3550	0	1750	1750	5525	74	1750	3625	75
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.08	0.01	0.38	0.38	0.04	0.21	0.21
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	36.5	25.5	85.0	85.0	10.0	69.5	69.5
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.27	0.07	0.58	0.58	0.46	0.39	0.39
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	36.6	42.7	12.8	12.8	59.9	17.9	17.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	36.6	42.7	12.8	12.8	59.9	17.9	17.9
LOS by Move:	D	A	E	E	A	D	D	B	B	E	B	B
HCM2k95thQ:	2	0	6	6	0	9	2	27	27	6	17	17

Note: Queue reported is the number of cars per lane.

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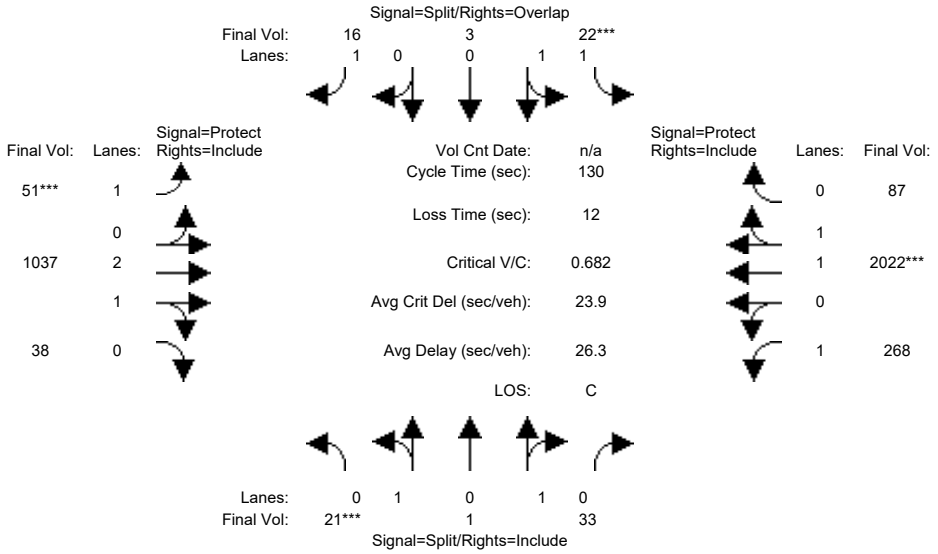
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	19	1	30	20	3	14	46	933	34	241	1820	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	1	30	20	3	14	46	933	34	241	1820	78
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	1	30	20	3	14	46	933	34	241	1820	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	1	33	22	3	16	51	1037	38	268	2022	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1	33	22	3	16	51	1037	38	268	2022	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1	33	22	3	16	51	1037	38	268	2022	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.93	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	0.95	0.05	1.00	1.74	0.26	1.00	1.00	2.89	0.11	1.00	1.92	0.08
Final Sat.:	1710	90	1800	3087	463	1750	1750	5403	197	1750	3548	152
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.01	0.01	0.01	0.03	0.19	0.19	0.15	0.57	0.57
Crit Moves:	****			****			****				****	
Green Time:	12.0	12.0	12.0	11.0	11.0	21.0	10.0	52.9	52.9	42.1	85.0	85.0
Volume/Cap:	0.13	0.13	0.20	0.09	0.09	0.06	0.38	0.47	0.47	0.47	0.87	0.87
Delay/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	28.5	28.5	35.7	21.9	21.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.4	54.4	54.9	55.0	55.0	46.2	58.8	28.5	28.5	35.7	21.9	21.9
LOS by Move:	D	D	D	D	D	D	E	C	C	D	C	C
HCM2k95thQ:	2	2	3	1	1	1	4	19	19	17	58	58

Note: Queue reported is the number of cars per lane.

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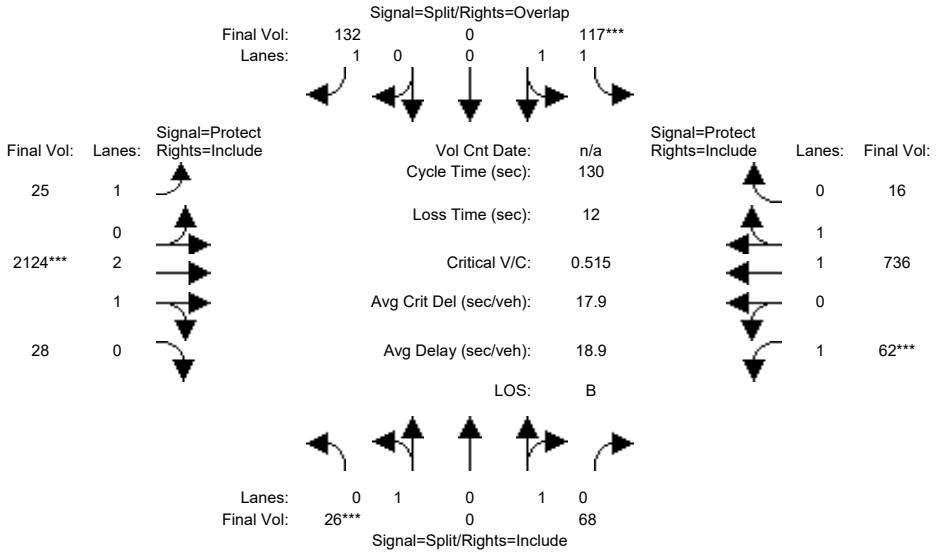
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #76: (31) BURTON / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	12	12	11	11	11	10	10	10	10	10	10
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.4	5.4	5.0	5.4	5.4
Volume Module:												
Base Vol:	25	0	65	111	0	125	24	2018	27	59	699	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	0	65	111	0	125	24	2018	27	59	699	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	65	111	0	125	24	2018	27	59	699	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	26	0	68	117	0	132	25	2124	28	62	736	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	0	68	117	0	132	25	2124	28	62	736	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	0	68	117	0	132	25	2124	28	62	736	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.95	0.93	1.00	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	0.00	1.00	2.00	0.00	1.00	1.00	2.96	0.04	1.00	1.96	0.04
Final Sat.:	1800	0	1800	3550	0	1750	1750	5526	74	1750	3622	78
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.04	0.03	0.00	0.08	0.01	0.38	0.38	0.04	0.20	0.20
Crit Moves:	****			****				****		****		
Green Time:	12.0	0.0	12.0	11.0	0.0	37.1	26.1	85.0	85.0	10.0	68.9	68.9
Volume/Cap:	0.16	0.00	0.41	0.39	0.00	0.26	0.07	0.59	0.59	0.46	0.38	0.38
Delay/Veh:	54.5	0.0	56.9	57.2	0.0	36.2	42.2	12.9	12.9	59.9	18.1	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.5	0.0	56.9	57.2	0.0	36.2	42.2	12.9	12.9	59.9	18.1	18.1
LOS by Move:	D	A	E	E	A	D	D	B	B	E	B	B
HCM2k95thQ:	2	0	6	6	0	9	2	27	27	6	16	16

Note: Queue reported is the number of cars per lane.

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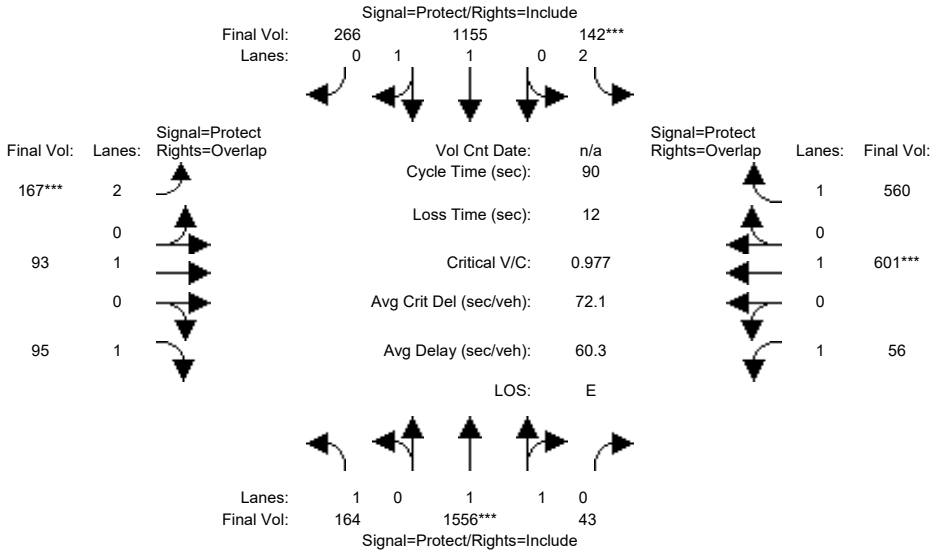
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	149	1416	39	129	1051	242	152	85	86	51	547	510
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	149	1416	39	129	1051	242	152	85	86	51	547	510
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	149	1416	39	129	1051	242	152	85	86	51	547	510
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	164	1556	43	142	1155	266	167	93	95	56	601	560
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	1556	43	142	1155	266	167	93	95	56	601	560
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	164	1556	43	142	1155	266	167	93	95	56	601	560
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.94	0.06	2.00	1.62	0.38	2.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3601	99	3150	3007	692	3150	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.43	0.43	0.05	0.38	0.38	0.05	0.05	0.05	0.03	0.32	0.32
Crit Moves:		****			****			****			****	
Green Time:	8.5	36.4	36.4	7.0	34.9	34.9	8.0	23.1	31.6	11.5	26.6	33.6
Volume/Cap:	0.99	1.07	1.07	0.58	0.99	0.99	0.60	0.19	0.15	0.25	1.07	0.86
Delay/Veh:	108.0	71.1	71.1	43.5	49.0	49.0	42.9	26.4	20.2	35.9	89.5	36.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	108.0	71.1	71.1	43.5	49.0	49.0	42.9	26.4	20.2	35.9	89.5	36.9
LOS by Move:	F	E	E	D	D	D	D	C	C	D	F	D
HCM2k95thQ:	13	52	52	5	41	41	6	4	4	3	43	32

Note: Queue reported is the number of cars per lane.

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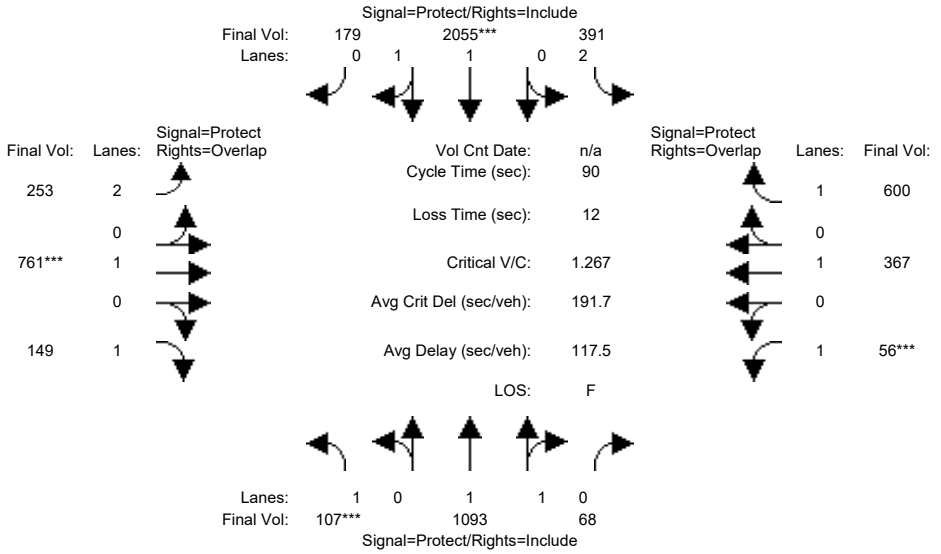
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	105	1071	67	383	2014	175	248	746	146	55	360	588
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	1071	67	383	2014	175	248	746	146	55	360	588
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	1071	67	383	2014	175	248	746	146	55	360	588
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	1093	68	391	2055	179	253	761	149	56	367	600
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	1093	68	391	2055	179	253	761	149	56	367	600
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	1093	68	391	2055	179	253	761	149	56	367	600
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.88	0.12	2.00	1.84	0.16	2.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3482	218	3150	3404	296	3150	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.31	0.31	0.12	0.60	0.60	0.08	0.40	0.09	0.03	0.19	0.34
Crit Moves:	****				****			****		****		
Green Time:	8.0	34.2	34.2	13.5	39.7	39.7	8.8	26.3	34.3	4.0	21.6	35.1
Volume/Cap:	0.69	0.83	0.83	0.83	1.37	1.37	0.83	1.37	0.22	0.72	0.81	0.88
Delay/Veh:	52.1	29.4	29.4	48.6	195	195.5	56.4	209	19.0	70.4	42.5	38.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	29.4	29.4	48.6	195	195.5	56.4	209	19.0	70.4	42.5	38.2
LOS by Move:	D	C	C	D	F	F	E	F	B	E	D	D
HCM2k95thQ:	7	28	28	13	105	105	8	70	6	6	22	34

Note: Queue reported is the number of cars per lane.

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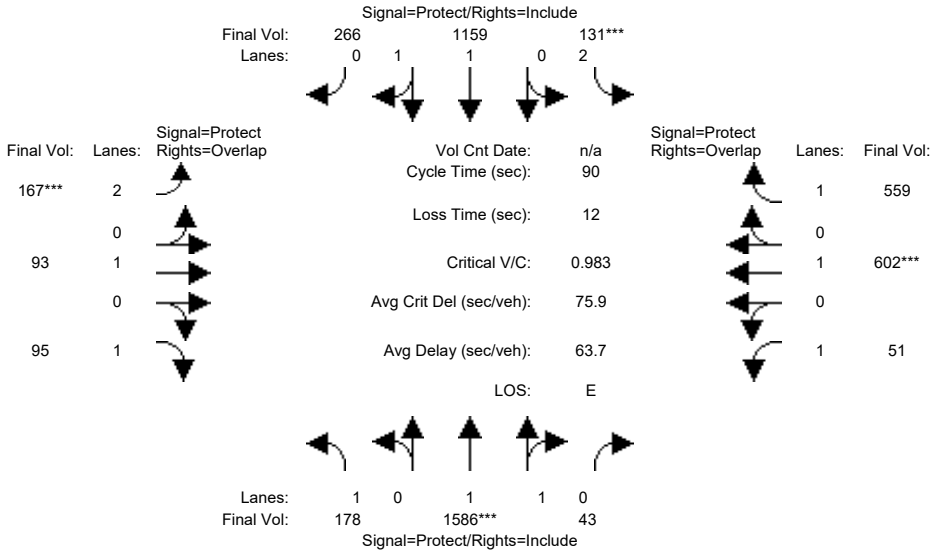
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	162	1443	39	119	1055	242	152	85	86	46	548	509
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	1443	39	119	1055	242	152	85	86	46	548	509
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	162	1443	39	119	1055	242	152	85	86	46	548	509
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	178	1586	43	131	1159	266	167	93	95	51	602	559
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	1586	43	131	1159	266	167	93	95	51	602	559
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	1586	43	131	1159	266	167	93	95	51	602	559
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.95	0.83	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.95	0.05	2.00	1.62	0.38	2.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3603	97	3150	3009	690	3150	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.44	0.44	0.04	0.39	0.39	0.05	0.05	0.05	0.03	0.32	0.32
Crit Moves:		****		****			****				****	
Green Time:	9.1	36.6	36.6	7.0	34.5	34.5	8.0	22.9	32.0	11.5	26.4	33.4
Volume/Cap:	1.00	1.08	1.08	0.53	1.00	1.00	0.60	0.19	0.15	0.23	1.08	0.86
Delay/Veh:	109.3	75.4	75.4	42.2	52.8	52.8	42.9	26.5	19.9	35.8	93.9	37.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	109.3	75.4	75.4	42.2	52.8	52.8	42.9	26.5	19.9	35.8	93.9	37.6
LOS by Move:	F	E	E	D	D	D	D	C	B	D	F	D
HCM2k95thQ:	14	54	54	4	42	42	6	4	4	3	44	32

Note: Queue reported is the number of cars per lane.

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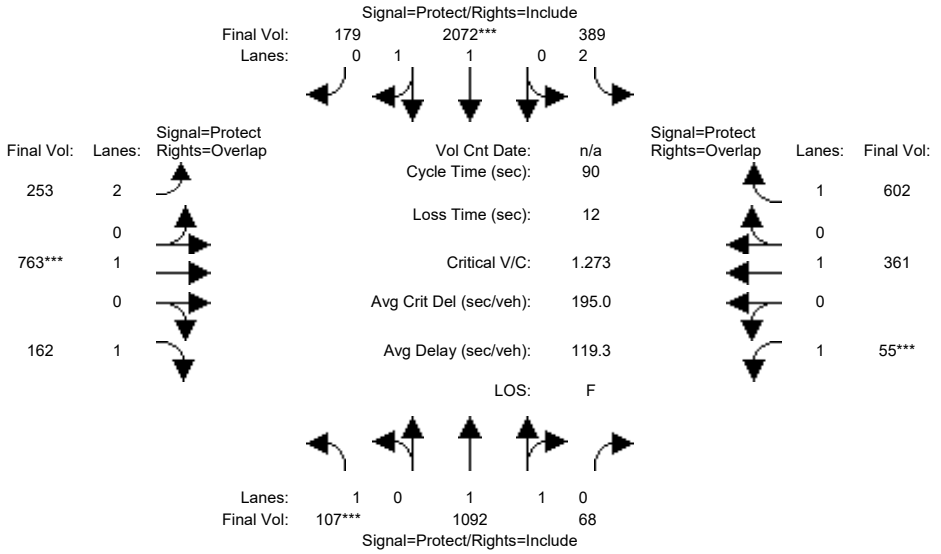
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #106: (41) LAFAYETTE / AGNEW / LICK MILL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	20	20	7	20	20	8	8	8	4	4	4
Y+R:	4.0	5.0	5.0	4.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0
Volume Module:												
Base Vol:	105	1070	67	381	2031	175	248	748	159	54	354	590
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	1070	67	381	2031	175	248	748	159	54	354	590
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	1070	67	381	2031	175	248	748	159	54	354	590
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	107	1092	68	389	2072	179	253	763	162	55	361	602
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	1092	68	389	2072	179	253	763	162	55	361	602
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	1092	68	389	2072	179	253	763	162	55	361	602
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.83	0.98	0.95	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.88	0.12	2.00	1.84	0.16	2.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3482	218	3150	3406	293	3150	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.31	0.31	0.12	0.61	0.61	0.08	0.40	0.09	0.03	0.19	0.34
Crit Moves:	****				****			****		****		
Green Time:	8.0	34.3	34.3	13.5	39.8	39.8	8.7	26.2	34.2	4.0	21.6	35.0
Volume/Cap:	0.69	0.82	0.82	0.82	1.38	1.38	0.83	1.38	0.24	0.71	0.79	0.88
Delay/Veh:	52.1	29.2	29.2	48.3	199	198.9	57.4	213	19.2	68.3	41.4	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	29.2	29.2	48.3	199	198.9	57.4	213	19.2	68.3	41.4	38.6
LOS by Move:	D	C	C	D	F	F	E	F	B	E	D	D
HCM2k95thQ:	7	28	28	13	107	107	8	70	6	6	21	34

Note: Queue reported is the number of cars per lane.

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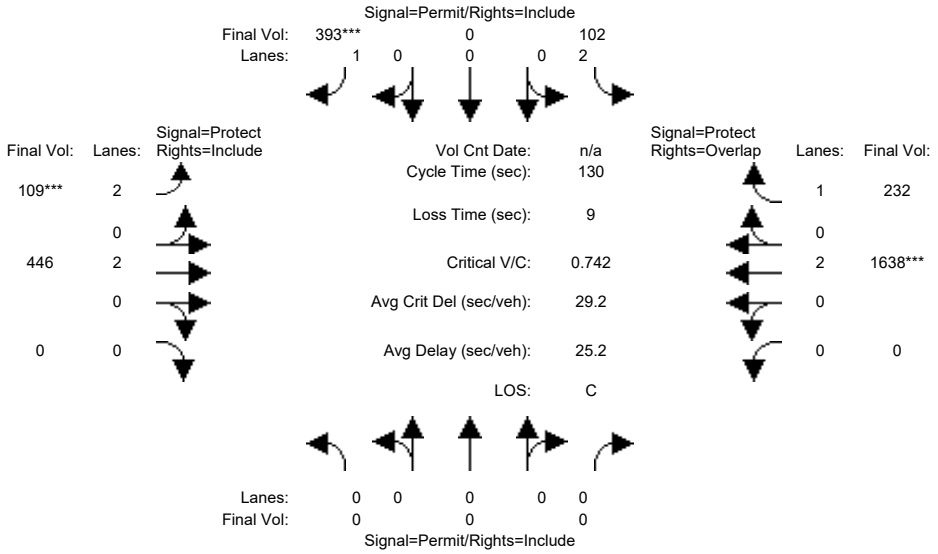
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	99	0	381	106	433	0	0	1589	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	381	106	433	0	0	1589	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	381	106	433	0	0	1589	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	393	109	446	0	0	1638	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	393	109	446	0	0	1638	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	393	109	446	0	0	1638	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.22	0.03	0.12	0.00	0.00	0.43	0.13
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	38.7	0.0	38.7	8.0	82.3	0.0	0.0	74.3	74.3
Volume/Cap:	0.00	0.00	0.00	0.11	0.00	0.75	0.56	0.19	0.00	0.00	0.75	0.23
Delay/Veh:	0.0	0.0	0.0	33.2	0.0	47.5	63.1	9.9	0.0	0.0	22.5	13.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	33.2	0.0	47.5	63.1	9.9	0.0	0.0	22.5	13.9
LOS by Move:	A	A	A	C	A	D	E	A	A	A	C	B
HCM2k95thQ:	0	0	0	4	0	29	5	7	0	0	38	9

Note: Queue reported is the number of cars per lane.

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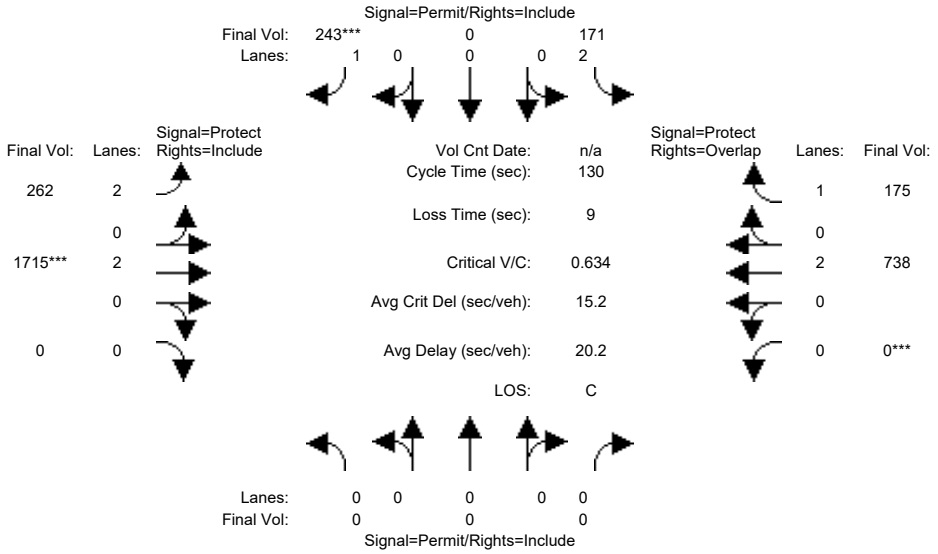
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	166	0	236	254	1664	0	0	716	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	236	254	1664	0	0	716	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	236	254	1664	0	0	716	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	243	262	1715	0	0	738	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	243	262	1715	0	0	738	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	243	262	1715	0	0	738	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.14	0.08	0.45	0.00	0.00	0.19	0.10
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	28.5	0.0	28.5	27.7	92.5	0.0	0.0	64.8	64.8
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.63	0.39	0.63	0.00	0.00	0.39	0.20
Delay/Veh:	0.0	0.0	0.0	42.1	0.0	49.5	44.3	10.4	0.0	0.0	20.4	18.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	42.1	0.0	49.5	44.3	10.4	0.0	0.0	20.4	18.3
LOS by Move:	A	A	A	D	A	D	D	B	A	A	C	B
HCM2k95thQ:	0	0	0	7	0	19	10	31	0	0	16	8

Note: Queue reported is the number of cars per lane.

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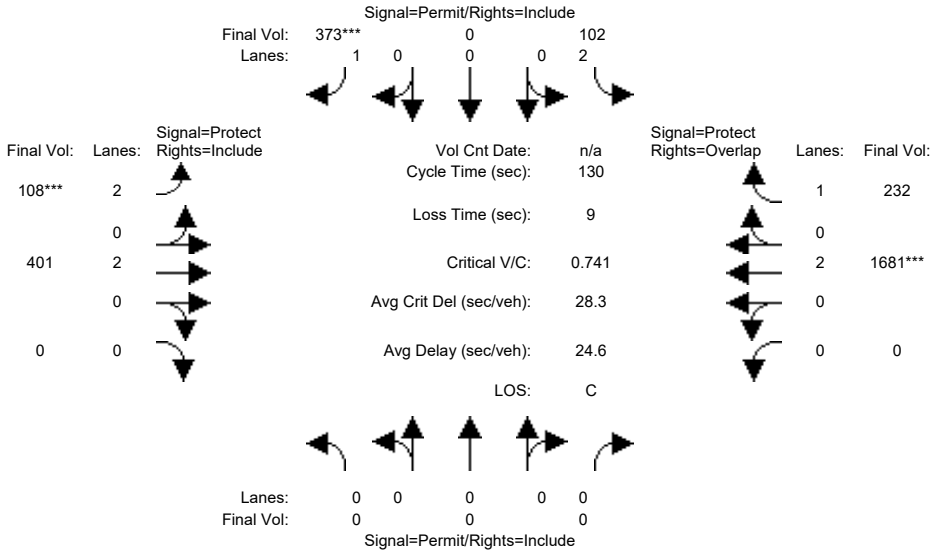
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	99	0	362	105	389	0	0	1631	225
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	99	0	362	105	389	0	0	1631	225
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	99	0	362	105	389	0	0	1631	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	102	0	373	108	401	0	0	1681	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	102	0	373	108	401	0	0	1681	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	102	0	373	108	401	0	0	1681	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.21	0.03	0.11	0.00	0.00	0.44	0.13
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	36.7	0.0	36.7	8.0	84.3	0.0	0.0	76.3	76.3
Volume/Cap:	0.00	0.00	0.00	0.11	0.00	0.75	0.56	0.16	0.00	0.00	0.75	0.23
Delay/Veh:	0.0	0.0	0.0	34.6	0.0	49.0	62.9	9.0	0.0	0.0	21.4	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	34.6	0.0	49.0	62.9	9.0	0.0	0.0	21.4	12.9
LOS by Move:	A	A	A	C	A	D	E	A	A	A	C	B
HCM2k95thQ:	0	0	0	4	0	28	5	6	0	0	39	9

Note: Queue reported is the number of cars per lane.

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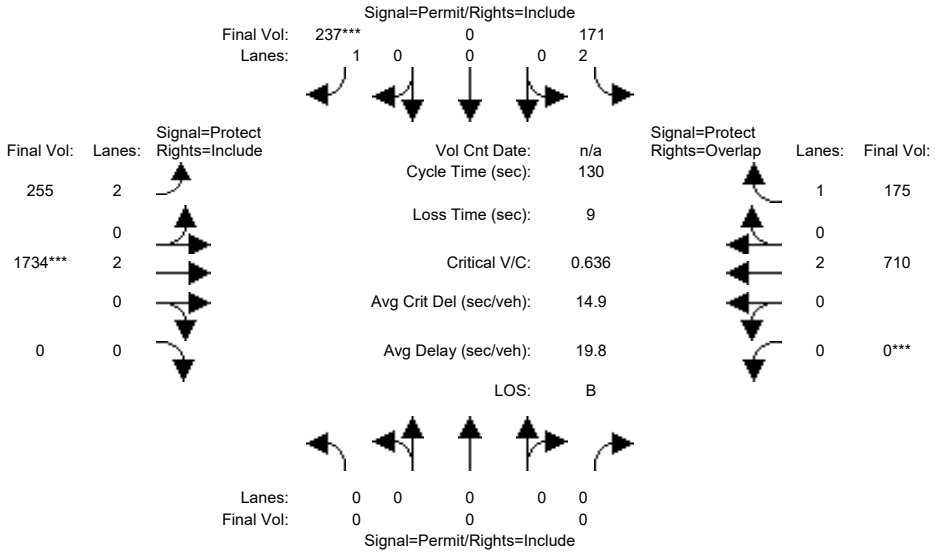
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #115: (38) TASMAN / CALLE DEL SOL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	8	10	0	0	10	10
Y+R:	4.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	166	0	230	247	1682	0	0	689	170
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	166	0	230	247	1682	0	0	689	170
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	166	0	230	247	1682	0	0	689	170
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	0	0	0	171	0	237	255	1734	0	0	710	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	171	0	237	255	1734	0	0	710	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	171	0	237	255	1734	0	0	710	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	2.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	0	0	0	3150	0	1750	3150	3800	0	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.14	0.08	0.46	0.00	0.00	0.19	0.10
Crit Moves:						****		****		****		
Green Time:	0.0	0.0	0.0	27.7	0.0	27.7	28.2	93.3	0.0	0.0	65.1	65.1
Volume/Cap:	0.00	0.00	0.00	0.25	0.00	0.64	0.37	0.64	0.00	0.00	0.37	0.20
Delay/Veh:	0.0	0.0	0.0	42.8	0.0	50.2	43.7	10.0	0.0	0.0	20.0	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	42.8	0.0	50.2	43.7	10.0	0.0	0.0	20.0	18.1
LOS by Move:	A	A	A	D	A	D	D	B	A	A	C	B
HCM2k95thQ:	0	0	0	7	0	19	10	31	0	0	16	8

Note: Queue reported is the number of cars per lane.

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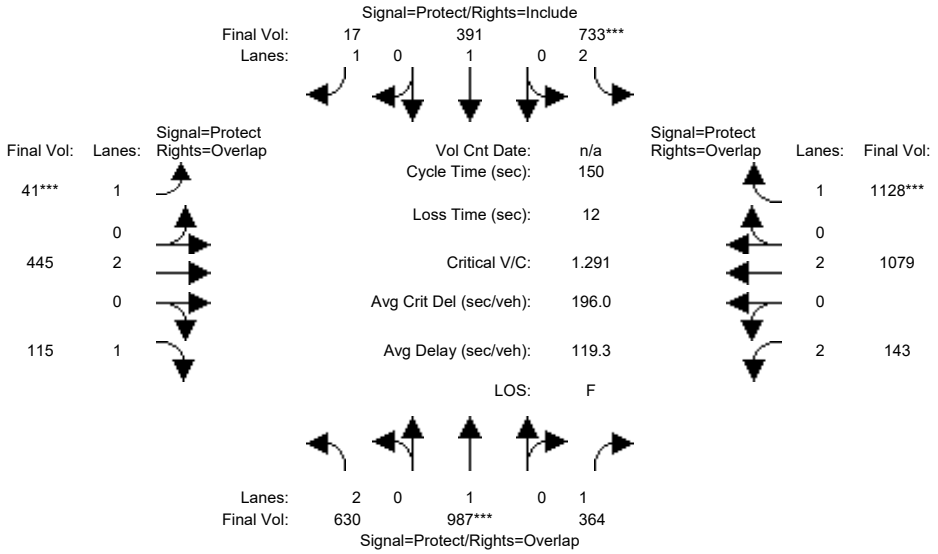
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	580	908	335	674	360	16	38	409	106	132	993	1038
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	580	908	335	674	360	16	38	409	106	132	993	1038
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	580	908	335	674	360	16	38	409	106	132	993	1038
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	630	987	364	733	391	17	41	445	115	143	1079	1128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	630	987	364	733	391	17	41	445	115	143	1079	1128
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	630	987	364	733	391	17	41	445	115	143	1079	1128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.52	0.21	0.23	0.21	0.01	0.02	0.12	0.07	0.05	0.28	0.64
Crit Moves:		****		****			****					****
Green Time:	42.3	59.3	73.9	26.6	43.6	43.6	5.0	37.5	79.8	14.6	47.1	73.7
Volume/Cap:	0.71	1.31	0.42	1.31	0.71	0.03	0.71	0.47	0.12	0.47	0.90	1.31
Delay/Veh:	51.0	196	24.7	215.0	51.8	38.2	104.8	48.2	17.6	65.2	59.2	187.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.0	196	24.7	215.0	51.8	38.2	104.8	48.2	17.6	65.2	59.2	187.3
LOS by Move:	D	F	C	F	D	D	F	D	B	E	E	F
HCM2k95thQ:	27	111	20	55	29	1	5	16	6	7	40	134

Note: Queue reported is the number of cars per lane.

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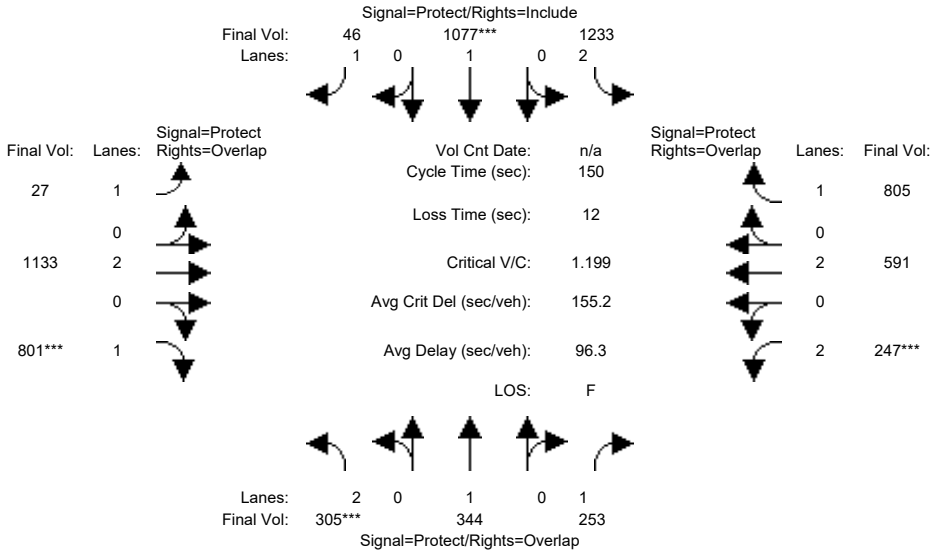
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	293	330	243	1184	1034	44	26	1088	769	237	567	773
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	293	330	243	1184	1034	44	26	1088	769	237	567	773
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	293	330	243	1184	1034	44	26	1088	769	237	567	773
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	305	344	253	1233	1077	46	27	1133	801	247	591	805
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	344	253	1233	1077	46	27	1133	801	247	591	805
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	305	344	253	1233	1077	46	27	1133	801	247	591	805
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.18	0.14	0.39	0.57	0.03	0.02	0.30	0.46	0.08	0.16	0.46
Crit Moves:	****				****				****	****		
Green Time:	12.1	26.2	36.1	56.8	70.9	70.9	9.7	45.1	57.3	9.8	45.2	102.0
Volume/Cap:	1.20	1.03	0.60	1.03	1.20	0.06	0.24	0.99	1.20	1.20	0.52	0.68
Delay/Veh:	190.0	120	53.0	81.8	140	21.4	67.7	76.6	149.9	196.8	43.7	15.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	190.0	120	53.0	81.8	140	21.4	67.7	76.6	149.9	196.8	43.7	15.8
LOS by Move:	F	F	D	F	F	C	E	E	F	F	D	B
HCM2k95thQ:	23	33	20	66	109	2	3	47	87	19	20	39

Note: Queue reported is the number of cars per lane.

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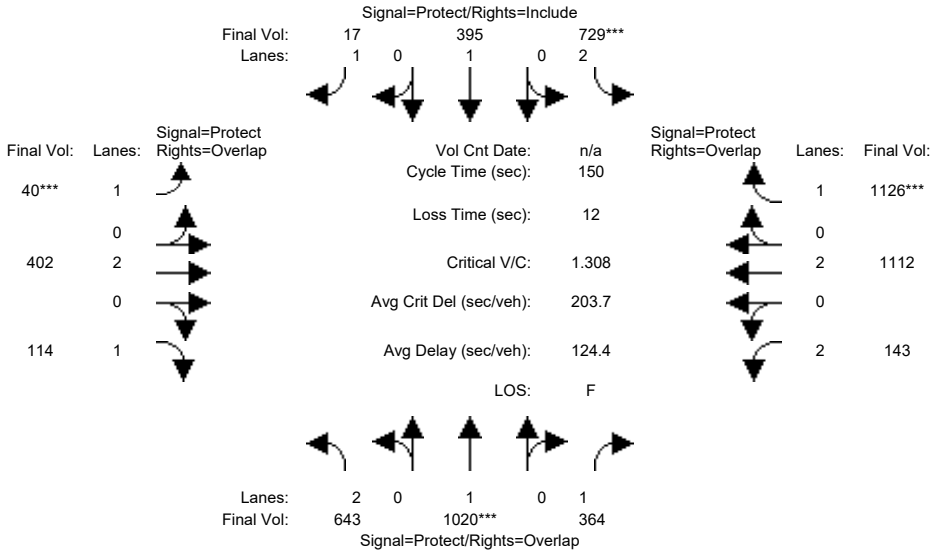
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	592	938	335	671	363	16	37	370	105	132	1023	1036
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	592	938	335	671	363	16	37	370	105	132	1023	1036
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	592	938	335	671	363	16	37	370	105	132	1023	1036
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	643	1020	364	729	395	17	40	402	114	143	1112	1126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	643	1020	364	729	395	17	40	402	114	143	1112	1126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	643	1020	364	729	395	17	40	402	114	143	1112	1126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.54	0.21	0.23	0.21	0.01	0.02	0.11	0.07	0.05	0.29	0.64
Crit Moves:		****		****			****					****
Green Time:	42.9	60.5	76.0	26.1	43.6	43.6	5.0	36.0	78.9	15.5	46.4	72.5
Volume/Cap:	0.71	1.33	0.41	1.33	0.71	0.03	0.69	0.44	0.12	0.44	0.95	1.33
Delay/Veh:	50.7	203	23.4	223.1	52.0	38.1	101.3	48.8	18.1	64.2	65.6	195.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	203	23.4	223.1	52.0	38.1	101.3	48.8	18.1	64.2	65.6	195.8
LOS by Move:	D	F	C	F	D	D	F	D	B	E	E	F
HCM2k95thQ:	28	116	20	56	29	1	4	14	6	7	42	136

Note: Queue reported is the number of cars per lane.

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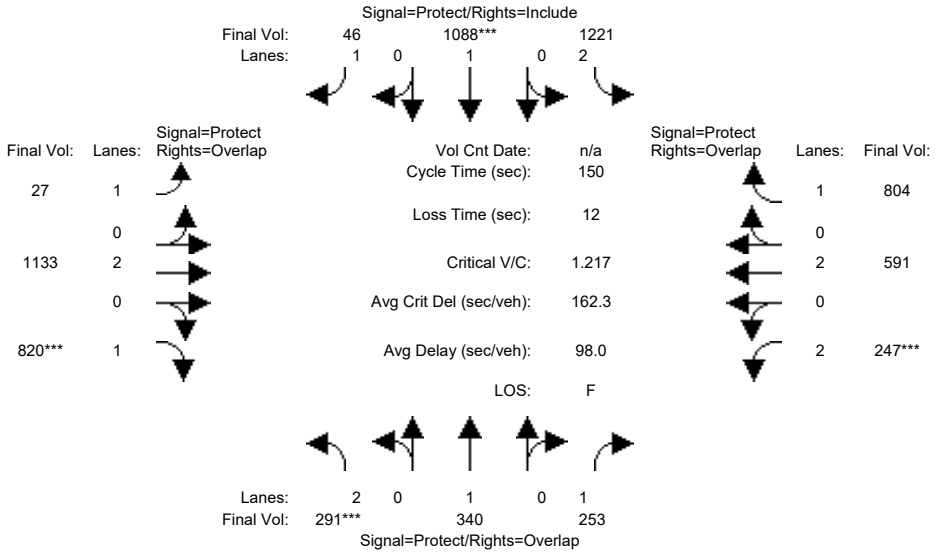
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #123: (39) LICK MILL/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	6	6	6	5	10	10	6	10	10
Y+R:	5.0	5.0	5.0	5.5	5.5	5.5	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	279	326	243	1172	1044	44	26	1088	787	237	567	772
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	279	326	243	1172	1044	44	26	1088	787	237	567	772
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	279	326	243	1172	1044	44	26	1088	787	237	567	772
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	291	340	253	1221	1088	46	27	1133	820	247	591	804
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	291	340	253	1221	1088	46	27	1133	820	247	591	804
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	291	340	253	1221	1088	46	27	1133	820	247	591	804
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	1750	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.18	0.14	0.39	0.57	0.03	0.02	0.30	0.47	0.08	0.16	0.46
Crit Moves:	****				****				****	****		
Green Time:	11.4	25.9	35.5	56.1	70.6	70.6	9.9	46.4	57.8	9.7	46.2	102.2
Volume/Cap:	1.22	1.04	0.61	1.04	1.22	0.06	0.23	0.96	1.22	1.22	0.51	0.67
Delay/Veh:	198.6	122	53.7	83.1	147	21.6	67.5	69.3	156.8	203.9	42.9	15.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	198.6	122	53.7	83.1	147	21.6	67.5	69.3	156.8	203.9	42.9	15.6
LOS by Move:	F	F	D	F	F	C	E	E	F	F	D	B
HCM2k95thQ:	22	33	20	65	112	2	3	46	91	19	20	39

Note: Queue reported is the number of cars per lane.

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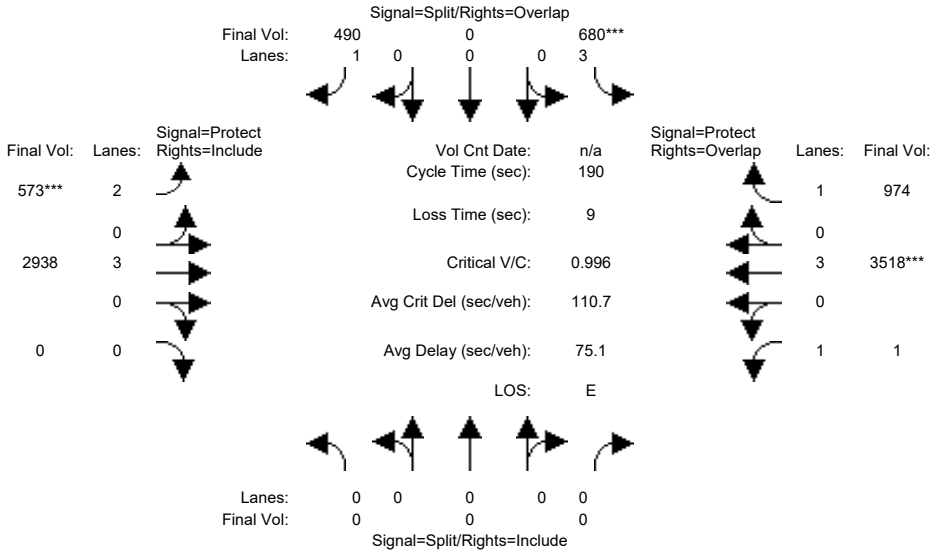
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	680	0	490	573	3377	0	1	4044	974
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	680	0	490	573	3377	0	1	4044	974
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	680	0	490	573	3377	0	1	4044	974
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	680	0	490	573	2938	0	1	3518	974
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	680	0	490	573	2938	0	1	3518	974
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	680	0	490	573	2938	0	1	3518	974
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.80	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	3.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	4551	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.28	0.18	0.52	0.00	0.00	0.62	0.56
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	1.12	0.00	1.26	2.05	0.72	0.00	0.01	0.90	0.68
Delay/Veh:	0.0	0.0	0.0	155.5	0.0	209.2	569.6	17.0	0.0	84.8	27.3	8.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	155.5	0.0	209.2	569.6	17.0	0.0	84.8	27.3	8.1
LOS by Move:	A	A	A	F	A	F	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	38	0	70	66	53	0	0	79	38

Note: Queue reported is the number of cars per lane.

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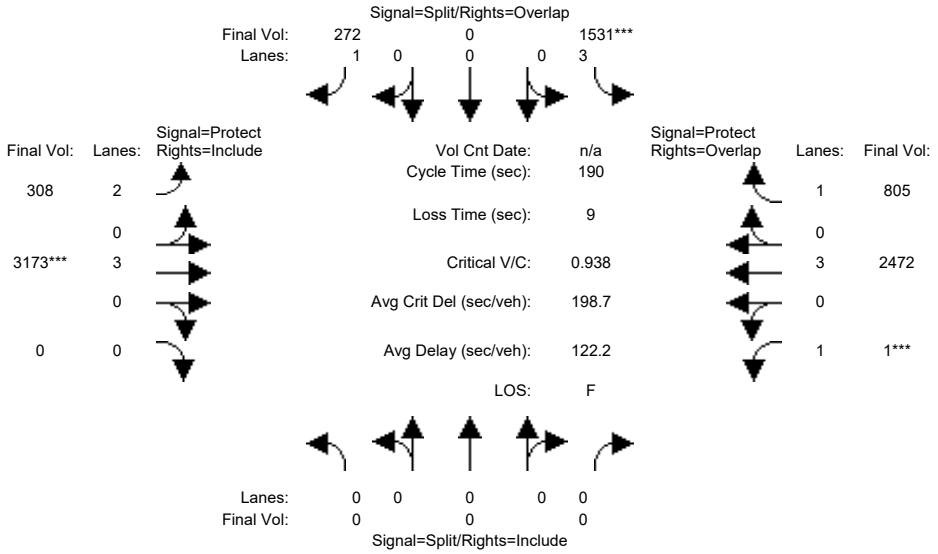
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	1531	0	272	308	3966	0	1	3635	805
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1531	0	272	308	3966	0	1	3635	805
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1531	0	272	308	3966	0	1	3635	805
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1531	0	272	308	3173	0	1	2472	805
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1531	0	272	308	3173	0	1	2472	805
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1531	0	272	308	3173	0	1	2472	805
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.80	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	3.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	4551	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.34	0.00	0.16	0.10	0.56	0.00	0.00	0.43	0.46
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	2.07	0.00	0.57	0.88	0.81	0.00	0.01	0.68	0.58
Delay/Veh:	0.0	0.0	0.0	565.2	0.0	60.9	104.9	21.8	0.0	84.8	22.7	7.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	565.2	0.0	60.9	104.9	21.8	0.0	84.8	22.7	7.7
LOS by Move:	A	A	A	F	A	E	F	C	A	F	C	A
HCM2k95thQ:	0	0	0	116	0	26	24	66	0	0	46	30

Note: Queue reported is the number of cars per lane.

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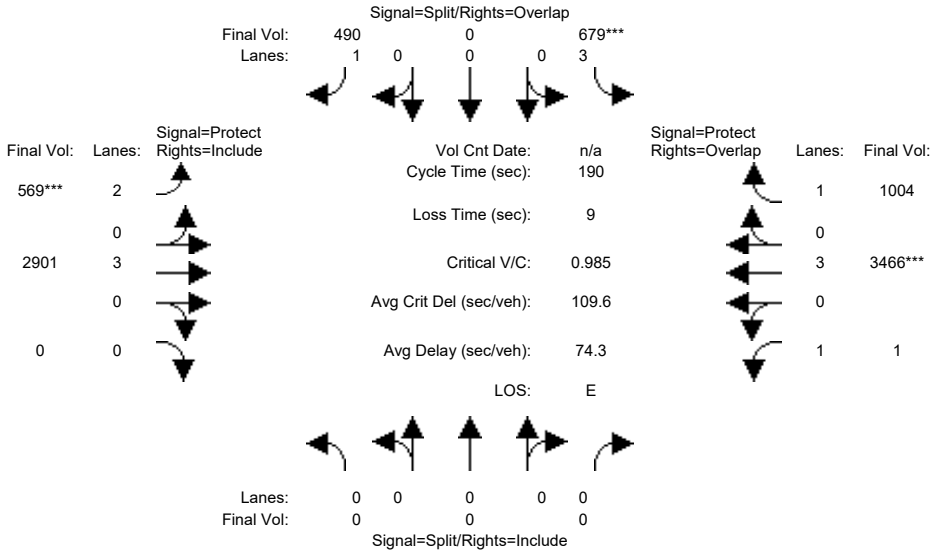
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	679	0	490	569	3335	0	1	3984	1004
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	679	0	490	569	3335	0	1	3984	1004
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	679	0	490	569	3335	0	1	3984	1004
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	679	0	490	569	2901	0	1	3466	1004
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	679	0	490	569	2901	0	1	3466	1004
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	679	0	490	569	2901	0	1	3466	1004
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.80	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	3.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	4551	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.15	0.00	0.28	0.18	0.51	0.00	0.00	0.61	0.57
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	25.4	0.0	42.3	16.9	135	0.0	10.6	131	156.1
Volume/Cap:	0.00	0.00	0.00	1.12	0.00	1.26	2.03	0.72	0.00	0.01	0.88	0.70
Delay/Veh:	0.0	0.0	0.0	154.9	0.0	209.2	563.2	16.7	0.0	84.8	26.3	8.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	154.9	0.0	209.2	563.2	16.7	0.0	84.8	26.3	8.6
LOS by Move:	A	A	A	F	A	F	F	B	A	F	C	A
HCM2k95thQ:	0	0	0	38	0	70	65	52	0	0	76	40

Note: Queue reported is the number of cars per lane.

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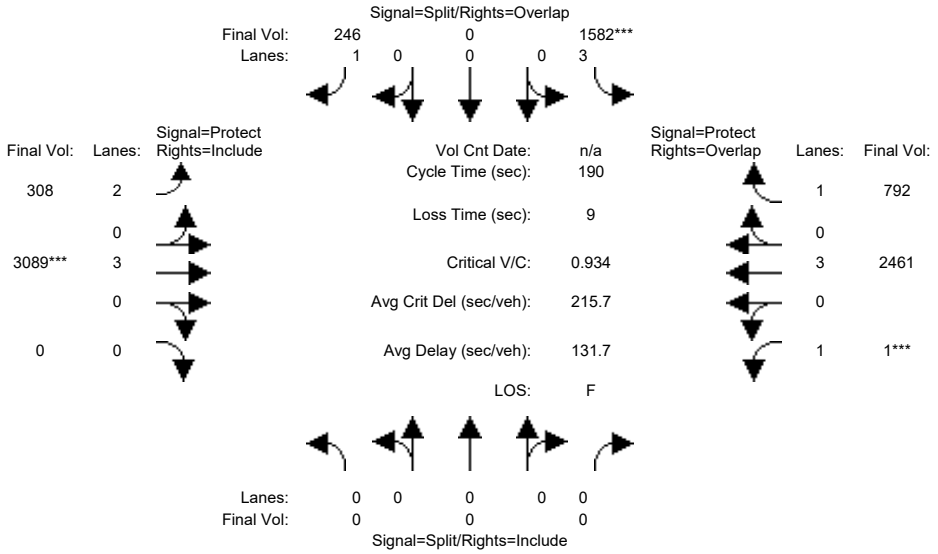
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #125: (46) LICK MILL/MONTAGUE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	10	7	10	10
Y+R:	5.9	5.9	5.9	0.0	0.0	0.0	5.4	5.8	5.8	5.4	5.8	5.8
Volume Module:												
Base Vol:	0	0	0	1582	0	246	308	3861	0	1	3619	792
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1582	0	246	308	3861	0	1	3619	792
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1582	0	246	308	3861	0	1	3619	792
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1582	0	246	308	3089	0	1	2461	792
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1582	0	246	308	3089	0	1	2461	792
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1582	0	246	308	3089	0	1	2461	792
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.80	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	3.00	0.00	1.00	2.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	4551	0	1750	3150	5700	0	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.35	0.00	0.14	0.10	0.54	0.00	0.00	0.43	0.45
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	30.9	0.0	52.0	21.1	131	0.0	10.6	121	151.8
Volume/Cap:	0.00	0.00	0.00	2.14	0.00	0.51	0.88	0.78	0.00	0.01	0.68	0.57
Delay/Veh:	0.0	0.0	0.0	596.1	0.0	59.3	104.9	21.0	0.0	84.8	22.6	7.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	596.1	0.0	59.3	104.9	21.0	0.0	84.8	22.6	7.6
LOS by Move:	A	A	A	F	A	E	F	C	A	F	C	A
HCM2k95thQ:	0	0	0	121	0	23	24	63	0	0	45	29

Note: Queue reported is the number of cars per lane.

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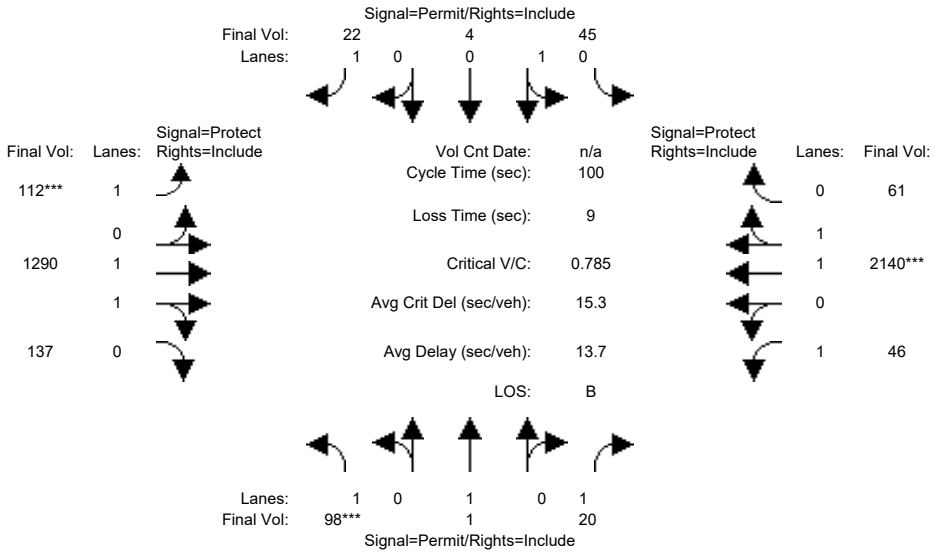
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	92	1	19	42	4	21	105	1213	129	43	2012	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	1	19	42	4	21	105	1213	129	43	2012	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	92	1	19	42	4	21	105	1213	129	43	2012	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	98	1	20	45	4	22	112	1290	137	46	2140	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	1	20	45	4	22	112	1290	137	46	2140	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	1	20	45	4	22	112	1290	137	46	2140	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.91	0.09	1.00	1.00	1.80	0.20	1.00	1.94	0.06
Final Sat.:	1750	1900	1750	1643	157	1750	1750	3344	356	1750	3598	102
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.01	0.03	0.03	0.01	0.06	0.39	0.39	0.03	0.59	0.59
Crit Moves:	****						****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	7.8	68.6	68.6	12.4	73.2	73.2
Volume/Cap:	0.56	0.01	0.12	0.27	0.27	0.13	0.81	0.56	0.56	0.21	0.81	0.81
Delay/Veh:	46.9	40.5	41.3	42.5	42.5	41.4	74.9	8.3	8.3	39.8	10.9	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.9	40.5	41.3	42.5	42.5	41.4	74.9	8.3	8.3	39.8	10.9	10.9
LOS by Move:	D	D	D	D	D	D	E	A	A	D	B	B
HCM2k95thQ:	8	0	1	3	3	2	8	20	20	3	36	36

Note: Queue reported is the number of cars per lane.

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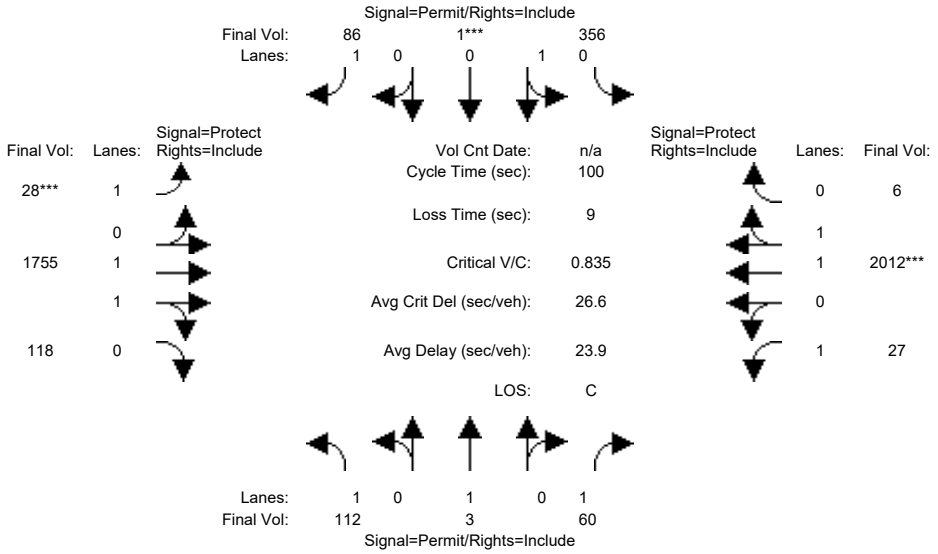
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	109	3	58	345	1	83	27	1702	114	26	1952	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	3	58	345	1	83	27	1702	114	26	1952	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	109	3	58	345	1	83	27	1702	114	26	1952	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	112	3	60	356	1	86	28	1755	118	27	2012	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	3	60	356	1	86	28	1755	118	27	2012	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	3	60	356	1	86	28	1755	118	27	2012	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.99	0.01	1.00	1.00	1.87	0.13	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1795	5	1750	1750	3468	232	1750	3689	11
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.20	0.20	0.05	0.02	0.51	0.51	0.02	0.55	0.55
Crit Moves:					****		****				****	
Green Time:	22.4	22.4	22.4	22.4	22.4	22.4	7.0	60.3	60.3	8.3	61.6	61.6
Volume/Cap:	0.29	0.01	0.15	0.89	0.89	0.22	0.23	0.84	0.84	0.18	0.89	0.89
Delay/Veh:	32.6	30.2	31.4	57.8	57.8	32.0	44.9	19.0	19.0	43.3	20.8	20.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.6	30.2	31.4	57.8	57.8	32.0	44.9	19.0	19.0	43.3	20.8	20.8
LOS by Move:	C	C	C	E	E	C	D	B	B	D	C	C
HCM2k95thQ:	6	0	3	26	26	5	2	37	37	2	46	46

Note: Queue reported is the number of cars per lane.

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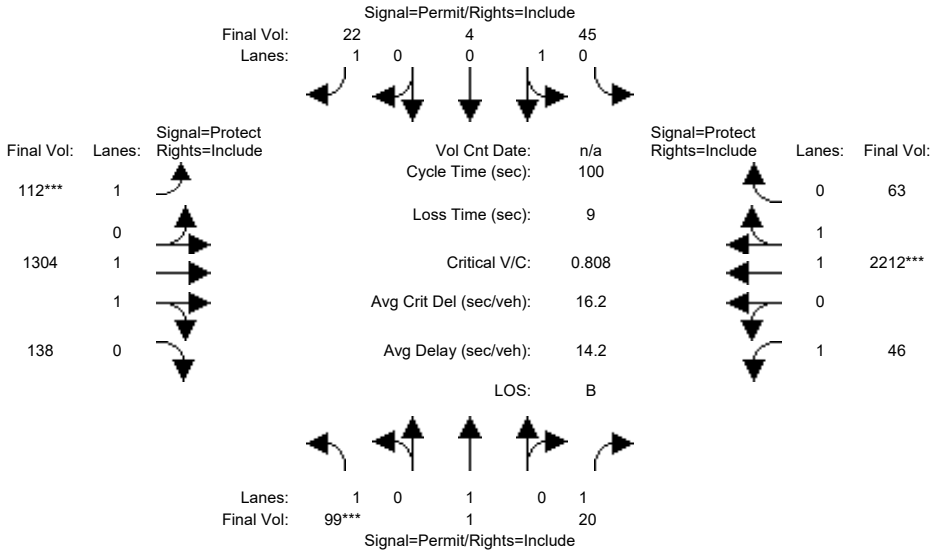
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	93	1	19	42	4	21	105	1226	130	43	2079	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	1	19	42	4	21	105	1226	130	43	2079	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	93	1	19	42	4	21	105	1226	130	43	2079	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	99	1	20	45	4	22	112	1304	138	46	2212	63
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	1	20	45	4	22	112	1304	138	46	2212	63
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	1	20	45	4	22	112	1304	138	46	2212	63
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.91	0.09	1.00	1.00	1.80	0.20	1.00	1.94	0.06
Final Sat.:	1750	1900	1750	1643	157	1750	1750	3345	355	1750	3598	102
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.01	0.03	0.03	0.01	0.06	0.39	0.39	0.03	0.61	0.61
Crit Moves:	****						****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	7.6	68.7	68.7	12.3	73.4	73.4
Volume/Cap:	0.57	0.01	0.12	0.27	0.27	0.13	0.84	0.57	0.57	0.21	0.84	0.84
Delay/Veh:	47.2	40.5	41.3	42.5	42.5	41.4	80.5	8.3	8.3	40.0	11.6	11.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.2	40.5	41.3	42.5	42.5	41.4	80.5	8.3	8.3	40.0	11.6	11.6
LOS by Move:	D	D	D	D	D	D	F	A	A	D	B	B
HCM2k95thQ:	8	0	1	3	3	2	8	21	21	3	38	38

Note: Queue reported is the number of cars per lane.

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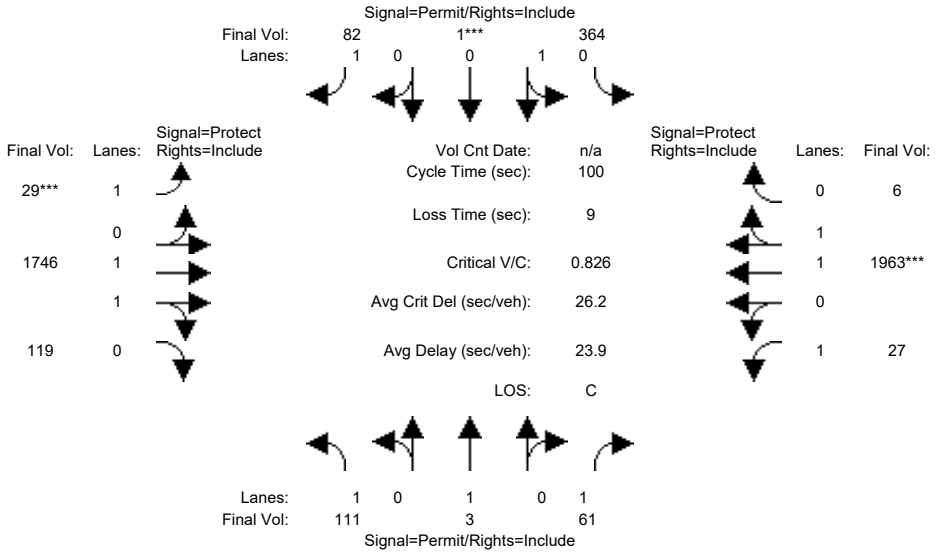
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #139: (26) Marriott Dwy/Mission College Blvd



Street Name:	Marriott Driveway						Mission College Boulevard					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	108	3	59	353	1	80	28	1694	115	26	1904	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	108	3	59	353	1	80	28	1694	115	26	1904	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	108	3	59	353	1	80	28	1694	115	26	1904	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	111	3	61	364	1	82	29	1746	119	27	1963	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	3	61	364	1	82	29	1746	119	27	1963	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	111	3	61	364	1	82	29	1746	119	27	1963	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.95	0.95	0.92	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	0.99	0.01	1.00	1.00	1.87	0.13	1.00	1.99	0.01
Final Sat.:	1750	1900	1750	1795	5	1750	1750	3465	235	1750	3688	12
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.03	0.20	0.20	0.05	0.02	0.50	0.50	0.02	0.53	0.53
Crit Moves:					****		****				****	
Green Time:	23.2	23.2	23.2	23.2	23.2	23.2	7.0	59.6	59.6	8.3	60.8	60.8
Volume/Cap:	0.27	0.01	0.15	0.87	0.87	0.20	0.24	0.85	0.85	0.19	0.87	0.87
Delay/Veh:	31.9	29.6	30.7	55.3	55.3	31.2	45.0	19.7	19.7	43.3	20.6	20.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	29.6	30.7	55.3	55.3	31.2	45.0	19.7	19.7	43.3	20.6	20.6
LOS by Move:	C	C	C	E	E	C	D	B	B	D	C	C
HCM2k95thQ:	6	0	3	26	26	5	2	39	39	2	44	44

Note: Queue reported is the number of cars per lane.

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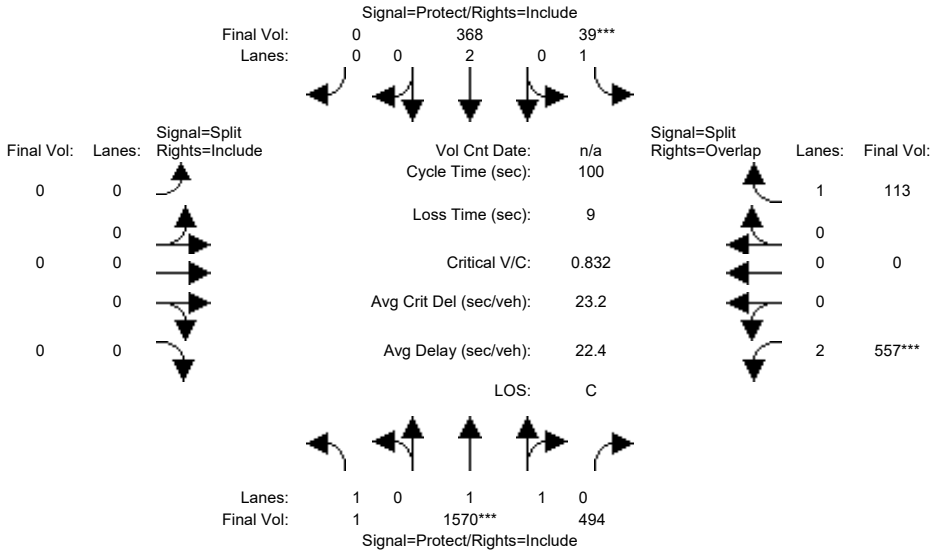
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	1	1570	494	39	368	0	0	0	0	557	0	113
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1570	494	39	368	0	0	0	0	557	0	113
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1570	494	39	368	0	0	0	0	557	0	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	1570	494	39	368	0	0	0	0	557	0	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	1570	494	39	368	0	0	0	0	557	0	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	1570	494	39	368	0	0	0	0	557	0	113
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.51	0.49	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	2814	885	1750	3800	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.56	0.56	0.02	0.10	0.00	0.00	0.00	0.00	0.18	0.00	0.06
Crit Moves:		****		****						****		
Green Time:	20.0	66.1	66.1	4.0	50.0	0.0	0.0	0.0	0.0	20.9	0.0	24.9
Volume/Cap:	0.00	0.84	0.84	0.56	0.19	0.00	0.00	0.00	0.00	0.84	0.00	0.26
Delay/Veh:	32.0	15.9	15.9	56.7	13.9	0.0	0.0	0.0	0.0	47.7	0.0	30.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	15.9	15.9	56.7	13.9	0.0	0.0	0.0	0.0	47.7	0.0	30.4
LOS by Move:	C	B	B	E	B	A	A	A	A	D	A	C
HCM2k95thQ:	0	43	43	4	6	0	0	0	0	23	0	6

Note: Queue reported is the number of cars per lane.

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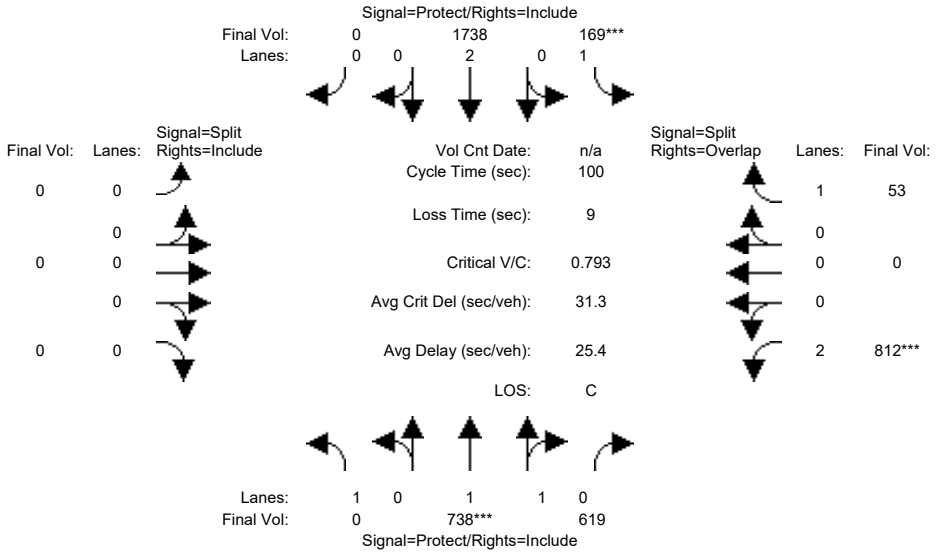
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	0	738	619	169	1738	0	0	0	0	812	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	738	619	169	1738	0	0	0	0	812	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	738	619	169	1738	0	0	0	0	812	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	738	619	169	1738	0	0	0	0	812	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	738	619	169	1738	0	0	0	0	812	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	738	619	169	1738	0	0	0	0	812	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.06	0.94	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	2011	1687	1750	3800	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.37	0.37	0.10	0.46	0.00	0.00	0.00	0.00	0.26	0.00	0.03
Crit Moves:		****		****						****		
Green Time:	0.0	46.3	46.3	12.2	58.5	0.0	0.0	0.0	0.0	32.5	0.0	44.7
Volume/Cap:	0.00	0.79	0.79	0.79	0.78	0.00	0.00	0.00	0.00	0.79	0.00	0.07
Delay/Veh:	0.0	25.4	25.4	60.8	17.8	0.0	0.0	0.0	0.0	35.0	0.0	15.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	25.4	25.4	60.8	17.8	0.0	0.0	0.0	0.0	35.0	0.0	15.8
LOS by Move:	A	C	C	E	B	A	A	A	A	C	A	B
HCM2k95thQ:	0	32	32	14	36	0	0	0	0	27	0	2

Note: Queue reported is the number of cars per lane.

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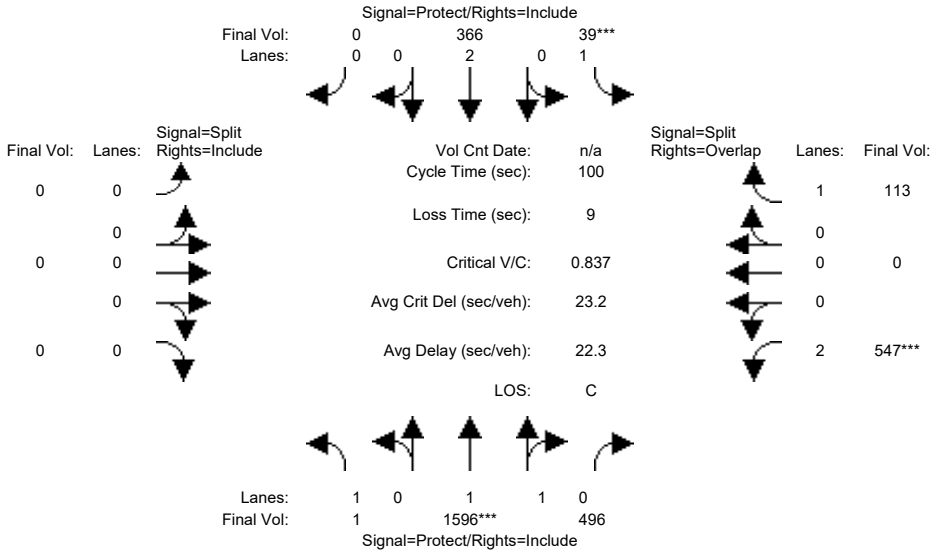
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	1	1596	496	39	366	0	0	0	0	547	0	113
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1596	496	39	366	0	0	0	0	547	0	113
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1596	496	39	366	0	0	0	0	547	0	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	1596	496	39	366	0	0	0	0	547	0	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	1596	496	39	366	0	0	0	0	547	0	113
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	1596	496	39	366	0	0	0	0	547	0	113
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.51	0.49	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	2822	877	1750	3800	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.57	0.57	0.02	0.10	0.00	0.00	0.00	0.00	0.17	0.00	0.06
Crit Moves:		****		****						****		
Green Time:	20.2	66.6	66.6	4.0	50.4	0.0	0.0	0.0	0.0	20.4	0.0	24.4
Volume/Cap:	0.00	0.85	0.85	0.56	0.19	0.00	0.00	0.00	0.00	0.85	0.00	0.26
Delay/Veh:	31.9	15.9	15.9	56.7	13.7	0.0	0.0	0.0	0.0	48.7	0.0	30.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	15.9	15.9	56.7	13.7	0.0	0.0	0.0	0.0	48.7	0.0	30.9
LOS by Move:	C	B	B	E	B	A	A	A	A	D	A	C
HCM2k95thQ:	0	44	44	4	6	0	0	0	0	23	0	6

Note: Queue reported is the number of cars per lane.

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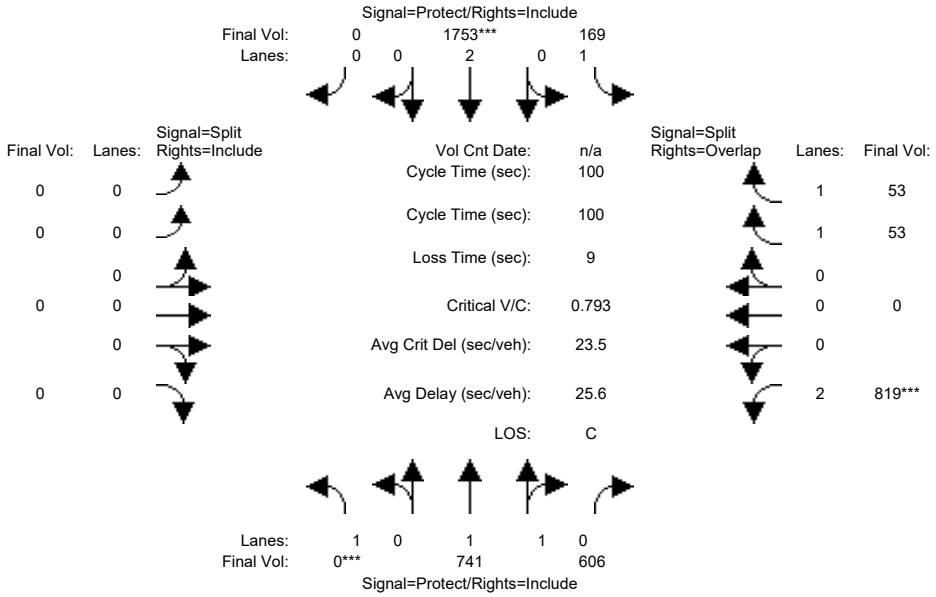
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #530: (40) LAFAYETTE / CALLE DE LUNA



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	4	10	10	4	10	0	0	0	0	8	0	8
Y+R:	0.0	5.0	6.4	5.4	6.4	0.0	4.0	4.0	4.0	5.1	0.0	5.1
Volume Module:												
Base Vol:	0	741	606	169	1753	0	0	0	0	819	0	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	741	606	169	1753	0	0	0	0	819	0	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	741	606	169	1753	0	0	0	0	819	0	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	741	606	169	1753	0	0	0	0	819	0	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	741	606	169	1753	0	0	0	0	819	0	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	741	606	169	1753	0	0	0	0	819	0	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	1.08	0.92	1.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	1750	2034	1664	1750	3800	0	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.36	0.36	0.10	0.46	0.00	0.00	0.00	0.00	0.26	0.00	0.03
Crit Moves:	****				****					****		
Green Time:	0.0	46.0	46.0	12.2	58.2	0.0	0.0	0.0	0.0	32.8	0.0	45.0
Volume/Cap:	0.00	0.79	0.79	0.79	0.79	0.00	0.00	0.00	0.00	0.79	0.00	0.07
Delay/Veh:	0.0	25.5	25.5	60.7	18.3	0.0	0.0	0.0	0.0	34.8	0.0	15.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	25.5	25.5	60.7	18.3	0.0	0.0	0.0	0.0	34.8	0.0	15.6
LOS by Move:	A	C	C	E	B	A	A	A	A	C	A	B
HCM2k95thQ:	0	32	32	14	37	0	0	0	0	27	0	2

Note: Queue reported is the number of cars per lane.

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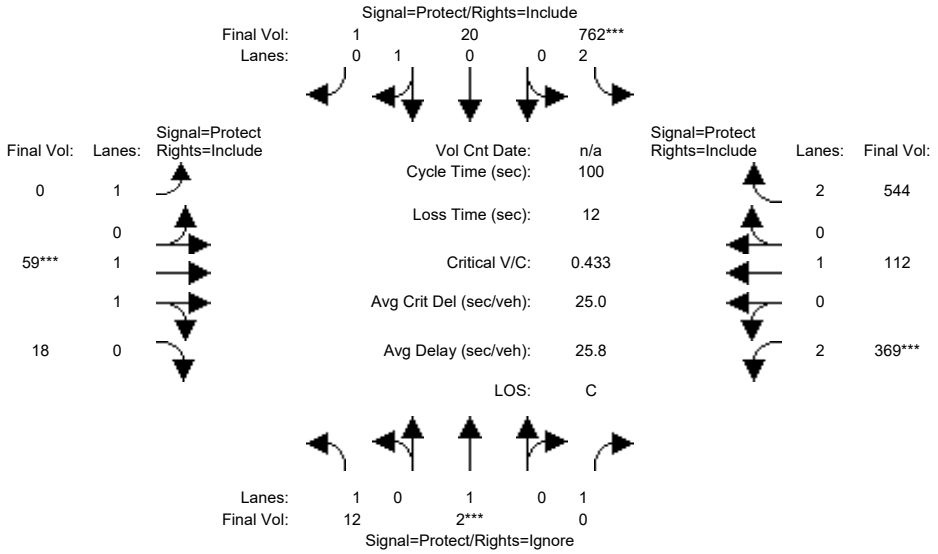
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	312	686	18	1	0	53	16	332	101	490
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	312	686	18	1	0	53	16	332	101	490
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	312	686	18	1	0	53	16	332	101	490
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	762	20	1	0	59	18	369	112	544
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	762	20	1	0	59	18	369	112	544
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	762	20	1	0	59	18	369	112	544
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.95	0.05	1.00	1.52	0.48	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1705	95	1750	2841	858	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.24	0.01	0.01	0.00	0.02	0.02	0.12	0.06	0.17
Crit Moves:		****		****				****		****		
Green Time:	27.6	8.0	0.0	47.2	27.6	27.6	0.0	10.0	10.0	22.8	32.8	32.8
Volume/Cap:	0.03	0.01	0.00	0.51	0.04	0.04	0.00	0.21	0.21	0.51	0.18	0.53
Delay/Veh:	26.4	42.4	0.0	18.7	26.6	26.6	0.0	41.6	41.6	34.4	24.1	27.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	42.4	0.0	18.7	26.6	26.6	0.0	41.6	41.6	34.4	24.1	27.8
LOS by Move:	C	D	A	B	C	C	A	D	D	C	C	C
HCM2k95thQ:	1	0	0	18	1	1	0	3	3	11	5	15

Note: Queue reported is the number of cars per lane.

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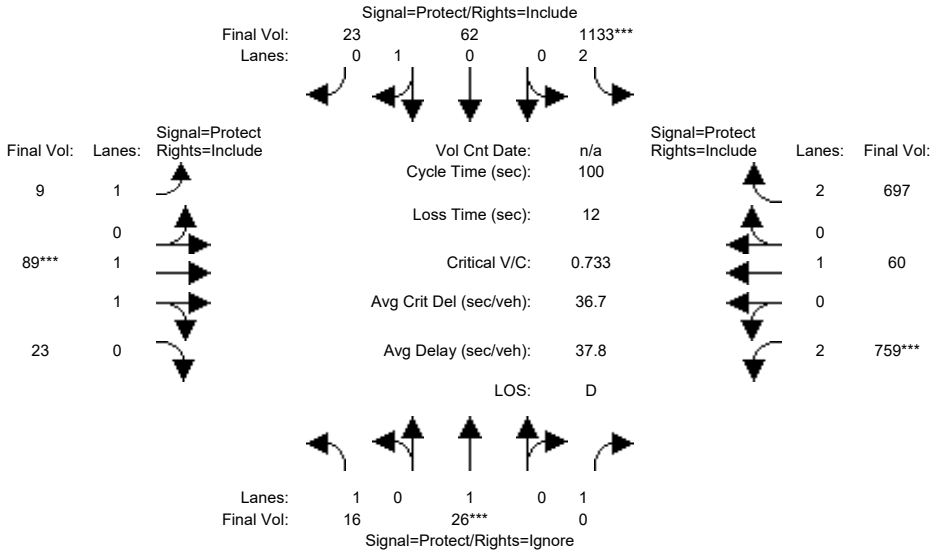
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	25	566	1076	59	22	9	85	22	721	57	662
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	25	566	1076	59	22	9	85	22	721	57	662
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	25	566	1076	59	22	9	85	22	721	57	662
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	26	0	1133	62	23	9	89	23	759	60	697
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	0	1133	62	23	9	89	23	759	60	697
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	26	0	1133	62	23	9	89	23	759	60	697
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1311	489	1750	2939	761	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.36	0.05	0.05	0.01	0.03	0.03	0.24	0.03	0.22
Crit Moves:		****		****				****		****		
Green Time:	25.0	8.0	0.0	41.9	25.0	25.0	11.9	10.0	10.0	28.1	26.2	26.2
Volume/Cap:	0.04	0.17	0.00	0.86	0.19	0.19	0.05	0.30	0.30	0.86	0.12	0.84
Delay/Veh:	28.4	43.5	0.0	32.2	29.8	29.8	39.1	42.2	42.2	42.5	28.2	42.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.4	43.5	0.0	32.2	29.8	29.8	39.1	42.2	42.2	42.5	28.2	42.8
LOS by Move:	C	D	A	C	C	C	D	D	D	D	C	D
HCM2k95thQ:	1	2	0	37	4	4	1	4	4	25	3	23

Note: Queue reported is the number of cars per lane.

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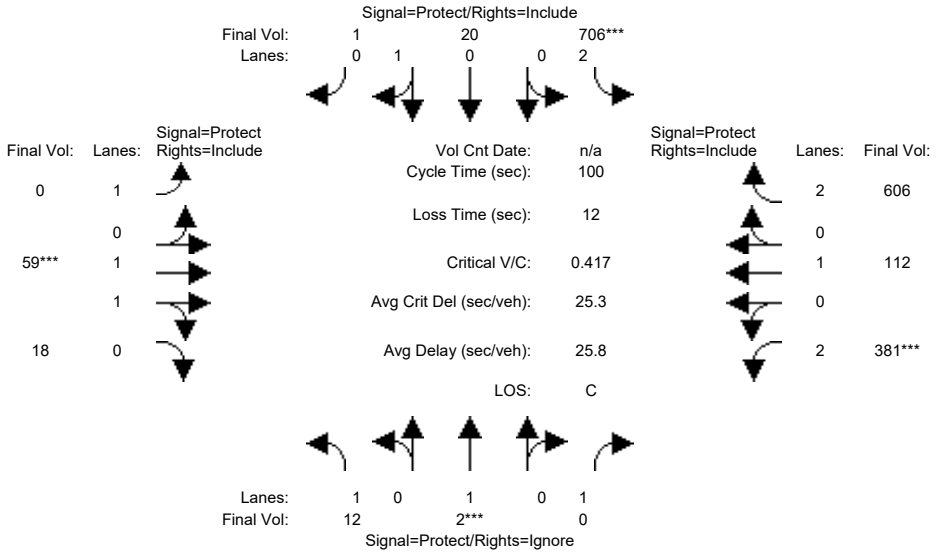
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	342	635	18	1	0	53	16	343	101	545
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	342	635	18	1	0	53	16	343	101	545
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	342	635	18	1	0	53	16	343	101	545
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	706	20	1	0	59	18	381	112	606
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	706	20	1	0	59	18	381	112	606
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	706	20	1	0	59	18	381	112	606
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.95	0.05	1.00	1.52	0.48	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1705	95	1750	2841	858	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.22	0.01	0.01	0.00	0.02	0.02	0.12	0.06	0.19
Crit Moves:		****		****				****		****		
Green Time:	26.7	8.0	0.0	45.4	26.7	26.7	0.0	10.0	10.0	24.6	34.6	34.6
Volume/Cap:	0.03	0.01	0.00	0.49	0.04	0.04	0.00	0.21	0.21	0.49	0.17	0.56
Delay/Veh:	27.1	42.4	0.0	19.4	27.2	27.2	0.0	41.6	41.6	32.9	22.9	27.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.1	42.4	0.0	19.4	27.2	27.2	0.0	41.6	41.6	32.9	22.9	27.2
LOS by Move:	C	D	A	B	C	C	A	D	D	C	C	C
HCM2k95thQ:	1	0	0	17	1	1	0	3	3	11	5	17

Note: Queue reported is the number of cars per lane.

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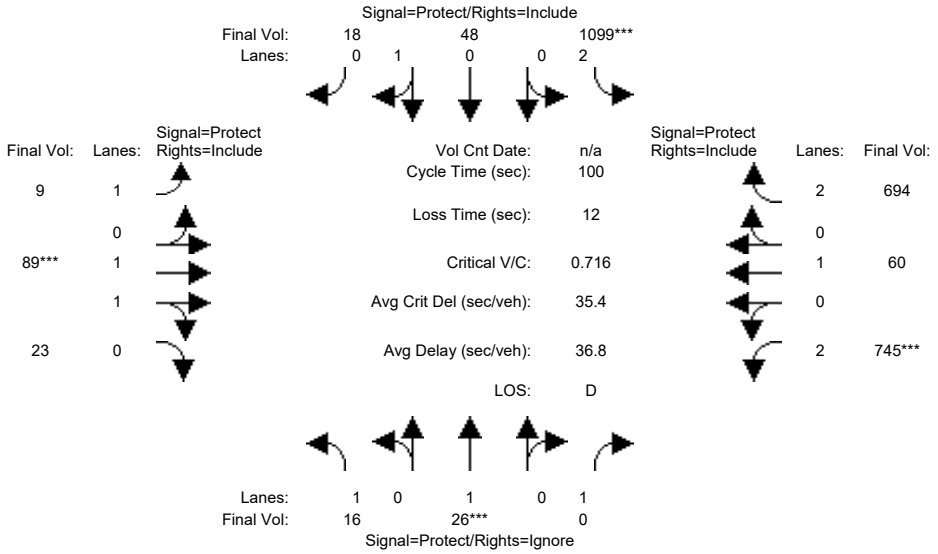
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	25	567	1044	46	17	9	85	22	708	57	659
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	25	567	1044	46	17	9	85	22	708	57	659
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	25	567	1044	46	17	9	85	22	708	57	659
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	26	0	1099	48	18	9	89	23	745	60	694
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	0	1099	48	18	9	89	23	745	60	694
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	26	0	1099	48	18	9	89	23	745	60	694
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1314	486	1750	2939	761	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.35	0.04	0.04	0.01	0.03	0.03	0.24	0.03	0.22
Crit Moves:		****		****				****		****		
Green Time:	24.9	8.0	0.0	41.7	24.9	24.9	12.0	10.0	10.0	28.3	26.3	26.3
Volume/Cap:	0.04	0.17	0.00	0.84	0.15	0.15	0.05	0.30	0.30	0.84	0.12	0.84
Delay/Veh:	28.5	43.5	0.0	30.9	29.5	29.5	39.1	42.2	42.2	40.6	28.1	42.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.5	43.5	0.0	30.9	29.5	29.5	39.1	42.2	42.2	40.6	28.1	42.2
LOS by Move:	C	D	A	C	C	C	D	D	D	D	C	D
HCM2k95thQ:	1	2	0	35	3	3	1	4	4	25	3	23

Note: Queue reported is the number of cars per lane.

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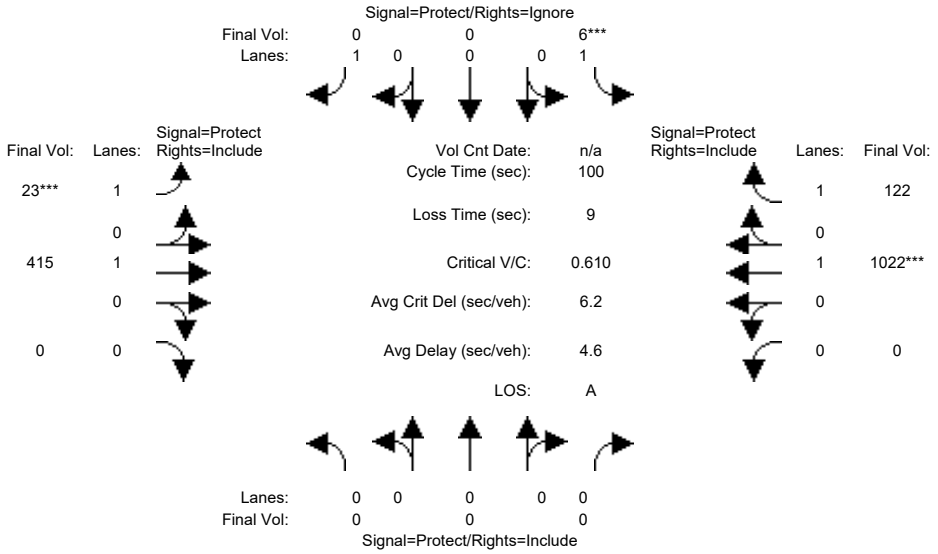
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	6	0	10	22	390	0	0	961	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	6	0	10	22	390	0	0	961	115
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	6	0	10	22	390	0	0	961	115
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	6	0	0	23	415	0	0	1022	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	6	0	0	23	415	0	0	1022	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	6	0	0	23	415	0	0	1022	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.22	0.00	0.00	0.54	0.07
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.07	0.00	0.00	0.27	0.25	0.00	0.00	0.66	0.09
Delay/Veh:	0.0	0.0	0.0	45.6	0.0	0.0	47.4	1.3	0.0	0.0	5.0	2.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.6	0.0	0.0	47.4	1.3	0.0	0.0	5.0	2.0
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	1	0	0	1	4	0	0	21	2

Note: Queue reported is the number of cars per lane.

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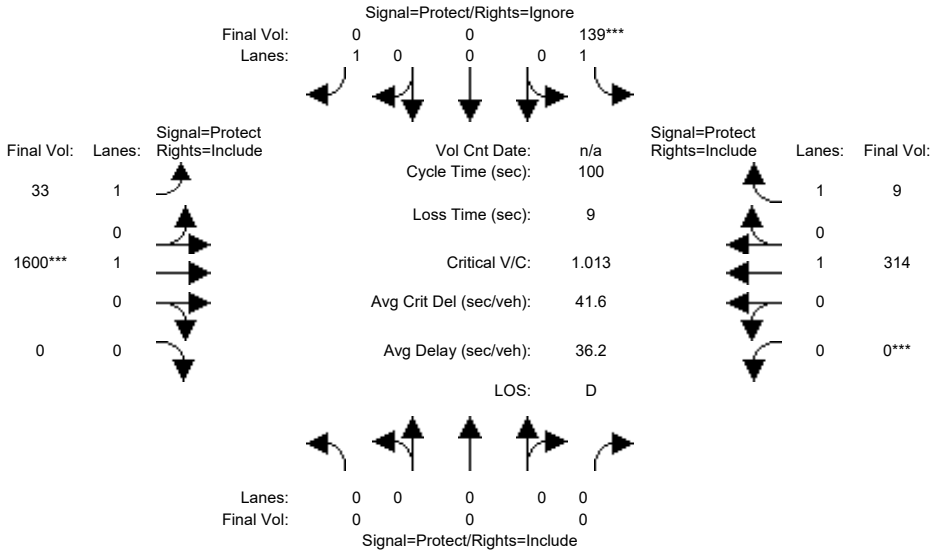
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	125	0	54	30	1440	0	0	283	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	125	0	54	30	1440	0	0	283	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	125	0	54	30	1440	0	0	283	8
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	139	0	0	33	1600	0	0	314	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	139	0	0	33	1600	0	0	314	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	139	0	0	33	1600	0	0	314	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.00	0.02	0.84	0.00	0.00	0.17	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	7.8	0.0	0.0	19.3	83.2	0.0	0.0	63.9	63.9
Volume/Cap:	0.00	0.00	0.00	1.01	0.00	0.00	0.10	1.01	0.00	0.00	0.26	0.01
Delay/Veh:	0.0	0.0	0.0	126.3	0.0	0.0	33.3	34.2	0.0	0.0	7.9	6.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	126.3	0.0	0.0	33.3	34.2	0.0	0.0	7.9	6.6
LOS by Move:	A	A	A	F	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	0	0	16	0	0	2	77	0	0	8	0

Note: Queue reported is the number of cars per lane.

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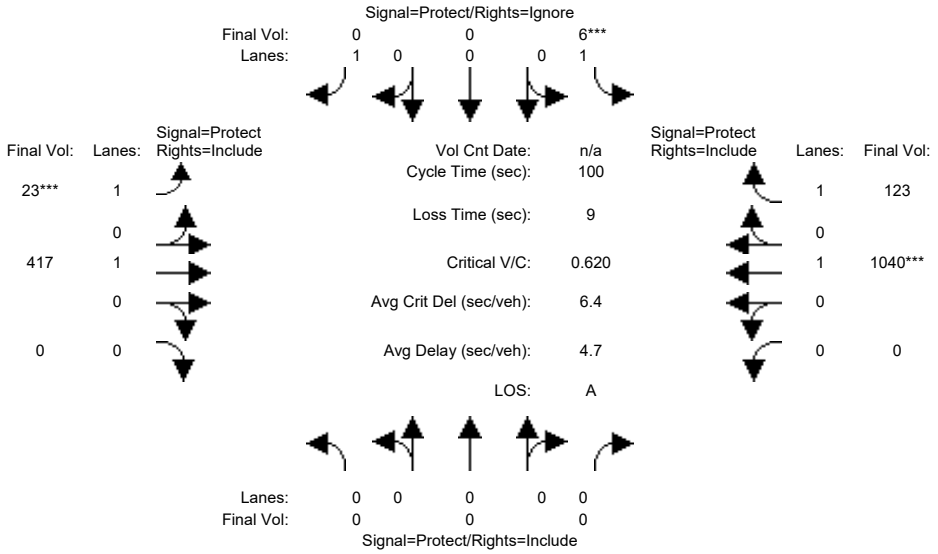
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	6	0	10	22	392	0	0	978	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	6	0	10	22	392	0	0	978	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	6	0	10	22	392	0	0	978	116
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	0	6	0	0	23	417	0	0	1040	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	6	0	0	23	417	0	0	1040	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	6	0	0	23	417	0	0	1040	123
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.22	0.00	0.00	0.55	0.07
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	5.0	0.0	0.0	5.0	86.0	0.0	0.0	81.0	81.0
Volume/Cap:	0.00	0.00	0.00	0.07	0.00	0.00	0.27	0.26	0.00	0.00	0.68	0.09
Delay/Veh:	0.0	0.0	0.0	45.6	0.0	0.0	47.4	1.3	0.0	0.0	5.2	2.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	45.6	0.0	0.0	47.4	1.3	0.0	0.0	5.2	2.0
LOS by Move:	A	A	A	D	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	0	0	1	0	0	1	4	0	0	22	2

Note: Queue reported is the number of cars per lane.

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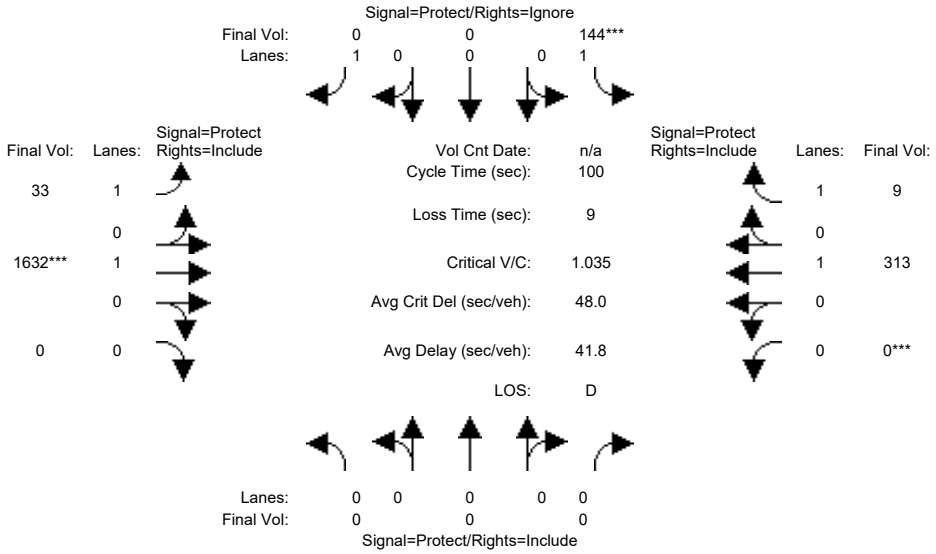
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #580: (29) Great America Emp Entr and Agnew Rd



Street Name:	Great America Emp Entr						Agnew Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	5	0	0	5	15	0	0	5	5
Y+R:	4.0	4.0	4.0	4.5	0.0	0.0	4.5	5.0	0.0	0.0	5.0	5.0
Volume Module:												
Base Vol:	0	0	0	130	0	54	30	1469	0	0	282	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	130	0	54	30	1469	0	0	282	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	130	0	54	30	1469	0	0	282	8
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	144	0	0	33	1632	0	0	313	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	144	0	0	33	1632	0	0	313	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	144	0	0	33	1632	0	0	313	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.00	0.02	0.86	0.00	0.00	0.16	0.01
Crit Moves:				****				****		****		
Green Time:	0.0	0.0	0.0	8.0	0.0	0.0	19.3	83.0	0.0	0.0	63.7	63.7
Volume/Cap:	0.00	0.00	0.00	1.03	0.00	0.00	0.10	1.03	0.00	0.00	0.26	0.01
Delay/Veh:	0.0	0.0	0.0	131.7	0.0	0.0	33.3	40.6	0.0	0.0	8.0	6.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	131.7	0.0	0.0	33.3	40.6	0.0	0.0	8.0	6.6
LOS by Move:	A	A	A	F	A	A	C	D	A	A	A	A
HCM2k95thQ:	0	0	0	17	0	0	2	83	0	0	8	0

Note: Queue reported is the number of cars per lane.

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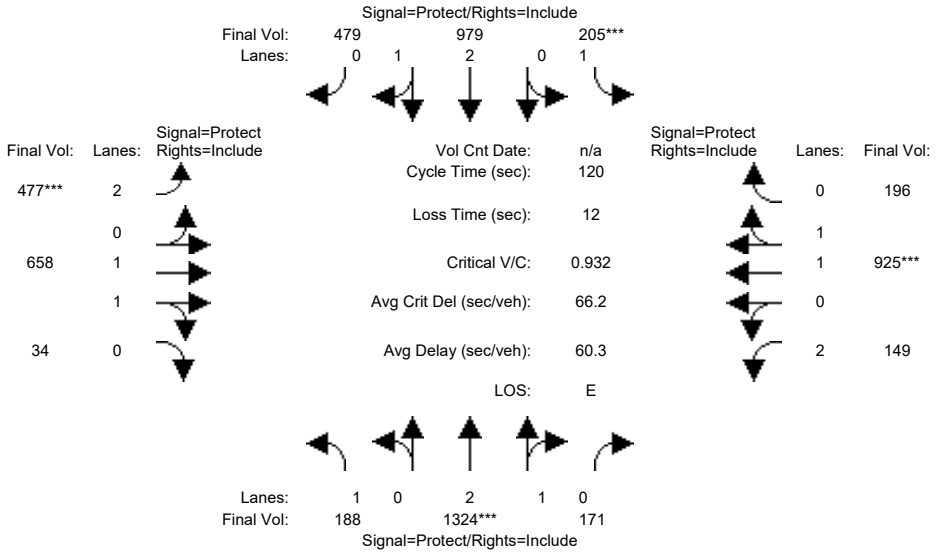
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module:												
Base Vol:	188	1324	171	205	979	479	477	658	34	149	925	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	188	1324	171	205	979	479	477	658	34	149	925	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	188	1324	171	205	979	479	477	658	34	149	925	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	188	1324	171	205	979	479	477	658	34	149	925	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	188	1324	171	205	979	479	477	658	34	149	925	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	188	1324	171	205	979	479	477	658	34	149	925	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.64	0.36	1.00	2.00	1.00	2.00	1.90	0.10	2.00	1.64	0.36
Final Sat.:	1750	4959	640	1750	3799	1800	3150	3518	182	3150	3053	647
Capacity Analysis Module:												
Vol/Sat:	0.11	0.27	0.27	0.12	0.26	0.27	0.15	0.19	0.19	0.05	0.30	0.30
Crit Moves:		****		****			****				****	
Green Time:	20.2	32.6	32.6	20.0	32.3	32.3	18.5	33.2	33.2	22.2	37.0	37.0
Volume/Cap:	0.64	0.98	0.98	0.70	0.96	0.99	0.98	0.68	0.68	0.26	0.98	0.98
Delay/Veh:	51.0	62.7	62.7	54.7	57.3	64.1	87.2	40.4	40.4	42.1	63.9	63.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.0	62.7	62.7	54.7	57.3	64.1	87.2	40.4	40.4	42.1	63.9	63.9
LOS by Move:	D	E	E	D	E	E	F	D	D	D	E	E
HCM2k95thQ:	13	33	33	15	34	37	21	20	20	5	40	40

Note: Queue reported is the number of cars per lane.

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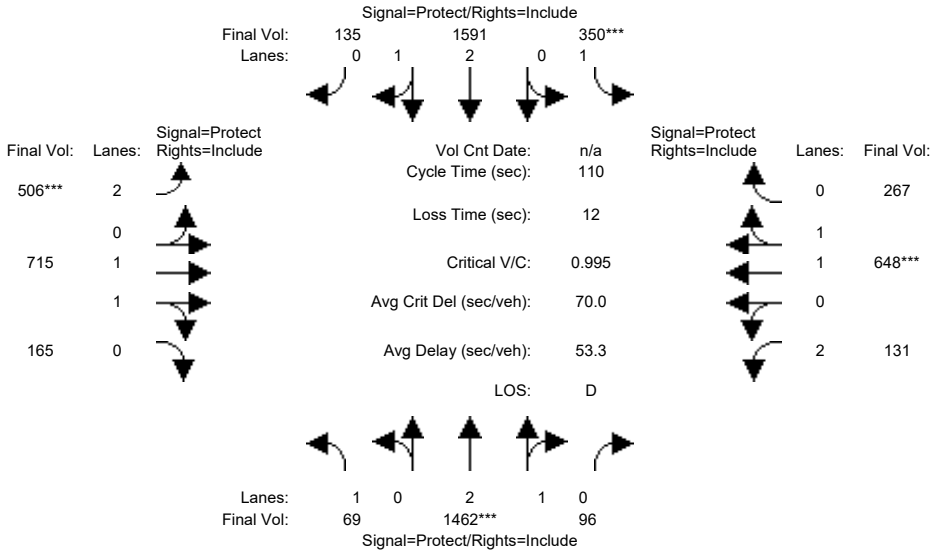
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	1462	96	350	1591	135	506	715	165	131	648	267
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	1462	96	350	1591	135	506	715	165	131	648	267
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	1462	96	350	1591	135	506	715	165	131	648	267
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	1462	96	350	1591	135	506	715	165	131	648	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	1462	96	350	1591	135	506	715	165	131	648	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	1462	96	350	1591	135	506	715	165	131	648	267
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.81	0.19	1.00	2.76	0.24	2.00	1.61	0.39	2.00	1.40	0.60
Final Sat.:	1750	5254	345	1750	5161	438	3150	3006	694	3150	2620	1079
Capacity Analysis Module:												
Vol/Sat:	0.04	0.28	0.28	0.20	0.31	0.31	0.16	0.24	0.24	0.04	0.25	0.25
Crit Moves:		****		****			****				****	
Green Time:	9.0	30.8	30.8	22.1	43.8	43.8	17.8	35.6	35.6	9.5	27.4	27.4
Volume/Cap:	0.48	0.99	0.99	0.99	0.77	0.77	0.99	0.74	0.74	0.48	0.99	0.99
Delay/Veh:	50.7	61.0	61.0	90.4	30.5	30.5	84.5	35.4	35.4	49.2	69.6	69.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	61.0	61.0	90.4	30.5	30.5	84.5	35.4	35.4	49.2	69.6	69.6
LOS by Move:	D	E	E	F	C	C	F	D	D	D	E	E
HCM2k95thQ:	5	36	36	27	30	30	22	23	23	5	33	33

Note: Queue reported is the number of cars per lane.

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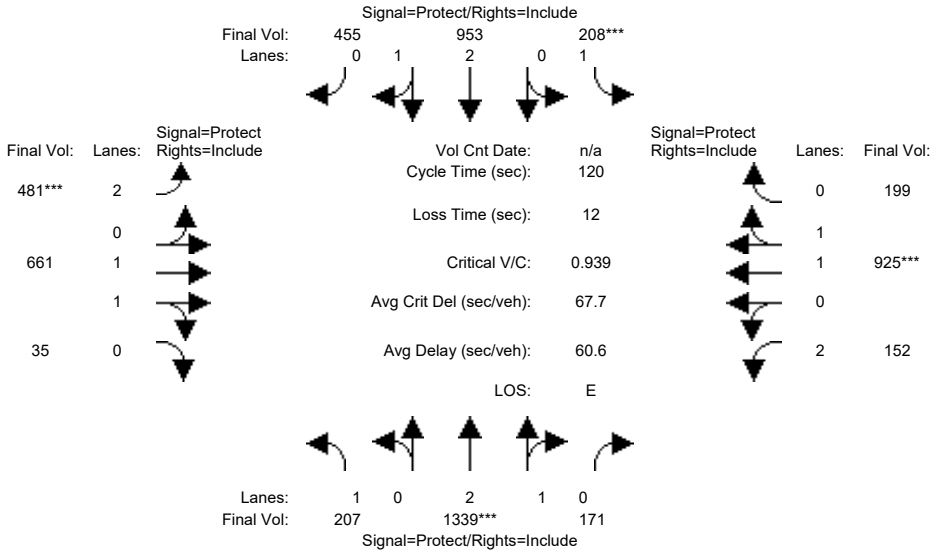
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	30	30	20	30	30	15	20	20	15	20	20
Y+R:	5.0	5.5	5.5	5.0	5.5	5.5	5.0	5.5	5.5	5.0	4.5	1.5
Volume Module:												
Base Vol:	207	1339	171	208	953	455	481	661	35	152	925	199
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1339	171	208	953	455	481	661	35	152	925	199
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1339	171	208	953	455	481	661	35	152	925	199
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1339	171	208	953	455	481	661	35	152	925	199
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1339	171	208	953	455	481	661	35	152	925	199
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1339	171	208	953	455	481	661	35	152	925	199
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.95	0.83	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	2.65	0.35	1.00	2.00	1.00	2.00	1.90	0.10	2.00	1.64	0.36
Final Sat.:	1750	4965	634	1750	3797	1800	3150	3514	186	3150	3044	655
Capacity Analysis Module:												
Vol/Sat:	0.12	0.27	0.27	0.12	0.25	0.25	0.15	0.19	0.19	0.05	0.30	0.30
Crit Moves:		****		****			****				****	
Green Time:	20.9	32.7	32.7	20.0	31.7	31.7	18.5	33.2	33.2	22.1	36.8	36.8
Volume/Cap:	0.68	0.99	0.99	0.71	0.95	0.96	0.99	0.68	0.68	0.26	0.99	0.99
Delay/Veh:	52.4	64.2	64.2	55.4	56.5	57.7	88.9	40.5	40.5	42.2	65.7	65.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	64.2	64.2	55.4	56.5	57.7	88.9	40.5	40.5	42.2	65.7	65.7
LOS by Move:	D	E	E	E	E	E	F	D	D	D	E	E
HCM2k95thQ:	14	34	34	15	33	34	21	20	20	6	41	41

Note: Queue reported is the number of cars per lane.

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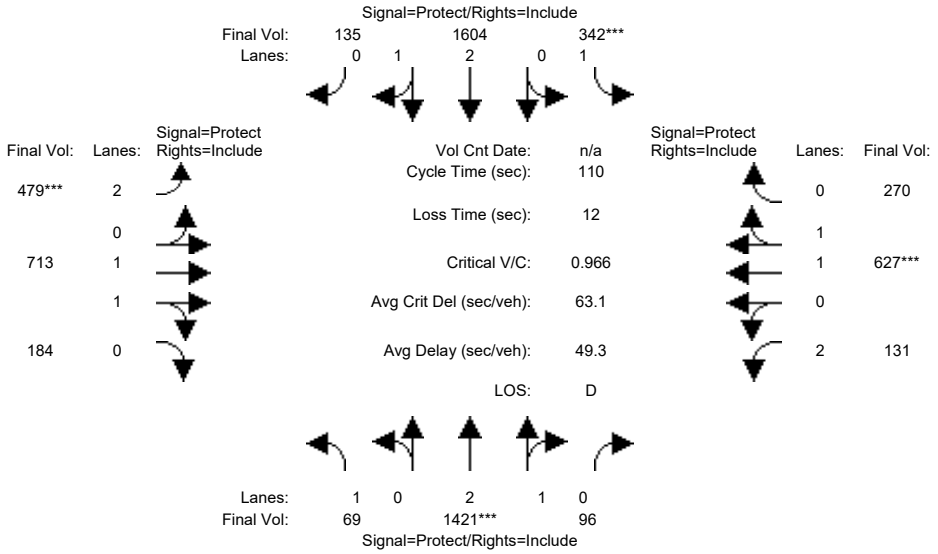
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #1200: (22) BOWERS/SCOTT



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	69	1421	96	342	1604	135	479	713	184	131	627	270
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	1421	96	342	1604	135	479	713	184	131	627	270
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	69	1421	96	342	1604	135	479	713	184	131	627	270
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	1421	96	342	1604	135	479	713	184	131	627	270
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	1421	96	342	1604	135	479	713	184	131	627	270
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	1421	96	342	1604	135	479	713	184	131	627	270
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.99	0.95	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	1.00	2.80	0.20	1.00	2.76	0.24	2.00	1.58	0.42	2.00	1.38	0.62
Final Sat.:	1750	5245	354	1750	5165	435	3150	2940	759	3150	2585	1113
Capacity Analysis Module:												
Vol/Sat:	0.04	0.27	0.27	0.20	0.31	0.31	0.15	0.24	0.24	0.04	0.24	0.24
Crit Moves:		****		****			****				****	
Green Time:	9.0	30.8	30.8	22.2	44.1	44.1	17.3	35.6	35.6	9.3	27.6	27.6
Volume/Cap:	0.48	0.97	0.97	0.97	0.78	0.78	0.97	0.75	0.75	0.49	0.97	0.97
Delay/Veh:	50.8	54.5	54.5	82.3	30.4	30.4	77.9	35.9	35.9	49.5	62.4	62.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	54.5	54.5	82.3	30.4	30.4	77.9	35.9	35.9	49.5	62.4	62.4
LOS by Move:	D	D	D	F	C	C	E	D	D	D	E	E
HCM2k95thQ:	5	34	34	25	30	30	20	24	24	5	31	31

Note: Queue reported is the number of cars per lane.

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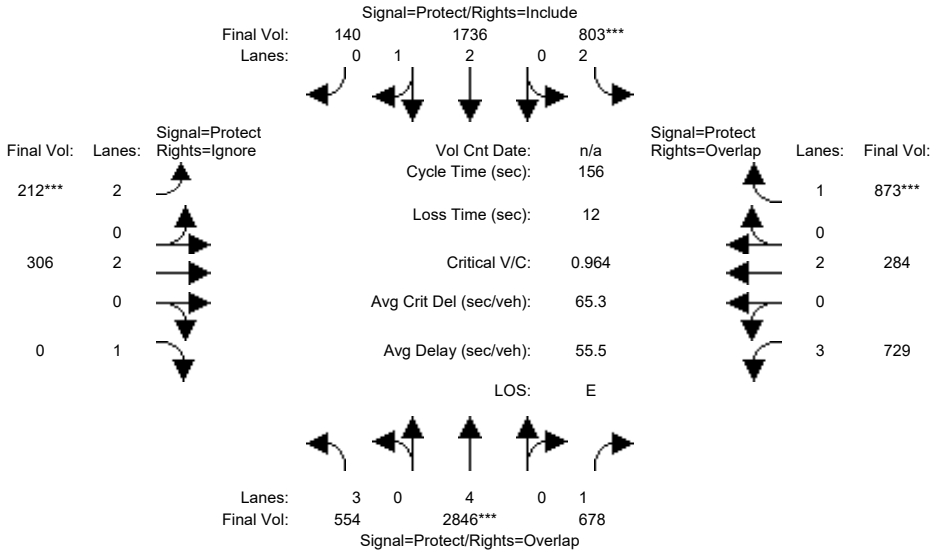
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	554	2846	678	803	1736	140	212	306	565	729	284	873
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	554	2846	678	803	1736	140	212	306	565	729	284	873
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	554	2846	678	803	1736	140	212	306	565	729	284	873
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	554	2846	678	803	1736	140	212	306	0	729	284	873
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	554	2846	678	803	1736	140	212	306	0	729	284	873
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	554	2846	678	803	1736	140	212	306	0	729	284	873
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.78	0.22	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5275	425	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.37	0.36	0.21	0.33	0.33	0.06	0.08	0.00	0.13	0.07	0.46
Crit Moves:		****		****			****					****
Green Time:	21.6	60.6	90.8	34.2	73.2	73.2	9.0	19.0	0.0	30.2	40.2	74.4
Volume/Cap:	0.70	0.96	0.61	0.96	0.70	0.70	0.96	0.66	0.00	0.66	0.29	0.96
Delay/Veh:	69.3	56.7	23.7	83.8	34.3	34.3	125.3	72.7	0.0	61.3	47.2	61.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.3	56.7	23.7	83.8	34.3	34.3	125.3	72.7	0.0	61.3	47.2	61.9
LOS by Move:	E	E	C	F	C	C	F	E	A	E	D	E
HCM2k95thQ:	16	63	35	30	35	35	12	13	0	17	10	64

Note: Queue reported is the number of cars per lane.

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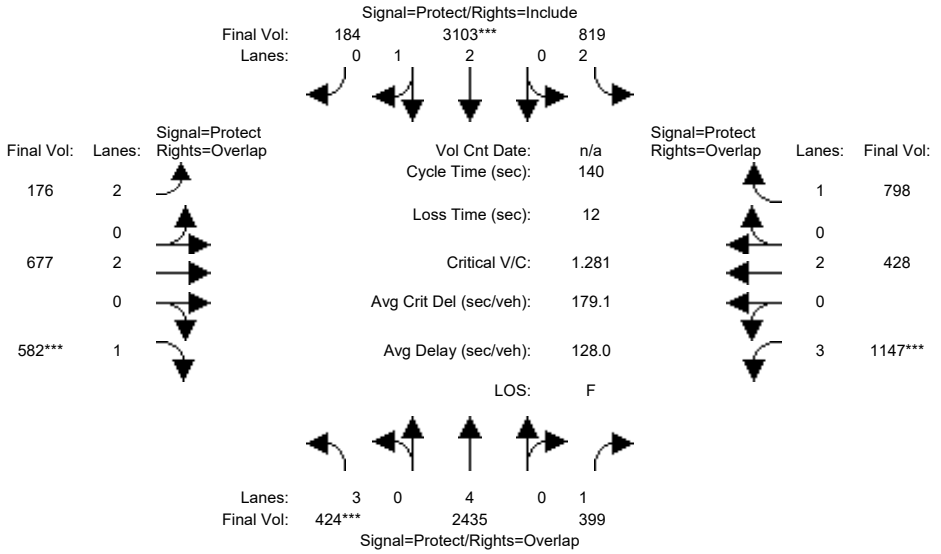
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	424	2435	399	819	3103	184	176	677	582	1147	428	798
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	424	2435	399	819	3103	184	176	677	582	1147	428	798
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	424	2435	399	819	3103	184	176	677	582	1147	428	798
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	424	2435	399	819	3103	184	176	677	582	1147	428	798
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	424	2435	399	819	3103	184	176	677	582	1147	428	798
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	424	2435	399	819	3103	184	176	677	582	1147	428	798
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.83	0.17	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5286	313	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.32	0.23	0.26	0.59	0.59	0.06	0.18	0.33	0.25	0.11	0.46
Crit Moves:	****				****				****	****		
Green Time:	10.2	41.0	68.6	33.3	64.1	64.1	11.9	26.2	36.3	27.5	41.8	75.1
Volume/Cap:	1.28	1.09	0.47	1.09	1.28	1.28	0.66	0.95	1.28	1.28	0.38	0.85
Delay/Veh:	212.8	99.5	24.0	114.7	168	167.7	67.9	79.3	194.5	191.5	39.0	35.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	212.8	99.5	24.0	114.7	168	167.7	67.9	79.3	194.5	191.5	39.0	35.1
LOS by Move:	F	F	C	F	F	F	E	E	F	F	D	D
HCM2k95thQ:	23	55	22	41	112	112	9	29	69	51	13	47

Note: Queue reported is the number of cars per lane.

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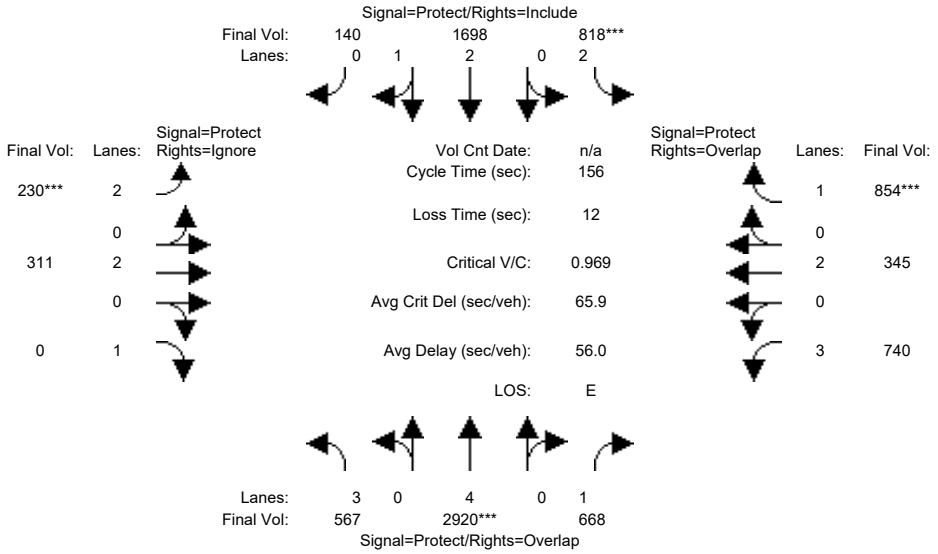
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	567	2920	668	818	1698	140	230	311	535	740	345	854
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	567	2920	668	818	1698	140	230	311	535	740	345	854
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	567	2920	668	818	1698	140	230	311	535	740	345	854
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	567	2920	668	818	1698	140	230	311	0	740	345	854
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	567	2920	668	818	1698	140	230	311	0	740	345	854
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	567	2920	668	818	1698	140	230	311	0	740	345	854
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.77	0.23	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5266	434	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.38	0.35	0.22	0.32	0.32	0.06	0.08	0.00	0.13	0.09	0.45
Crit Moves:		****		****			****					****
Green Time:	22.8	61.9	91.0	34.7	73.8	73.8	9.7	18.4	0.0	29.1	37.7	72.4
Volume/Cap:	0.68	0.97	0.60	0.97	0.68	0.68	0.97	0.70	0.00	0.70	0.38	0.97
Delay/Veh:	67.7	56.7	23.3	84.4	33.4	33.4	123.9	74.8	0.0	63.1	50.5	64.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	67.7	56.7	23.3	84.4	33.4	33.4	123.9	74.8	0.0	63.1	50.5	64.3
LOS by Move:	E	E	C	F	C	C	F	E	A	E	D	E
HCM2k95thQ:	16	65	34	31	34	34	13	14	0	18	12	62

Note: Queue reported is the number of cars per lane.

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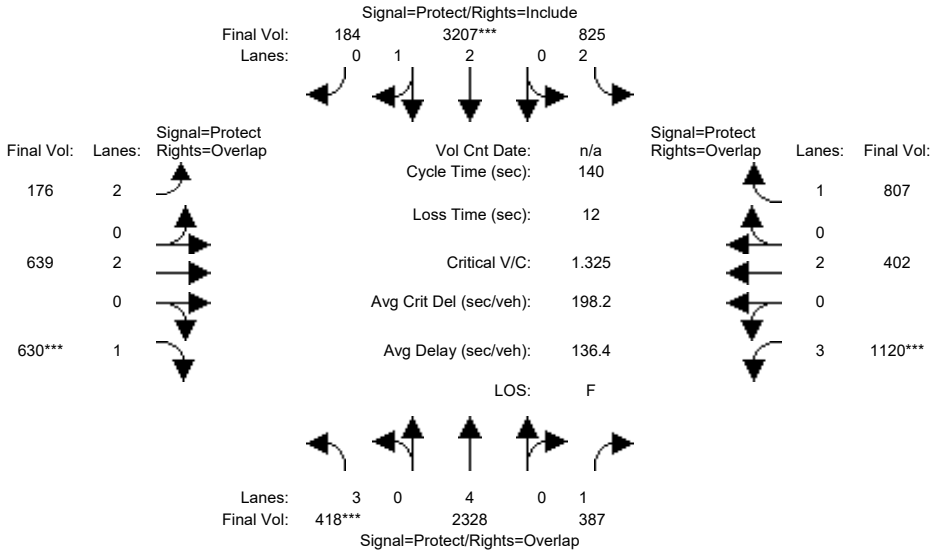
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	418	2328	387	825	3207	184	176	639	630	1120	402	807
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	418	2328	387	825	3207	184	176	639	630	1120	402	807
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	418	2328	387	825	3207	184	176	639	630	1120	402	807
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	418	2328	387	825	3207	184	176	639	630	1120	402	807
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	418	2328	387	825	3207	184	176	639	630	1120	402	807
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	418	2328	387	825	3207	184	176	639	630	1120	402	807
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.83	0.17	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5296	304	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.31	0.22	0.26	0.61	0.61	0.06	0.17	0.36	0.25	0.11	0.46
Crit Moves:	****				****				****	****		
Green Time:	9.7	39.7	65.7	34.0	64.0	64.0	11.9	28.3	38.0	26.0	42.4	76.4
Volume/Cap:	1.33	1.08	0.47	1.08	1.33	1.33	0.66	0.83	1.33	1.33	0.35	0.85
Delay/Veh:	231.9	95.1	25.7	109.3	187	187.2	67.9	61.2	211.4	211.6	38.2	33.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	231.9	95.1	25.7	109.3	187	187.2	67.9	61.2	211.4	211.6	38.2	33.9
LOS by Move:	F	F	C	F	F	F	E	E	F	F	D	C
HCM2k95thQ:	23	52	21	41	121	121	9	25	76	52	12	47

Note: Queue reported is the number of cars per lane.

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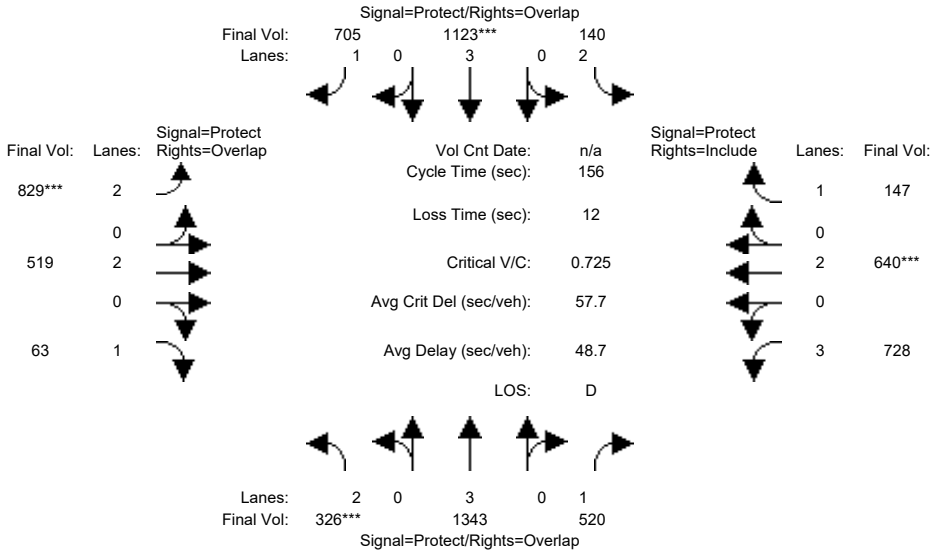
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	326	1343	520	140	1123	705	829	519	63	728	640	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	1343	520	140	1123	705	829	519	63	728	640	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	1343	520	140	1123	705	829	519	63	728	640	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	1343	520	140	1123	705	829	519	63	728	640	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	1343	520	140	1123	705	829	519	63	728	640	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	1343	520	140	1123	705	829	519	63	728	640	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5700	1900	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.24	0.27	0.04	0.20	0.37	0.22	0.14	0.03	0.13	0.17	0.08
Crit Moves:	****				****		****				****	
Green Time:	18.5	51.1	91.3	9.7	42.4	89.3	46.9	43.0	61.4	40.2	36.2	36.2
Volume/Cap:	0.73	0.72	0.47	0.59	0.73	0.65	0.73	0.50	0.08	0.50	0.73	0.33
Delay/Veh:	76.1	48.6	19.9	81.6	54.5	25.7	52.8	49.1	29.9	50.5	60.5	51.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	76.1	48.6	19.9	81.6	54.5	25.7	52.8	49.1	29.9	50.5	60.5	51.9
LOS by Move:	E	D	B	F	D	C	D	D	C	D	E	D
HCM2k95thQ:	15	32	24	7	27	37	27	17	4	17	24	11

Note: Queue reported is the number of cars per lane.

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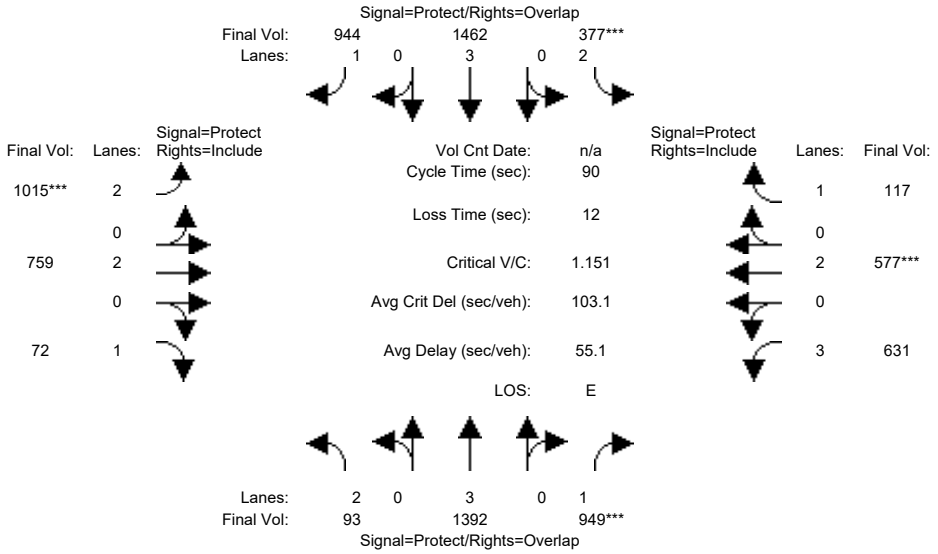
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	93	1392	949	377	1462	944	1015	759	72	631	577	117
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	1392	949	377	1462	944	1015	759	72	631	577	117
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	93	1392	949	377	1462	944	1015	759	72	631	577	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	93	1392	949	377	1462	944	1015	759	72	631	577	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1392	949	377	1462	944	1015	759	72	631	577	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	93	1392	949	377	1462	944	1015	759	72	631	577	117
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.24	0.54	0.12	0.26	0.54	0.32	0.20	0.04	0.14	0.15	0.07
Crit Moves:			****	****			****				****	
Green Time:	9.5	31.6	46.8	9.4	31.4	56.6	25.2	21.9	21.9	15.2	11.9	11.9
Volume/Cap:	0.28	0.70	1.04	1.15	0.74	0.86	1.15	0.82	0.17	0.82	1.15	0.51
Delay/Veh:	37.5	26.2	63.5	137.5	27.1	20.3	113.3	38.2	27.1	43.2	128	38.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.5	26.2	63.5	137.5	27.1	20.3	113.3	38.2	27.1	43.2	128	38.2
LOS by Move:	D	C	E	F	C	C	F	D	C	D	F	D
HCM2k95thQ:	3	20	60	19	21	38	43	17	3	14	24	6

Note: Queue reported is the number of cars per lane.

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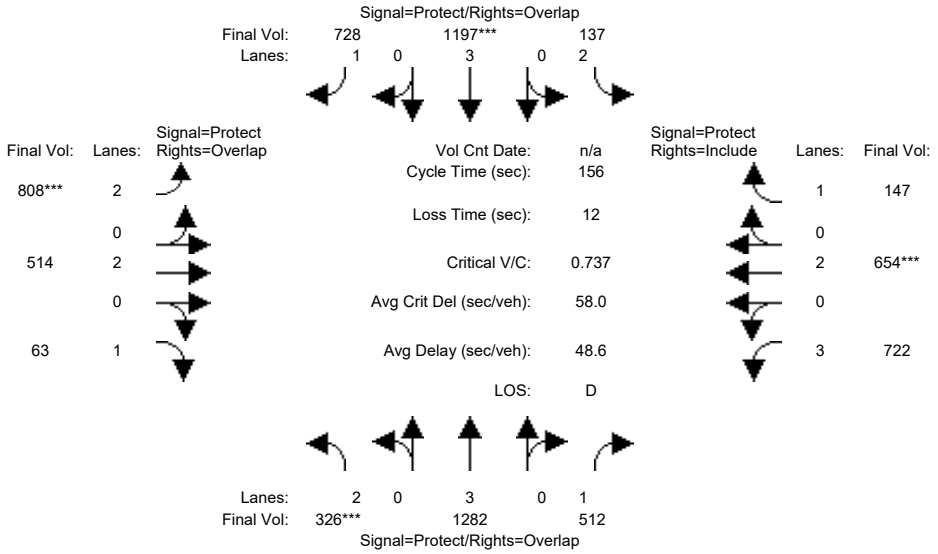
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	12	12	7	12	12	7	10	10	8	10	10
Y+R:	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	326	1282	512	137	1197	728	808	514	63	722	654	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	326	1282	512	137	1197	728	808	514	63	722	654	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	326	1282	512	137	1197	728	808	514	63	722	654	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	326	1282	512	137	1197	728	808	514	63	722	654	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	326	1282	512	137	1197	728	808	514	63	722	654	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	326	1282	512	137	1197	728	808	514	63	722	654	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3800	5700	1900	3800	5700	1900	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.09	0.22	0.27	0.04	0.21	0.38	0.21	0.14	0.03	0.13	0.17	0.08
Crit Moves:	****				****		****				****	
Green Time:	18.2	52.2	91.5	10.4	44.4	89.4	45.0	42.0	60.2	39.4	36.4	36.4
Volume/Cap:	0.74	0.67	0.46	0.54	0.74	0.67	0.74	0.50	0.09	0.50	0.74	0.33
Delay/Veh:	77.1	46.5	19.6	78.5	53.5	26.3	54.6	49.9	30.7	51.2	60.8	51.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.1	46.5	19.6	78.5	53.5	26.3	54.6	49.9	30.7	51.2	60.8	51.7
LOS by Move:	E	D	B	E	D	C	D	D	C	D	E	D
HCM2k95thQ:	15	30	23	7	29	39	26	17	4	17	24	11

Note: Queue reported is the number of cars per lane.

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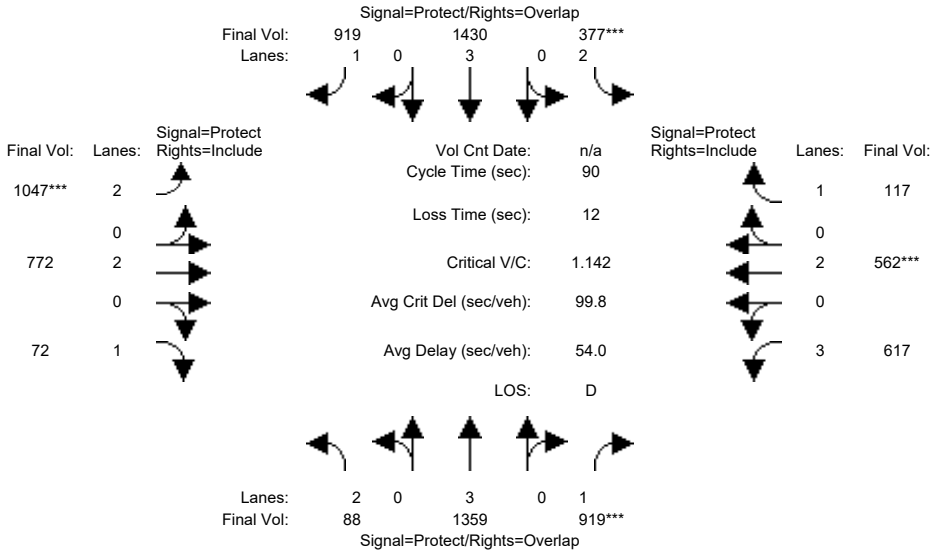
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #1207: (15) GREAT AMERICA/TASMAN



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	1359	919	377	1430	919	1047	772	72	617	562	117
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	1359	919	377	1430	919	1047	772	72	617	562	117
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	1359	919	377	1430	919	1047	772	72	617	562	117
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	1359	919	377	1430	919	1047	772	72	617	562	117
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	1359	919	377	1430	919	1047	772	72	617	562	117
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	1359	919	377	1430	919	1047	772	72	617	562	117
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.24	0.53	0.12	0.25	0.53	0.33	0.20	0.04	0.14	0.15	0.07
Crit Moves:			****	****			****				****	
Green Time:	9.5	30.7	45.9	9.4	30.6	56.8	26.2	22.7	22.7	15.2	11.7	11.7
Volume/Cap:	0.26	0.70	1.03	1.14	0.74	0.83	1.14	0.81	0.16	0.81	1.14	0.52
Delay/Veh:	37.5	26.8	60.3	134.0	27.6	18.3	108.8	36.6	26.4	42.2	125	38.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.5	26.8	60.3	134.0	27.6	18.3	108.8	36.6	26.4	42.2	125	38.6
LOS by Move:	D	C	E	F	C	B	F	D	C	D	F	D
HCM2k95thQ:	3	20	57	19	21	36	43	17	3	14	23	6

Note: Queue reported is the number of cars per lane.

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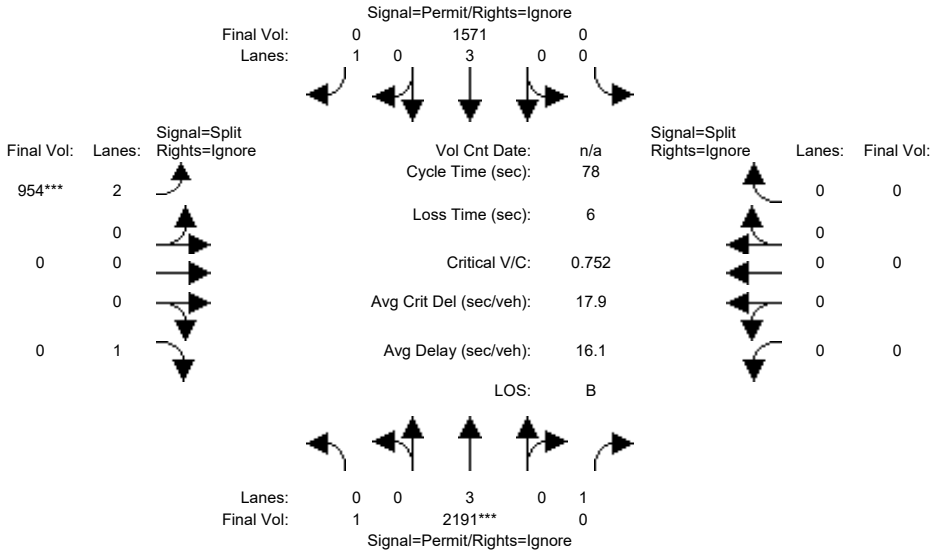
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	2191	248	0	1571	870	954	0	485	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	2191	248	0	1571	870	954	0	485	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	2191	248	0	1571	870	954	0	485	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	1	2191	0	0	1571	0	954	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	2191	0	0	1571	0	954	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	1	2191	0	0	1571	0	954	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.01	2.99	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3	5597	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.39	0.39	0.00	0.00	0.28	0.00	0.30	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	40.6	40.6	0.0	0.0	40.6	0.0	31.4	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.75	0.75	0.00	0.00	0.53	0.00	0.75	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	15.9	15.9	0.0	0.0	12.6	0.0	22.5	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.9	15.9	0.0	0.0	12.6	0.0	22.5	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	A	C	A	A	A	A	A
HCM2k95thQ:	25	25	0	0	15	0	24	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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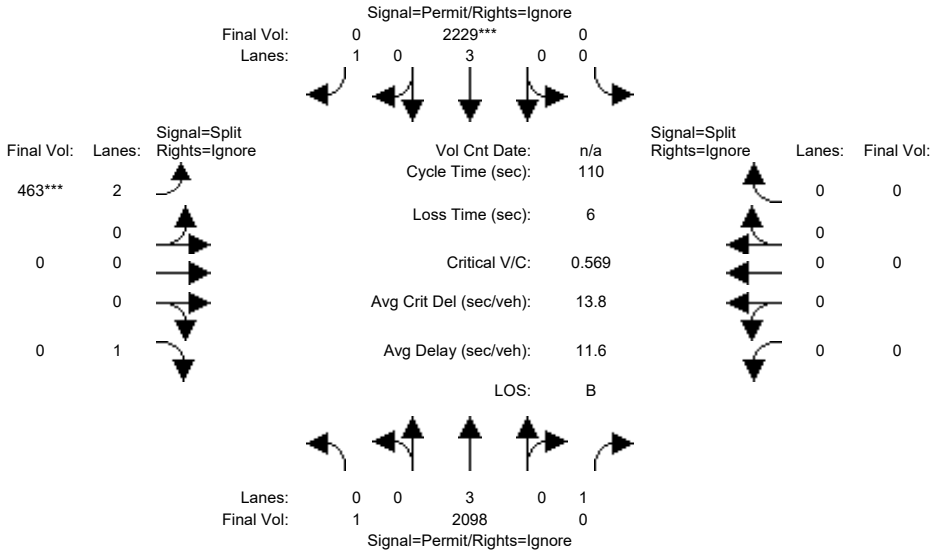
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	2098	789	0	2229	1336	463	0	344	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	2098	789	0	2229	1336	463	0	344	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	2098	789	0	2229	1336	463	0	344	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	1	2098	0	0	2229	0	463	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	2098	0	0	2229	0	463	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	1	2098	0	0	2229	0	463	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.01	2.99	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3	5597	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.37	0.37	0.00	0.00	0.39	0.00	0.15	0.00	0.00	0.00	0.00	0.00
Crit Moves:					****		****					
Green Time:	75.6	75.6	0.0	0.0	75.6	0.0	28.4	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.55	0.55	0.00	0.00	0.57	0.00	0.57	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	8.8	8.8	0.0	0.0	9.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	8.8	0.0	0.0	9.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	20	20	0	0	22	0	16	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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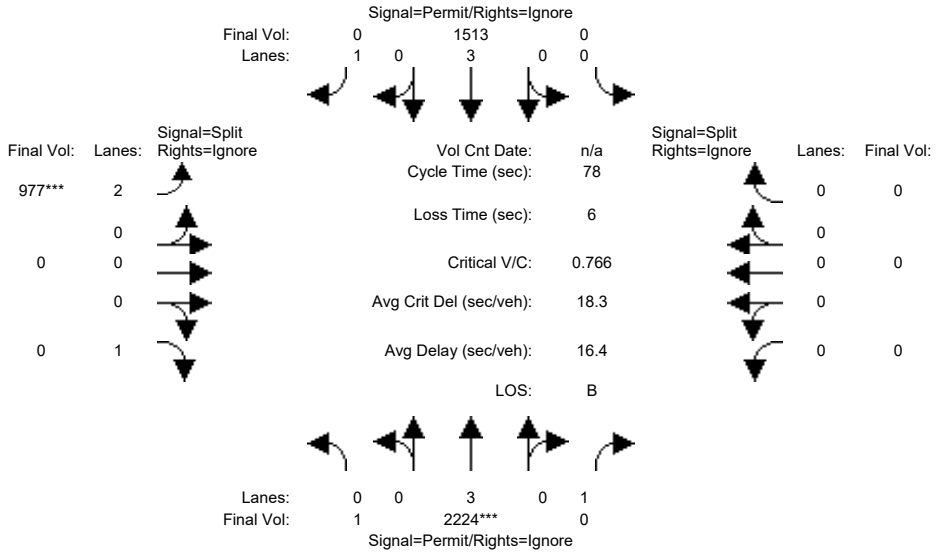
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	12	0	12	0	0	0
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	5.2	4.0	5.2	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	2224	248	0	1513	860	977	0	485	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	2224	248	0	1513	860	977	0	485	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	2224	248	0	1513	860	977	0	485	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	1	2224	0	0	1513	0	977	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	2224	0	0	1513	0	977	0	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	1	2224	0	0	1513	0	977	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	0.01	2.99	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3	5597	1750	0	5700	1750	3150	0	1750	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.40	0.40	0.00	0.00	0.27	0.00	0.31	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****					****					
Green Time:	40.4	40.4	0.0	0.0	40.4	0.0	31.6	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.77	0.77	0.00	0.00	0.51	0.00	0.77	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	16.3	16.3	0.0	0.0	12.5	0.0	22.9	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.3	16.3	0.0	0.0	12.5	0.0	22.9	0.0	0.0	0.0	0.0	0.0
LOS by Move:	B	B	A	A	B	A	C	A	A	A	A	A
HCM2k95thQ:	25	25	0	0	15	0	25	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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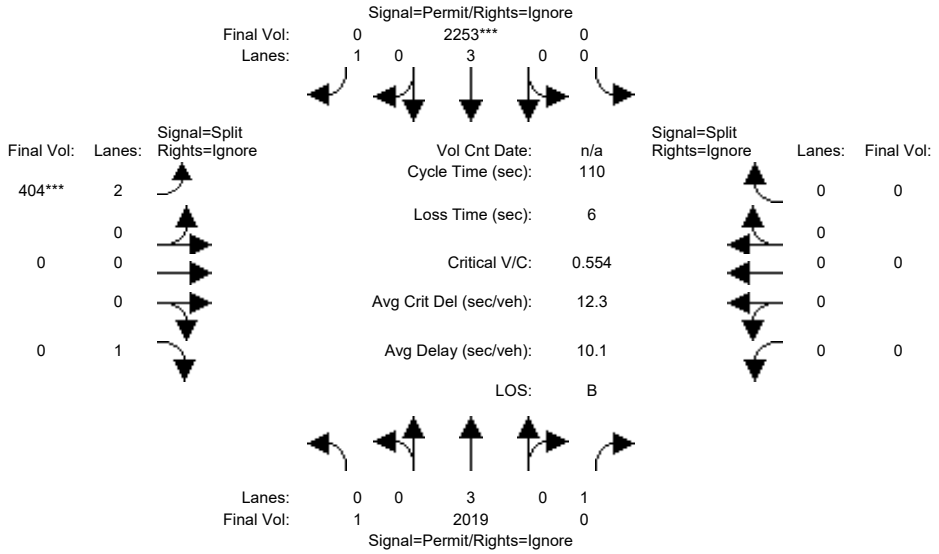
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #1208: (20) BOWERS/101 SB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1 2019	789	0	2253	1334	404	0	354	0	0	0	
Growth Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	1 2019	789	0	2253	1334	404	0	354	0	0	0	
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	
ATI:	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	1 2019	789	0	2253	1334	404	0	354	0	0	0	
User Adj:	1.00 1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	
PHF Adj:	1.00 1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	
PHF Volume:	1 2019	0	0	2253	0	404	0	0	0	0	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	1 2019	0	0	2253	0	404	0	0	0	0	0	
PCE Adj:	1.00 1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	
MLF Adj:	1.00 1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	
FinalVolume:	1 2019	0	0	2253	0	404	0	0	0	0	0	
Saturation Flow Module:												
Sat/Lane:	1900 1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.95 0.98	0.92	0.92	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92	
Lanes:	0.01 2.99	1.00	0.00	3.00	1.00	2.00	0.00	1.00	0.00	0.00	0.00	
Final Sat.:	3 5597	1750	0	5700	1750	3150	0	1750	0	0	0	
Capacity Analysis Module:												
Vol/Sat:	0.36 0.36	0.00	0.00	0.40	0.00	0.13	0.00	0.00	0.00	0.00	0.00	
Crit Moves:				****		****						
Green Time:	78.5 78.5	0.0	0.0	78.5	0.0	25.5	0.0	0.0	0.0	0.0	0.0	
Volume/Cap:	0.51 0.51	0.00	0.00	0.55	0.00	0.55	0.00	0.00	0.00	0.00	0.00	
Delay/Veh:	7.2 7.2	0.0	0.0	7.6	0.0	38.2	0.0	0.0	0.0	0.0	0.0	
User DelAdj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
AdjDel/Veh:	7.2 7.2	0.0	0.0	7.6	0.0	38.2	0.0	0.0	0.0	0.0	0.0	
LOS by Move:	A	A	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	18	18	0	0	21	0	15	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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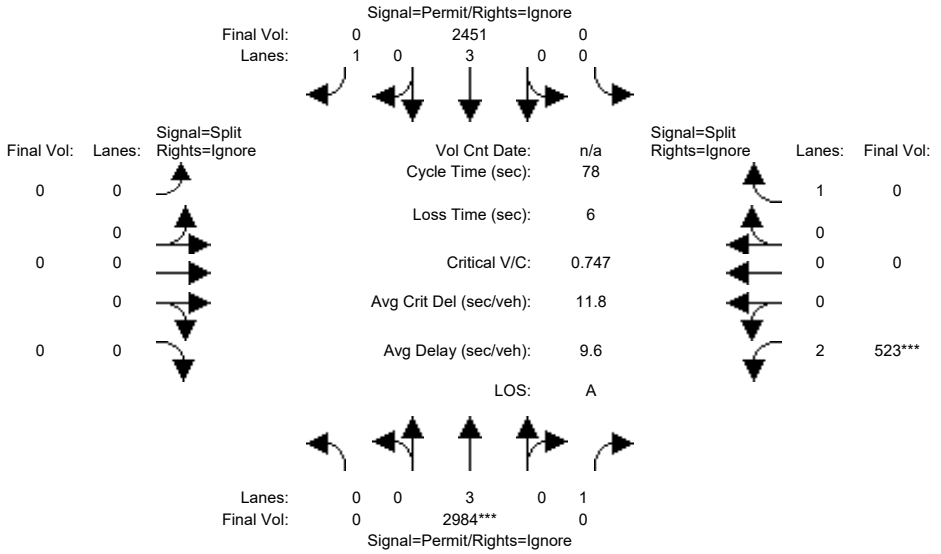
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module:												
Base Vol:	0	2984	157	0	2451	576	0	0	0	523	0	2054
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2984	157	0	2451	576	0	0	0	523	0	2054
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2984	157	0	2451	576	0	0	0	523	0	2054
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2984	0	0	2451	0	0	0	0	523	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2984	0	0	2451	0	0	0	0	523	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2984	0	0	2451	0	0	0	0	523	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.52	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Crit Moves:		****								****		
Green Time:	0.0	54.7	0.0	0.0	54.7	0.0	0.0	0.0	0.0	17.3	0.0	0.0
Volume/Cap:	0.00	0.75	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.75	0.00	0.00
Delay/Veh:	0.0	8.1	0.0	0.0	6.4	0.0	0.0	0.0	0.0	32.7	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.1	0.0	0.0	6.4	0.0	0.0	0.0	0.0	32.7	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2k95thQ:	0	26	0	0	19	0	0	0	0	17	0	0

Note: Queue reported is the number of cars per lane.

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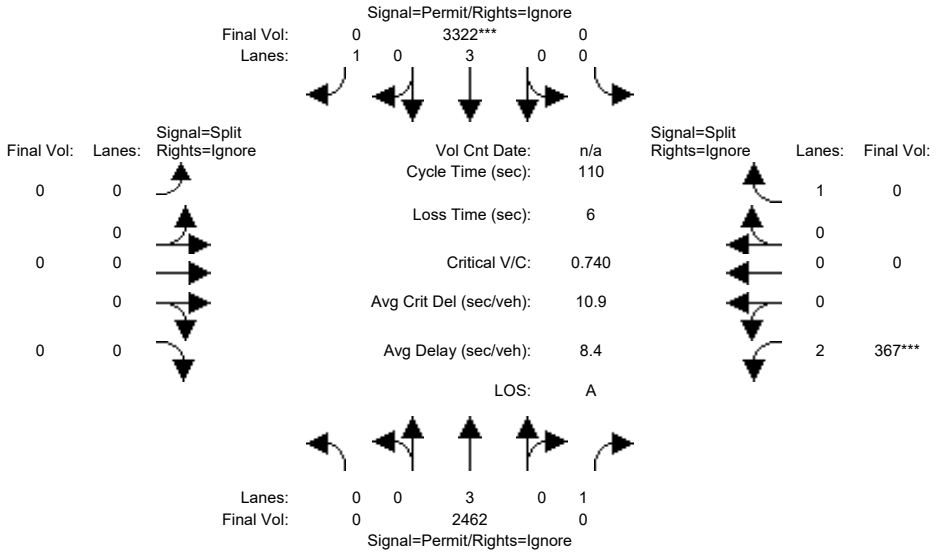
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:5:00 - 6:00 PM												
Base Vol:	0	2462	298	0	3322	1440	0	0	0	367	0	1162
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2462	298	0	3322	1440	0	0	0	367	0	1162
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2462	298	0	3322	1440	0	0	0	367	0	1162
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2462	0	0	3322	0	0	0	0	367	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2462	0	0	3322	0	0	0	0	367	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2462	0	0	3322	0	0	0	0	367	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.43	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	86.7	0.0	0.0	86.7	0.0	0.0	0.0	0.0	17.3	0.0	0.0
Volume/Cap:	0.00	0.55	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.74	0.00	0.00
Delay/Veh:	0.0	4.5	0.0	0.0	6.6	0.0	0.0	0.0	0.0	50.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.5	0.0	0.0	6.6	0.0	0.0	0.0	0.0	50.0	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	19	0	0	34	0	0	0	0	16	0	0

Note: Queue reported is the number of cars per lane.

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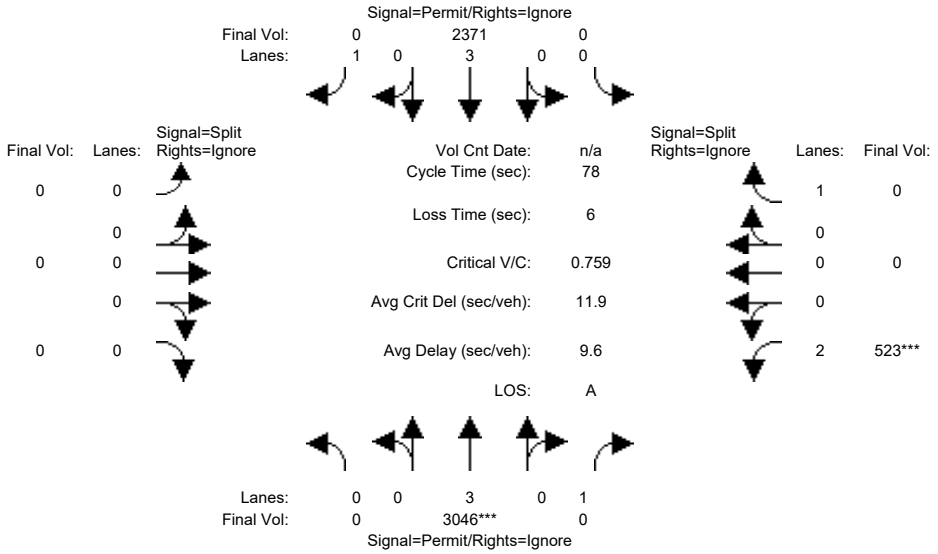
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	20	20	0	20	20	0	0	0	6	0	6
Y+R:	4.0	6.2	6.2	4.0	6.2	6.2	4.0	4.0	4.0	5.5	4.0	5.5
Volume Module:												
Base Vol:	0	3046	152	0	2371	599	0	0	0	523	0	2065
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3046	152	0	2371	599	0	0	0	523	0	2065
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	3046	152	0	2371	599	0	0	0	523	0	2065
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	3046	0	0	2371	0	0	0	0	523	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3046	0	0	2371	0	0	0	0	523	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	3046	0	0	2371	0	0	0	0	523	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Crit Moves:		****								****		
Green Time:	0.0	54.9	0.0	0.0	54.9	0.0	0.0	0.0	0.0	17.1	0.0	0.0
Volume/Cap:	0.00	0.76	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.76	0.00	0.00
Delay/Veh:	0.0	8.2	0.0	0.0	6.1	0.0	0.0	0.0	0.0	33.4	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.2	0.0	0.0	6.1	0.0	0.0	0.0	0.0	33.4	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	A
HCM2k95thQ:	0	27	0	0	18	0	0	0	0	17	0	0

Note: Queue reported is the number of cars per lane.

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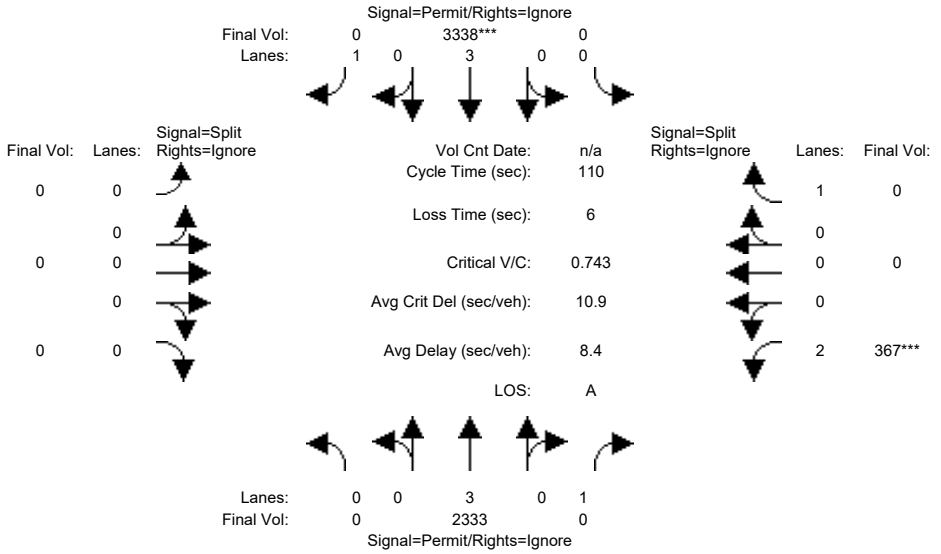
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #1209: (19) GREAT AMERICA/101 NB



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	0	10	10	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:5:00 - 6:00 PM												
Base Vol:	0	2333	298	0	3338	1495	0	0	0	367	0	1144
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2333	298	0	3338	1495	0	0	0	367	0	1144
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2333	298	0	3338	1495	0	0	0	367	0	1144
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	2333	0	0	3338	0	0	0	0	367	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2333	0	0	3338	0	0	0	0	367	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	2333	0	0	3338	0	0	0	0	367	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	0.00	3.00	1.00	0.00	3.00	1.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	5700	1750	0	5700	1750	0	0	0	3150	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.41	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.12	0.00	0.00
Crit Moves:					****					****		
Green Time:	0.0	86.7	0.0	0.0	86.7	0.0	0.0	0.0	0.0	17.3	0.0	0.0
Volume/Cap:	0.00	0.52	0.00	0.00	0.74	0.00	0.00	0.00	0.00	0.74	0.00	0.00
Delay/Veh:	0.0	4.3	0.0	0.0	6.6	0.0	0.0	0.0	0.0	50.2	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.3	0.0	0.0	6.6	0.0	0.0	0.0	0.0	50.2	0.0	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2k95thQ:	0	17	0	0	34	0	0	0	0	16	0	0

Note: Queue reported is the number of cars per lane.

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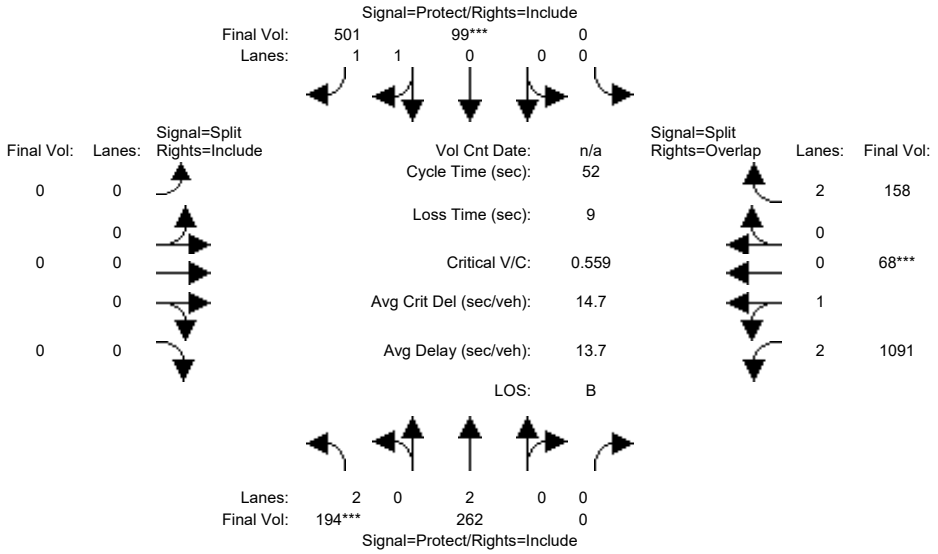
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	194	262	0	0	99	501	0	0	0	1091	68	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	262	0	0	99	501	0	0	0	1091	68	158
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	194	262	0	0	99	501	0	0	0	1091	68	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	194	262	0	0	99	501	0	0	0	1091	68	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	262	0	0	99	501	0	0	0	1091	68	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	194	262	0	0	99	501	0	0	0	1091	68	158
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.86	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.33	1.67	0.00	0.00	0.00	2.84	0.16	2.00
Final Sat.:	3150	3800	0	0	594	3006	0	0	0	4657	290	3150
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.23	0.23	0.05
Crit Moves:	****				****						****	
Green Time:	7.0	22.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0	21.0	21.0	21.0
Volume/Cap:	0.46	0.16	0.00	0.00	0.58	0.58	0.00	0.00	0.00	0.58	0.58	0.12
Delay/Veh:	21.5	9.4	0.0	0.0	16.7	16.7	0.0	0.0	0.0	12.5	12.5	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	9.4	0.0	0.0	16.7	16.7	0.0	0.0	0.0	12.5	12.5	9.8
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	A
HCM2k95thQ:	4	3	0	0	9	9	0	0	0	12	12	2

Note: Queue reported is the number of cars per lane.

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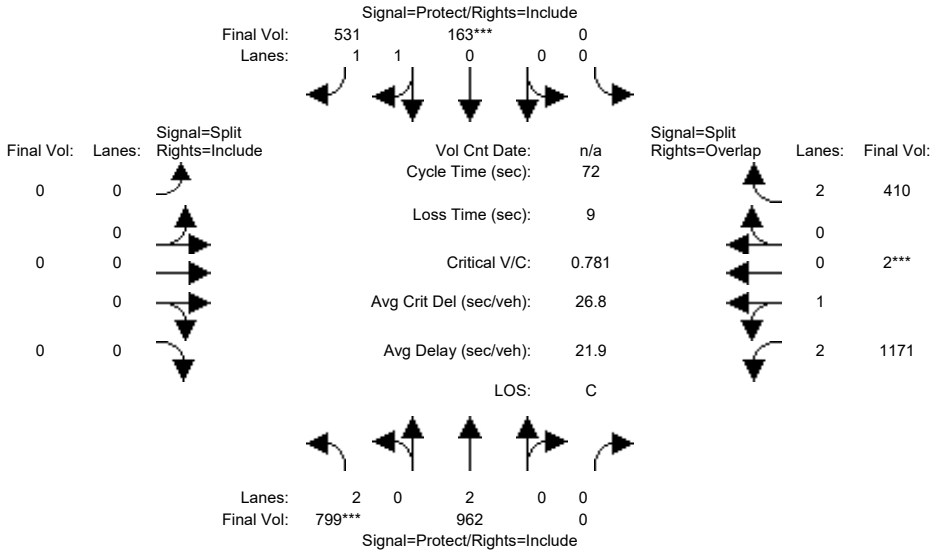
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	799	962	0	0	163	531	0	0	0	1171	2	410
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	799	962	0	0	163	531	0	0	0	1171	2	410
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	799	962	0	0	163	531	0	0	0	1171	2	410
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	799	962	0	0	163	531	0	0	0	1171	2	410
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	799	962	0	0	163	531	0	0	0	1171	2	410
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	799	962	0	0	163	531	0	0	0	1171	2	410
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.87	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.47	1.53	0.00	0.00	0.00	2.99	0.01	2.00
Final Sat.:	3150	3800	0	0	846	2754	0	0	0	4941	8	3150
Capacity Analysis Module:												
Vol/Sat:	0.25	0.25	0.00	0.00	0.19	0.19	0.00	0.00	0.00	0.24	0.24	0.13
Crit Moves:	****				****						****	
Green Time:	23.4	41.2	0.0	0.0	17.8	17.8	0.0	0.0	0.0	21.8	21.8	21.8
Volume/Cap:	0.78	0.44	0.00	0.00	0.78	0.78	0.00	0.00	0.00	0.78	0.78	0.43
Delay/Veh:	25.9	9.0	0.0	0.0	29.8	29.8	0.0	0.0	0.0	25.6	25.6	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.9	9.0	0.0	0.0	29.8	29.8	0.0	0.0	0.0	25.6	25.6	20.4
LOS by Move:	C	A	A	A	C	C	A	A	A	C	C	C
HCM2k95thQ:	18	11	0	0	15	15	0	0	0	20	20	9

Note: Queue reported is the number of cars per lane.

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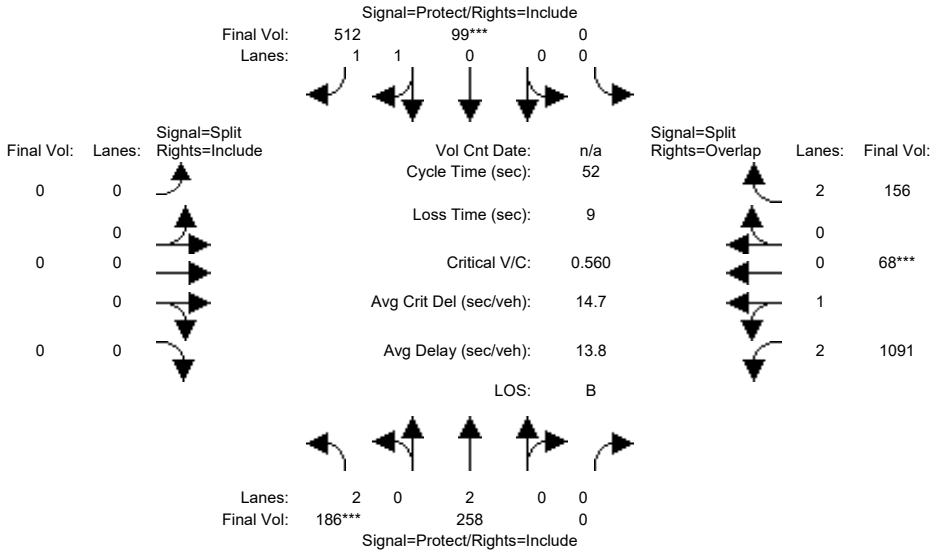
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	186	258	0	0	99	512	0	0	0	1091	68	156
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	186	258	0	0	99	512	0	0	0	1091	68	156
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	186	258	0	0	99	512	0	0	0	1091	68	156
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	186	258	0	0	99	512	0	0	0	1091	68	156
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	186	258	0	0	99	512	0	0	0	1091	68	156
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	186	258	0	0	99	512	0	0	0	1091	68	156
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.86	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.32	1.68	0.00	0.00	0.00	2.84	0.16	2.00
Final Sat.:	3150	3800	0	0	583	3017	0	0	0	4657	290	3150
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.23	0.23	0.05
Crit Moves:	****				****						****	
Green Time:	7.0	22.1	0.0	0.0	15.1	15.1	0.0	0.0	0.0	20.9	20.9	20.9
Volume/Cap:	0.44	0.16	0.00	0.00	0.58	0.58	0.00	0.00	0.00	0.58	0.58	0.12
Delay/Veh:	21.4	9.3	0.0	0.0	16.6	16.6	0.0	0.0	0.0	12.6	12.6	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.4	9.3	0.0	0.0	16.6	16.6	0.0	0.0	0.0	12.6	12.6	9.8
LOS by Move:	C	A	A	A	B	B	A	A	A	B	B	A
HCM2k95thQ:	3	3	0	0	9	9	0	0	0	12	12	2

Note: Queue reported is the number of cars per lane.

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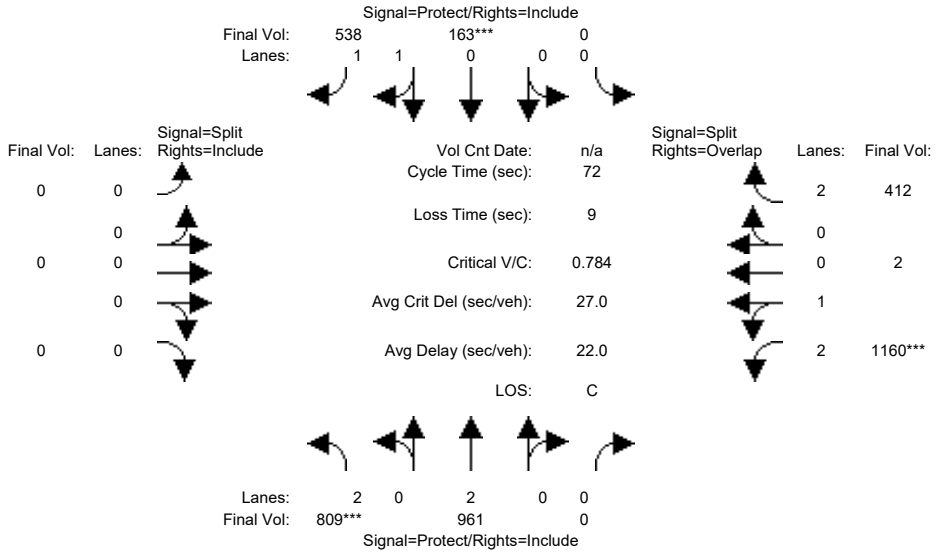
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #3028: (10) 237/GREAT AMERICA (N)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	0	0	10	10	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	809	961	0	0	163	538	0	0	0	1160	2	412
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	809	961	0	0	163	538	0	0	0	1160	2	412
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	809	961	0	0	163	538	0	0	0	1160	2	412
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	809	961	0	0	163	538	0	0	0	1160	2	412
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	809	961	0	0	163	538	0	0	0	1160	2	412
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	809	961	0	0	163	538	0	0	0	1160	2	412
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	0.95	0.95	0.92	1.00	0.92	0.87	0.95	0.83
Lanes:	2.00	2.00	0.00	0.00	0.47	1.53	0.00	0.00	0.00	2.99	0.01	2.00
Final Sat.:	3150	3800	0	0	837	2763	0	0	0	4941	9	3150
Capacity Analysis Module:												
Vol/Sat:	0.26	0.25	0.00	0.00	0.19	0.19	0.00	0.00	0.00	0.23	0.23	0.13
Crit Moves:	****				****					****		
Green Time:	23.6	41.5	0.0	0.0	17.9	17.9	0.0	0.0	0.0	21.5	21.5	21.5
Volume/Cap:	0.78	0.44	0.00	0.00	0.78	0.78	0.00	0.00	0.00	0.78	0.78	0.44
Delay/Veh:	25.9	8.8	0.0	0.0	29.9	29.9	0.0	0.0	0.0	25.9	25.9	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.9	8.8	0.0	0.0	29.9	29.9	0.0	0.0	0.0	25.9	25.9	20.7
LOS by Move:	C	A	A	A	C	C	A	A	A	C	C	C
HCM2k95thQ:	18	11	0	0	15	15	0	0	0	20	20	9

Note: Queue reported is the number of cars per lane.

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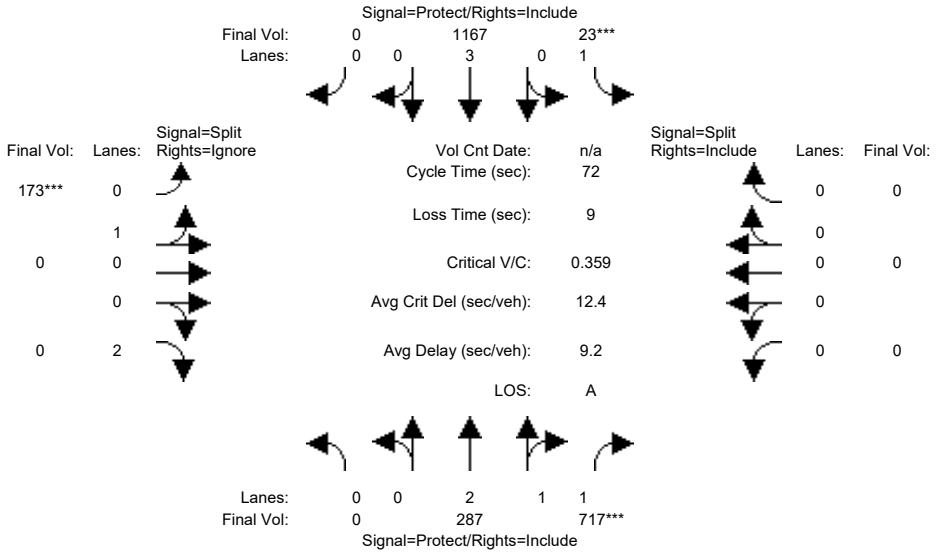
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	287	717	23	1167	0	173	0	1810	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	287	717	23	1167	0	173	0	1810	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	287	717	23	1167	0	173	0	1810	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	287	717	23	1167	0	173	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	287	717	23	1167	0	173	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	287	717	23	1167	0	173	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1800	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.08	0.20	0.01	0.20	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	38.1	38.1	7.0	45.1	0.0	17.9	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.14	0.39	0.14	0.33	0.00	0.39	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.6	10.1	30.1	6.4	0.0	23.1	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.6	10.1	30.1	6.4	0.0	23.1	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	B	C	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	3	9	1	8	0	7	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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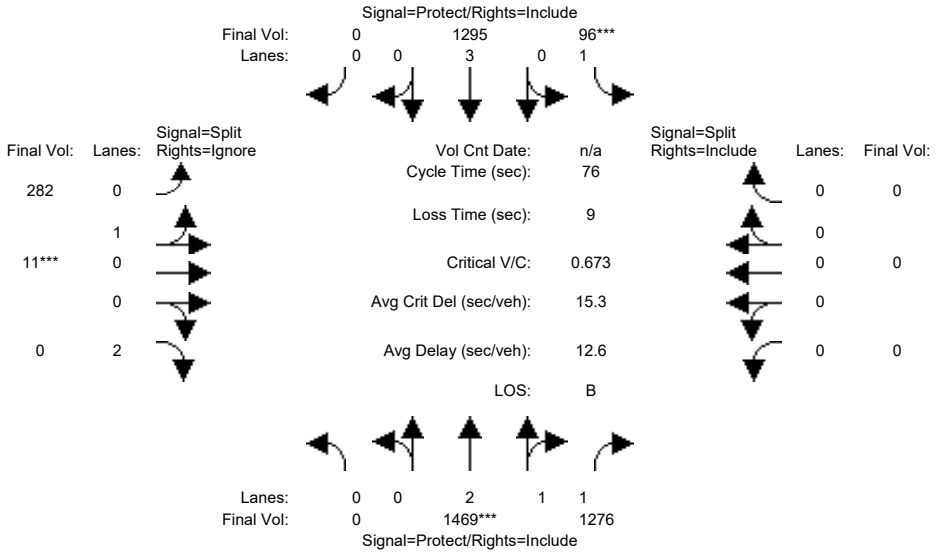
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1469	1276	96	1295	0	282	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1469	1276	96	1295	0	282	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1469	1276	96	1295	0	282	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	1469	1276	96	1295	0	282	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1469	1276	96	1295	0	282	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	1469	1276	96	1295	0	282	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.06	1.94	1.00	3.00	0.00	0.96	0.04	2.00	0.00	0.00	0.00
Final Sat.:	0	3911	3397	1750	5700	0	1732	68	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.05	0.23	0.00	0.16	0.16	0.00	0.00	0.00	0.00
Crit Moves:		****		****				****				
Green Time:	0.0	41.9	41.9	7.0	48.9	0.0	18.1	18.1	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.68	0.68	0.60	0.35	0.00	0.68	0.68	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	12.8	12.8	39.1	6.3	0.0	30.8	30.8	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.8	12.8	39.1	6.3	0.0	30.8	30.8	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	D	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	20	20	5	9	0	15	15	0	0	0	0

Note: Queue reported is the number of cars per lane.

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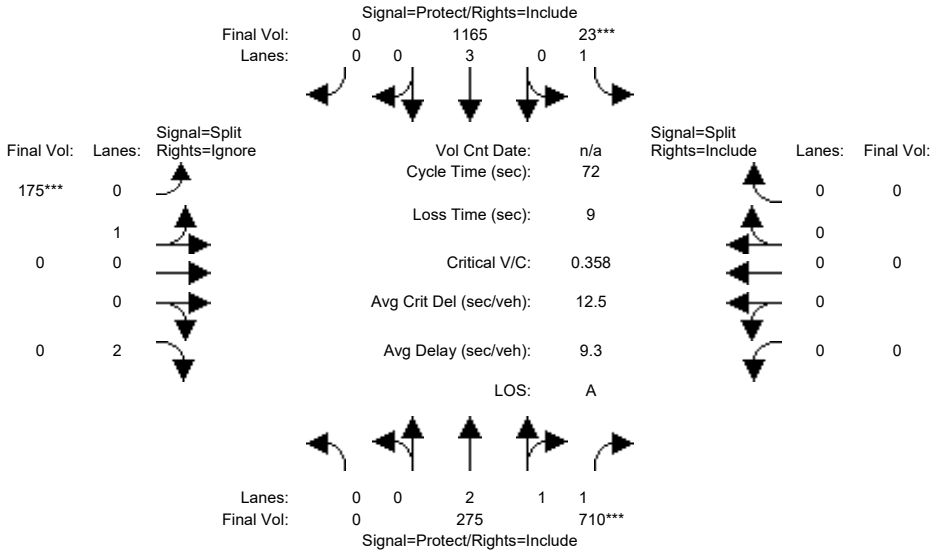
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	275	710	23	1165	0	175	0	1840	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	275	710	23	1165	0	175	0	1840	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	275	710	23	1165	0	175	0	1840	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	275	710	23	1165	0	175	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	275	710	23	1165	0	175	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	275	710	23	1165	0	175	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.00	2.00	1.00	3.00	0.00	1.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	0	3800	3500	1750	5700	0	1800	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.07	0.20	0.01	0.20	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Crit Moves:			****	****			****					
Green Time:	0.0	37.9	37.9	7.0	44.9	0.0	18.1	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.14	0.39	0.14	0.33	0.00	0.39	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	8.7	10.3	30.1	6.5	0.0	22.9	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.7	10.3	30.1	6.5	0.0	22.9	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	B	C	A	A	C	A	A	A	A	A
HCM2k95thQ:	0	3	9	1	8	0	7	0	0	0	0	0

Note: Queue reported is the number of cars per lane.

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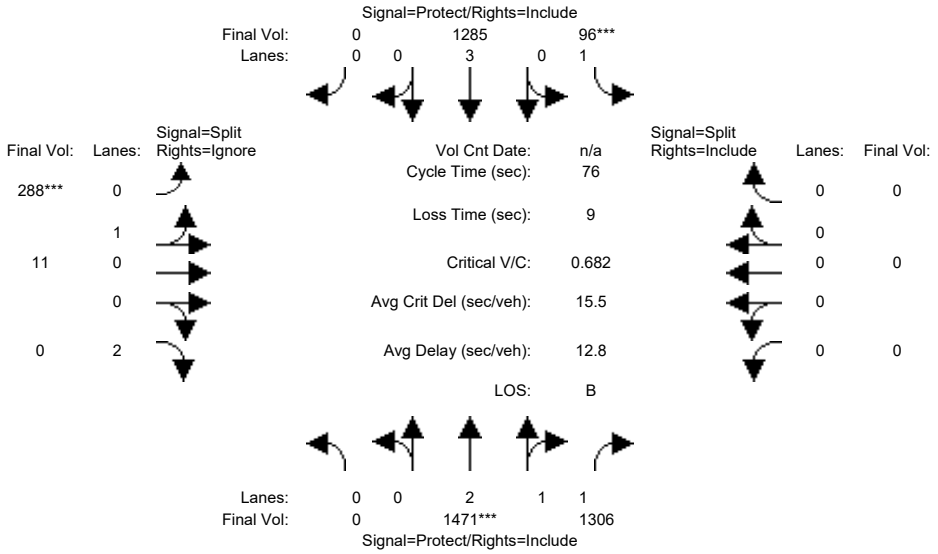
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #3029: (11) 237/GREAT AMERICA (S)



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	7	10	0	10	10	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1471	1306	96	1285	0	288	11	271	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1471	1306	96	1285	0	288	11	271	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1471	1306	96	1285	0	288	11	271	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	1471	1306	96	1285	0	288	11	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1471	1306	96	1285	0	288	11	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	1471	1306	96	1285	0	288	11	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.95	0.95	0.83	0.92	1.00	0.92
Lanes:	0.00	2.04	1.96	1.00	3.00	0.00	0.96	0.04	2.00	0.00	0.00	0.00
Final Sat.:	0	3870	3436	1750	5700	0	1734	66	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.05	0.23	0.00	0.17	0.17	0.00	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green Time:	0.0	41.8	41.8	7.0	48.8	0.0	18.2	18.2	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.69	0.69	0.60	0.35	0.00	0.69	0.69	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	13.0	13.0	39.1	6.4	0.0	31.1	31.1	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.0	13.0	39.1	6.4	0.0	31.1	31.1	0.0	0.0	0.0	0.0
LOS by Move:	A	B	B	D	A	A	C	C	A	A	A	A
HCM2k95thQ:	0	20	20	5	9	0	15	15	0	0	0	0

Note: Queue reported is the number of cars per lane.

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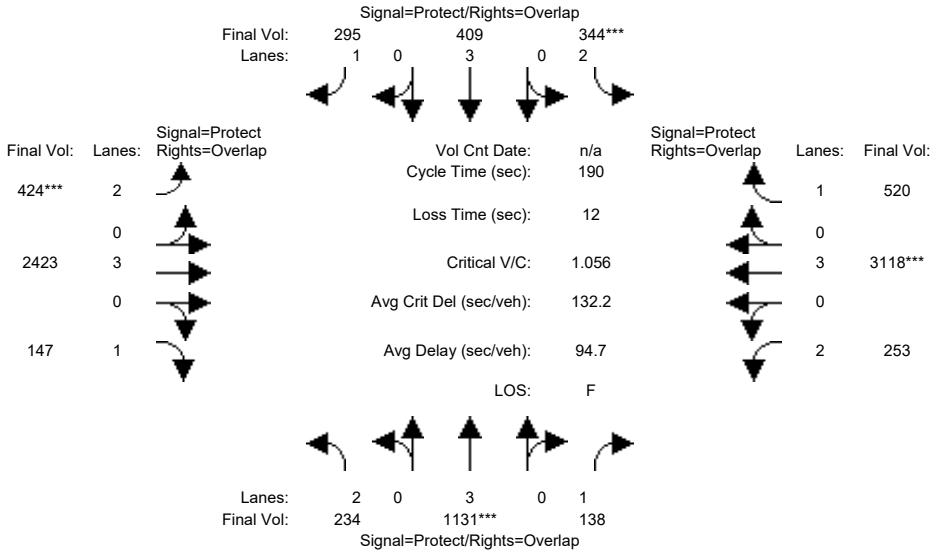
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	234	1131	138	344	409	295	424	2423	147	253	3118	520
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	1131	138	344	409	295	424	2423	147	253	3118	520
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	1131	138	344	409	295	424	2423	147	253	3118	520
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	1131	138	344	409	295	424	2423	147	253	3118	520
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	1131	138	344	409	295	424	2423	147	253	3118	520
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	1131	138	344	409	295	424	2423	147	253	3118	520
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.08	0.11	0.07	0.17	0.13	0.43	0.08	0.08	0.55	0.30
Crit Moves:		****		****			****				****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.64	0.90	0.24	1.38	0.39	0.48	0.80	0.80	0.13	0.76	1.17	0.54
Delay/Veh:	84.1	80.7	47.0	283.0	68.4	48.5	84.3	48.1	19.4	92.7	141	36.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.1	80.7	47.0	283.0	68.4	48.5	84.3	48.1	19.4	92.7	141	36.8
LOS by Move:	F	F	D	F	E	D	F	D	B	F	F	D
HCM2k95thQ:	14	35	11	32	12	24	28	65	10	19	119	41

Note: Queue reported is the number of cars per lane.

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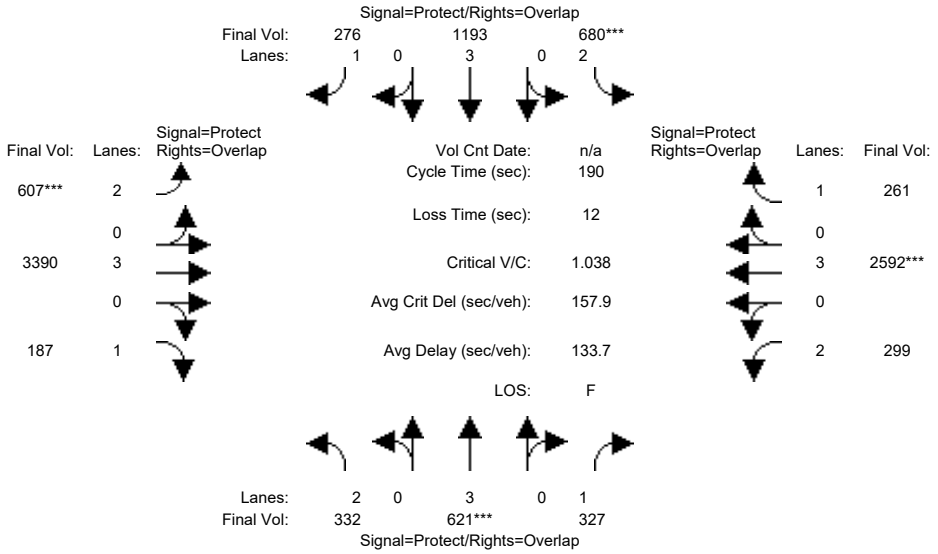
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	332	621	327	680	1193	276	607	3390	187	299	2592	261
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	332	621	327	680	1193	276	607	3390	187	299	2592	261
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	332	621	327	680	1193	276	607	3390	187	299	2592	261
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	332	621	327	680	1193	276	607	3390	187	299	2592	261
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	332	621	327	680	1193	276	607	3390	187	299	2592	261
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	332	621	327	680	1193	276	607	3390	187	299	2592	261
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.19	0.22	0.21	0.16	0.19	0.59	0.11	0.09	0.45	0.15
Crit Moves:		****			****			****			****	
Green Time:	20.8	39.0	54.9	23.2	41.5	62.2	20.8	99.8	120.6	15.9	95.0	118.2
Volume/Cap:	0.96	0.53	0.65	1.76	0.96	0.48	1.76	1.13	0.17	1.13	0.91	0.24
Delay/Veh:	123.2	67.8	61.9	437.8	90.0	51.6	447.2	143	30.7	182.7	38.2	8.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	123.2	67.8	61.9	437.8	90.0	51.6	447.2	143	30.7	182.7	38.2	8.4
LOS by Move:	F	E	E	F	F	D	F	F	C	F	D	A
HCM2k95thQ:	23	19	30	69	40	23	64	124	17	28	70	7

Note: Queue reported is the number of cars per lane.

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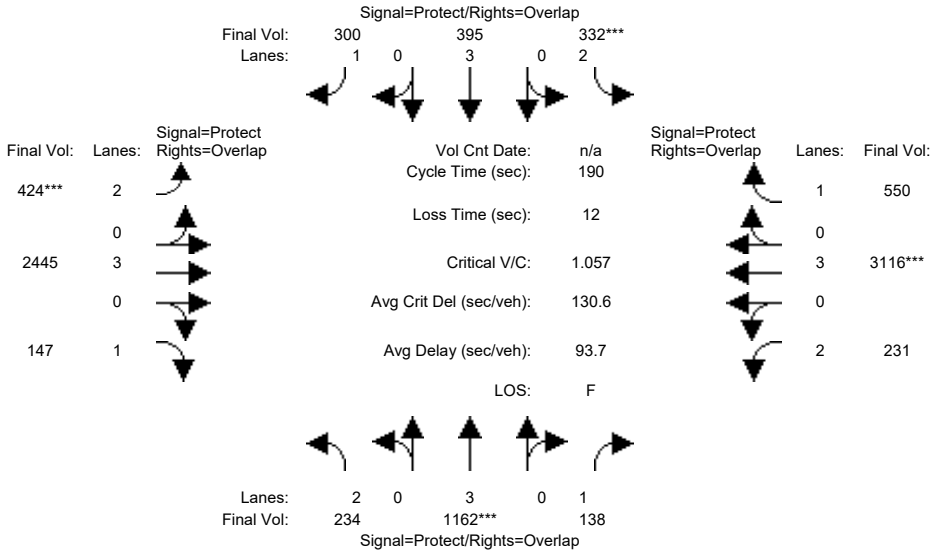
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	42	42	15	35	35	32	101	101	20	89	89
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	234	1162	138	332	395	300	424	2445	147	231	3116	550
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	1162	138	332	395	300	424	2445	147	231	3116	550
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	1162	138	332	395	300	424	2445	147	231	3116	550
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	234	1162	138	332	395	300	424	2445	147	231	3116	550
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	234	1162	138	332	395	300	424	2445	147	231	3116	550
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	234	1162	138	332	395	300	424	2445	147	231	3116	550
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.08	0.11	0.07	0.17	0.13	0.43	0.08	0.07	0.55	0.31
Crit Moves:		****		****			****				****	
Green Time:	22.0	42.0	62.0	15.0	35.0	67.0	32.0	101	123.0	20.0	89.0	104.0
Volume/Cap:	0.64	0.92	0.24	1.34	0.38	0.49	0.80	0.81	0.13	0.70	1.17	0.57
Delay/Veh:	84.1	83.6	47.0	263.0	68.2	48.7	84.3	48.5	19.4	88.4	140	37.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.1	83.6	47.0	263.0	68.2	48.7	84.3	48.5	19.4	88.4	140	37.9
LOS by Move:	F	F	D	F	E	D	F	D	B	F	F	D
HCM2k95thQ:	14	36	11	30	12	24	28	66	10	17	119	44

Note: Queue reported is the number of cars per lane.

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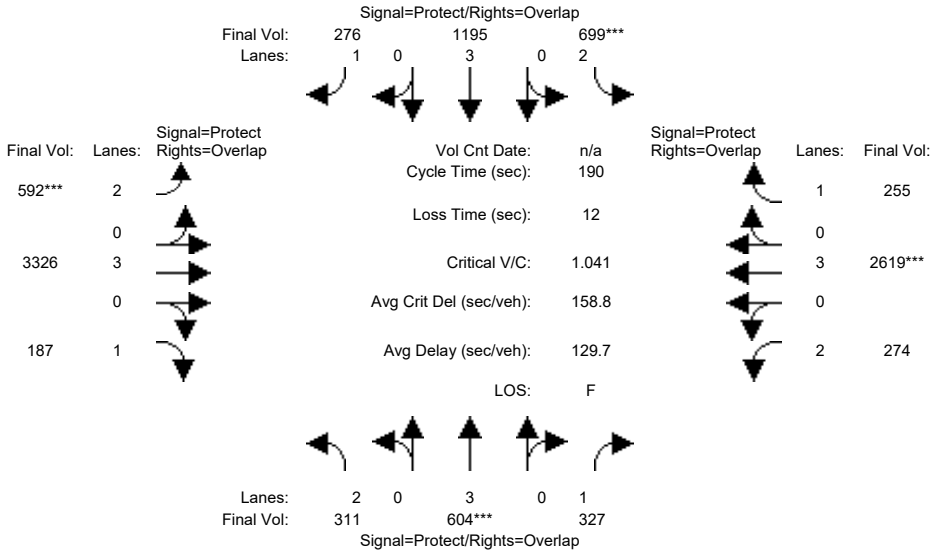
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5329: (23) CENTRAL EXPWY/BOWERS AVE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	39	39	16	40	40	16	96	96	14	95	95
Y+R:	7.3	6.3	6.3	7.3	6.1	6.1	5.5	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	311	604	327	699	1195	276	592	3326	187	274	2619	255
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	311	604	327	699	1195	276	592	3326	187	274	2619	255
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	311	604	327	699	1195	276	592	3326	187	274	2619	255
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	311	604	327	699	1195	276	592	3326	187	274	2619	255
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	311	604	327	699	1195	276	592	3326	187	274	2619	255
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	311	604	327	699	1195	276	592	3326	187	274	2619	255
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.11	0.19	0.22	0.21	0.16	0.19	0.58	0.11	0.09	0.46	0.15
Crit Moves:		****		****			****				****	
Green Time:	20.1	39.0	53.9	23.8	42.8	62.9	20.2	100	120.3	14.9	95.0	118.8
Volume/Cap:	0.94	0.52	0.66	1.77	0.93	0.48	1.77	1.11	0.17	1.11	0.92	0.23
Delay/Veh:	117.3	67.5	63.1	439.7	84.3	51.1	450.0	132	30.9	176.1	39.1	8.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	117.3	67.5	63.1	439.7	84.3	51.1	450.0	132	30.9	176.1	39.1	8.1
LOS by Move:	F	E	E	F	F	D	F	F	C	F	D	A
HCM2k95thQ:	21	18	30	71	39	23	63	119	17	25	72	7

Note: Queue reported is the number of cars per lane.

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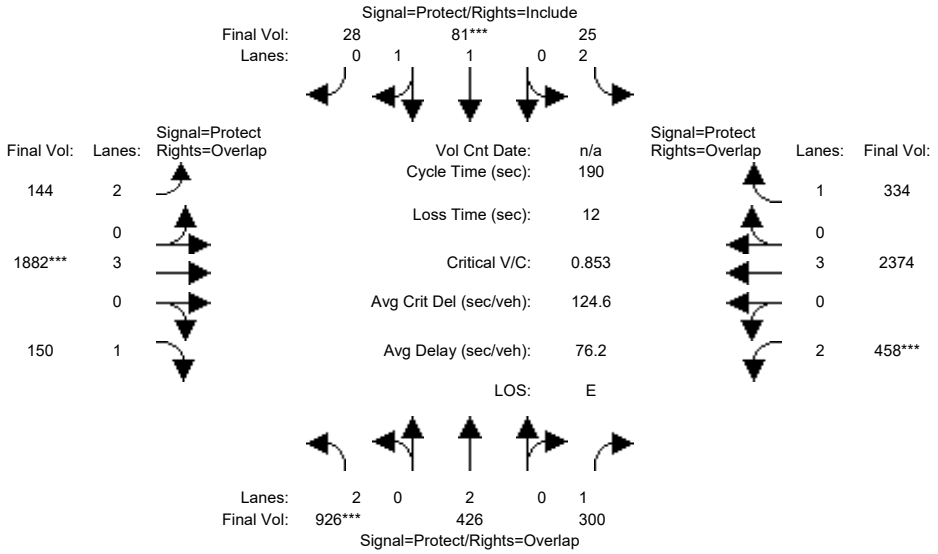
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	38	52	52	10	24	24	16	92	92	24	100	100
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	926	426	300	25	81	28	144	1882	150	458	2374	334
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	926	426	300	25	81	28	144	1882	150	458	2374	334
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	926	426	300	25	81	28	144	1882	150	458	2374	334
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	926	426	300	25	81	28	144	1882	150	458	2374	334
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	926	426	300	25	81	28	144	1882	150	458	2374	334
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	926	426	300	25	81	28	144	1882	150	458	2374	334
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.47	0.53	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	2749	950	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.29	0.11	0.17	0.01	0.03	0.03	0.05	0.33	0.09	0.15	0.42	0.19
Crit Moves:	****				****			****			****	
Green Time:	38.0	52.0	76.0	10.0	24.0	24.0	16.0	92.0	130.0	24.0	100	110.0
Volume/Cap:	1.47	0.41	0.43	0.15	0.23	0.23	0.54	0.68	0.13	1.15	0.79	0.33
Delay/Veh:	296.0	56.7	41.7	86.4	75.0	75.0	85.8	30.5	3.4	176.1	27.9	13.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	296.0	56.7	41.7	86.4	75.0	75.0	85.8	30.5	3.4	176.1	27.9	13.2
LOS by Move:	F	E	D	F	E	E	F	C	A	F	C	B
HCM2k95thQ:	82	18	23	2	6	6	10	38	2	34	47	12

Note: Queue reported is the number of cars per lane.

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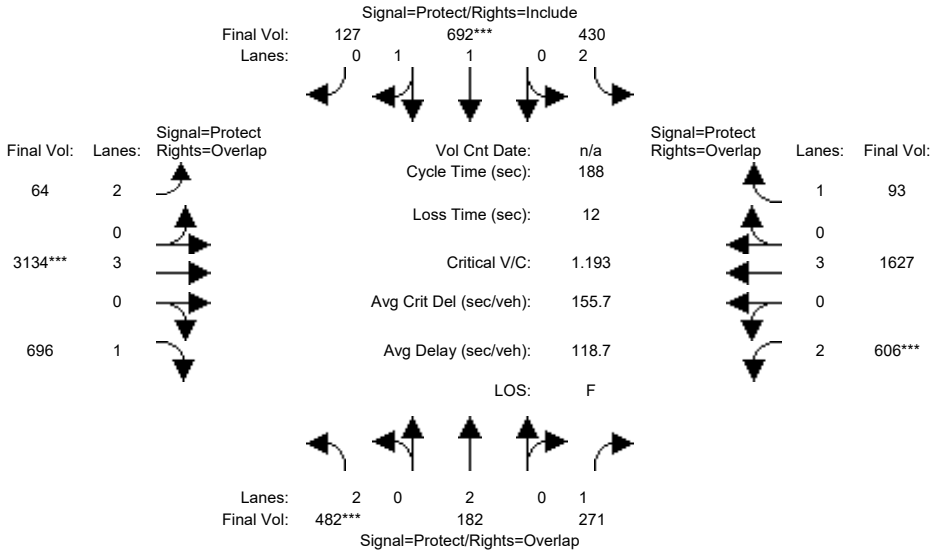
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	482	182	271	430	692	127	64	3134	696	606	1627	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	482	182	271	430	692	127	64	3134	696	606	1627	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	482	182	271	430	692	127	64	3134	696	606	1627	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	482	182	271	430	692	127	64	3134	696	606	1627	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	482	182	271	430	692	127	64	3134	696	606	1627	93
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	482	182	271	430	692	127	64	3134	696	606	1627	93
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.68	0.32	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3126	574	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.05	0.15	0.14	0.22	0.22	0.02	0.55	0.40	0.19	0.29	0.05
Crit Moves:	****				****			****		****		
Green Time:	21.7	39.0	66.3	17.7	35.0	35.0	12.8	92.0	113.7	27.3	107	124.2
Volume/Cap:	1.33	0.23	0.44	1.45	1.19	1.19	0.30	1.12	0.66	1.33	0.50	0.08
Delay/Veh:	247.4	62.2	47.1	305.3	176	175.7	84.1	120	35.8	241.3	16.2	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	247.4	62.2	47.1	305.3	176	175.7	84.1	120	35.8	241.3	16.2	4.6
LOS by Move:	F	E	D	F	F	F	F	F	D	F	B	A
HCM2k95thQ:	42	8	22	40	50	50	5	114	54	51	22	2

Note: Queue reported is the number of cars per lane.

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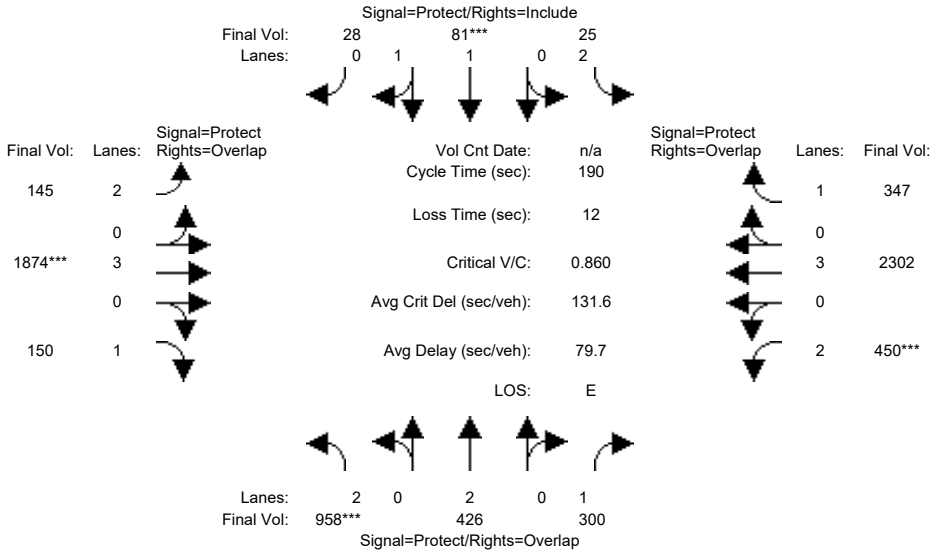
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	38	52	52	10	24	24	16	92	92	24	100	100
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	958	426	300	25	81	28	145	1874	150	450	2302	347
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	958	426	300	25	81	28	145	1874	150	450	2302	347
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	958	426	300	25	81	28	145	1874	150	450	2302	347
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	958	426	300	25	81	28	145	1874	150	450	2302	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	958	426	300	25	81	28	145	1874	150	450	2302	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	958	426	300	25	81	28	145	1874	150	450	2302	347
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.47	0.53	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	2749	950	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.30	0.11	0.17	0.01	0.03	0.03	0.05	0.33	0.09	0.14	0.40	0.20
Crit Moves:	****				****			****			****	
Green Time:	38.0	52.0	76.0	10.0	24.0	24.0	16.0	92.0	130.0	24.0	100	110.0
Volume/Cap:	1.52	0.41	0.43	0.15	0.23	0.23	0.55	0.68	0.13	1.13	0.77	0.34
Delay/Veh:	318.4	56.7	41.7	86.4	75.0	75.0	85.9	30.4	3.4	168.8	27.1	13.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	318.4	56.7	41.7	86.4	75.0	75.0	85.9	30.4	3.4	168.8	27.1	13.3
LOS by Move:	F	E	D	F	E	E	F	C	A	F	C	B
HCM2k95thQ:	87	18	23	2	6	6	11	38	2	33	45	12

Note: Queue reported is the number of cars per lane.

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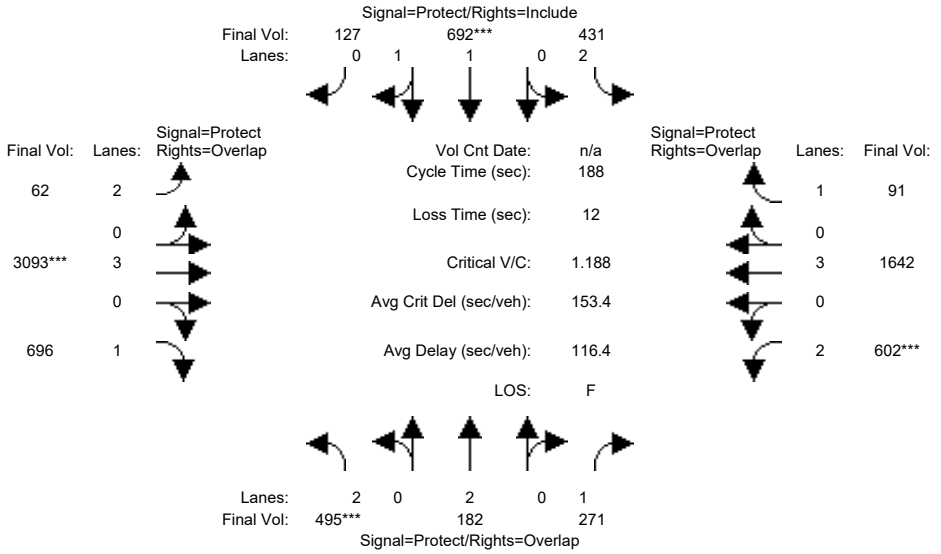
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5332: (42) Scott Boulevard and Central Expressway



Street Name:	Scott Boulevard						Central Expressway					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	18	39	39	14	35	35	12	92	92	20	100	100
Y+R:	5.6	5.4	5.4	5.7	5.4	5.4	5.7	6.2	6.2	5.8	6.2	6.2
Volume Module:												
Base Vol:	495	182	271	431	692	127	62	3093	696	602	1642	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	495	182	271	431	692	127	62	3093	696	602	1642	91
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	495	182	271	431	692	127	62	3093	696	602	1642	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	495	182	271	431	692	127	62	3093	696	602	1642	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	495	182	271	431	692	127	62	3093	696	602	1642	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	495	182	271	431	692	127	62	3093	696	602	1642	91
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.98	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	1.68	0.32	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3126	574	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.05	0.15	0.14	0.22	0.22	0.02	0.54	0.40	0.19	0.29	0.05
Crit Moves:	****				****			****			****	
Green Time:	22.1	39.0	65.9	18.1	35.0	35.0	12.7	92.0	114.1	26.9	106	124.3
Volume/Cap:	1.34	0.23	0.44	1.42	1.19	1.19	0.29	1.11	0.66	1.34	0.51	0.08
Delay/Veh:	251.5	62.2	47.4	292.4	176	175.7	84.1	114	35.5	246.3	16.5	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	251.5	62.2	47.4	292.4	176	175.7	84.1	114	35.5	246.3	16.5	4.6
LOS by Move:	F	E	D	F	F	F	F	F	D	F	B	A
HCM2k95thQ:	43	8	22	39	50	50	5	110	54	51	22	2

Note: Queue reported is the number of cars per lane.

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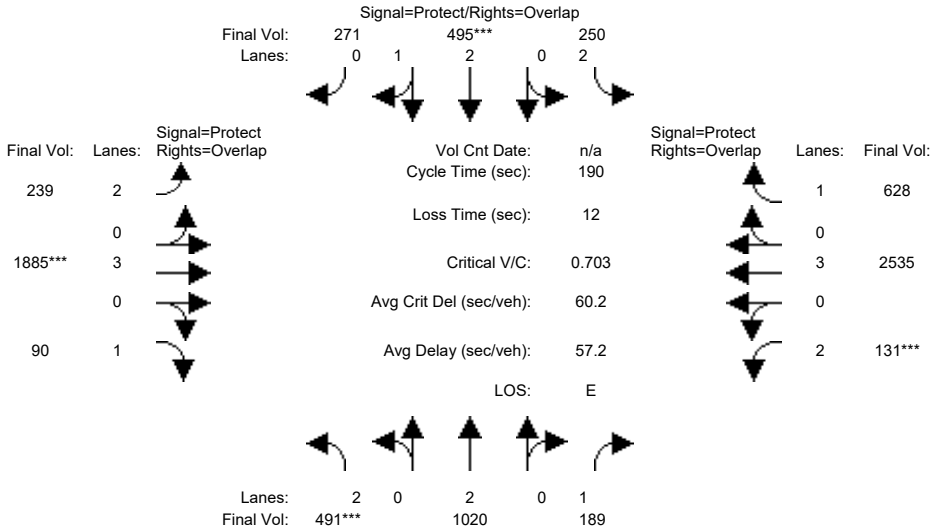
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	491	1020	189	250	495	271	239	1885	90	131	2535	628
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	491	1020	189	250	495	271	239	1885	90	131	2535	628
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	491	1020	189	250	495	271	239	1885	90	131	2535	628
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	491	1020	189	250	495	271	239	1885	90	131	2535	628
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	491	1020	189	250	495	271	239	1885	90	131	2535	628
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	491	1020	189	250	495	271	239	1885	90	131	2535	628
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.27	0.11	0.08	0.13	0.15	0.08	0.33	0.05	0.04	0.44	0.36
Crit Moves:	****				****			****			****	
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.10	1.00	0.29	0.89	0.60	0.50	0.80	0.69	0.08	0.42	0.92	0.63
Delay/Veh:	152.9	97.7	42.7	112.4	68.0	53.7	98.5	31.5	7.5	81.2	41.5	18.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	152.9	97.7	42.7	112.4	68.0	53.7	98.5	31.5	7.5	81.2	41.5	18.3
LOS by Move:	F	F	D	F	E	D	F	C	A	F	D	B
HCM2k95thQ:	37	54	15	18	23	24	16	38	2	8	71	31

Note: Queue reported is the number of cars per lane.

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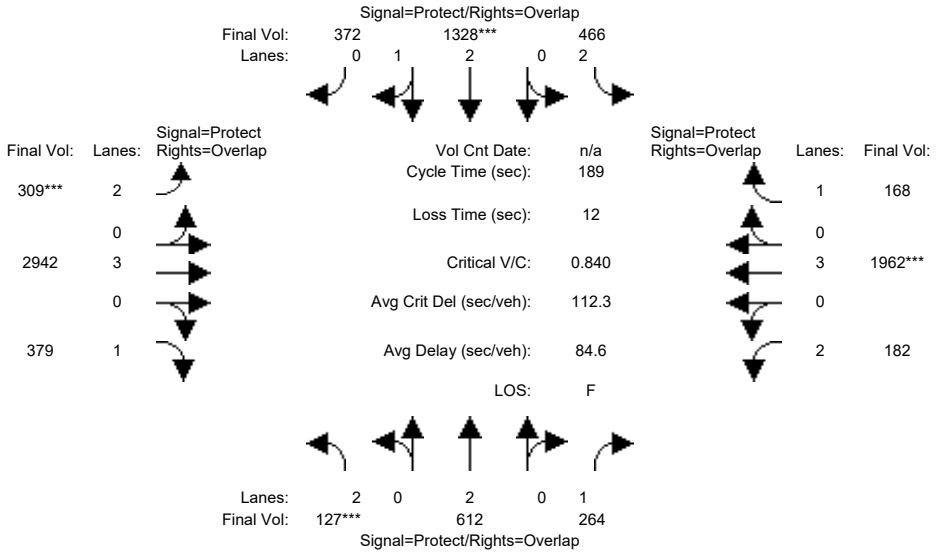
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module:												
Base Vol:	127	612	264	466	1328	372	309	2942	379	182	1962	168
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	612	264	466	1328	372	309	2942	379	182	1962	168
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	612	264	466	1328	372	309	2942	379	182	1962	168
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	127	612	264	466	1328	372	309	2942	379	182	1962	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	612	264	466	1328	372	309	2942	379	182	1962	168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	612	264	466	1328	372	309	2942	379	182	1962	168
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.32	0.68	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	4373	1225	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.15	0.15	0.30	0.30	0.10	0.52	0.22	0.06	0.34	0.10
Crit Moves:	****				****		****				****	
Green Time:	13.0	30.8	47.1	28.3	46.1	61.0	14.9	102	114.6	16.3	103	131.3
Volume/Cap:	0.59	0.99	0.61	0.99	1.24	0.94	1.24	0.96	0.36	0.67	0.63	0.14
Delay/Veh:	89.5	112	65.2	118.4	188	72.6	226.4	62.7	26.5	90.2	30.3	9.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.5	112	65.2	118.4	188	72.6	226.4	62.7	26.5	90.2	30.3	9.8
LOS by Move:	F	F	E	F	F	E	F	E	C	F	C	A
HCM2k95thQ:	9	34	25	32	73	56	26	80	27	12	42	7

Note: Queue reported is the number of cars per lane.

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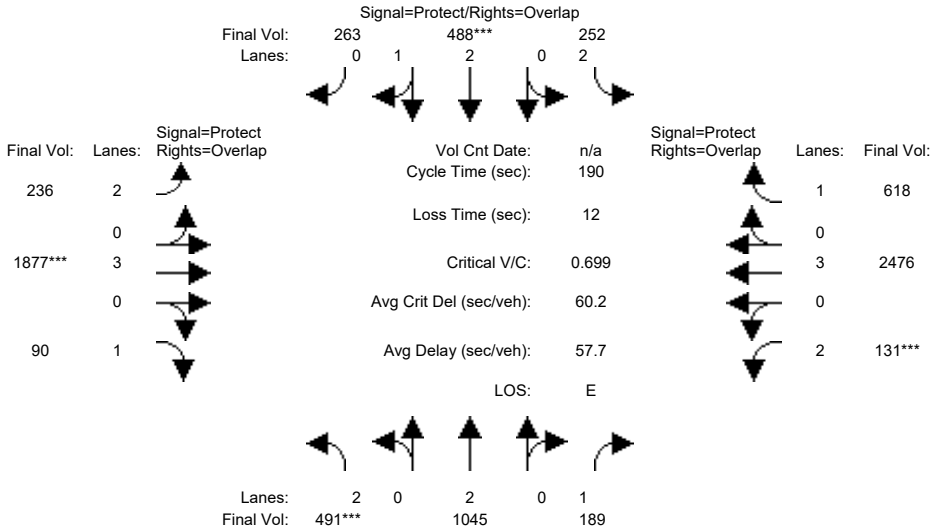
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	51	51	17	41	41	18	91	91	19	92	92
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	491	1045	189	252	488	263	236	1877	90	131	2476	618
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	491	1045	189	252	488	263	236	1877	90	131	2476	618
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	491	1045	189	252	488	263	236	1877	90	131	2476	618
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	491	1045	189	252	488	263	236	1877	90	131	2476	618
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	491	1045	189	252	488	263	236	1877	90	131	2476	618
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	491	1045	189	252	488	263	236	1877	90	131	2476	618
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.28	0.11	0.08	0.13	0.15	0.07	0.33	0.05	0.04	0.43	0.35
Crit Moves:	****				****			****			****	
Green Time:	27.0	51.0	70.0	17.0	41.0	59.0	18.0	91.0	118.0	19.0	92.0	109.0
Volume/Cap:	1.10	1.02	0.29	0.89	0.60	0.48	0.79	0.69	0.08	0.42	0.90	0.62
Delay/Veh:	152.9	104	42.7	113.8	67.8	53.4	97.5	31.4	7.5	81.2	39.6	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	152.9	104	42.7	113.8	67.8	53.4	97.5	31.4	7.5	81.2	39.6	18.1
LOS by Move:	F	F	D	F	E	D	F	C	A	F	D	B
HCM2k95thQ:	37	56	15	18	22	23	15	38	2	8	66	30

Note: Queue reported is the number of cars per lane.

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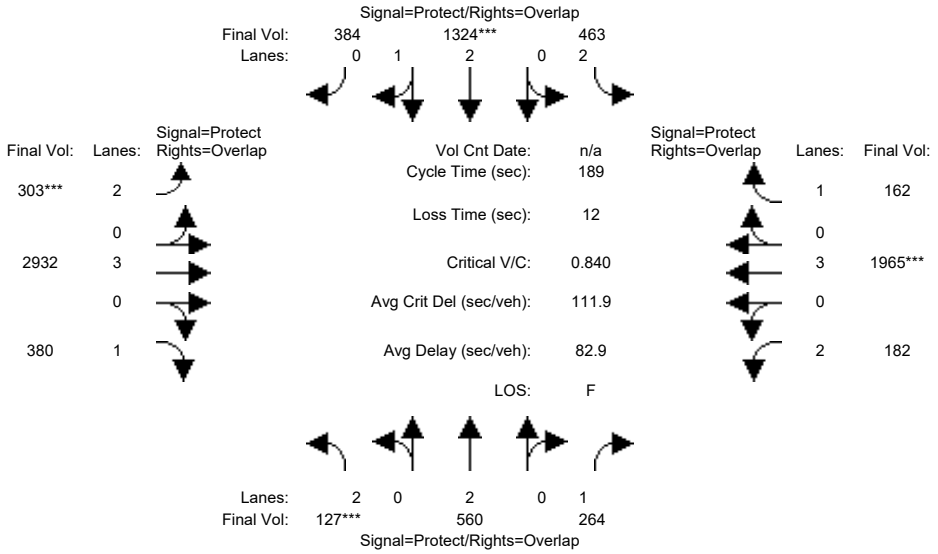
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5334: (43) CENTRAL EXPWY/LAFAYETTE ST



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	13	30	30	20	38	38	13	100	100	16	103	103
Y+R:	5.8	5.6	5.6	5.6	5.4	5.4	5.3	6.2	6.2	5.4	6.2	6.2
Volume Module:												
Base Vol:	127	560	264	463	1324	384	303	2932	380	182	1965	162
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	127	560	264	463	1324	384	303	2932	380	182	1965	162
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	127	560	264	463	1324	384	303	2932	380	182	1965	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	127	560	264	463	1324	384	303	2932	380	182	1965	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	127	560	264	463	1324	384	303	2932	380	182	1965	162
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	127	560	264	463	1324	384	303	2932	380	182	1965	162
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.30	0.70	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	4339	1259	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.15	0.15	0.31	0.31	0.10	0.51	0.22	0.06	0.34	0.09
Crit Moves:	****				****		****				****	
Green Time:	13.0	30.8	47.1	28.5	46.4	61.0	14.6	101	114.4	16.2	103	131.5
Volume/Cap:	0.59	0.90	0.61	0.97	1.24	0.95	1.24	0.96	0.36	0.67	0.63	0.13
Delay/Veh:	89.5	94.2	65.2	114.1	187	73.3	226.4	62.6	26.6	90.3	30.3	9.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.5	94.2	65.2	114.1	187	73.3	226.4	62.6	26.6	90.3	30.3	9.7
LOS by Move:	F	F	E	F	F	E	F	E	C	F	C	A
HCM2k95thQ:	9	30	25	32	73	56	25	80	27	12	42	7

Note: Queue reported is the number of cars per lane.

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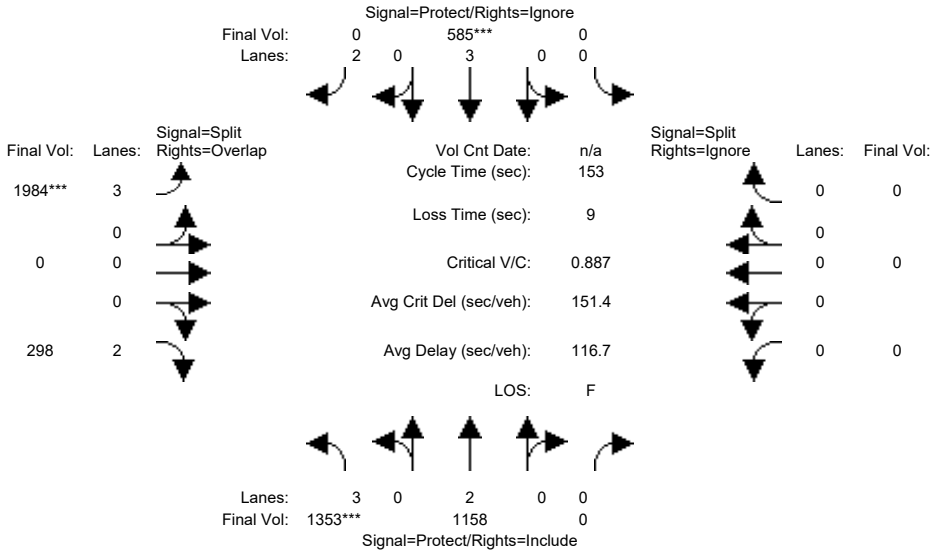
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	27	79	0		0	50	50		67	0	67		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	1353	1158	0	0	585	2037	1984	0	298	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	1353	1158	0	0	585	2037	1984	0	298	0	0	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
ATI:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	1353	1158	0	0	585	2037	1984	0	298	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00				
PHF Volume:	1353	1158	0	0	585	0	1984	0	298	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	1353	1158	0	0	585	0	1984	0	298	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00				
FinalVolume:	1353	1158	0	0	585	0	1984	0	298	0	0	0				
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.80	1.00	0.83	0.92	1.00	0.92				
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	3.00	0.00	2.00	0.00	0.00	0.00				
Final Sat.:	4551	3800	0	0	5700	3150	4551	0	3150	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.30	0.30	0.00	0.00	0.10	0.00	0.44	0.00	0.09	0.00	0.00	0.00				
Crit Moves:	****				****		****									
Green Time:	28.6	78.0	0.0	0.0	49.4	0.0	66.1	0.0	94.8	0.0	0.0	0.0				
Volume/Cap:	1.59	0.60	0.00	0.00	0.32	0.00	1.01	0.00	0.15	0.00	0.00	0.00				
Delay/Veh:	333.6	27.3	0.0	0.0	39.7	0.0	60.1	0.0	6.6	0.0	0.0	0.0				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	333.6	27.3	0.0	0.0	39.7	0.0	60.1	0.0	6.6	0.0	0.0	0.0				
LOS by Move:	F	C	A	A	D	A	E	A	A	A	A	A				
HCM2k95thQ:	81	33	0	0	13	0	68	0	3	0	0	0				

Note: Queue reported is the number of cars per lane.

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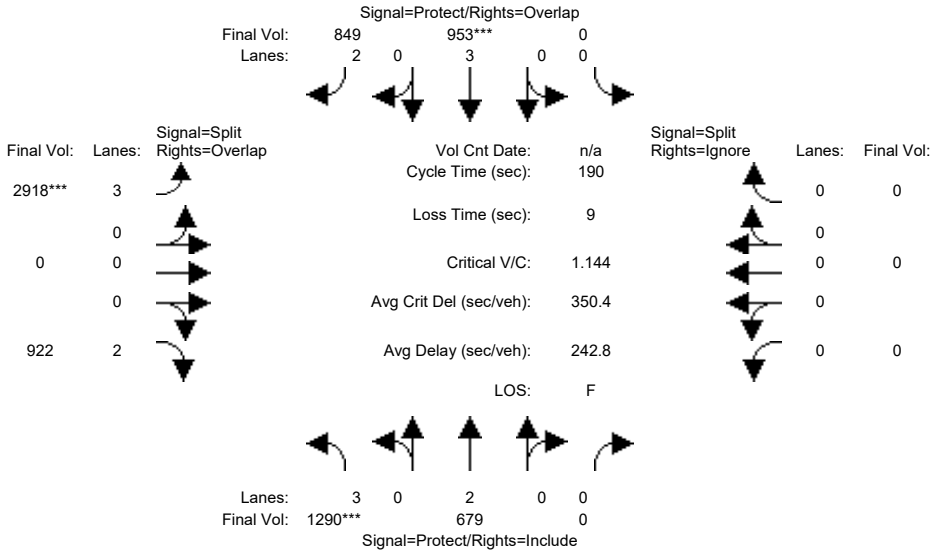
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1290	679	0	0	953	849	2918	0	922	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1290	679	0	0	953	849	2918	0	922	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1290	679	0	0	953	849	2918	0	922	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	1290	679	0	0	953	849	2918	0	922	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1290	679	0	0	953	849	2918	0	922	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	1290	679	0	0	953	849	2918	0	922	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.80	1.00	0.83	0.92	1.00	0.92
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	3.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	4551	3800	0	0	5700	3150	4551	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.28	0.18	0.00	0.00	0.17	0.27	0.64	0.00	0.29	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	3.32	0.46	0.00	0.00	0.55	0.31	1.14	0.00	0.45	0.00	0.00	0.00
Delay/Veh:	1141	45.0	0.0	0.0	57.8	2.4	96.5	0.0	7.9	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	1141	45.0	0.0	0.0	57.8	2.4	96.5	0.0	7.9	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	F	A	A	A	A	A
HCM2k95thQ:	118	26	0	0	27	11	132	0	13	0	0	0

Note: Queue reported is the number of cars per lane.

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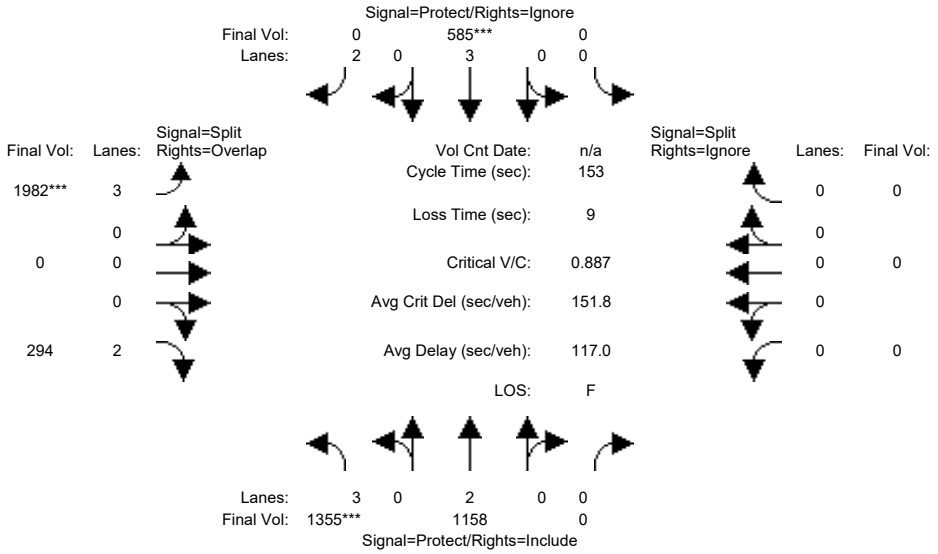
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Min. Green:	27	79	0		0	50	50		67	0	67		0	0	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Volume Module:																
Base Vol:	1355	1158	0		0	585	1970		1982	0	294		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1355	1158	0		0	585	1970		1982	0	294		0	0	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
ATI:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1355	1158	0		0	585	1970		1982	0	294		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1355	1158	0		0	585	0		1982	0	294		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1355	1158	0		0	585	0		1982	0	294		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1355	1158	0		0	585	0		1982	0	294		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.80	1.00	0.92		0.92	1.00	0.83		0.80	1.00	0.83		0.92	1.00	0.92	
Lanes:	3.00	2.00	0.00		0.00	3.00	2.00		3.00	0.00	2.00		0.00	0.00	0.00	
Final Sat.:	4551	3800	0		0	5700	3150		4551	0	3150		0	0	0	
Capacity Analysis Module:																
Vol/Sat:	0.30	0.30	0.00		0.00	0.10	0.00		0.44	0.00	0.09		0.00	0.00	0.00	
Crit Moves:	****					****			****							
Green Time:	28.6	78.0	0.0		0.0	49.4	0.0		66.1	0.0	94.8		0.0	0.0	0.0	
Volume/Cap:	1.59	0.60	0.00		0.00	0.32	0.00		1.01	0.00	0.15		0.00	0.00	0.00	
Delay/Veh:	334.7	27.3	0.0		0.0	39.7	0.0		59.9	0.0	6.6		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	334.7	27.3	0.0		0.0	39.7	0.0		59.9	0.0	6.6		0.0	0.0	0.0	
LOS by Move:	F	C	A		A	D	A		E	A	A		A	A	A	
HCM2k95thQ:	81	33	0		0	13	0		68	0	3		0	0	0	

Note: Queue reported is the number of cars per lane.

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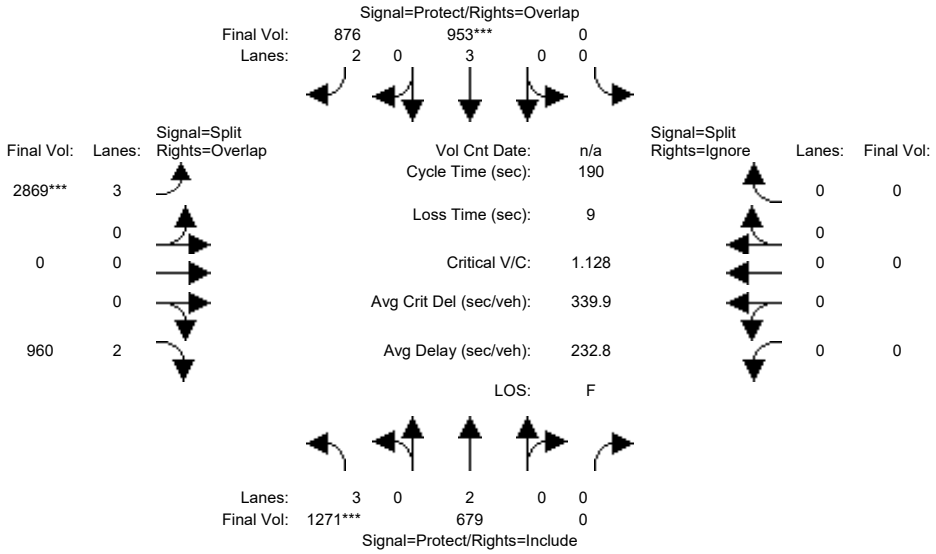
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5335: (44) CENTRAL EXPWY/DE LA CRUZ BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	77	0	0	61	61	112	0	112	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1271	679	0	0	953	876	2869	0	960	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1271	679	0	0	953	876	2869	0	960	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1271	679	0	0	953	876	2869	0	960	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	1271	679	0	0	953	876	2869	0	960	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1271	679	0	0	953	876	2869	0	960	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	1271	679	0	0	953	876	2869	0	960	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.92	1.00	0.83	0.80	1.00	0.83	0.92	1.00	0.92
Lanes:	3.00	2.00	0.00	0.00	3.00	2.00	3.00	0.00	2.00	0.00	0.00	0.00
Final Sat.:	4551	3800	0	0	5700	3150	4551	0	3150	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.28	0.18	0.00	0.00	0.17	0.28	0.63	0.00	0.30	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	16.2	74.5	0.0	0.0	58.2	165.2	106.9	0.0	123.2	0.0	0.0	0.0
Volume/Cap:	3.27	0.46	0.00	0.00	0.55	0.32	1.12	0.00	0.47	0.00	0.00	0.00
Delay/Veh:	1119	45.0	0.0	0.0	57.8	2.4	88.5	0.0	8.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	1119	45.0	0.0	0.0	57.8	2.4	88.5	0.0	8.0	0.0	0.0	0.0
LOS by Move:	F	D	A	A	E	A	F	A	A	A	A	A
HCM2k95thQ:	116	26	0	0	27	12	127	0	14	0	0	0

Note: Queue reported is the number of cars per lane.

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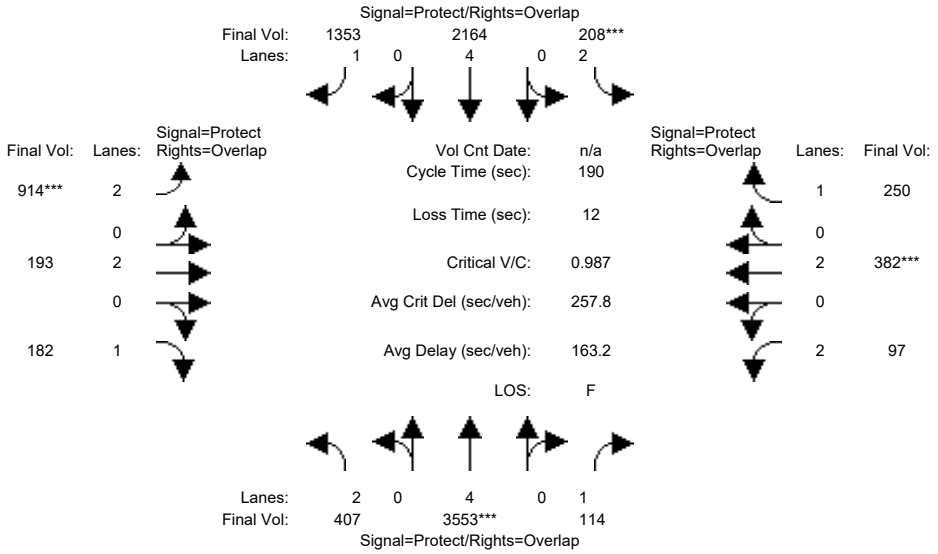
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	407	3553	114	208	2164	1353	914	193	182	97	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3553	114	208	2164	1353	914	193	182	97	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3553	114	208	2164	1353	914	193	182	97	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3553	114	208	2164	1353	914	193	182	97	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3553	114	208	2164	1353	914	193	182	97	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3553	114	208	2164	1353	914	193	182	97	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.47	0.07	0.07	0.28	0.77	0.29	0.05	0.10	0.03	0.10	0.14
Crit Moves:		****			****			****			****	
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.79	0.10	0.63	0.52	1.22	3.68	0.29	0.33	0.45	0.62	0.53
Delay/Veh:	102.6	19.0	4.9	85.2	18.1	126.3	1301	68.6	50.0	86.6	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	19.0	4.9	85.2	18.1	126.3	1301	68.6	50.0	86.6	75.8	60.5
LOS by Move:	F	B	A	F	B	F	F	E	D	F	E	E
HCM2k95thQ:	29	49	2	15	24	174	120	9	15	6	18	23

Note: Queue reported is the number of cars per lane.

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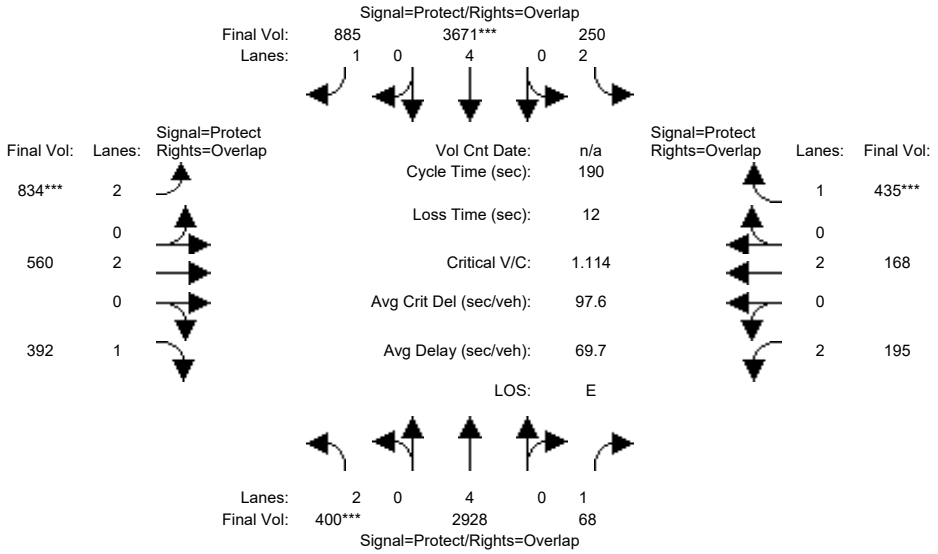
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module:												
Base Vol:	400	2928	68	250	3671	885	834	560	392	195	168	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	400	2928	68	250	3671	885	834	560	392	195	168	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	400	2928	68	250	3671	885	834	560	392	195	168	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	400	2928	68	250	3671	885	834	560	392	195	168	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	400	2928	68	250	3671	885	834	560	392	195	168	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	400	2928	68	250	3671	885	834	560	392	195	168	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.39	0.04	0.08	0.48	0.51	0.26	0.15	0.22	0.06	0.04	0.25
Crit Moves:	****				****		****					****
Green Time:	19.2	94.8	107.4	22.4	98.0	138.0	40.0	48.2	67.4	12.6	27.0	49.4
Volume/Cap:	1.26	0.77	0.07	0.67	0.94	0.70	1.26	0.58	0.63	0.93	0.31	0.96
Delay/Veh:	224.7	30.8	12.2	85.2	59.4	27.0	203.2	62.9	53.1	132.0	73.5	100.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	224.7	30.8	12.2	85.2	59.4	27.0	203.2	62.9	53.1	132.0	73.5	100.5
LOS by Move:	F	C	B	F	E	C	F	E	D	F	E	F
HCM2k95thQ:	37	48	2	18	83	65	64	24	33	15	8	47

Note: Queue reported is the number of cars per lane.

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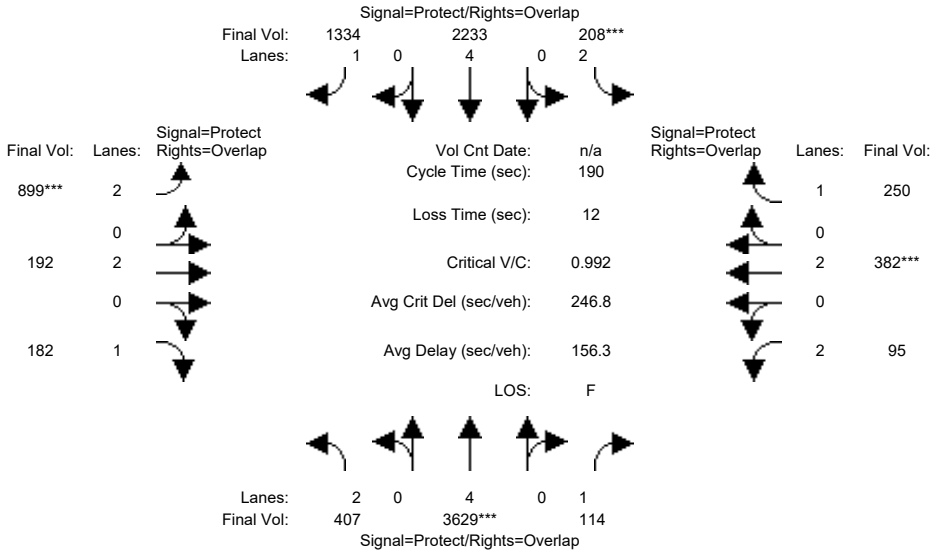
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	27	112	112	20	105	105	15	33	33	13	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	407	3629	114	208	2233	1334	899	192	182	95	382	250
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	407	3629	114	208	2233	1334	899	192	182	95	382	250
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	407	3629	114	208	2233	1334	899	192	182	95	382	250
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	407	3629	114	208	2233	1334	899	192	182	95	382	250
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	407	3629	114	208	2233	1334	899	192	182	95	382	250
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	407	3629	114	208	2233	1334	899	192	182	95	382	250
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.48	0.07	0.07	0.29	0.76	0.29	0.05	0.10	0.03	0.10	0.14
Crit Moves:		****		****			****				****	
Green Time:	27.0	112	125.0	20.0	105	120.0	15.0	33.0	60.0	13.0	31.0	51.0
Volume/Cap:	0.91	0.81	0.10	0.63	0.53	1.21	3.62	0.29	0.33	0.44	0.62	0.53
Delay/Veh:	102.6	19.5	4.9	85.2	18.3	119.1	1274	68.6	50.0	86.4	75.8	60.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	102.6	19.5	4.9	85.2	18.3	119.1	1274	68.6	50.0	86.4	75.8	60.5
LOS by Move:	F	B	A	F	B	F	F	E	D	F	E	E
HCM2k95thQ:	29	51	2	15	25	169	118	9	15	6	18	23

Note: Queue reported is the number of cars per lane.

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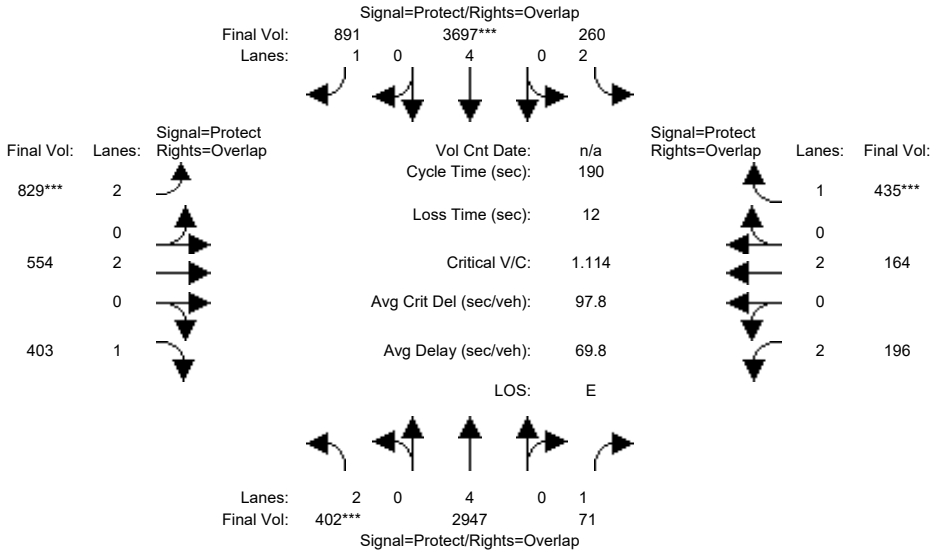
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5408: (33) SAN TOMAS EXP / SCOTT BL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	89	89	21	98	98	29	45	45	11	27	27
Y+R:	5.7	5.8	5.8	6.0	5.8	5.8	5.7	5.6	5.6	5.6	5.7	5.7
Volume Module:												
Base Vol:	402	2947	71	260	3697	891	829	554	403	196	164	435
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	402	2947	71	260	3697	891	829	554	403	196	164	435
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	402	2947	71	260	3697	891	829	554	403	196	164	435
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	402	2947	71	260	3697	891	829	554	403	196	164	435
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	402	2947	71	260	3697	891	829	554	403	196	164	435
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	402	2947	71	260	3697	891	829	554	403	196	164	435
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3800	1750	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.39	0.04	0.08	0.49	0.51	0.26	0.15	0.23	0.06	0.04	0.25
Crit Moves:	****				****		****					****
Green Time:	19.3	94.9	107.5	22.4	98.0	137.8	39.8	48.1	67.4	12.6	27.0	49.4
Volume/Cap:	1.26	0.78	0.07	0.70	0.94	0.70	1.26	0.58	0.65	0.94	0.30	0.96
Delay/Veh:	223.5	30.9	12.2	86.4	60.3	27.3	202.4	62.9	53.8	132.7	73.4	100.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	223.5	30.9	12.2	86.4	60.3	27.3	202.4	62.9	53.8	132.7	73.4	100.4
LOS by Move:	F	C	B	F	E	C	F	E	D	F	E	F
HCM2k95thQ:	37	48	2	18	84	66	64	24	34	15	8	47

Note: Queue reported is the number of cars per lane.

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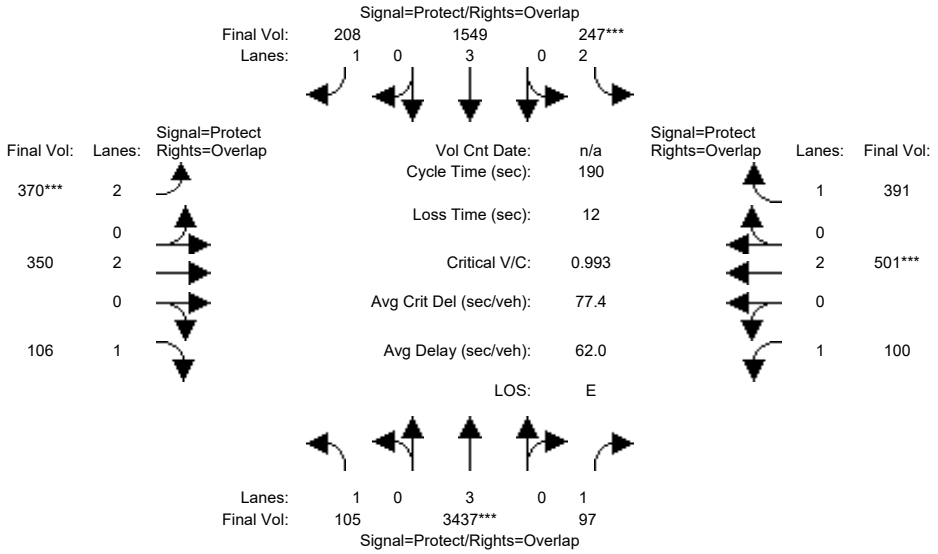
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	105	4043	97	247	1822	208	370	350	106	100	501	391
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	4043	97	247	1822	208	370	350	106	100	501	391
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	4043	97	247	1822	208	370	350	106	100	501	391
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	105	3437	97	247	1549	208	370	350	106	100	501	391
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	3437	97	247	1549	208	370	350	106	100	501	391
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	105	3437	97	247	1549	208	370	350	106	100	501	391
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.60	0.06	0.08	0.27	0.12	0.12	0.09	0.06	0.06	0.13	0.22
Crit Moves:		****		****			****				****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.67	1.05	0.08	1.24	0.50	0.18	1.12	0.45	0.21	0.60	0.68	0.87
Delay/Veh:	94.5	56.9	4.2	232.8	18.5	5.7	169.4	66.5	50.5	88.7	73.5	83.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	94.5	56.9	4.2	232.8	18.5	5.7	169.4	66.5	50.5	88.7	73.5	83.4
LOS by Move:	F	E	A	F	B	A	F	E	D	F	E	F
HCM2k95thQ:	11	105	1	23	23	4	32	17	9	13	25	42

Note: Queue reported is the number of cars per lane.

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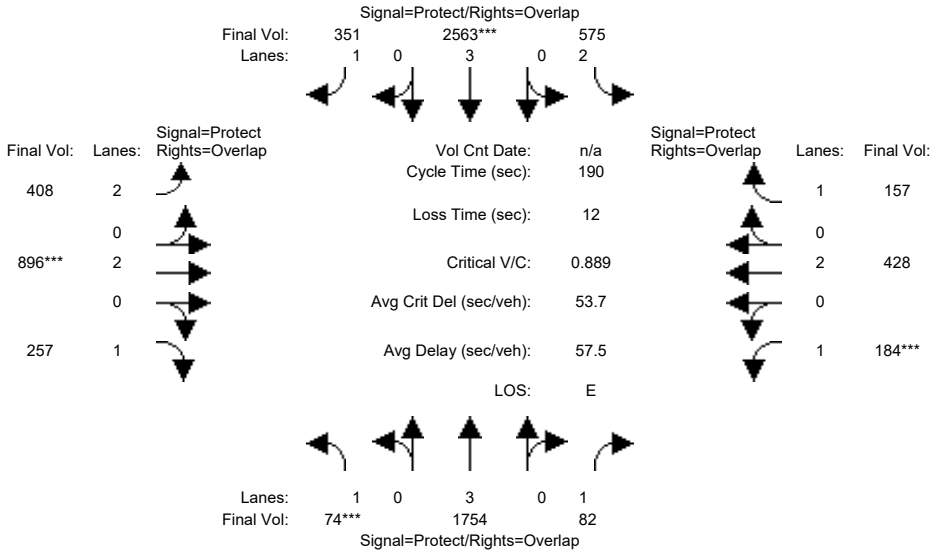
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	74	2436	82	575	3511	351	408	896	257	184	428	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	2436	82	575	3511	351	408	896	257	184	428	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	2436	82	575	3511	351	408	896	257	184	428	157
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	1754	82	575	2563	351	408	896	257	184	428	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1754	82	575	2563	351	408	896	257	184	428	157
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1754	82	575	2563	351	408	896	257	184	428	157
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.31	0.05	0.18	0.45	0.20	0.13	0.24	0.15	0.11	0.11	0.09
Crit Moves:	****				****			****		****		
Green Time:	11.0	78.2	98.3	34.8	102	126.8	24.8	45.0	56.0	20.0	40.2	75.0
Volume/Cap:	0.73	0.75	0.09	1.00	0.84	0.30	0.99	1.00	0.50	1.00	0.53	0.23
Delay/Veh:	111.5	43.2	17.2	114.3	28.3	5.2	125.3	102	56.2	150.1	67.2	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	43.2	17.2	114.3	28.3	5.2	125.3	102	56.2	150.1	67.2	38.4
LOS by Move:	F	D	B	F	C	A	F	F	E	F	E	D
HCM2k95thQ:	9	42	3	39	58	7	32	50	24	27	20	12

Note: Queue reported is the number of cars per lane.

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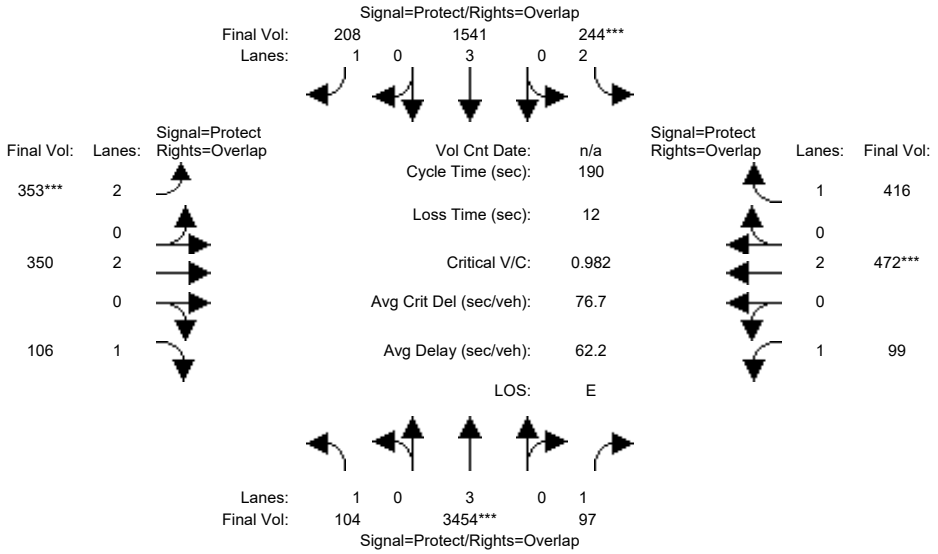
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	17	109	109	12	104	104	20	39	39	18	37	37
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	104	4064	97	244	1813	208	353	350	106	99	472	416
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	104	4064	97	244	1813	208	353	350	106	99	472	416
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	4064	97	244	1813	208	353	350	106	99	472	416
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	104	3454	97	244	1541	208	353	350	106	99	472	416
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	104	3454	97	244	1541	208	353	350	106	99	472	416
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	104	3454	97	244	1541	208	353	350	106	99	472	416
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.61	0.06	0.08	0.27	0.12	0.11	0.09	0.06	0.06	0.12	0.24
Crit Moves:		****		****			****				****	
Green Time:	17.0	109	127.0	12.0	104	124.0	20.0	39.0	56.0	18.0	37.0	49.0
Volume/Cap:	0.66	1.06	0.08	1.23	0.49	0.18	1.06	0.45	0.21	0.60	0.64	0.92
Delay/Veh:	94.0	58.9	4.2	227.1	18.4	5.7	152.6	66.5	50.5	88.4	72.2	92.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	94.0	58.9	4.2	227.1	18.4	5.7	152.6	66.5	50.5	88.4	72.2	92.9
LOS by Move:	F	E	A	F	B	A	F	E	D	F	E	F
HCM2k95thQ:	11	106	1	22	23	4	30	17	9	13	23	47

Note: Queue reported is the number of cars per lane.

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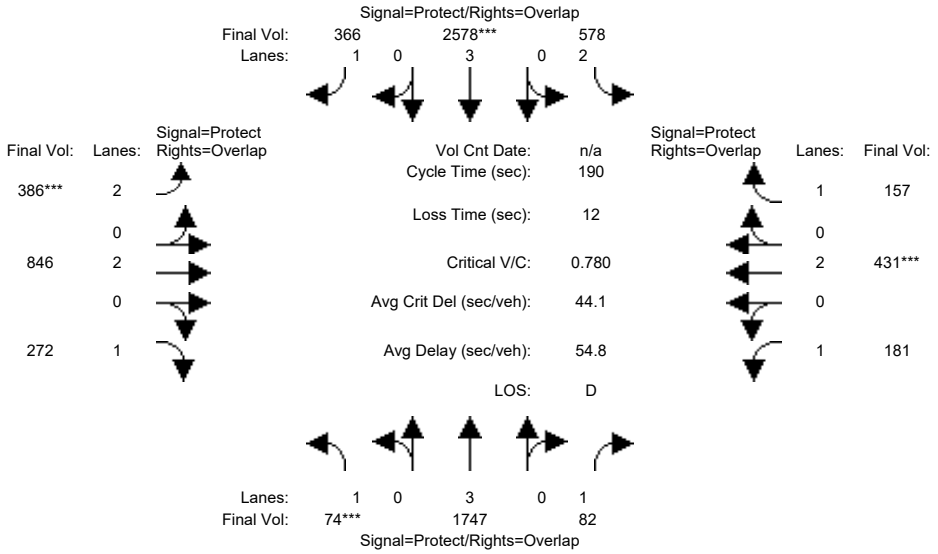
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5414: (34) San Tomas Expressway and Monroe Street



Street Name:	San Tomas Expressway						Monroe Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	78	78	34	102	102	14	42	42	12	40	40
Y+R:	5.3	5.8	5.8	5.6	5.8	5.8	6.0	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	74	2426	82	578	3532	366	386	846	272	181	431	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	74	2426	82	578	3532	366	386	846	272	181	431	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	2426	82	578	3532	366	386	846	272	181	431	157
User Adj:	1.00	0.72	1.00	1.00	0.73	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	1747	82	578	2578	366	386	846	272	181	431	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	1747	82	578	2578	366	386	846	272	181	431	157
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	74	1747	82	578	2578	366	386	846	272	181	431	157
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	5700	1750	3150	5700	1750	3150	3800	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.31	0.05	0.18	0.45	0.21	0.12	0.22	0.16	0.10	0.11	0.09
Crit Moves:	****				****		****				****	
Green Time:	11.0	78.1	98.7	34.9	102	127.0	25.0	44.4	55.4	20.6	40.0	74.9
Volume/Cap:	0.73	0.75	0.09	1.00	0.84	0.31	0.93	0.95	0.53	0.95	0.54	0.23
Delay/Veh:	111.5	43.3	17.0	114.6	28.5	5.1	109.3	91.5	57.6	135.9	67.5	38.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	43.3	17.0	114.6	28.5	5.1	109.3	91.5	57.6	135.9	67.5	38.5
LOS by Move:	F	D	B	F	C	A	F	F	E	F	E	D
HCM2k95thQ:	9	41	3	39	59	7	29	46	25	26	20	12

Note: Queue reported is the number of cars per lane.

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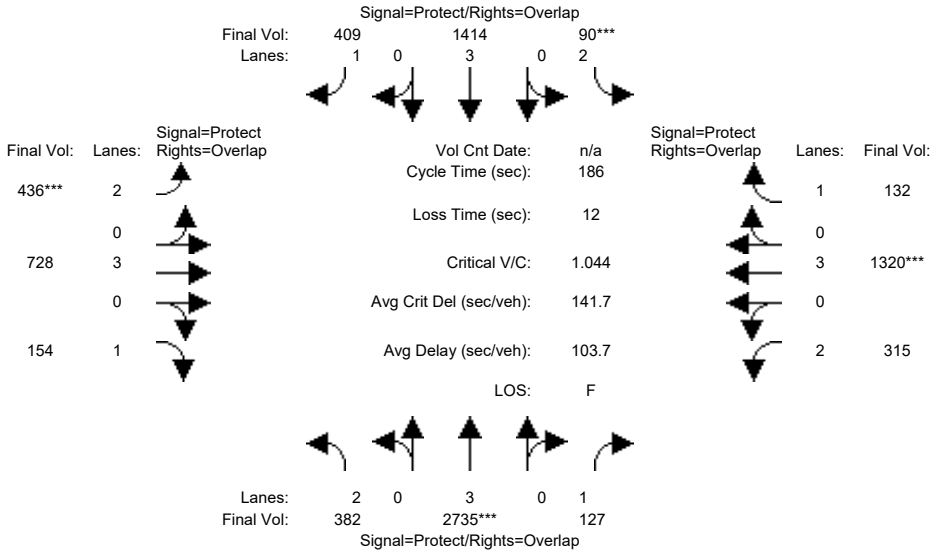
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	382	3218	127	90	1663	409	436	728	154	315	1320	132
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	382	3218	127	90	1663	409	436	728	154	315	1320	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	382	3218	127	90	1663	409	436	728	154	315	1320	132
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	382	2735	127	90	1414	409	436	728	154	315	1320	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	382	2735	127	90	1414	409	436	728	154	315	1320	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	382	2735	127	90	1414	409	436	728	154	315	1320	132
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.58	0.07	0.03	0.25	0.23	0.14	0.13	0.09	0.10	0.23	0.08
Crit Moves:		****		****			****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	0.84	1.11	0.11	0.35	0.54	0.39	0.99	0.66	0.26	0.72	1.20	0.28
Delay/Veh:	98.7	132	26.5	81.8	43.7	27.6	120.1	70.8	44.8	82.0	172	53.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.7	132	26.5	81.8	43.7	27.6	120.1	70.8	44.8	82.0	172	53.3
LOS by Move:	F	F	C	F	D	C	F	E	D	F	F	D
HCM2k95thQ:	24	98	11	6	36	29	30	23	13	19	55	12

Note: Queue reported is the number of cars per lane.

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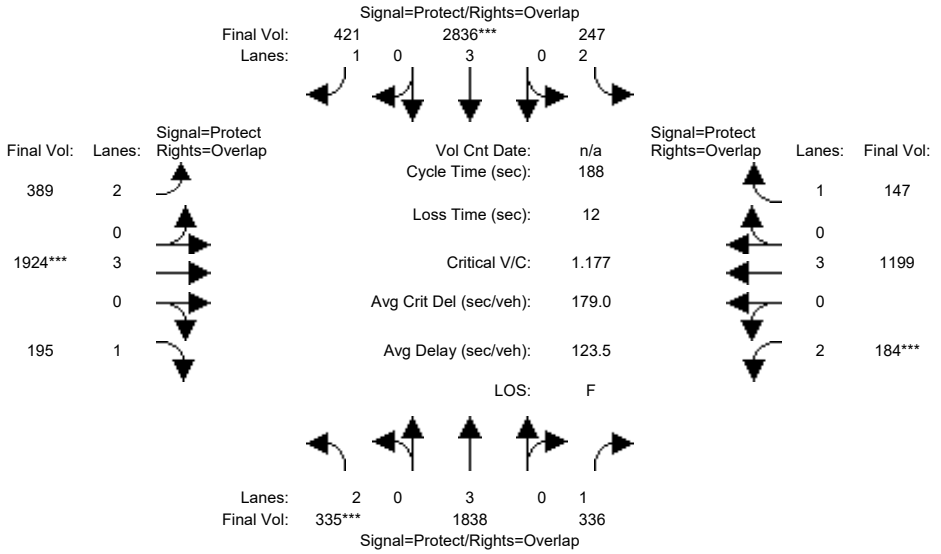
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	335	2188	336	247	3459	421	389	1924	195	184	1199	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	335	2188	336	247	3459	421	389	1924	195	184	1199	147
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	335	2188	336	247	3459	421	389	1924	195	184	1199	147
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	335	1838	336	247	2836	421	389	1924	195	184	1199	147
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	335	1838	336	247	2836	421	389	1924	195	184	1199	147
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	335	1838	336	247	2836	421	389	1924	195	184	1199	147
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.19	0.08	0.60	0.24	0.12	0.34	0.11	0.06	0.21	0.08
Crit Moves:	****				****			****			****	
Green Time:	16.1	84.5	100.5	22.5	90.9	113.9	23.0	53.0	69.1	16.0	46.0	68.5
Volume/Cap:	1.24	0.72	0.36	0.65	1.24	0.40	1.01	1.20	0.30	0.69	0.86	0.23
Delay/Veh:	221.5	50.8	32.7	90.3	191	39.2	130.7	163	42.6	90.8	73.5	41.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	221.5	50.8	32.7	90.3	191	39.2	130.7	163	42.6	90.8	73.5	41.6
LOS by Move:	F	D	C	F	F	D	F	F	D	F	E	D
HCM2k95thQ:	29	50	26	15	112	35	28	77	15	12	38	12

Note: Queue reported is the number of cars per lane.

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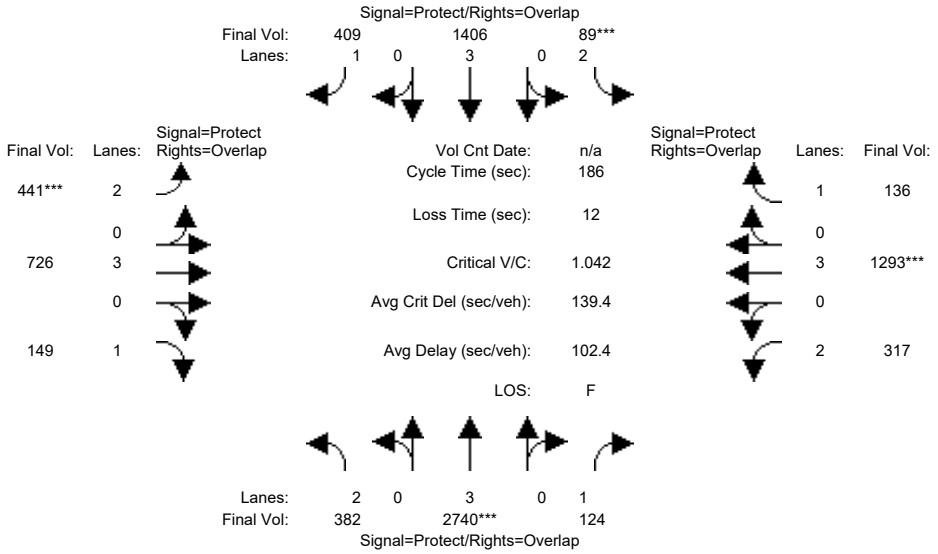
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	27	97	97	15	85	85	26	36	36	26	36	36
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	382	3224	124	89	1654	409	441	726	149	317	1293	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	382	3224	124	89	1654	409	441	726	149	317	1293	136
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	382	3224	124	89	1654	409	441	726	149	317	1293	136
User Adj:	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	382	2740	124	89	1406	409	441	726	149	317	1293	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	382	2740	124	89	1406	409	441	726	149	317	1293	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	382	2740	124	89	1406	409	441	726	149	317	1293	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	4731	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.58	0.07	0.03	0.25	0.23	0.14	0.13	0.09	0.10	0.23	0.08
Crit Moves:		****		****			****				****	
Green Time:	27.0	97.0	123.0	15.0	85.0	111.0	26.0	36.0	63.0	26.0	36.0	51.0
Volume/Cap:	0.84	1.11	0.11	0.35	0.54	0.39	1.00	0.66	0.25	0.72	1.17	0.28
Delay/Veh:	98.7	133	26.5	81.7	43.6	27.6	123.3	70.8	44.7	82.2	162	53.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.7	133	26.5	81.7	43.6	27.6	123.3	70.8	44.7	82.2	162	53.4
LOS by Move:	F	F	C	F	D	C	F	E	D	F	F	D
HCM2k95thQ:	24	98	11	6	36	29	31	23	12	19	53	12

Note: Queue reported is the number of cars per lane.

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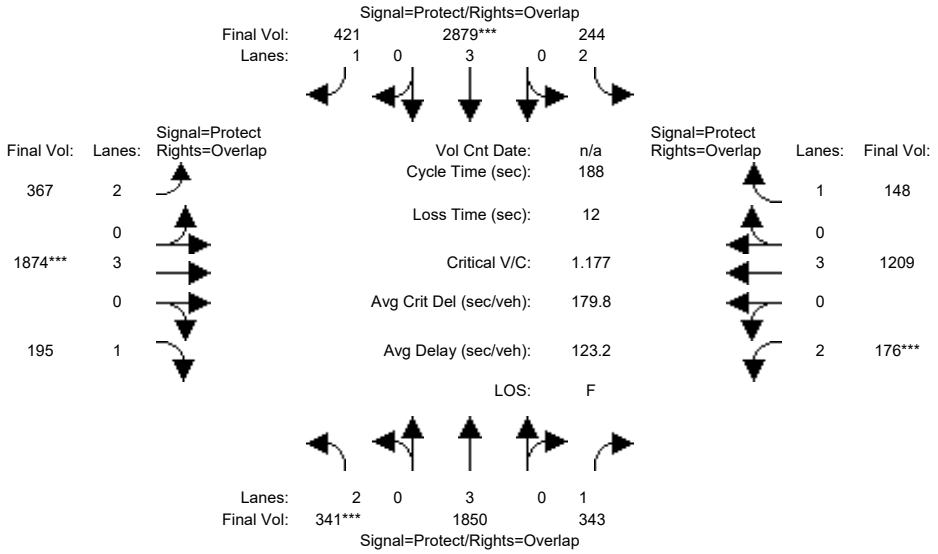
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5416: (35) SAN TOMAS EXPWY/EL CAMINO REAL



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	13	75	75	20	82	82	23	53	53	16	46	46
Y+R:	5.7	5.8	5.8	5.7	5.8	5.8	5.9	5.6	5.6	6.0	5.6	5.6
Volume Module:												
Base Vol:	341	2202	343	244	3511	421	367	1874	195	176	1209	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	341	2202	343	244	3511	421	367	1874	195	176	1209	148
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	341	2202	343	244	3511	421	367	1874	195	176	1209	148
User Adj:	1.00	0.84	1.00	1.00	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	341	1850	343	244	2879	421	367	1874	195	176	1209	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	341	1850	343	244	2879	421	367	1874	195	176	1209	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	341	1850	343	244	2879	421	367	1874	195	176	1209	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	0.83	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	4731	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.20	0.08	0.61	0.24	0.12	0.33	0.11	0.06	0.21	0.08
Crit Moves:	****				****			****			****	
Green Time:	16.2	84.5	100.5	22.5	90.8	113.8	23.0	53.0	69.2	16.0	46.0	68.5
Volume/Cap:	1.26	0.72	0.37	0.65	1.26	0.40	0.95	1.17	0.30	0.66	0.87	0.23
Delay/Veh:	229.0	51.0	32.8	90.0	199	39.2	115.5	149	42.5	89.2	74.1	41.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	229.0	51.0	32.8	90.0	199	39.2	115.5	149	42.5	89.2	74.1	41.7
LOS by Move:	F	D	C	F	F	D	F	F	D	F	E	D
HCM2k95thQ:	30	50	26	15	116	35	25	73	15	12	39	12

Note: Queue reported is the number of cars per lane.

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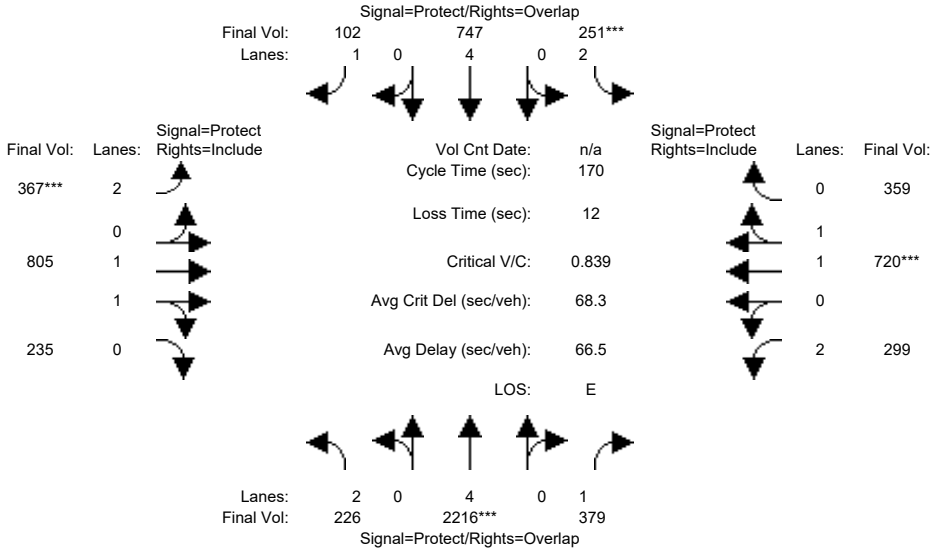
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	226	2216	379	251	747	102	367	805	235	299	720	359
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	226	2216	379	251	747	102	367	805	235	299	720	359
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	226	2216	379	251	747	102	367	805	235	299	720	359
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	2216	379	251	747	102	367	805	235	299	720	359
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	2216	379	251	747	102	367	805	235	299	720	359
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	2216	379	251	747	102	367	805	235	299	720	359
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.54	0.46	2.00	1.32	0.68
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2863	836	3150	2468	1231
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.22	0.08	0.10	0.06	0.12	0.28	0.28	0.09	0.29	0.29
Crit Moves:		****		****			****				****	
Green Time:	18.4	73.0	96.0	16.0	70.6	93.6	23.0	46.0	46.0	23.0	46.0	46.0
Volume/Cap:	0.66	0.68	0.38	0.85	0.24	0.11	0.86	1.04	1.04	0.70	1.08	1.08
Delay/Veh:	77.6	39.7	20.8	95.5	32.3	18.3	88.1	101	101.1	75.4	114	114.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.6	39.7	20.8	95.5	32.3	18.3	88.1	101	101.1	75.4	114	114.0
LOS by Move:	E	D	C	F	C	B	F	F	F	E	F	F
HCM2k95thQ:	12	39	25	16	14	7	22	53	53	17	57	57

Note: Queue reported is the number of cars per lane.

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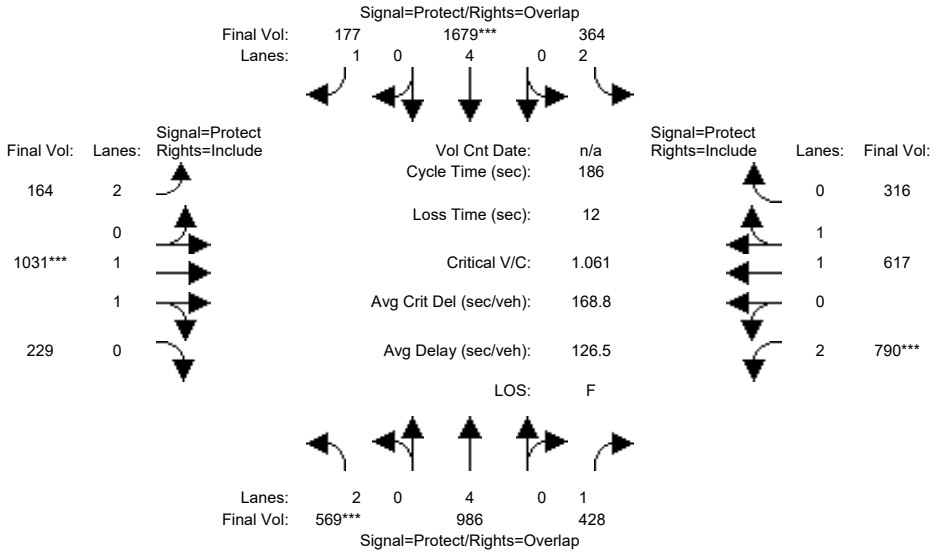
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	569	986	428	364	1679	177	164	1031	229	790	617	316
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	569	986	428	364	1679	177	164	1031	229	790	617	316
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	569	986	428	364	1679	177	164	1031	229	790	617	316
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	569	986	428	364	1679	177	164	1031	229	790	617	316
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	569	986	428	364	1679	177	164	1031	229	790	617	316
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	569	986	428	364	1679	177	164	1031	229	790	617	316
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.63	0.37	2.00	1.30	0.70
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3027	672	3150	2446	1253
Capacity Analysis Module:												
Vol/Sat:	0.18	0.13	0.24	0.12	0.22	0.10	0.05	0.34	0.34	0.25	0.25	0.25
Crit Moves:	****				****			****		****		
Green Time:	23.0	61.5	98.5	29.5	68.0	105.7	37.7	46.0	46.0	37.0	45.3	45.3
Volume/Cap:	1.46	0.39	0.46	0.73	0.60	0.18	0.26	1.38	1.38	1.26	1.04	1.04
Delay/Veh:	302.6	48.0	27.6	79.7	48.4	19.4	62.6	247	246.6	204.4	110	109.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	302.6	48.0	27.6	79.7	48.4	19.4	62.6	247	246.6	204.4	110	109.8
LOS by Move:	F	D	C	E	D	B	E	F	F	F	F	F
HCM2k95thQ:	52	21	33	22	35	13	9	88	88	62	52	52

Note: Queue reported is the number of cars per lane.

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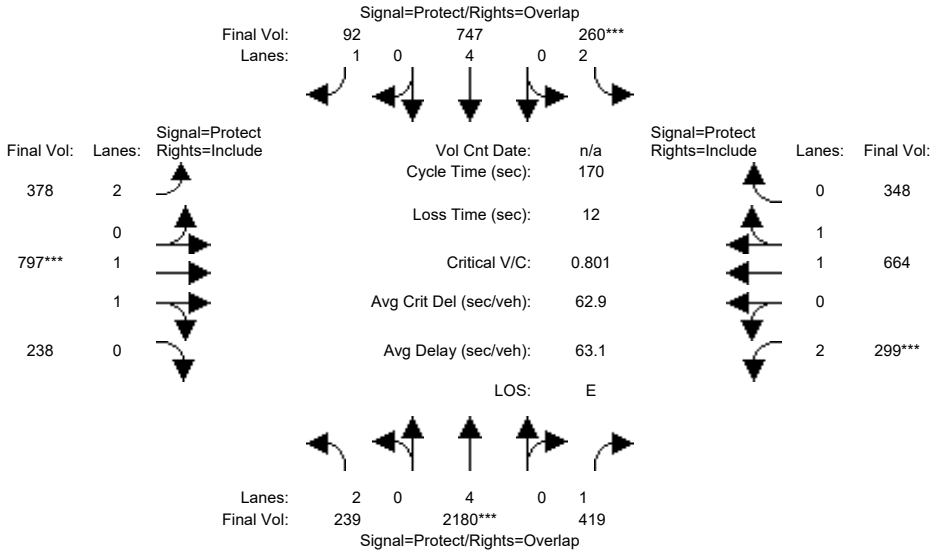
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	239	2180	419	260	747	92	378	797	238	299	664	348
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	239	2180	419	260	747	92	378	797	238	299	664	348
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	239	2180	419	260	747	92	378	797	238	299	664	348
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	239	2180	419	260	747	92	378	797	238	299	664	348
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	239	2180	419	260	747	92	378	797	238	299	664	348
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	239	2180	419	260	747	92	378	797	238	299	664	348
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.53	0.47	2.00	1.29	0.71
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2849	851	3150	2427	1272
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.24	0.08	0.10	0.05	0.12	0.28	0.28	0.09	0.27	0.27
Crit Moves:		****		****				****		****		
Green Time:	18.4	73.0	96.0	16.0	70.6	93.6	23.0	46.0	46.0	23.0	46.0	46.0
Volume/Cap:	0.70	0.67	0.42	0.88	0.24	0.10	0.89	1.03	1.03	0.70	1.01	1.01
Delay/Veh:	79.5	39.3	21.5	100.2	32.3	18.2	91.8	99.6	99.6	75.4	93.2	93.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.5	39.3	21.5	100.2	32.3	18.2	91.8	99.6	99.6	75.4	93.2	93.2
LOS by Move:	E	D	C	F	C	B	F	F	F	E	F	F
HCM2k95thQ:	13	38	28	17	14	6	23	53	53	17	51	51

Note: Queue reported is the number of cars per lane.

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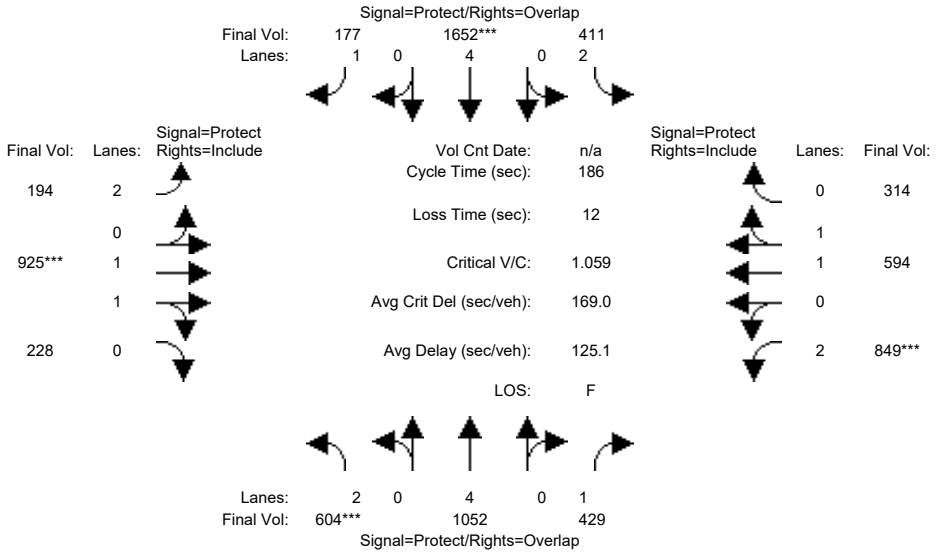
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	604	1052	429	411	1652	177	194	925	228	849	594	314
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	604	1052	429	411	1652	177	194	925	228	849	594	314
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	604	1052	429	411	1652	177	194	925	228	849	594	314
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	604	1052	429	411	1652	177	194	925	228	849	594	314
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	604	1052	429	411	1652	177	194	925	228	849	594	314
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	604	1052	429	411	1652	177	194	925	228	849	594	314
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.59	0.41	2.00	1.29	0.71
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2968	732	3150	2420	1279
Capacity Analysis Module:												
Vol/Sat:	0.19	0.14	0.25	0.13	0.22	0.10	0.06	0.31	0.31	0.27	0.25	0.25
Crit Moves:	****				****			****		****		
Green Time:	23.0	61.5	98.5	29.5	68.0	106.2	38.2	46.0	46.0	37.0	44.8	44.8
Volume/Cap:	1.55	0.42	0.46	0.82	0.59	0.18	0.30	1.26	1.26	1.35	1.02	1.02
Delay/Veh:	341.7	48.5	27.7	86.1	48.2	19.1	62.8	196	196.0	244.5	106	105.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	341.7	48.5	27.7	86.1	48.2	19.1	62.8	196	196.0	244.5	106	105.9
LOS by Move:	F	D	C	F	D	B	E	F	F	F	F	F
HCM2k95thQ:	57	22	33	26	34	13	10	75	75	70	50	50

Note: Queue reported is the number of cars per lane.

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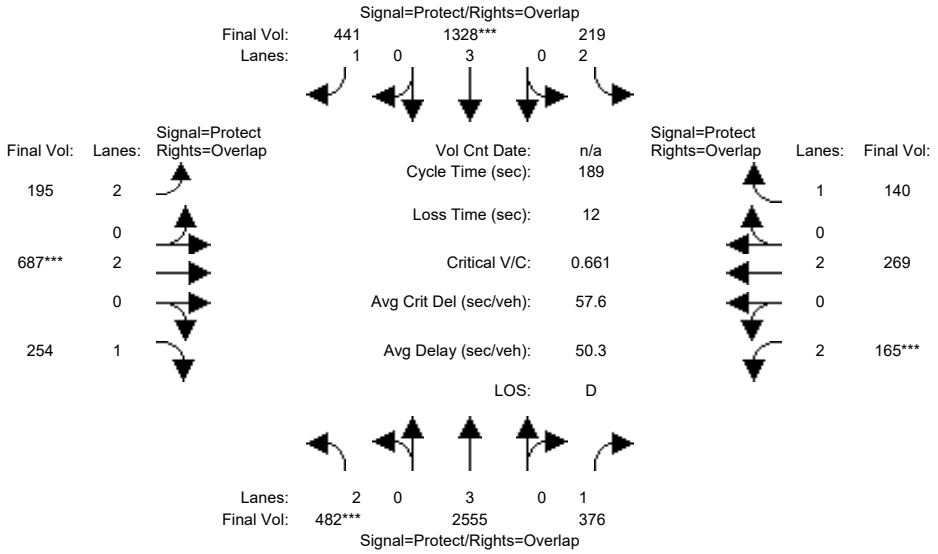
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	482	2937	376	219	1526	441	195	687	254	165	269	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	482	2937	376	219	1526	441	195	687	254	165	269	140
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	482	2937	376	219	1526	441	195	687	254	165	269	140
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	482	2555	376	219	1328	441	195	687	254	165	269	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	482	2555	376	219	1328	441	195	687	254	165	269	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	482	2555	376	219	1328	441	195	687	254	165	269	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.45	0.21	0.07	0.23	0.25	0.06	0.18	0.16	0.05	0.07	0.08
Crit Moves:	****				****			****			****	
Green Time:	32.5	106	120.4	18.1	92.0	108.7	16.7	38.5	71.0	14.0	35.7	53.8
Volume/Cap:	0.89	0.80	0.34	0.73	0.48	0.44	0.70	0.89	0.42	0.71	0.37	0.28
Delay/Veh:	92.8	44.9	23.5	91.6	25.7	14.7	91.3	85.4	44.3	95.0	67.2	52.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.8	44.9	23.5	91.6	25.7	14.7	91.3	85.4	44.3	95.0	67.2	52.9
LOS by Move:	F	D	C	F	C	B	F	F	D	F	E	D
HCM2k95thQ:	33	67	26	14	23	18	15	37	21	10	12	12

Note: Queue reported is the number of cars per lane.

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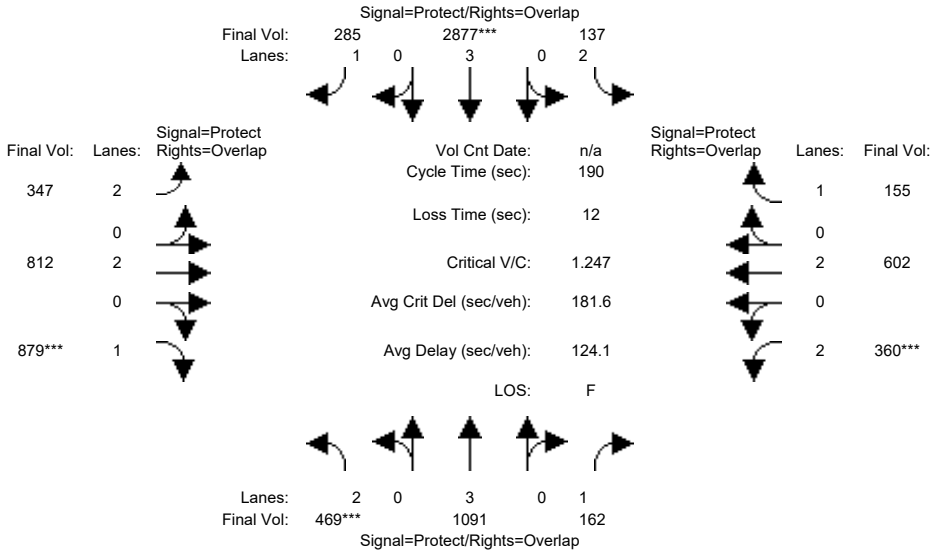
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	469	1628	162	137	3596	285	347	812	879	360	602	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	469	1628	162	137	3596	285	347	812	879	360	602	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	469	1628	162	137	3596	285	347	812	879	360	602	155
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	469	1091	162	137	2877	285	347	812	879	360	602	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	469	1091	162	137	2877	285	347	812	879	360	602	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	469	1091	162	137	2877	285	347	812	879	360	602	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.09	0.04	0.50	0.16	0.11	0.21	0.55	0.11	0.16	0.09
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	1.29	0.42	0.16	0.55	1.21	0.29	0.74	0.77	1.39	0.90	0.62	0.26
Delay/Veh:	231.9	29.4	11.6	86.9	164	28.7	83.2	66.2	242.9	105.4	63.8	46.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	231.9	29.4	11.6	86.9	164	28.7	83.2	66.2	242.9	105.4	63.8	46.4
LOS by Move:	F	C	B	F	F	C	F	E	F	F	E	D
HCM2k95thQ:	43	20	5	9	115	21	23	38	131	21	25	12

Note: Queue reported is the number of cars per lane.

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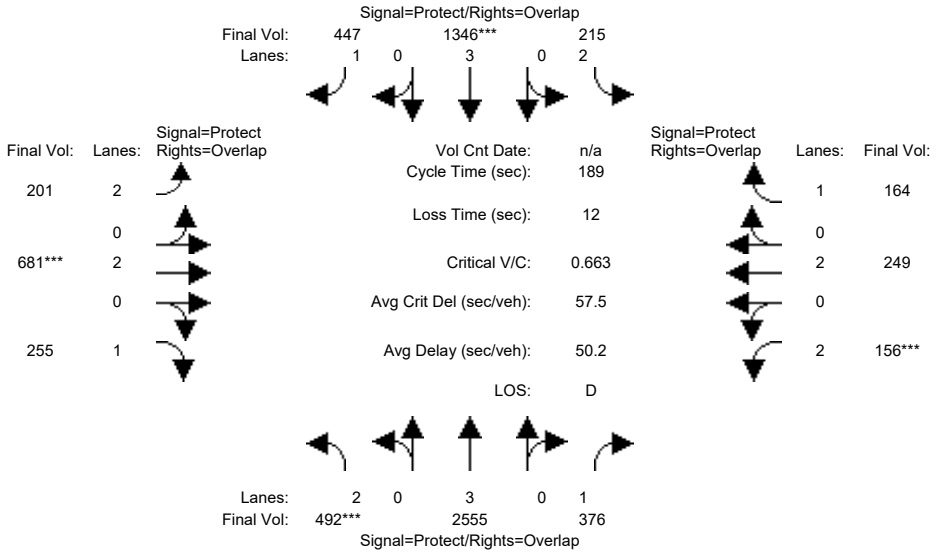
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	492	2937	376	215	1547	447	201	681	255	156	249	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	492	2937	376	215	1547	447	201	681	255	156	249	164
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	492	2937	376	215	1547	447	201	681	255	156	249	164
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	492	2555	376	215	1346	447	201	681	255	156	249	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	492	2555	376	215	1346	447	201	681	255	156	249	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	492	2555	376	215	1346	447	201	681	255	156	249	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.16	0.45	0.21	0.07	0.24	0.26	0.06	0.18	0.16	0.05	0.07	0.09
Crit Moves:	****				****			****			****	
Green Time:	33.1	107	120.9	18.2	92.0	108.6	16.6	37.9	71.0	14.0	35.4	53.5
Volume/Cap:	0.89	0.79	0.34	0.71	0.49	0.44	0.73	0.89	0.42	0.67	0.35	0.33
Delay/Veh:	93.0	44.5	23.3	90.5	25.8	14.9	93.4	86.4	44.3	92.5	67.1	54.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.0	44.5	23.3	90.5	25.8	14.9	93.4	86.4	44.3	92.5	67.1	54.0
LOS by Move:	F	D	C	F	C	B	F	F	D	F	E	D
HCM2k95thQ:	33	67	26	14	23	18	15	37	21	10	11	14

Note: Queue reported is the number of cars per lane.

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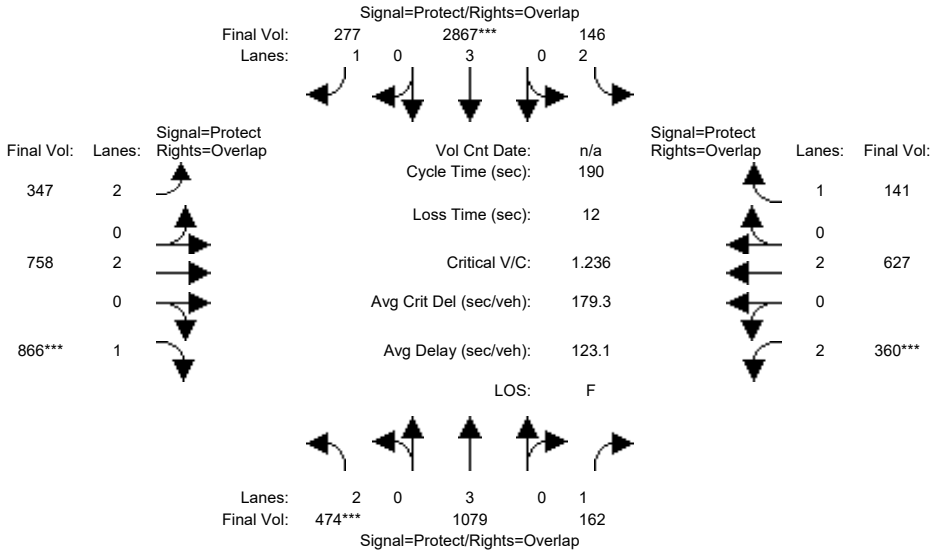
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5611: (5) Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	474	1610	162	146	3584	277	347	758	866	360	627	141
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	474	1610	162	146	3584	277	347	758	866	360	627	141
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	474	1610	162	146	3584	277	347	758	866	360	627	141
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	474	1079	162	146	2867	277	347	758	866	360	627	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	474	1079	162	146	2867	277	347	758	866	360	627	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	474	1079	162	146	2867	277	347	758	866	360	627	141
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.09	0.05	0.50	0.16	0.11	0.20	0.54	0.11	0.17	0.08
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	1.30	0.42	0.16	0.59	1.21	0.28	0.74	0.72	1.37	0.90	0.65	0.24
Delay/Veh:	237.6	29.4	11.6	88.1	162	28.6	83.2	64.0	234.0	105.4	64.6	46.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	237.6	29.4	11.6	88.1	162	28.6	83.2	64.0	234.0	105.4	64.6	46.0
LOS by Move:	F	C	B	F	F	C	F	E	F	F	E	D
HCM2k95thQ:	43	20	5	10	114	21	23	34	128	22	26	11

Note: Queue reported is the number of cars per lane.

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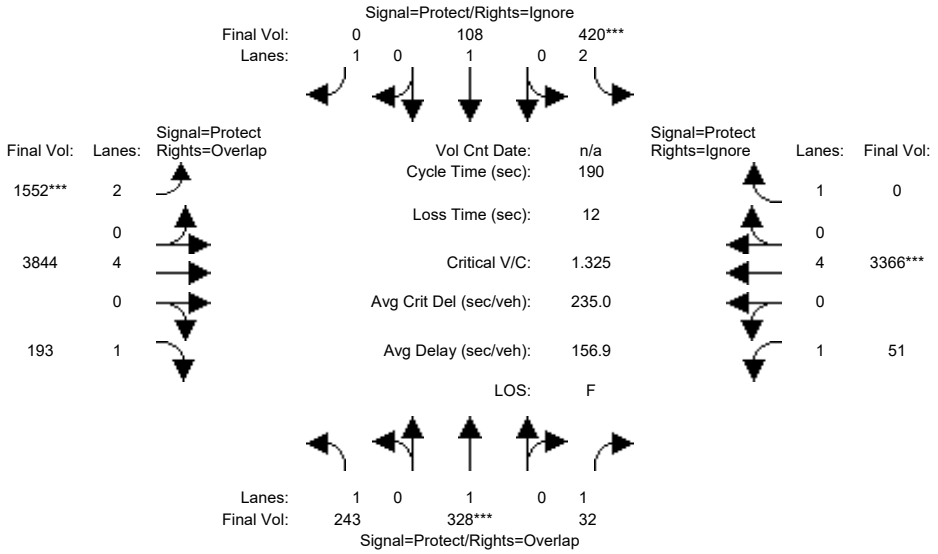
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	243	328	32	420	108	589	1552	3844	193	51	3366	633
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	243	328	32	420	108	589	1552	3844	193	51	3366	633
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	243	328	32	420	108	589	1552	3844	193	51	3366	633
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	243	328	32	420	108	0	1552	3844	193	51	3366	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	243	328	32	420	108	0	1552	3844	193	51	3366	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	243	328	32	420	108	0	1552	3844	193	51	3366	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.17	0.02	0.13	0.06	0.00	0.49	0.51	0.11	0.03	0.44	0.00
Crit Moves:		****		****			****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.82	1.02	0.08	2.11	0.90	0.00	1.56	0.79	0.14	0.46	1.14	0.00
Delay/Veh:	93.3	136	57.2	605.6	141	0.0	342.0	55.0	14.8	92.8	149	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	93.3	136	57.2	605.6	141	0.0	342.0	55.0	14.8	92.8	149	0.0
LOS by Move:	F	F	E	F	F	A	F	D	B	F	F	A
HCM2k95thQ:	29	40	3	51	16	0	141	79	16	7	95	0

Note: Queue reported is the number of cars per lane.

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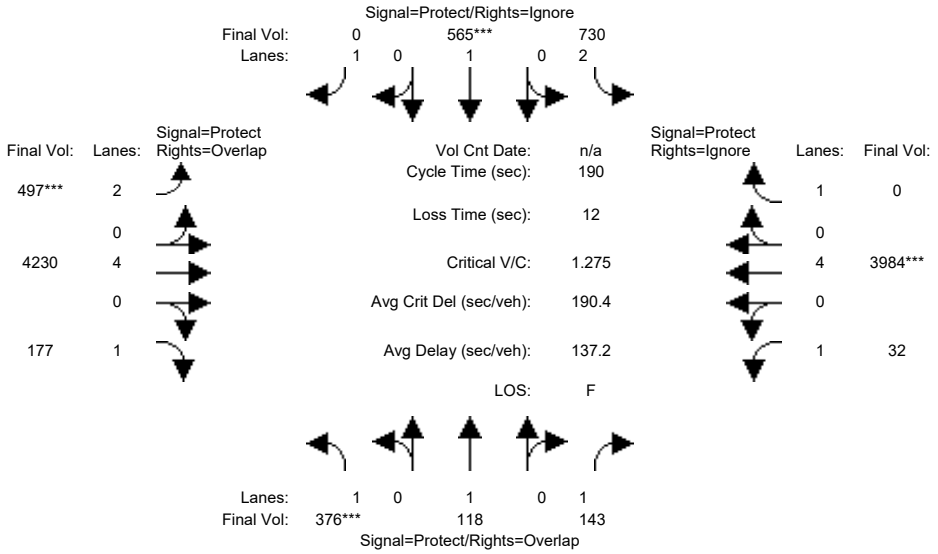
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	376	118	143	730	565	1205	497	4230	177	32	3984	238
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	376	118	143	730	565	1205	497	4230	177	32	3984	238
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	376	118	143	730	565	1205	497	4230	177	32	3984	238
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	376	118	143	730	565	0	497	4230	177	32	3984	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	376	118	143	730	565	0	497	4230	177	32	3984	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	376	118	143	730	565	0	497	4230	177	32	3984	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.21	0.06	0.08	0.23	0.30	0.00	0.16	0.56	0.10	0.02	0.52	0.00
Crit Moves:	****				****		****				****	
Green Time:	31.0	27.5	35.6	46.5	43.0	0.0	24.0	95.8	126.9	8.2	80.0	0.0
Volume/Cap:	1.32	0.43	0.44	0.95	1.32	0.00	1.25	1.10	0.15	0.43	1.25	0.00
Delay/Veh:	244.0	75.2	69.2	90.9	231	0.0	214.4	86.8	4.5	92.5	177	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	244.0	75.2	69.2	90.9	231	0.0	214.4	86.8	4.5	92.5	177	0.0
LOS by Move:	F	E	E	F	F	A	F	F	A	F	F	A
HCM2k95thQ:	58	12	15	47	77	0	44	113	3	5	123	0

Note: Queue reported is the number of cars per lane.

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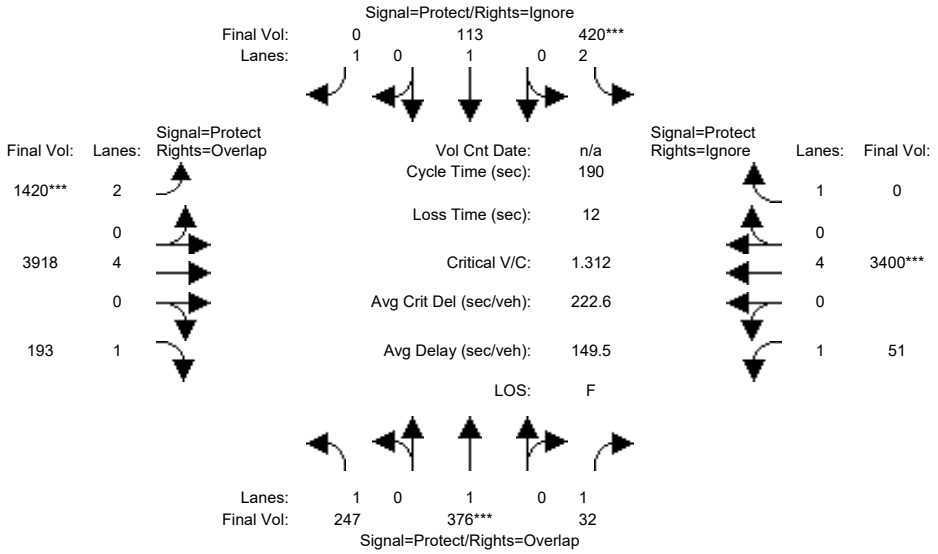
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	32	32	32	12	12	12	60	122	122	12	74	74
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	247	376	32	420	113	562	1420	3918	193	51	3400	633
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	247	376	32	420	113	562	1420	3918	193	51	3400	633
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	376	32	420	113	562	1420	3918	193	51	3400	633
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	247	376	32	420	113	0	1420	3918	193	51	3400	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	376	32	420	113	0	1420	3918	193	51	3400	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	247	376	32	420	113	0	1420	3918	193	51	3400	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.20	0.02	0.13	0.06	0.00	0.45	0.52	0.11	0.03	0.45	0.00
Crit Moves:		****		****			****				****	
Green Time:	32.0	32.0	44.0	12.0	12.0	0.0	60.0	122	154.0	12.0	74.0	0.0
Volume/Cap:	0.84	1.18	0.08	2.11	0.94	0.00	1.43	0.80	0.14	0.46	1.15	0.00
Delay/Veh:	95.1	186	57.2	605.6	153	0.0	283.2	56.2	14.8	92.8	154	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	95.1	186	57.2	605.6	153	0.0	283.2	56.2	14.8	92.8	154	0.0
LOS by Move:	F	F	E	F	F	A	F	E	B	F	F	A
HCM2k95thQ:	30	50	3	51	17	0	121	81	16	7	97	0

Note: Queue reported is the number of cars per lane.

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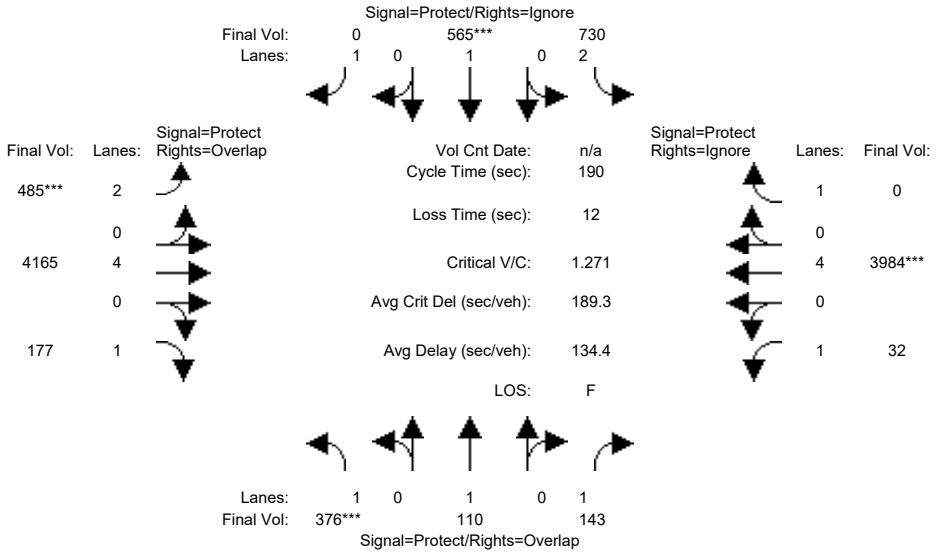
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5805: (32) MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	376	110	143	730	565	1236	485	4165	177	32	3984	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	376	110	143	730	565	1236	485	4165	177	32	3984	235
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	376	110	143	730	565	1236	485	4165	177	32	3984	235
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	376	110	143	730	565	0	485	4165	177	32	3984	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	376	110	143	730	565	0	485	4165	177	32	3984	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	376	110	143	730	565	0	485	4165	177	32	3984	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.21	0.06	0.08	0.23	0.30	0.00	0.15	0.55	0.10	0.02	0.52	0.00
Crit Moves:	****				****		****				****	
Green Time:	31.0	27.5	35.7	46.5	43.0	0.0	24.0	95.7	126.8	8.3	80.0	0.0
Volume/Cap:	1.32	0.40	0.43	0.95	1.32	0.00	1.22	1.09	0.15	0.42	1.25	0.00
Delay/Veh:	244.0	74.7	69.1	90.9	231	0.0	202.3	80.5	4.5	92.2	177	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	244.0	74.7	69.1	90.9	231	0.0	202.3	80.5	4.5	92.2	177	0.0
LOS by Move:	F	E	E	F	F	A	F	F	A	F	F	A
HCM2k95thQ:	58	11	15	47	77	0	42	110	3	5	123	0

Note: Queue reported is the number of cars per lane.

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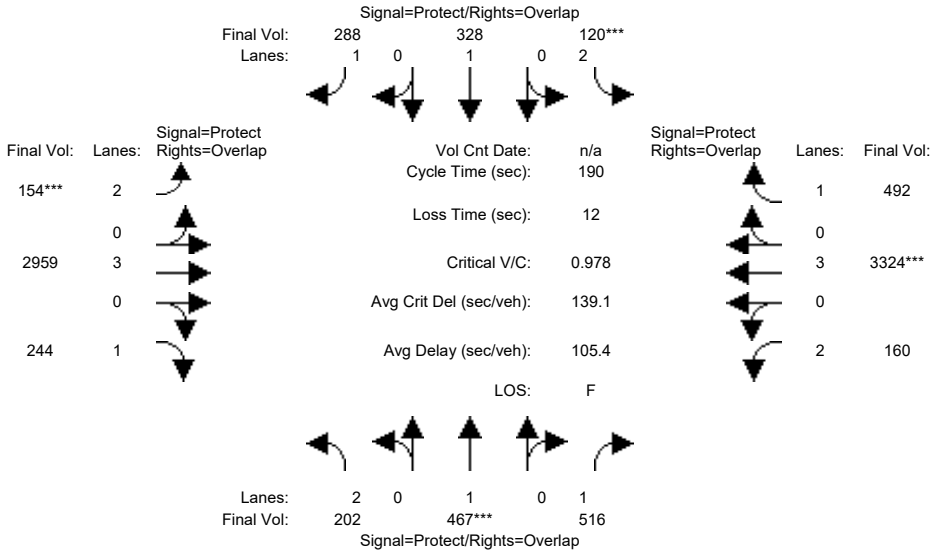
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	202	467	516	120	328	288	154	3401	244	160	3821	492
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	202	467	516	120	328	288	154	3401	244	160	3821	492
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	202	467	516	120	328	288	154	3401	244	160	3821	492
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	202	467	516	120	328	288	154	2959	244	160	3324	492
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	202	467	516	120	328	288	154	2959	244	160	3324	492
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	202	467	516	120	328	288	154	2959	244	160	3324	492
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.25	0.29	0.04	0.17	0.16	0.05	0.52	0.14	0.05	0.58	0.28
Crit Moves:		****		****			****				****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.50	0.95	0.88	0.55	0.88	0.59	0.58	1.08	0.23	0.65	1.23	0.52
Delay/Veh:	78.0	97.4	73.1	88.7	94.3	60.6	87.0	94.4	17.1	91.2	149	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.0	97.4	73.1	88.7	94.3	60.6	87.0	94.4	17.1	91.2	149	19.9
LOS by Move:	E	F	E	F	F	E	F	F	B	F	F	B
HCM2k95thQ:	13	48	53	10	36	30	11	104	13	12	134	24

Note: Queue reported is the number of cars per lane.

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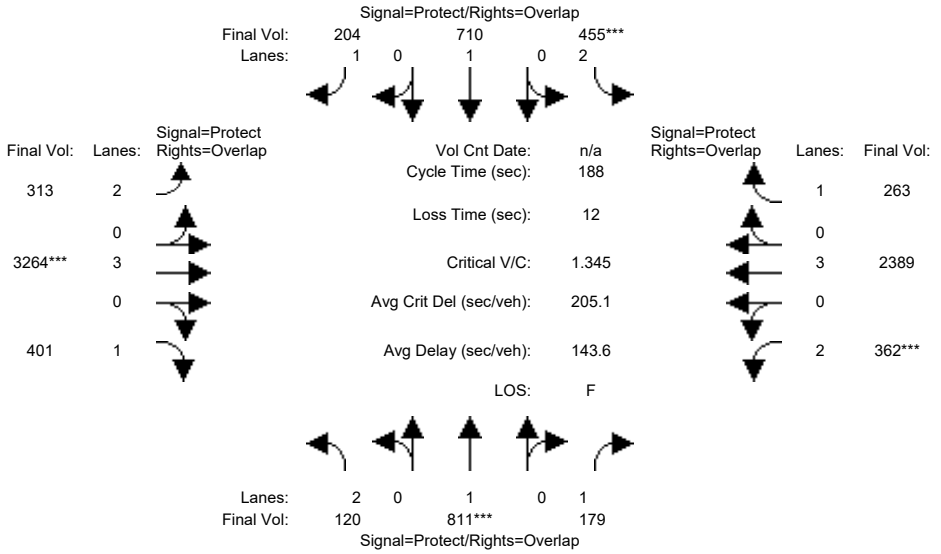
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	120	811	179	455	710	204	313	4080	401	362	3513	263
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	120	811	179	455	710	204	313	4080	401	362	3513	263
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	120	811	179	455	710	204	313	4080	401	362	3513	263
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	120	811	179	455	710	204	313	3264	401	362	2389	263
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	811	179	455	710	204	313	3264	401	362	2389	263
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	120	811	179	455	710	204	313	3264	401	362	2389	263
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.43	0.10	0.14	0.37	0.12	0.10	0.57	0.23	0.11	0.42	0.15
Crit Moves:		****		****				****		****		
Green Time:	12.0	49.0	71.0	20.0	57.0	79.0	22.0	85.0	97.0	22.0	85.0	105.0
Volume/Cap:	0.60	1.64	0.27	1.36	1.23	0.28	0.85	1.27	0.44	0.98	0.93	0.27
Delay/Veh:	90.5	366	40.8	263.3	185	36.0	98.1	166	21.5	124.7	64.1	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.5	366	40.8	263.3	185	36.0	98.1	166	21.5	124.7	64.1	28.7
LOS by Move:	F	F	D	F	F	D	F	F	C	F	E	C
HCM2k95thQ:	8	126	14	43	88	15	23	135	20	29	73	20

Note: Queue reported is the number of cars per lane.

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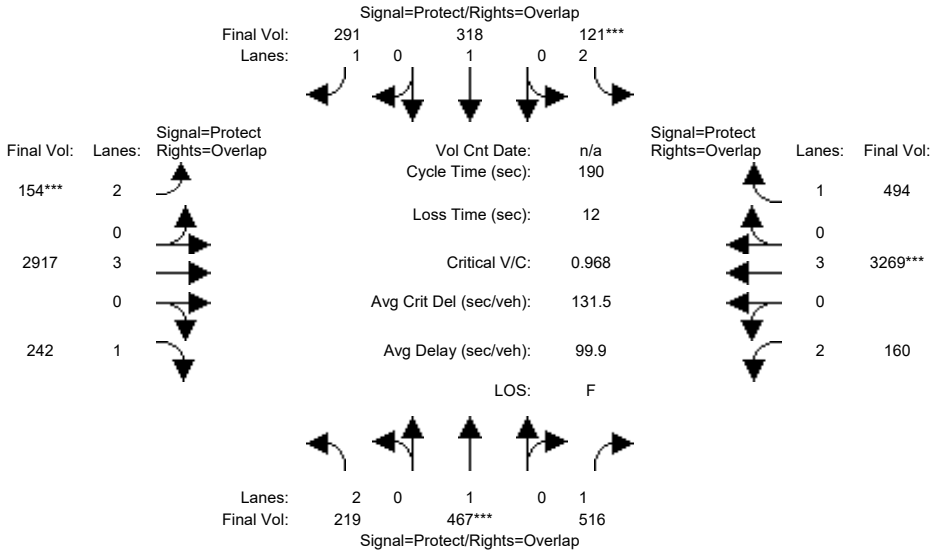
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	10	10	14	10	10	14	100	10	14	100	10
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	219	467	516	121	318	291	154	3353	242	160	3757	494
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	219	467	516	121	318	291	154	3353	242	160	3757	494
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	219	467	516	121	318	291	154	3353	242	160	3757	494
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	219	467	516	121	318	291	154	2917	242	160	3269	494
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	467	516	121	318	291	154	2917	242	160	3269	494
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	219	467	516	121	318	291	154	2917	242	160	3269	494
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.25	0.29	0.04	0.17	0.17	0.05	0.51	0.14	0.05	0.57	0.28
Crit Moves:		****		****			****				****	
Green Time:	24.5	49.2	64.0	13.1	37.4	53.4	16.0	91.0	115.5	14.8	89.8	102.9
Volume/Cap:	0.54	0.95	0.88	0.56	0.85	0.59	0.58	1.07	0.23	0.65	1.21	0.52
Delay/Veh:	78.9	97.4	73.1	88.9	90.3	60.8	87.0	88.5	17.1	91.2	140	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.9	97.4	73.1	88.9	90.3	60.8	87.0	88.5	17.1	91.2	140	19.9
LOS by Move:	E	F	E	F	F	E	F	F	B	F	F	B
HCM2k95thQ:	14	48	53	10	34	30	11	101	13	12	130	24

Note: Queue reported is the number of cars per lane.

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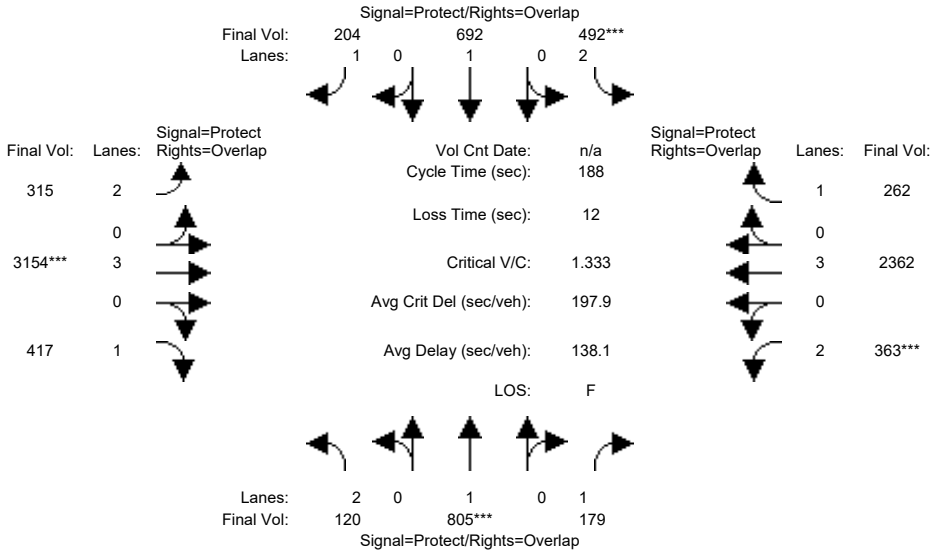
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5806: (45) DE LA CRUZ BL / MONTAGUE EXP



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	12	39	39	20	46	46	22	85	85	22	85	85
Y+R:	5.6	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	120	805	179	492	692	204	315	3942	417	363	3473	262
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	120	805	179	492	692	204	315	3942	417	363	3473	262
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	120	805	179	492	692	204	315	3942	417	363	3473	262
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	1.00	1.00	0.68	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	120	805	179	492	692	204	315	3154	417	363	2362	262
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	805	179	492	692	204	315	3154	417	363	2362	262
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	120	805	179	492	692	204	315	3154	417	363	2362	262
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	1.00	1.00	2.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	1900	1750	3150	1900	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.42	0.10	0.16	0.36	0.12	0.10	0.55	0.24	0.12	0.41	0.15
Crit Moves:		****		****				****		****		
Green Time:	12.0	49.0	71.0	20.0	57.0	79.0	22.0	85.0	97.0	22.0	85.0	105.0
Volume/Cap:	0.60	1.63	0.27	1.47	1.20	0.28	0.85	1.22	0.46	0.98	0.92	0.27
Delay/Veh:	90.5	360	40.8	310.4	172	36.0	98.8	147	21.8	125.5	62.9	28.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.5	360	40.8	310.4	172	36.0	98.8	147	21.8	125.5	62.9	28.6
LOS by Move:	F	F	D	F	F	D	F	F	C	F	E	C
HCM2k95thQ:	8	124	14	48	84	15	23	126	21	29	71	20

Note: Queue reported is the number of cars per lane.

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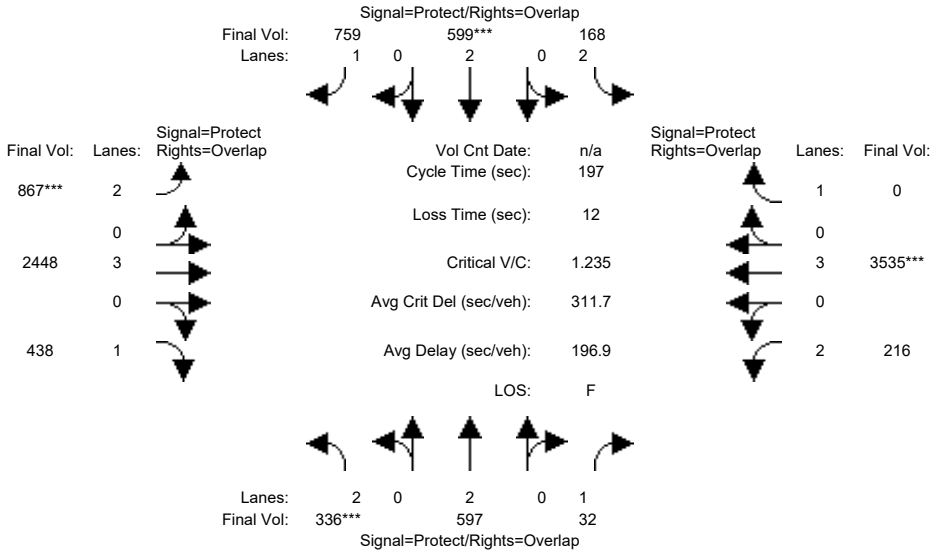
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	336	597	32	168	599	759	867	2814	438	216	4063	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	336	597	32	168	599	759	867	2814	438	216	4063	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	336	597	32	168	599	759	867	2814	438	216	4063	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	336	597	32	168	599	759	867	2448	438	216	3535	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	336	597	32	168	599	759	867	2448	438	216	3535	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	336	597	32	168	599	759	867	2448	438	216	3535	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.16	0.02	0.05	0.16	0.43	0.28	0.43	0.25	0.07	0.62	0.00
Crit Moves:	****				****		****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	1.31	0.74	0.07	0.47	0.64	1.04	1.59	0.88	0.44	1.06	1.63	0.00
Delay/Veh:	253.2	75.8	52.3	82.7	68.2	100.9	357.7	48.8	24.6	173.0	347	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	253.2	75.8	52.3	82.7	68.2	100.9	357.7	48.8	24.6	173.0	347	0.0
LOS by Move:	F	E	D	F	E	F	F	D	C	F	F	A
HCM2k95thQ:	31	29	3	12	28	87	82	68	27	16	183	0

Note: Queue reported is the number of cars per lane.

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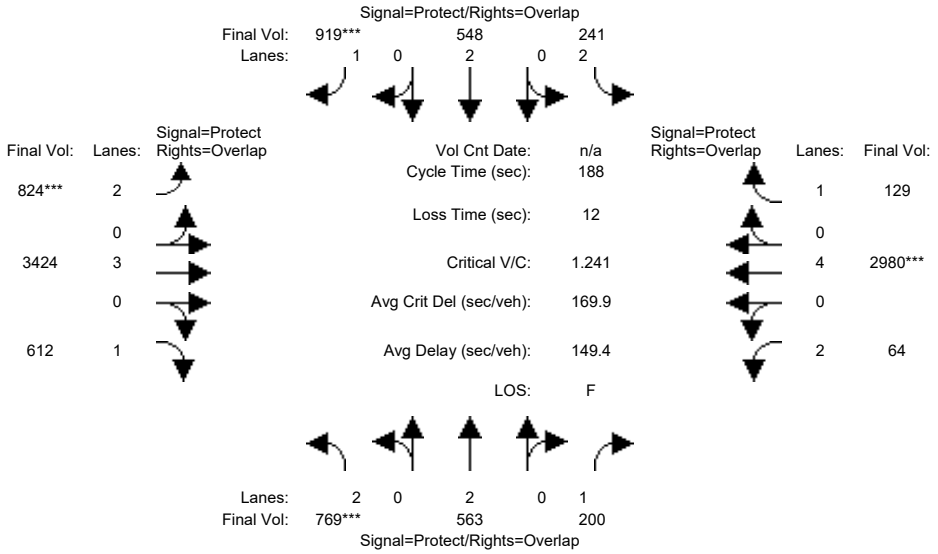
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	769	563	200	241	548	919	824	4447	612	64	2980	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	769	563	200	241	548	919	824	4447	612	64	2980	129
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	769	563	200	241	548	919	824	4447	612	64	2980	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	769	563	200	241	548	919	824	3424	612	64	2980	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	769	563	200	241	548	919	824	3424	612	64	2980	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	769	563	200	241	548	919	824	3424	612	64	2980	129
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.15	0.11	0.08	0.14	0.53	0.26	0.60	0.35	0.02	0.39	0.07
Crit Moves:	****					****	****				****	
Green Time:	35.2	39.8	49.8	33.5	48.0	85.7	37.7	92.7	128.0	10.0	65.0	98.5
Volume/Cap:	1.30	0.70	0.43	0.43	0.56	1.15	1.30	1.22	0.51	0.38	1.13	0.14
Delay/Veh:	224.7	71.4	58.0	69.3	61.7	133.5	235.3	180	36.1	90.7	149	40.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	224.7	71.4	58.0	69.3	61.7	133.5	235.3	180	36.1	90.7	149	40.0
LOS by Move:	F	E	E	E	E	F	F	F	D	F	F	D
HCM2k95thQ:	62	26	18	14	24	112	65	132	50	4	81	12

Note: Queue reported is the number of cars per lane.

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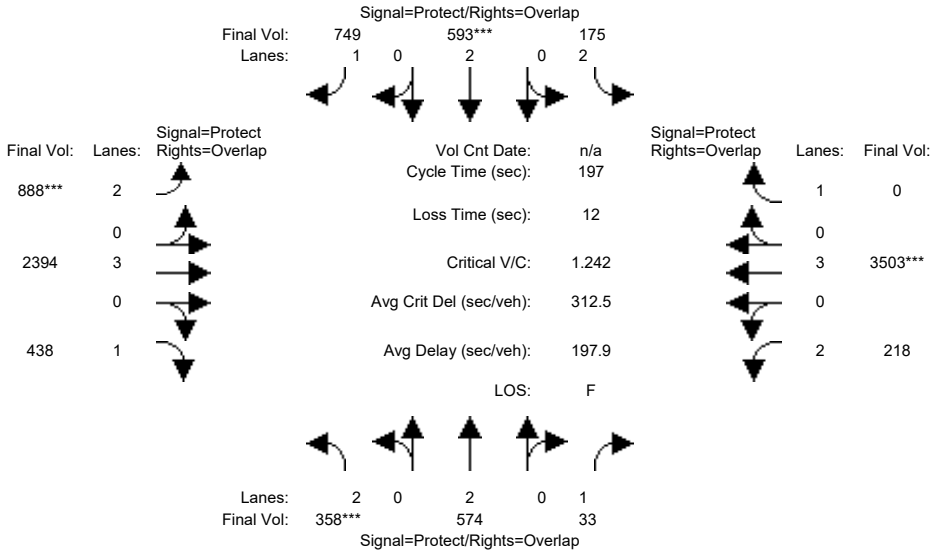
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	358	574	33	175	593	749	888	2752	438	218	4026	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	358	574	33	175	593	749	888	2752	438	218	4026	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	358	574	33	175	593	749	888	2752	438	218	4026	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	358	574	33	175	593	749	888	2394	438	218	3503	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	358	574	33	175	593	749	888	2394	438	218	3503	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	358	574	33	175	593	749	888	2394	438	218	3503	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.15	0.02	0.06	0.16	0.43	0.28	0.42	0.25	0.07	0.61	0.00
Crit Moves:	****				****		****				****	
Green Time:	16.1	42.1	54.8	22.4	48.3	82.3	34.0	96.2	112.3	12.7	74.9	0.0
Volume/Cap:	1.39	0.71	0.07	0.49	0.64	1.02	1.63	0.86	0.44	1.07	1.62	0.00
Delay/Veh:	288.5	74.6	52.4	83.0	68.0	97.0	374.8	47.4	24.6	176.0	341	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	288.5	74.6	52.4	83.0	68.0	97.0	374.8	47.4	24.6	176.0	341	0.0
LOS by Move:	F	E	D	F	E	F	F	D	C	F	F	A
HCM2k95thQ:	35	28	3	12	28	85	86	65	27	16	180	0

Note: Queue reported is the number of cars per lane.

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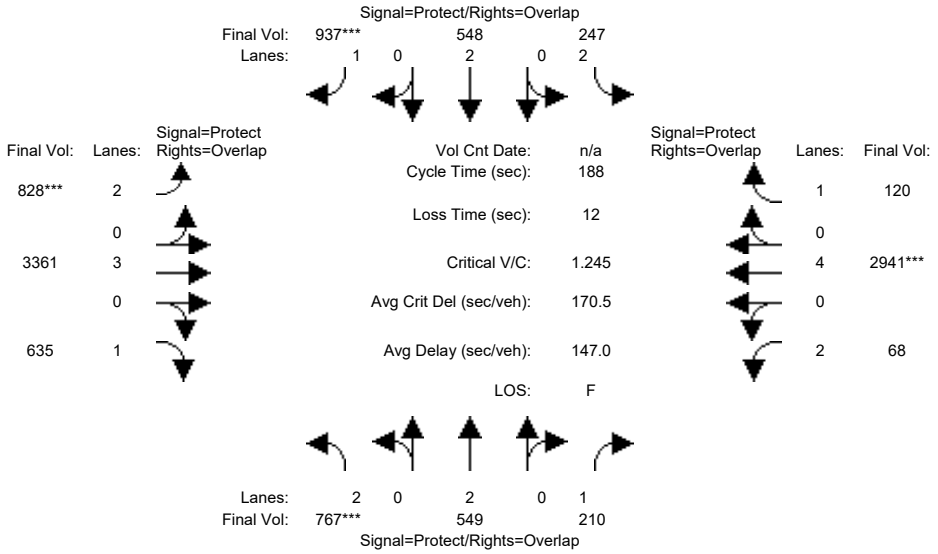
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5807: (47) MONTAGUE EXPWY/FIRST STREET



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	22	38	38	32	48	48	29	84	84	10	65	65
Y+R:	6.2	5.8	5.8	6.2	5.8	5.8	5.9	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	767	549	210	247	548	937	828	4365	635	68	2941	120
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	767	549	210	247	548	937	828	4365	635	68	2941	120
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	767	549	210	247	548	937	828	4365	635	68	2941	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	767	549	210	247	548	937	828	3361	635	68	2941	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	767	549	210	247	548	937	828	3361	635	68	2941	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	767	549	210	247	548	937	828	3361	635	68	2941	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	3800	1750	3150	3800	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.14	0.12	0.08	0.14	0.54	0.26	0.59	0.36	0.02	0.39	0.07
Crit Moves:	****					****	****				****	
Green Time:	34.7	39.9	49.9	33.6	48.0	85.5	37.5	92.5	127.2	10.0	65.0	98.6
Volume/Cap:	1.32	0.68	0.45	0.44	0.56	1.18	1.32	1.20	0.54	0.41	1.12	0.13
Delay/Veh:	232.1	70.5	58.3	69.3	61.7	144.2	242.4	172	37.5	91.0	143	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	232.1	70.5	58.3	69.3	61.7	144.2	242.4	172	37.5	91.0	143	39.7
LOS by Move:	F	E	E	E	E	F	F	F	D	F	F	D
HCM2k95thQ:	63	26	19	15	24	117	66	127	52	5	79	11

Note: Queue reported is the number of cars per lane.

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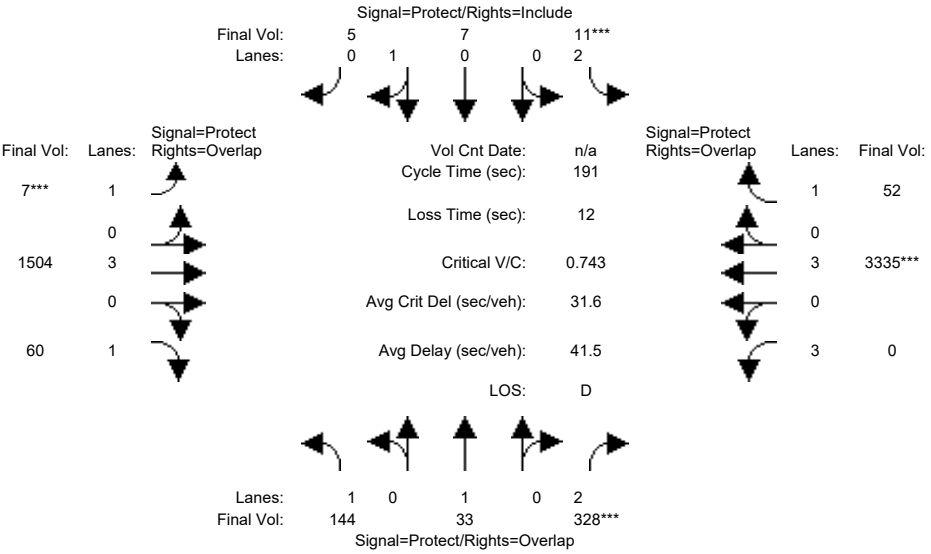
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	144	33	377	11	7	5	7	1729	60	0	3833	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	144	33	377	11	7	5	7	1729	60	0	3833	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	33	377	11	7	5	7	1729	60	0	3833	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	144	33	328	11	7	5	7	1504	60	0	3335	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	144	33	328	11	7	5	7	1504	60	0	3335	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	144	33	328	11	7	5	7	1504	60	0	3335	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.02	0.10	0.00	0.01	0.01	0.00	0.26	0.03	0.00	0.59	0.03
Crit Moves:			****	****			****				****	
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	0.92	0.15	0.22	0.11	0.09	0.09	0.08	0.76	0.08	0.00	0.90	0.04
Delay/Veh:	135.0	76.6	29.6	90.3	82.4	82.4	86.4	57.1	31.4	0.0	31.5	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	135.0	76.6	29.6	90.3	82.4	82.4	86.4	57.1	31.4	0.0	31.5	10.0
LOS by Move:	F	E	C	F	F	F	F	E	C	A	C	A
HCM2k95thQ:	19	3	12	1	1	1	1	42	4	0	78	2

Note: Queue reported is the number of cars per lane.

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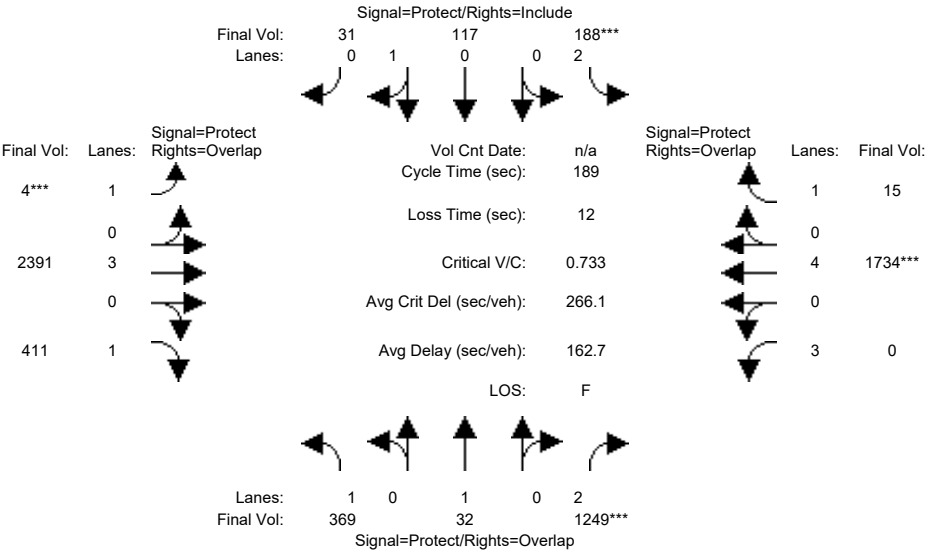
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	369	32	1523	188	117	31	4	3027	411	0	1734	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	369	32	1523	188	117	31	4	3027	411	0	1734	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	369	32	1523	188	117	31	4	3027	411	0	1734	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	369	32	1249	188	117	31	4	2391	411	0	1734	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	369	32	1249	188	117	31	4	2391	411	0	1734	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	369	32	1249	188	117	31	4	2391	411	0	1734	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.21	0.02	0.40	0.06	0.08	0.08	0.00	0.42	0.23	0.00	0.23	0.01
Crit Moves:			****	****			****				****	
Green Time:	24.0	34.0	34.0	25.0	35.0	35.0	7.0	118	142.0	0.0	111	136.0
Volume/Cap:	1.66	0.09	2.20	0.45	0.44	0.44	0.06	0.67	0.31	0.00	0.39	0.01
Delay/Veh:	398.9	64.8	625.0	76.4	69.3	69.3	88.2	23.5	7.8	0.0	28.6	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	398.9	64.8	625.0	76.4	69.3	69.3	88.2	23.5	7.8	0.0	28.6	12.9
LOS by Move:	F	E	F	E	E	E	F	C	A	A	C	B
HCM2k95thQ:	66	3	138	12	15	15	0	45	15	0	29	1

Note: Queue reported is the number of cars per lane.

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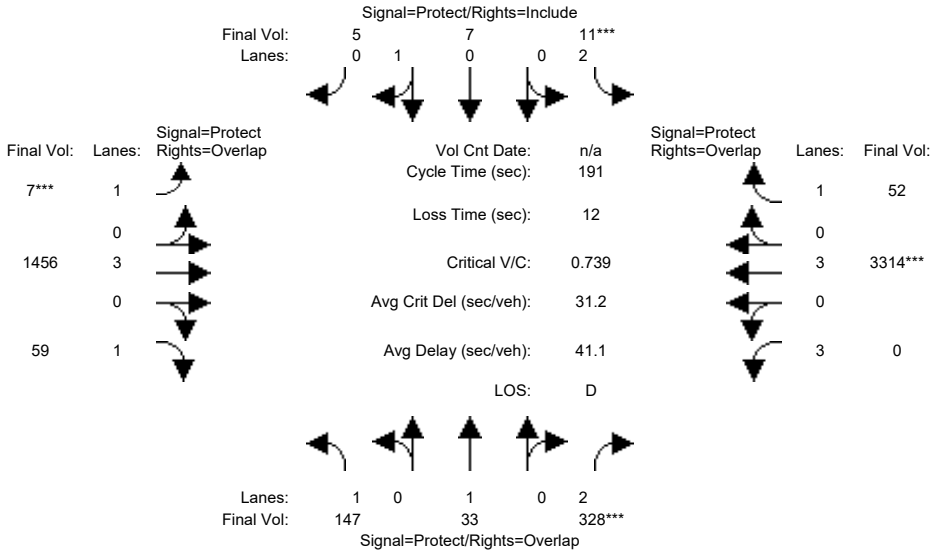
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	94	10	7	100	10
Y+R:	5.8	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	147	33	377	11	7	5	7	1673	59	0	3809	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	33	377	11	7	5	7	1673	59	0	3809	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	33	377	11	7	5	7	1673	59	0	3809	52
User Adj:	1.00	1.00	0.87	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	147	33	328	11	7	5	7	1456	59	0	3314	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	33	328	11	7	5	7	1456	59	0	3314	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	147	33	328	11	7	5	7	1456	59	0	3314	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.58	0.42	1.00	3.00	1.00	3.00	3.00	1.00
Final Sat.:	1750	1900	3150	3150	1050	750	1750	5700	1750	4551	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.02	0.10	0.00	0.01	0.01	0.00	0.26	0.03	0.00	0.58	0.03
Crit Moves:			****	****			****				****	
Green Time:	17.1	21.8	90.5	6.1	14.5	14.5	10.1	66.3	83.4	68.7	124	130.3
Volume/Cap:	0.94	0.15	0.22	0.11	0.09	0.09	0.08	0.74	0.08	0.00	0.89	0.04
Delay/Veh:	140.2	76.6	29.6	90.3	82.4	82.4	86.4	56.1	31.4	0.0	31.1	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	140.2	76.6	29.6	90.3	82.4	82.4	86.4	56.1	31.4	0.0	31.1	10.0
LOS by Move:	F	E	C	F	F	F	F	E	C	A	C	A
HCM2k95thQ:	19	3	12	1	1	1	1	40	4	0	77	2

Note: Queue reported is the number of cars per lane.

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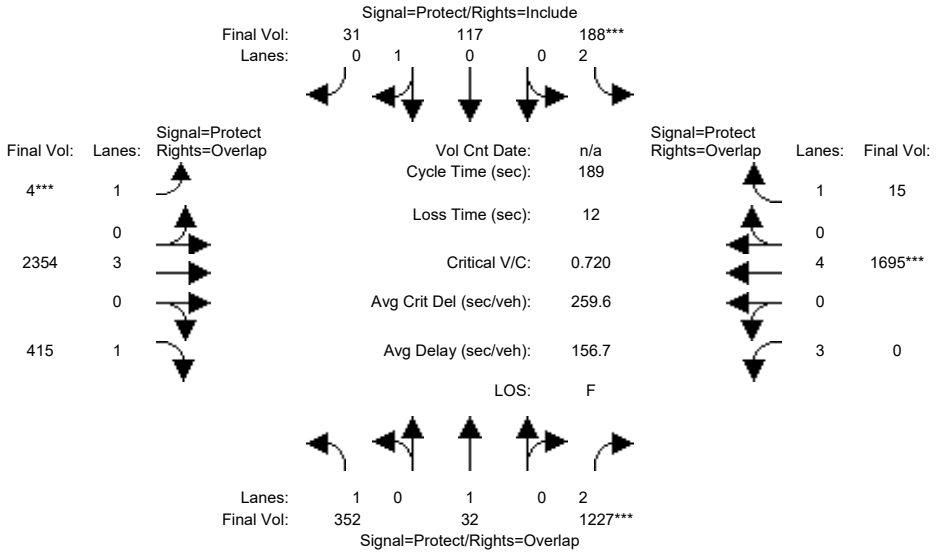
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5808: (49) TRIMBLE RD/MONTAGUE EXPWY



Street Name:	TRIMBLE RD						MONTAGUE EXPWY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	22	22	25	35	35	7	77	77	40	111	111
Y+R:	5.9	6.4	6.4	6.5	6.6	6.6	5.9	5.8	5.8	6.0	5.8	5.8
Volume Module:												
Base Vol:	352	32	1496	188	117	31	4	2980	415	0	1695	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	352	32	1496	188	117	31	4	2980	415	0	1695	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	352	32	1496	188	117	31	4	2980	415	0	1695	15
User Adj:	1.00	1.00	0.82	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	352	32	1227	188	117	31	4	2354	415	0	1695	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	352	32	1227	188	117	31	4	2354	415	0	1695	15
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	352	32	1227	188	117	31	4	2354	415	0	1695	15
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.83	0.83	0.95	0.95	0.92	1.00	0.92	0.80	1.00	0.92
Lanes:	1.00	1.00	2.00	2.00	0.79	0.21	1.00	3.00	1.00	3.00	4.00	1.00
Final Sat.:	1750	1900	3150	3150	1423	377	1750	5700	1750	4551	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.20	0.02	0.39	0.06	0.08	0.08	0.00	0.41	0.24	0.00	0.22	0.01
Crit Moves:			****	****			****				****	
Green Time:	24.0	34.0	34.0	25.0	35.0	35.0	7.0	118	142.0	0.0	111	136.0
Volume/Cap:	1.58	0.09	2.16	0.45	0.44	0.44	0.06	0.66	0.32	0.00	0.38	0.01
Delay/Veh:	365.7	64.8	607.5	76.4	69.3	69.3	88.2	23.2	7.8	0.0	28.5	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	365.7	64.8	607.5	76.4	69.3	69.3	88.2	23.2	7.8	0.0	28.5	12.9
LOS by Move:	F	E	F	E	E	E	F	C	A	A	C	B
HCM2k95thQ:	61	3	135	12	15	15	0	44	15	0	29	1

Note: Queue reported is the number of cars per lane.

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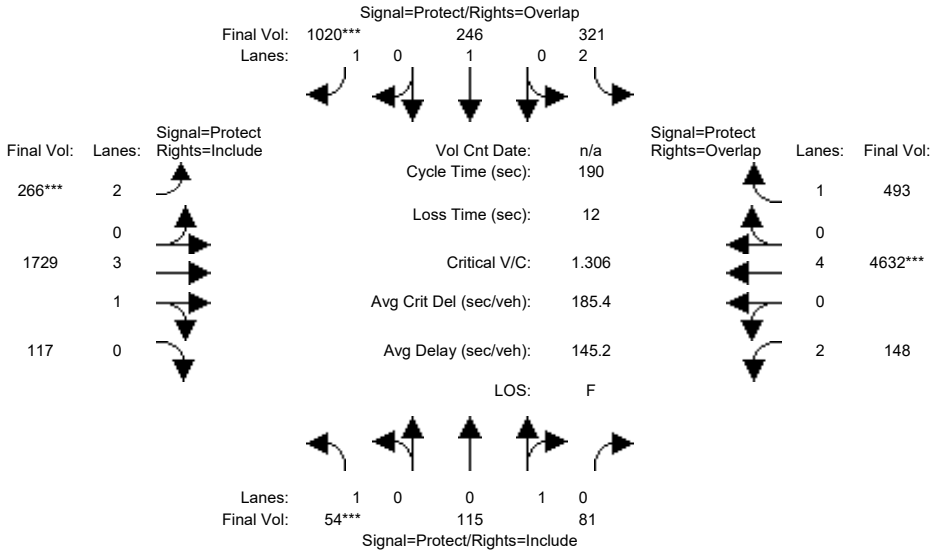
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:7:00-9:00												
Base Vol:	54	115	81	321	246	1020	266	1729	117	148	4632	493
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	115	81	321	246	1020	266	1729	117	148	4632	493
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	115	81	321	246	1020	266	1729	117	148	4632	493
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	115	81	321	246	1020	266	1729	117	148	4632	493
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	115	81	321	246	1020	266	1729	117	148	4632	493
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	115	81	321	246	1020	266	1729	117	148	4632	493
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.59	0.41	2.00	1.00	1.00	2.00	3.74	0.26	2.00	4.00	1.00
Final Sat.:	1750	1056	744	3150	1900	1750	3150	7024	475	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.10	0.13	0.58	0.08	0.25	0.25	0.05	0.61	0.28
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.44	0.72	0.72	1.63	0.89	2.35	0.82	0.42	0.42	0.55	1.08	0.45
Delay/Veh:	87.3	85.6	85.6	393.6	108	686.6	99.1	22.1	22.1	85.8	81.1	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.3	85.6	85.6	393.6	108	686.6	99.1	22.1	22.1	85.8	81.1	18.6
LOS by Move:	F	F	F	F	F	F	F	C	C	F	F	B
HCM2k95thQ:	7	23	23	34	27	209	17	25	25	11	120	27

Note: Queue reported is the number of cars per lane.

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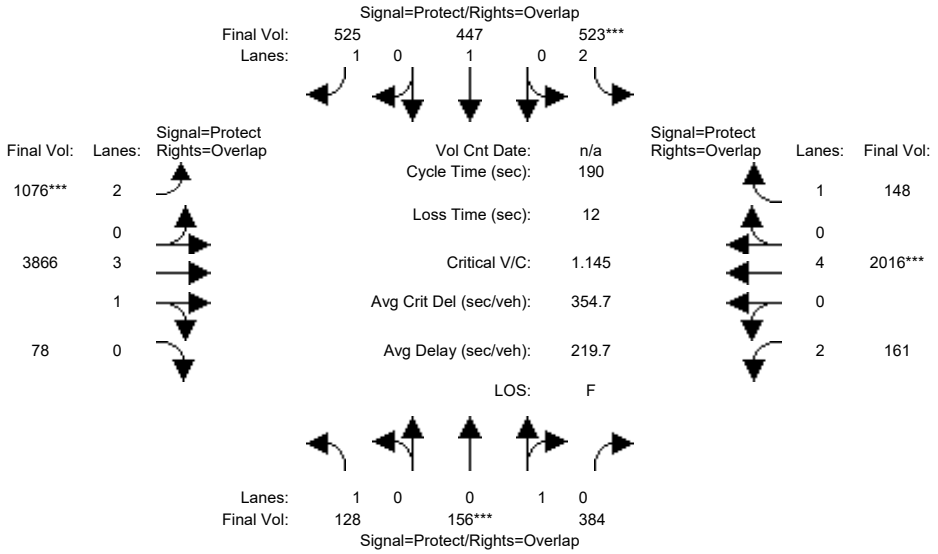
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	128	156	384	523	447	525	1076	3866	78	161	2016	148
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	128	156	384	523	447	525	1076	3866	78	161	2016	148
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	128	156	384	523	447	525	1076	3866	78	161	2016	148
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	128	156	384	523	447	525	1076	3866	78	161	2016	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	128	156	384	523	447	525	1076	3866	78	161	2016	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	128	156	384	523	447	525	1076	3866	78	161	2016	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.29	0.71	2.00	1.00	1.00	2.00	3.94	0.06	2.00	4.00	1.00
Final Sat.:	1750	520	1280	3150	1900	1750	3150	5542	112	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.30	0.30	0.17	0.24	0.30	0.34	0.70	0.70	0.05	0.27	0.08
Crit Moves:		****		****			****				****	
Green Time:	12.1	23.0	37.0	28.0	38.9	63.9	25.0	113	125.1	14.0	102	130.0
Volume/Cap:	1.15	2.48	1.54	1.13	1.15	0.89	2.60	1.17	1.06	0.69	0.49	0.12
Delay/Veh:	219.8	762	333.6	162.2	168	75.5	816.1	157	107.8	99.2	49.3	25.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	219.8	762	333.6	162.2	168	75.5	816.1	157	107.8	99.2	49.3	25.3
LOS by Move:	F	F	F	F	F	E	F	F	F	F	D	C
HCM2k95thQ:	23	112	88	40	54	53	127	113	131	13	41	13

Note: Queue reported is the number of cars per lane.

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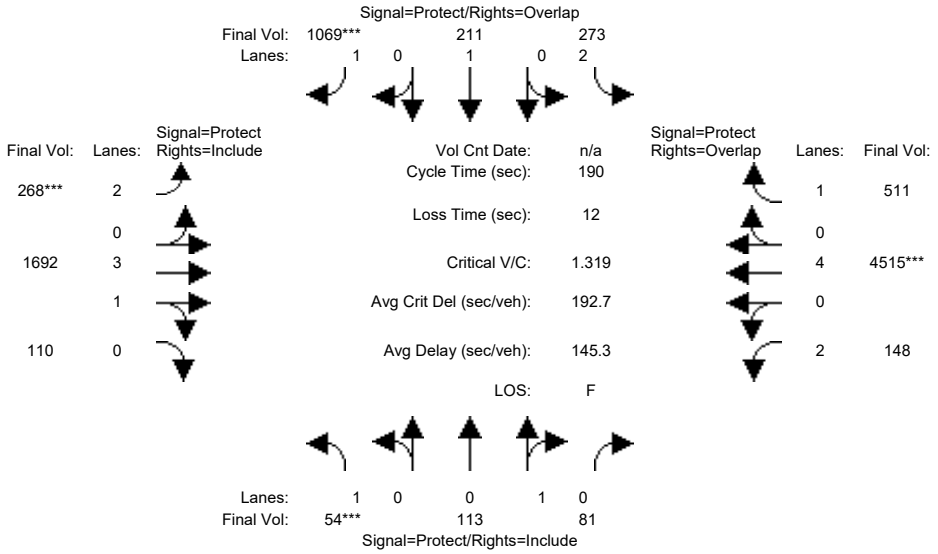
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	102	10	7	104	10
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:7:00-9:00												
Base Vol:	54	113	81	273	211	1069	268	1692	110	148	4515	511
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	113	81	273	211	1069	268	1692	110	148	4515	511
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	113	81	273	211	1069	268	1692	110	148	4515	511
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	54	113	81	273	211	1069	268	1692	110	148	4515	511
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	113	81	273	211	1069	268	1692	110	148	4515	511
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	54	113	81	273	211	1069	268	1692	110	148	4515	511
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92
Lanes:	1.00	0.58	0.42	2.00	1.00	1.00	2.00	3.75	0.25	2.00	4.00	1.00
Final Sat.:	1750	1048	752	3150	1900	1750	3150	7041	458	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.09	0.11	0.61	0.09	0.24	0.24	0.05	0.59	0.29
Crit Moves:	****					****	****				****	
Green Time:	13.3	28.8	28.8	11.9	27.6	47.1	19.5	111	110.5	16.2	108	119.4
Volume/Cap:	0.44	0.71	0.71	1.38	0.76	2.46	0.83	0.41	0.41	0.55	1.05	0.46
Delay/Veh:	87.3	85.1	85.1	290.3	90.0	737.2	99.8	22.0	22.0	85.8	70.5	18.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.3	85.1	85.1	290.3	90.0	737.2	99.8	22.0	22.0	85.8	70.5	18.8
LOS by Move:	F	F	F	F	F	F	F	C	C	F	E	B
HCM2k95thQ:	7	22	22	27	22	223	17	24	24	11	114	28

Note: Queue reported is the number of cars per lane.

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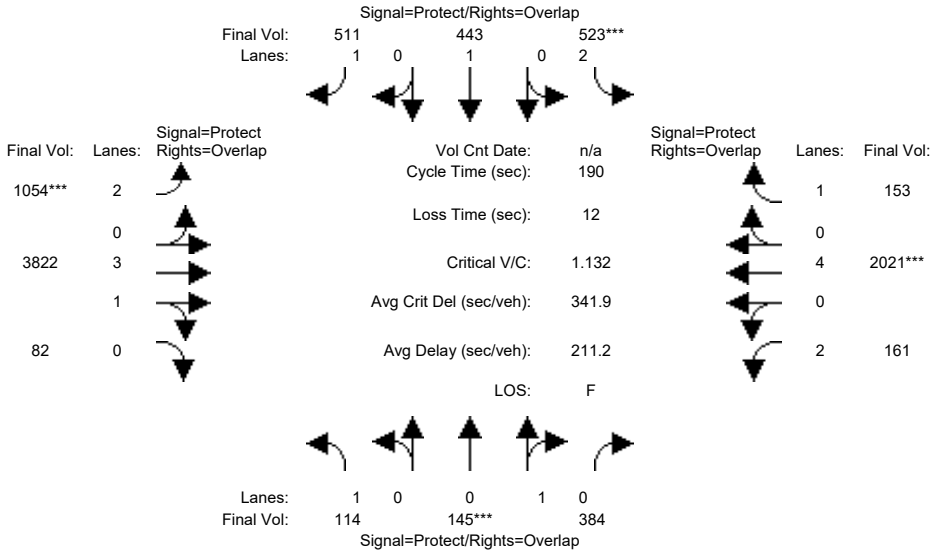
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5809: (50) MONTAGUE EXPWY/McCarthy Blvd-O'Toole Ave



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	23	23	28	40	40	15	103	103	14	102	102
Y+R:	5.2	5.5	5.5	5.5	5.5	5.5	5.6	5.8	5.8	5.9	5.8	5.8
Volume Module:												
Base Vol:	114	145	384	523	443	511	1054	3822	82	161	2021	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	145	384	523	443	511	1054	3822	82	161	2021	153
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	145	384	523	443	511	1054	3822	82	161	2021	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	145	384	523	443	511	1054	3822	82	161	2021	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	145	384	523	443	511	1054	3822	82	161	2021	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	145	384	523	443	511	1054	3822	82	161	2021	153
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.83	1.00	0.92	0.83	0.74	0.95	0.83	1.00	0.92
Lanes:	1.00	0.27	0.73	2.00	1.00	1.00	2.00	3.93	0.07	2.00	4.00	1.00
Final Sat.:	1750	493	1307	3150	1900	1750	3150	5537	119	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.29	0.17	0.23	0.29	0.33	0.69	0.69	0.05	0.27	0.09
Crit Moves:		****		****			****				****	
Green Time:	11.1	23.0	37.0	28.0	39.9	64.9	25.0	113	124.1	14.0	102	130.0
Volume/Cap:	1.11	2.43	1.51	1.13	1.11	0.86	2.54	1.16	1.06	0.69	0.50	0.13
Delay/Veh:	211.4	740	319.9	162.2	154	69.8	792.3	152	106.9	99.2	49.3	25.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	211.4	740	319.9	162.2	154	69.8	792.3	152	106.9	99.2	49.3	25.4
LOS by Move:	F	F	F	F	F	E	F	F	F	F	D	C
HCM2k95thQ:	21	109	85	40	52	50	124	110	130	13	41	14

Note: Queue reported is the number of cars per lane.

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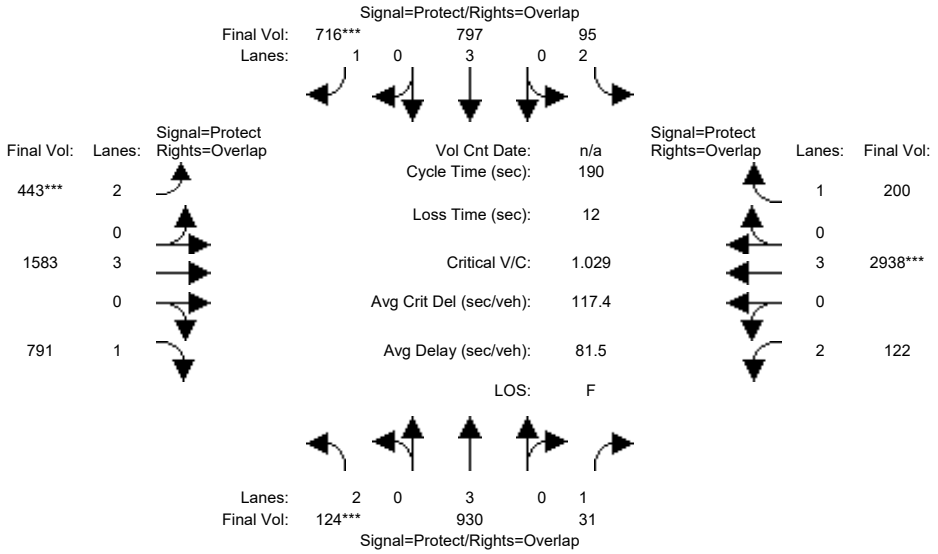
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	930	31	95	797	716	443	1819	791	122	3377	200
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	930	31	95	797	716	443	1819	791	122	3377	200
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	930	31	95	797	716	443	1819	791	122	3377	200
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	930	31	95	797	716	443	1583	791	122	2938	200
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	930	31	95	797	716	443	1583	791	122	2938	200
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	930	31	95	797	716	443	1583	791	122	2938	200
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.02	0.03	0.14	0.41	0.14	0.28	0.45	0.04	0.52	0.11
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.48	0.82	0.07	0.45	0.75	1.21	0.91	0.50	0.71	0.68	1.11	0.22
Delay/Veh:	84.7	77.3	53.5	86.7	76.4	170.3	100.5	25.7	24.4	98.2	108	23.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	77.3	53.5	86.7	76.4	170.3	100.5	25.7	24.4	98.2	108	23.8
LOS by Move:	F	E	D	F	E	F	F	C	C	F	F	C
HCM2k95thQ:	8	31	3	6	26	93	27	30	49	10	107	12

Note: Queue reported is the number of cars per lane.

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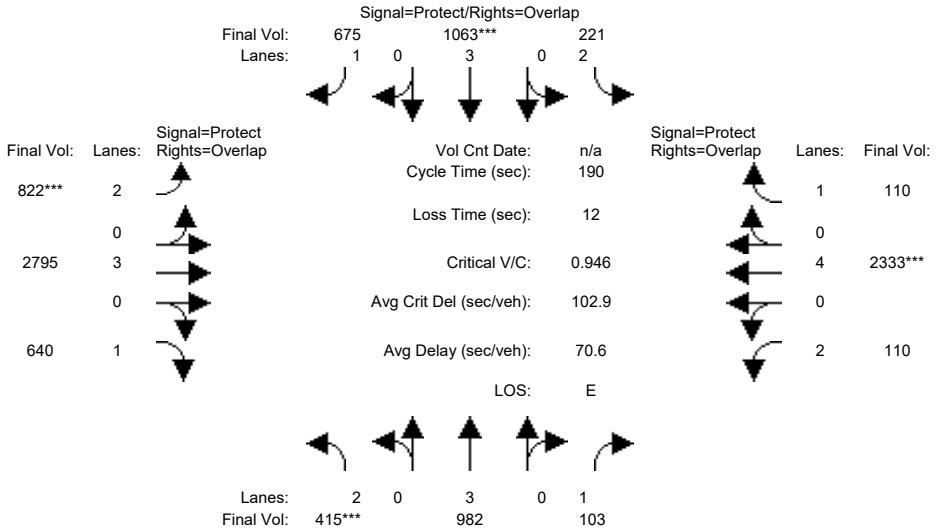
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	415	982	103	221	1063	675	822	3450	640	110	2333	110
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	415	982	103	221	1063	675	822	3450	640	110	2333	110
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	415	982	103	221	1063	675	822	3450	640	110	2333	110
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	415	982	103	221	1063	675	822	2795	640	110	2333	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	415	982	103	221	1063	675	822	2795	640	110	2333	110
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	415	982	103	221	1063	675	822	2795	640	110	2333	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.17	0.06	0.07	0.19	0.39	0.26	0.49	0.37	0.03	0.31	0.06
Crit Moves:	****				****		****				****	
Green Time:	20.0	48.0	60.0	13.0	41.0	80.0	39.0	105	125.0	12.0	78.0	91.0
Volume/Cap:	1.25	0.68	0.19	1.03	0.86	0.92	1.27	0.89	0.56	0.55	0.75	0.13
Delay/Veh:	220.7	65.5	47.4	156.6	78.4	68.0	209.5	28.7	7.9	89.7	55.6	33.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	220.7	65.5	47.4	156.6	78.4	68.0	209.5	28.7	7.9	89.7	55.6	33.5
LOS by Move:	F	E	D	F	E	E	F	C	A	F	E	C
HCM2k95thQ:	36	29	9	18	35	66	62	60	17	9	50	9

Note: Queue reported is the number of cars per lane.

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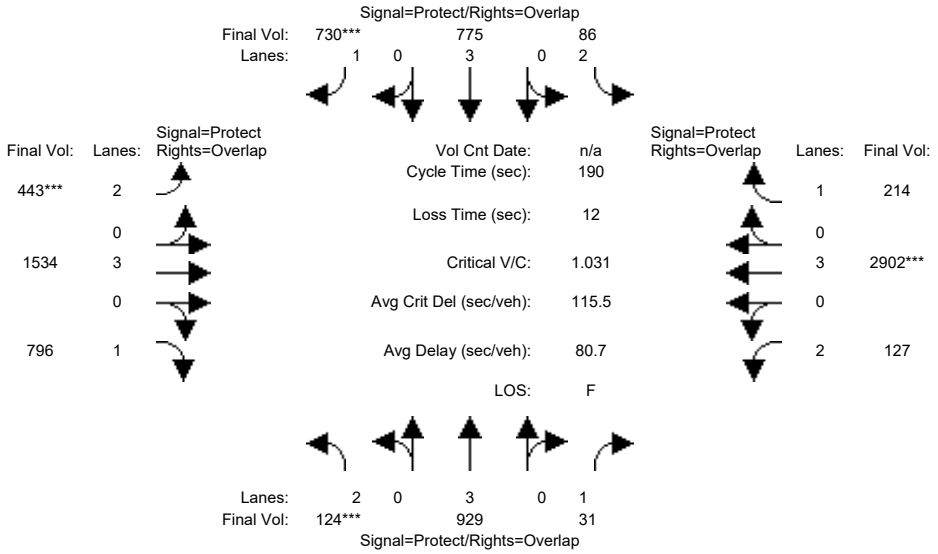
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	929	31	86	775	730	443	1763	796	127	3336	214
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	929	31	86	775	730	443	1763	796	127	3336	214
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	929	31	86	775	730	443	1763	796	127	3336	214
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	929	31	86	775	730	443	1534	796	127	2902	214
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	929	31	86	775	730	443	1534	796	127	2902	214
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	929	31	86	775	730	443	1534	796	127	2902	214
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.16	0.02	0.03	0.14	0.42	0.14	0.27	0.45	0.04	0.51	0.12
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.48	0.81	0.07	0.41	0.73	1.23	0.91	0.48	0.71	0.71	1.10	0.23
Delay/Veh:	84.7	77.3	53.5	86.2	75.7	180.0	100.5	25.4	24.6	100.5	103	24.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	77.3	53.5	86.2	75.7	180.0	100.5	25.4	24.6	100.5	103	24.0
LOS by Move:	F	E	D	F	E	F	F	C	C	F	F	C
HCM2k95thQ:	8	31	3	6	25	97	27	29	50	11	104	13

Note: Queue reported is the number of cars per lane.

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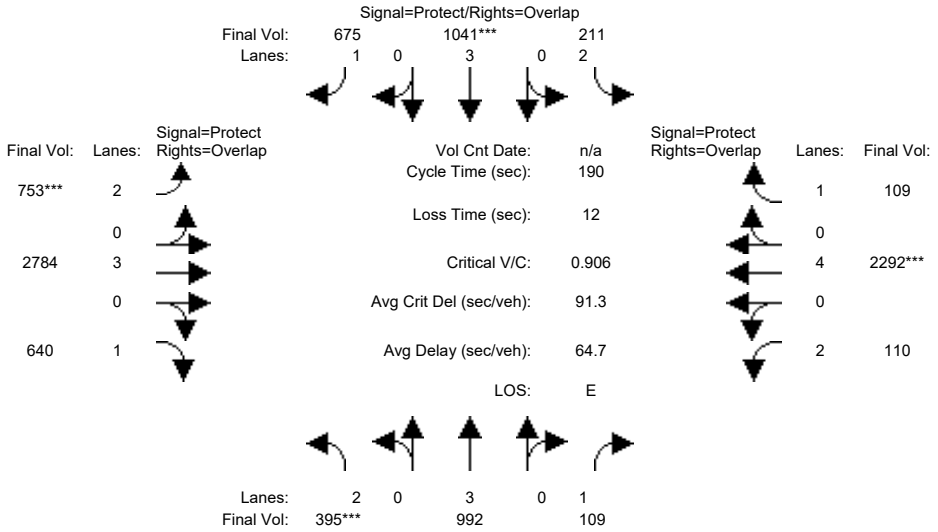
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #5812: (48) MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	395	992	109	211	1041	675	753	3437	640	110	2292	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	395	992	109	211	1041	675	753	3437	640	110	2292	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	395	992	109	211	1041	675	753	3437	640	110	2292	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	395	992	109	211	1041	675	753	2784	640	110	2292	109
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	395	992	109	211	1041	675	753	2784	640	110	2292	109
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	395	992	109	211	1041	675	753	2784	640	110	2292	109
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.17	0.06	0.07	0.18	0.39	0.24	0.49	0.37	0.03	0.30	0.06
Crit Moves:	****				****		****				****	
Green Time:	20.3	48.2	60.2	13.1	41.0	79.7	38.7	105	125.0	12.0	78.0	91.1
Volume/Cap:	1.17	0.69	0.20	0.97	0.85	0.92	1.17	0.89	0.56	0.55	0.73	0.13
Delay/Veh:	189.9	65.4	47.4	141.9	77.1	68.8	169.6	28.9	7.8	89.8	55.1	33.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	189.9	65.4	47.4	141.9	77.1	68.8	169.6	28.9	7.8	89.8	55.1	33.5
LOS by Move:	F	E	D	F	E	E	F	C	A	F	E	C
HCM2k95thQ:	32	30	9	16	34	66	52	60	17	9	48	9

Note: Queue reported is the number of cars per lane.

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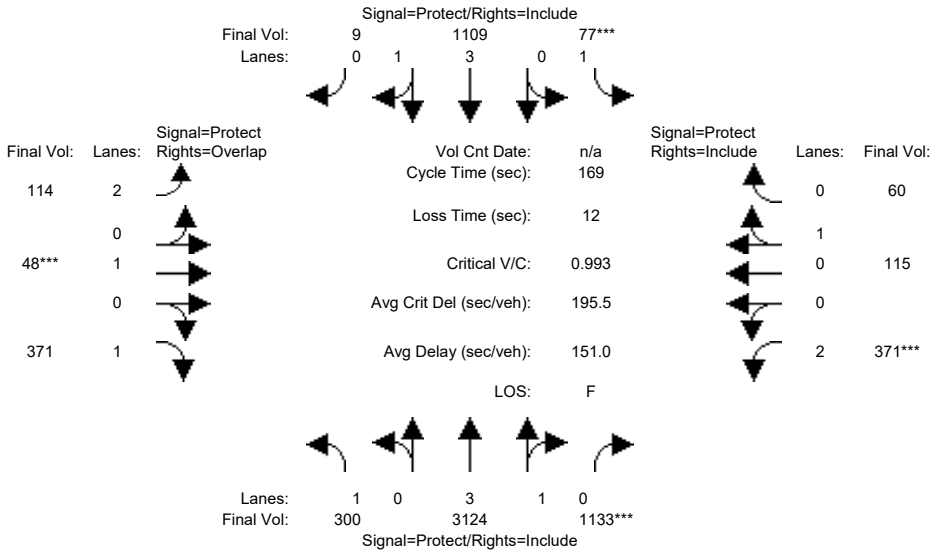
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	3124	1133	77	1109	9	114	48	371	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	3124	1133	77	1109	9	114	48	371	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	3124	1133	77	1109	9	114	48	371	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	3124	1133	77	1109	9	114	48	371	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	3124	1133	77	1109	9	114	48	371	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	3124	1133	77	1109	9	114	48	371	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	5700	1750	1750	7440	60	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.55	0.65	0.04	0.15	0.15	0.07	0.06	0.30	0.17	0.24	0.24
Crit Moves:			****	****				****		****		
Green Time:	33.1	71.4	82.3	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	1.30	1.33	0.64	0.51	0.51	1.06	0.29	0.73	1.08	0.80	0.80
Delay/Veh:	87.6	193	203.6	87.2	52.7	52.7	184.1	56.3	47.2	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	193	203.6	87.2	52.7	52.7	184.1	56.3	47.2	143.4	72.2	72.2
LOS by Move:	F	F	F	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	124	149	9	23	23	12	5	31	29	20	20

Note: Queue reported is the number of cars per lane.

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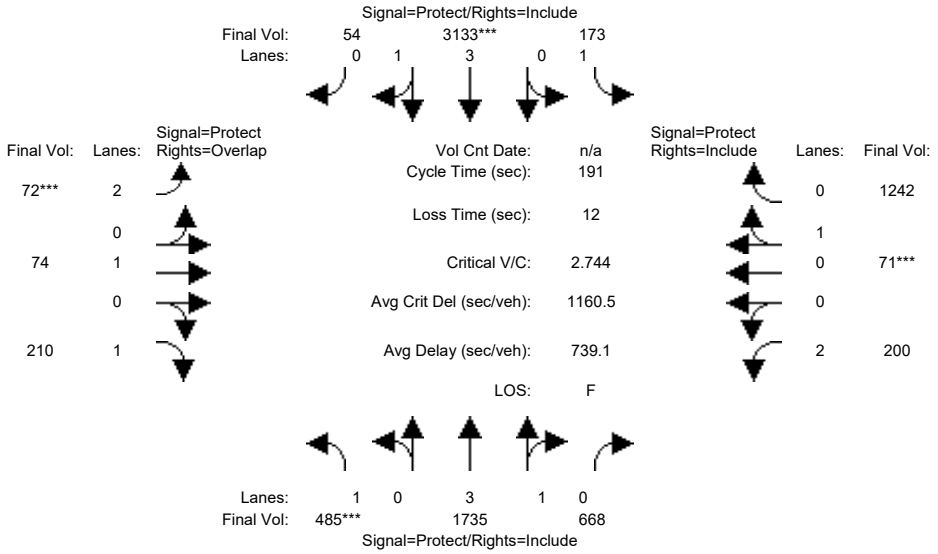
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1735	668	173	3133	54	72	74	210	200	71	1242
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1735	668	173	3133	54	72	74	210	200	71	1242
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1735	668	173	3133	54	72	74	210	200	71	1242
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1735	668	173	3133	54	72	74	210	200	71	1242
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1735	668	173	3133	54	72	74	210	200	71	1242
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1735	668	173	3133	54	72	74	210	200	71	1242
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.93	0.07	2.00	1.00	1.00	2.00	0.05	0.95
Final Sat.:	1750	5700	1750	1750	7373	127	1575	760	1225	2205	39	681
Capacity Analysis Module:												
Vol/Sat:	0.28	0.30	0.38	0.10	0.42	0.42	0.05	0.10	0.17	0.09	1.82	1.82
Crit Moves:	****				****		****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.65	0.82	0.68	1.41	1.41	0.68	0.61	0.37	0.86	9.26	9.26
Delay/Veh:	80.8	32.3	37.7	84.9	258	257.7	103.1	84.0	33.3	109.6	3809	3809
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	32.3	37.7	84.9	258	257.7	103.1	84.0	33.3	109.6	3809	3809
LOS by Move:	F	C	D	F	F	F	F	F	C	F	F	F
HCM2k95thQ:	49	36	53	19	111	111	7	10	16	17	344	344

Note: Queue reported is the number of cars per lane.

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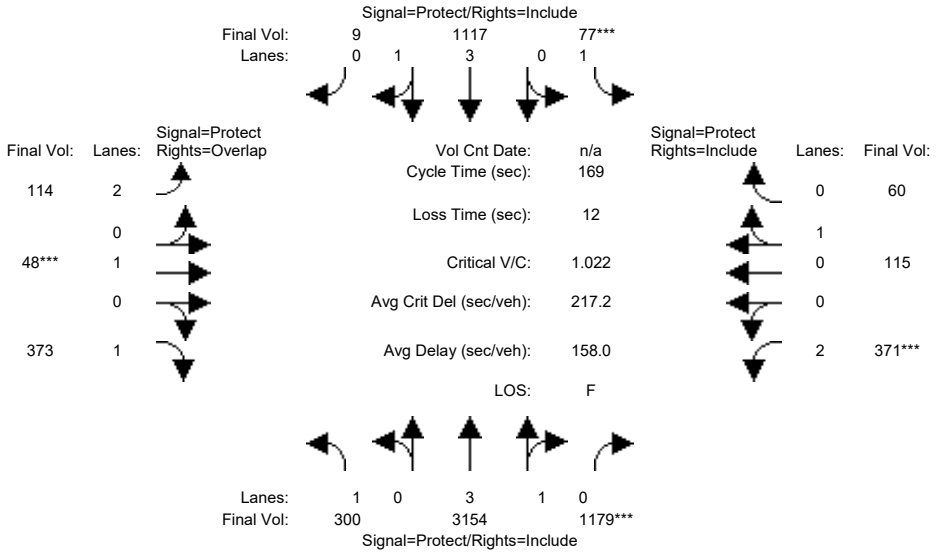
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	33	71	71	12	50	50	12	37	37	26	51	51
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	300	3154	1179	77	1117	9	114	48	373	371	115	60
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	300	3154	1179	77	1117	9	114	48	373	371	115	60
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	300	3154	1179	77	1117	9	114	48	373	371	115	60
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	300	3154	1179	77	1117	9	114	48	373	371	115	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	300	3154	1179	77	1117	9	114	48	373	371	115	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	300	3154	1179	77	1117	9	114	48	373	371	115	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.97	0.03	2.00	1.00	1.00	2.00	0.66	0.34
Final Sat.:	1750	5700	1750	1750	7440	60	1575	760	1225	2205	473	247
Capacity Analysis Module:												
Vol/Sat:	0.17	0.55	0.67	0.04	0.15	0.15	0.07	0.06	0.30	0.17	0.24	0.24
Crit Moves:			****	****				****		****		
Green Time:	33.1	71.4	82.3	11.7	49.5	49.5	11.5	36.7	69.8	26.3	51.5	51.5
Volume/Cap:	0.88	1.31	1.38	0.64	0.51	0.51	1.06	0.29	0.74	1.08	0.80	0.80
Delay/Veh:	87.6	198	227.7	87.2	52.8	52.8	184.1	56.3	47.5	143.4	72.2	72.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.6	198	227.7	87.2	52.8	52.8	184.1	56.3	47.5	143.4	72.2	72.2
LOS by Move:	F	F	F	F	D	D	F	E	D	F	E	E
HCM2k95thQ:	30	126	162	9	23	23	12	5	32	29	20	20

Note: Queue reported is the number of cars per lane.

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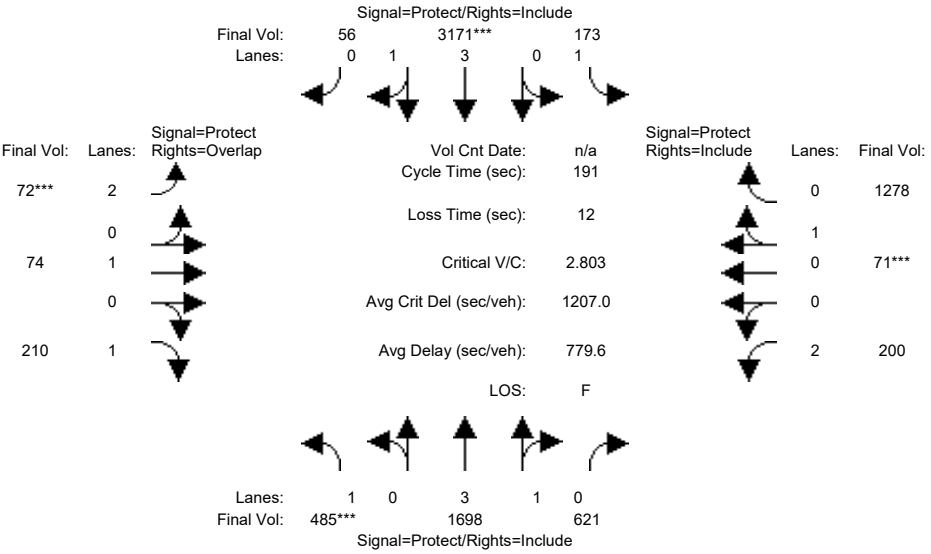
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #25: (2) Lawrence Expwy & Lakehaven Dr/Sandia Ave



Street Name:	Lawrence Expwy						Lakehaven Dr/Sandia Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	59	89	89	28	58	58	13	30	30	20	37	37
Y+R:	6.1	6.2	6.2	5.6	6.2	6.2	5.5	6.0	6.0	5.6	6.1	6.1
Volume Module:												
Base Vol:	485	1698	621	173	3171	56	72	74	210	200	71	1278
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	485	1698	621	173	3171	56	72	74	210	200	71	1278
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	485	1698	621	173	3171	56	72	74	210	200	71	1278
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	485	1698	621	173	3171	56	72	74	210	200	71	1278
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	1698	621	173	3171	56	72	74	210	200	71	1278
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	1698	621	173	3171	56	72	74	210	200	71	1278
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.99	0.95	0.41	0.40	0.64	0.58	0.38	0.38
Lanes:	1.00	3.00	1.00	1.00	3.93	0.07	2.00	1.00	1.00	2.00	0.05	0.95
Final Sat.:	1750	5700	1750	1750	7370	130	1575	760	1225	2205	38	682
Capacity Analysis Module:												
Vol/Sat:	0.28	0.30	0.35	0.10	0.43	0.43	0.05	0.10	0.17	0.09	1.87	1.87
Crit Moves:	****				****		****				****	
Green Time:	58.6	89.1	89.1	27.7	57.6	57.6	12.9	30.3	88.9	20.2	37.6	37.6
Volume/Cap:	0.90	0.64	0.76	0.68	1.43	1.43	0.68	0.61	0.37	0.86	9.52	9.52
Delay/Veh:	80.8	31.9	35.5	84.9	266	265.6	103.1	84.0	33.3	109.6	3923	3923
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.8	31.9	35.5	84.9	266	265.6	103.1	84.0	33.3	109.6	3923	3923
LOS by Move:	F	C	D	F	F	F	F	F	C	F	F	F
HCM2k95thQ:	49	35	46	19	114	114	7	10	16	17	354	354

Note: Queue reported is the number of cars per lane.

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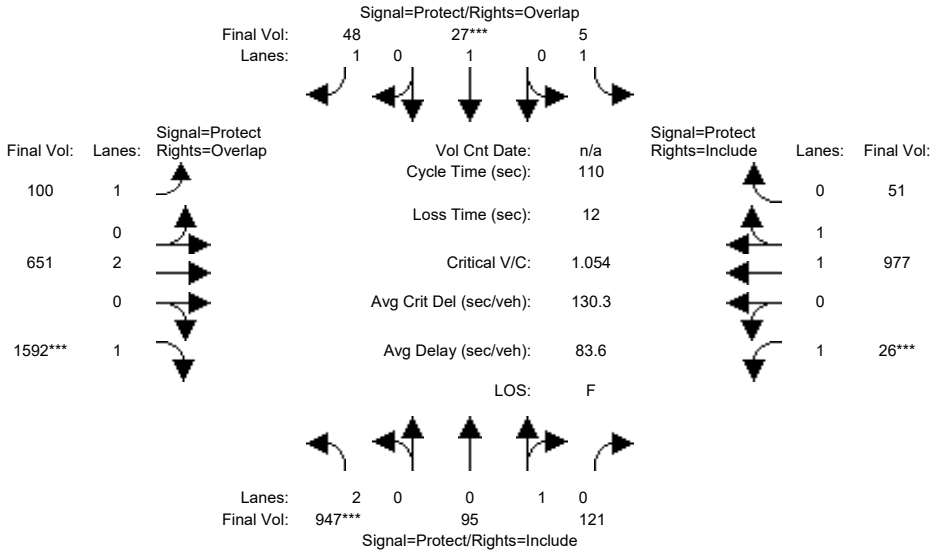
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	900	90	115	5	26	46	95	618	1512	25	928	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	900	90	115	5	26	46	95	618	1512	25	928	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	900	90	115	5	26	46	95	618	1512	25	928	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	947	95	121	5	27	48	100	651	1592	26	977	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	947	95	121	5	27	48	100	651	1592	26	977	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	947	95	121	5	27	48	100	651	1592	26	977	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.44	0.56	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.90	0.10
Final Sat.:	3150	790	1010	1750	1900	1750	1750	3800	1750	1750	3518	182
Capacity Analysis Module:												
Vol/Sat:	0.30	0.12	0.12	0.00	0.01	0.03	0.06	0.17	0.91	0.02	0.28	0.28
Crit Moves:	****				****				****	****		
Green Time:	27.1	24.1	24.1	11.0	8.0	21.1	13.1	54.9	82.0	8.0	49.8	49.8
Volume/Cap:	1.22	0.55	0.55	0.03	0.20	0.14	0.48	0.34	1.22	0.21	0.61	0.61
Delay/Veh:	152.0	39.7	39.7	44.8	48.7	37.2	47.1	16.8	120.1	48.8	23.5	23.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	152.0	39.7	39.7	44.8	48.7	37.2	47.1	16.8	120.1	48.8	23.5	23.5
LOS by Move:	F	D	D	D	D	D	D	B	F	D	C	C
HCM2k95thQ:	55	14	14	0	2	3	7	12	145	2	24	24

Note: Queue reported is the number of cars per lane.

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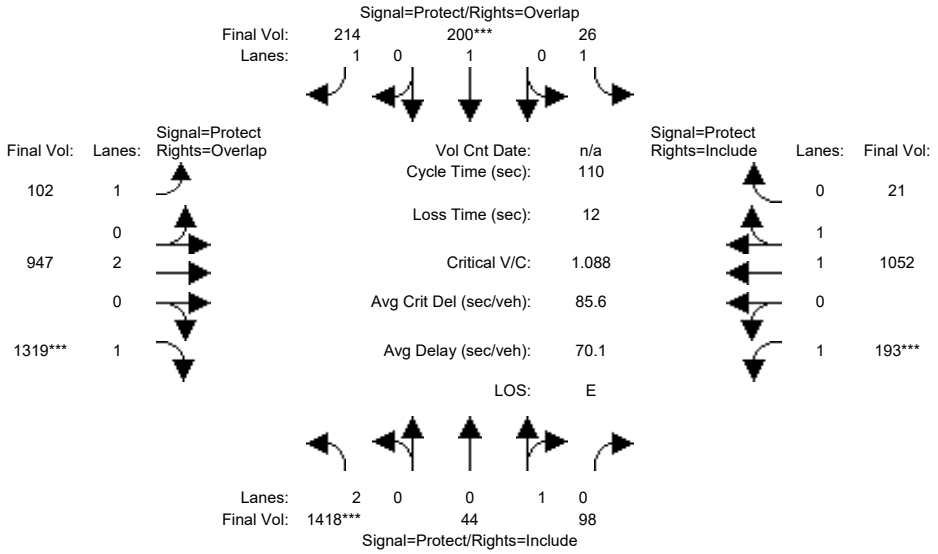
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	1375	43	95	25	194	208	99	919	1279	187	1020	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1375	43	95	25	194	208	99	919	1279	187	1020	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1375	43	95	25	194	208	99	919	1279	187	1020	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1418	44	98	26	200	214	102	947	1319	193	1052	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1418	44	98	26	200	214	102	947	1319	193	1052	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1418	44	98	26	200	214	102	947	1319	193	1052	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.31	0.69	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	561	1239	1750	1900	1750	1750	3800	1750	1750	3629	71
Capacity Analysis Module:												
Vol/Sat:	0.45	0.08	0.08	0.01	0.11	0.12	0.06	0.25	0.75	0.11	0.29	0.29
Crit Moves:	****				****				****	****		
Green Time:	45.5	33.2	33.2	22.9	10.6	19.0	8.4	30.7	76.2	11.1	33.4	33.4
Volume/Cap:	1.09	0.26	0.26	0.07	1.09	0.71	0.76	0.89	1.09	1.09	0.95	0.95
Delay/Veh:	84.5	29.3	29.3	35.1	141	50.4	72.5	47.9	70.0	142.3	54.3	54.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.5	29.3	29.3	35.1	141	50.4	72.5	47.9	70.0	142.3	54.3	54.3
LOS by Move:	F	C	C	D	F	D	E	D	E	F	D	D
HCM2k95thQ:	65	8	8	2	22	16	8	29	99	19	35	35

Note: Queue reported is the number of cars per lane.

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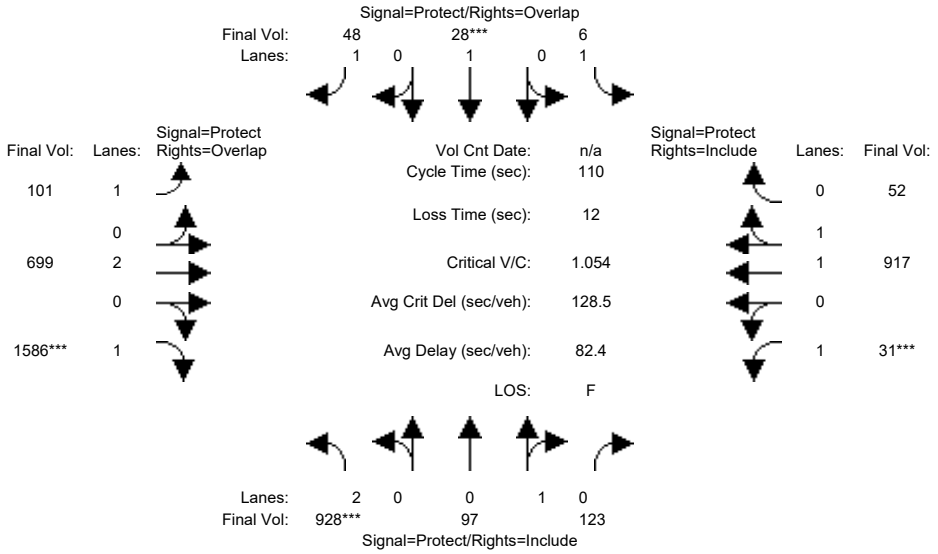
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	882	92	117	6	27	46	96	664	1507	29	871	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	882	92	117	6	27	46	96	664	1507	29	871	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	882	92	117	6	27	46	96	664	1507	29	871	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	928	97	123	6	28	48	101	699	1586	31	917	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	928	97	123	6	28	48	101	699	1586	31	917	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	928	97	123	6	28	48	101	699	1586	31	917	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.44	0.56	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.89	0.11
Final Sat.:	3150	792	1008	1750	1900	1750	1750	3800	1750	1750	3503	197
Capacity Analysis Module:												
Vol/Sat:	0.29	0.12	0.12	0.00	0.01	0.03	0.06	0.18	0.91	0.02	0.26	0.26
Crit Moves:	****				****				****	****		
Green Time:	26.7	24.0	24.0	10.7	8.0	21.8	13.8	55.3	82.0	8.0	49.6	49.6
Volume/Cap:	1.22	0.56	0.56	0.04	0.21	0.14	0.46	0.37	1.22	0.24	0.58	0.58
Delay/Veh:	150.7	40.2	40.2	45.1	48.7	36.6	46.2	16.8	118.4	49.1	23.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	150.7	40.2	40.2	45.1	48.7	36.6	46.2	16.8	118.4	49.1	23.0	23.0
LOS by Move:	F	D	D	D	D	D	D	B	F	D	C	C
HCM2k95thQ:	54	14	14	0	2	3	7	13	144	2	22	22

Note: Queue reported is the number of cars per lane.

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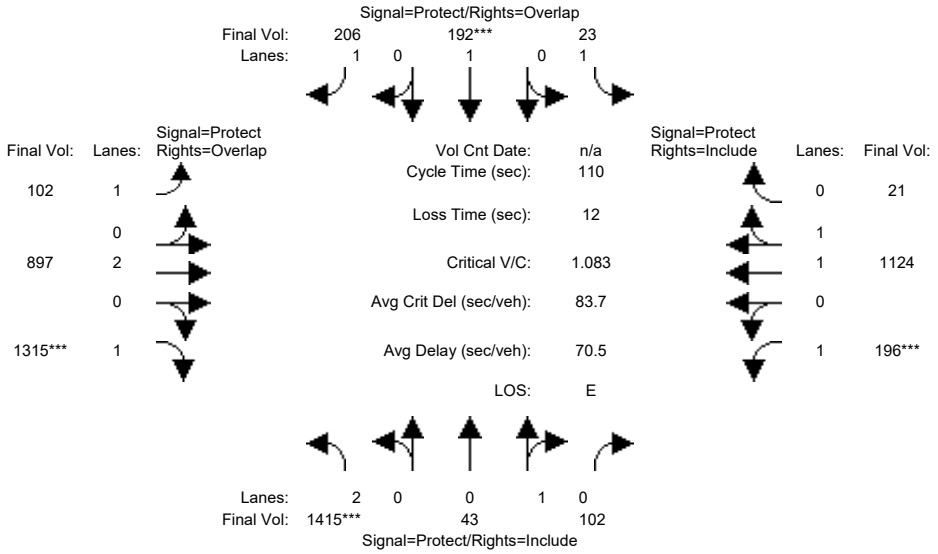
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #40: (6) Patrick Henry/Tasman



Street Name:	Patrick Henry						Tasman					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	8	8	6	8	8	8	15	15	8	8	8
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1
Volume Module:												
Base Vol:	1373	42	99	22	186	200	99	870	1276	190	1090	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1373	42	99	22	186	200	99	870	1276	190	1090	20
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1373	42	99	22	186	200	99	870	1276	190	1090	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1415	43	102	23	192	206	102	897	1315	196	1124	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1415	43	102	23	192	206	102	897	1315	196	1124	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1415	43	102	23	192	206	102	897	1315	196	1124	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.30	0.70	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	3150	536	1264	1750	1900	1750	1750	3800	1750	1750	3633	67
Capacity Analysis Module:												
Vol/Sat:	0.45	0.08	0.08	0.01	0.10	0.12	0.06	0.24	0.75	0.11	0.31	0.31
Crit Moves:	****				****				****	****		
Green Time:	45.7	33.4	33.4	22.5	10.3	18.3	8.0	30.7	76.4	11.4	34.1	34.1
Volume/Cap:	1.08	0.27	0.27	0.06	1.08	0.71	0.80	0.85	1.08	1.08	1.00	1.00
Delay/Veh:	82.7	29.3	29.3	35.3	141	51.3	79.3	43.8	68.1	140.0	64.1	64.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	82.7	29.3	29.3	35.3	141	51.3	79.3	43.8	68.1	140.0	64.1	64.1
LOS by Move:	F	C	C	D	F	D	E	D	E	F	E	E
HCM2k95thQ:	64	8	8	1	21	16	8	27	98	19	40	40

Note: Queue reported is the number of cars per lane.

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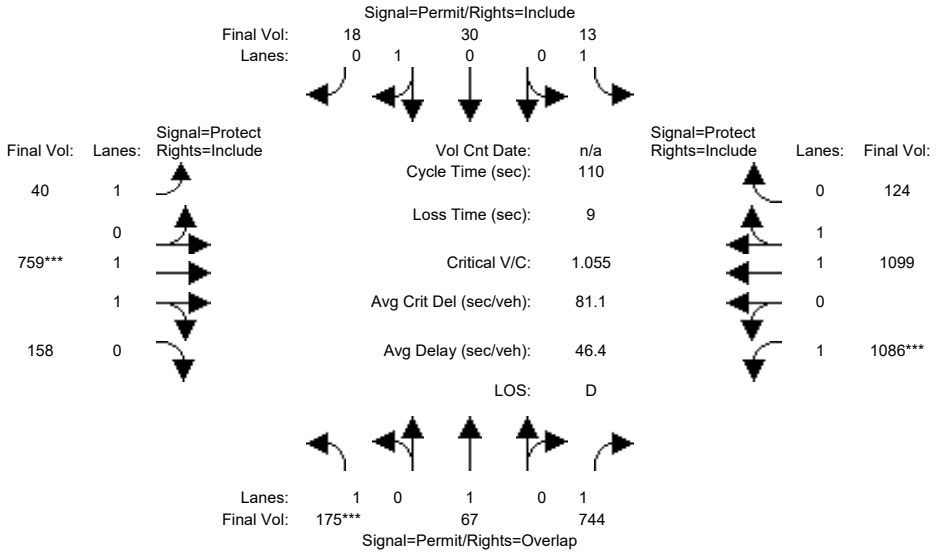
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	163	62	692	12	28	17	37	706	147	1010	1022	115
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	163	62	692	12	28	17	37	706	147	1010	1022	115
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	62	692	12	28	17	37	706	147	1010	1022	115
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	175	67	744	13	30	18	40	759	158	1086	1099	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	175	67	744	13	30	18	40	759	158	1086	1099	124
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	175	67	744	13	30	18	40	759	158	1086	1099	124
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.62	0.38	1.00	1.65	0.35	1.00	1.79	0.21
Final Sat.:	1750	1900	1750	1750	1120	680	1750	3062	638	1750	3325	374
Capacity Analysis Module:												
Vol/Sat:	0.10	0.04	0.43	0.01	0.03	0.03	0.02	0.25	0.25	0.62	0.33	0.33
Crit Moves:	****							****		****		
Green Time:	10.4	10.4	75.1	10.4	10.4	10.4	11.0	25.9	25.9	64.7	79.6	79.6
Volume/Cap:	1.05	0.37	0.62	0.08	0.28	0.28	0.23	1.05	1.05	1.05	0.46	0.46
Delay/Veh:	134.9	48.0	10.6	45.6	47.2	47.2	46.3	88.2	88.2	66.4	6.4	6.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	134.9	48.0	10.6	45.6	47.2	47.2	46.3	88.2	88.2	66.4	6.4	6.4
LOS by Move:	F	D	B	D	D	D	D	F	F	E	A	A
HCM2k95thQ:	21	5	27	1	4	4	3	36	36	79	16	16

Note: Queue reported is the number of cars per lane.

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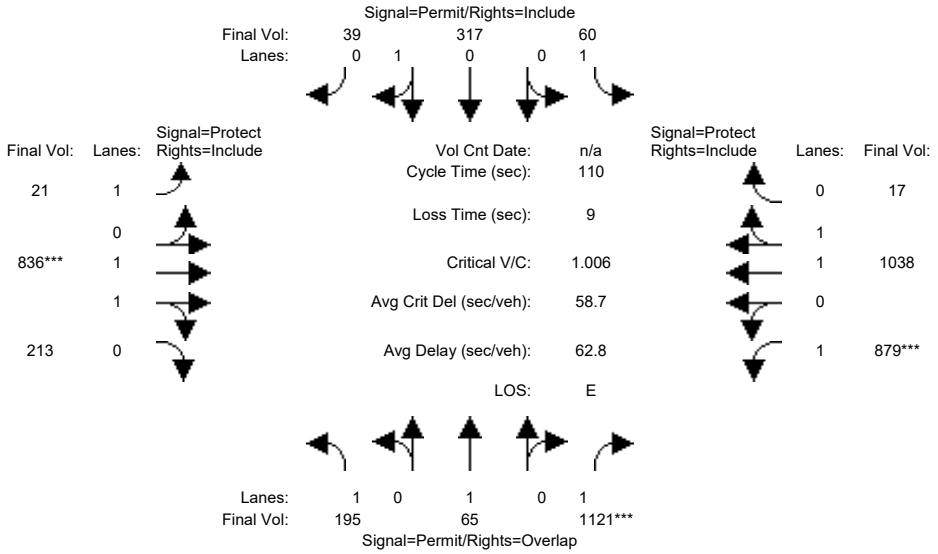
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	187	62	1076	58	304	37	20	803	204	844	996	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	187	62	1076	58	304	37	20	803	204	844	996	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	187	62	1076	58	304	37	20	803	204	844	996	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	195	65	1121	60	317	39	21	836	213	879	1038	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	195	65	1121	60	317	39	21	836	213	879	1038	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	195	65	1121	60	317	39	21	836	213	879	1038	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.89	0.11	1.00	1.58	0.42	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1605	195	1750	2950	749	1750	3641	58
Capacity Analysis Module:												
Vol/Sat:	0.11	0.03	0.64	0.03	0.20	0.20	0.01	0.28	0.28	0.50	0.28	0.28
Crit Moves:			****					****		****		
Green Time:	15.1	15.1	70.0	15.1	15.1	15.1	11.8	31.0	31.0	54.9	74.1	74.1
Volume/Cap:	0.81	0.25	1.01	0.25	1.44	1.44	0.11	1.01	1.01	1.01	0.42	0.42
Delay/Veh:	64.5	42.9	48.5	43.0	266	266.2	44.6	68.9	68.9	59.6	8.3	8.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.5	42.9	48.5	43.0	266	266.2	44.6	68.9	68.9	59.6	8.3	8.3
LOS by Move:	E	D	D	D	F	F	D	E	E	E	A	A
HCM2k95thQ:	17	4	77	4	46	46	1	34	34	61	15	15

Note: Queue reported is the number of cars per lane.

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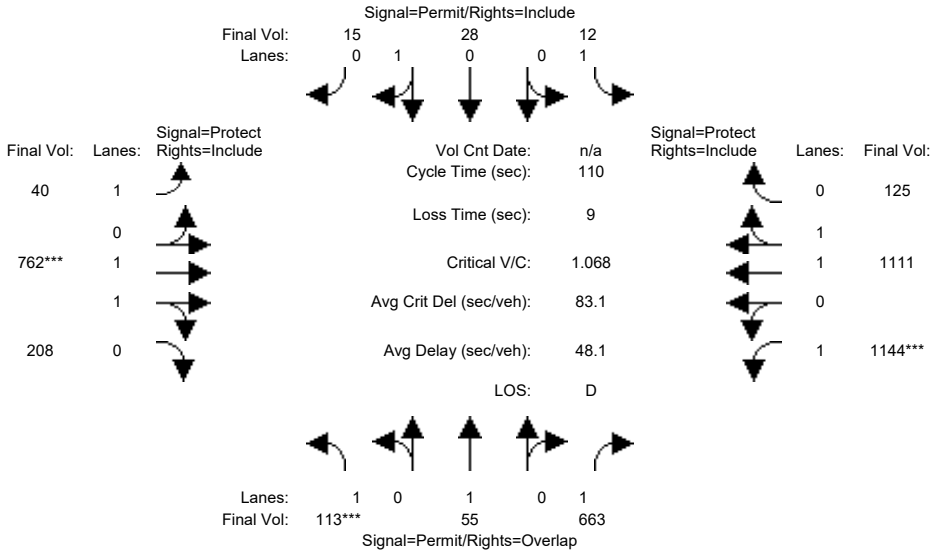
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	105	51	617	11	26	14	37	709	193	1064	1033	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	105	51	617	11	26	14	37	709	193	1064	1033	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	51	617	11	26	14	37	709	193	1064	1033	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	113	55	663	12	28	15	40	762	208	1144	1111	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	55	663	12	28	15	40	762	208	1144	1111	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	55	663	12	28	15	40	762	208	1144	1111	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	0.65	0.35	1.00	1.56	0.44	1.00	1.79	0.21
Final Sat.:	1750	1900	1750	1750	1170	630	1750	2908	792	1750	3326	374
Capacity Analysis Module:												
Vol/Sat:	0.06	0.03	0.38	0.01	0.02	0.02	0.02	0.26	0.26	0.65	0.33	0.33
Crit Moves:	****							****		****		
Green Time:	6.6	6.6	74.0	6.6	6.6	6.6	11.3	27.0	27.0	67.3	83.0	83.0
Volume/Cap:	1.07	0.48	0.56	0.11	0.40	0.40	0.22	1.07	1.07	1.07	0.44	0.44
Delay/Veh:	158.7	53.1	10.1	49.4	52.1	52.1	45.9	91.2	91.2	68.8	5.1	5.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	158.7	53.1	10.1	49.4	52.1	52.1	45.9	91.2	91.2	68.8	5.1	5.1
LOS by Move:	F	D	B	D	D	D	D	F	F	E	A	A
HCM2k95thQ:	15	5	23	1	4	4	3	38	38	85	15	15

Note: Queue reported is the number of cars per lane.

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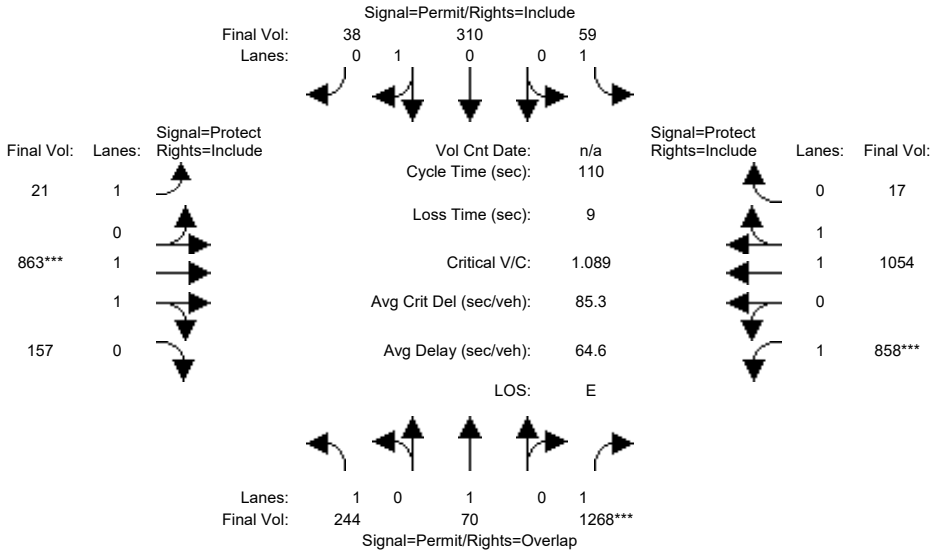
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #41: (7) Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	234	67	1217	57	298	36	20	828	151	824	1012	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	234	67	1217	57	298	36	20	828	151	824	1012	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	234	67	1217	57	298	36	20	828	151	824	1012	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	244	70	1268	59	310	38	21	863	157	858	1054	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	244	70	1268	59	310	38	21	863	157	858	1054	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	244	70	1268	59	310	38	21	863	157	858	1054	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.89	0.11	1.00	1.68	0.32	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1606	194	1750	3129	571	1750	3642	58
Capacity Analysis Module:												
Vol/Sat:	0.14	0.04	0.72	0.03	0.19	0.19	0.01	0.28	0.28	0.49	0.29	0.29
Crit Moves:			****					****		****		
Green Time:	23.6	23.6	73.2	23.6	23.6	23.6	10.5	27.8	27.8	49.5	66.9	66.9
Volume/Cap:	0.65	0.17	1.09	0.16	0.90	0.90	0.12	1.09	1.09	1.09	0.48	0.48
Delay/Veh:	43.3	35.4	72.6	35.3	65.2	65.2	45.9	97.8	97.8	89.3	12.1	12.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	35.4	72.6	35.3	65.2	65.2	45.9	97.8	97.8	89.3	12.1	12.1
LOS by Move:	D	D	E	D	E	E	D	F	F	F	B	B
HCM2k95thQ:	17	4	97	4	27	27	1	39	39	68	18	18

Note: Queue reported is the number of cars per lane.

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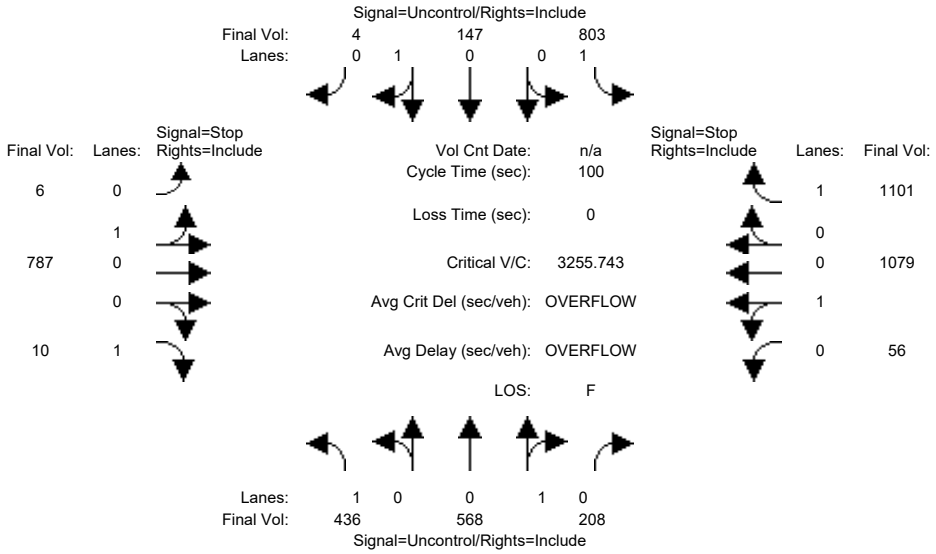
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	392	511	187	723	132	4	5	708	9	50	971	991
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	392	511	187	723	132	4	5	708	9	50	971	991
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	392	511	187	723	132	4	5	708	9	50	971	991
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	436	568	208	803	147	4	6	787	10	56	1079	1101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	436	568	208	803	147	4	6	787	10	56	1079	1101
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	151	xxxx	xxxxx	776	xxxx	xxxxx	4388	3402	149	3697	3301	672
Potent Cap.:	1442	xxxx	xxxxx	849	xxxx	xxxxx	1	7	903	3	9	459
Move Cap.:	1442	xxxx	xxxxx	849	xxxx	xxxxx	0	0	903	0	0	459
Volume/Cap:	0.30	xxxx	xxxx	0.95	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	2.40
Level Of Service Module:												
2Way95thQ:	1.3	xxxx	xxxxx	14.7	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	85.1
Control Del:	8.6	xxxx	xxxxx	41.2	xxxx	xxxxx	xxxxx	xxxx	9.0	xxxxx	xxxx	654.4
LOS by Move:	A	*	*	E	*	*	*	*	A	*	*	F
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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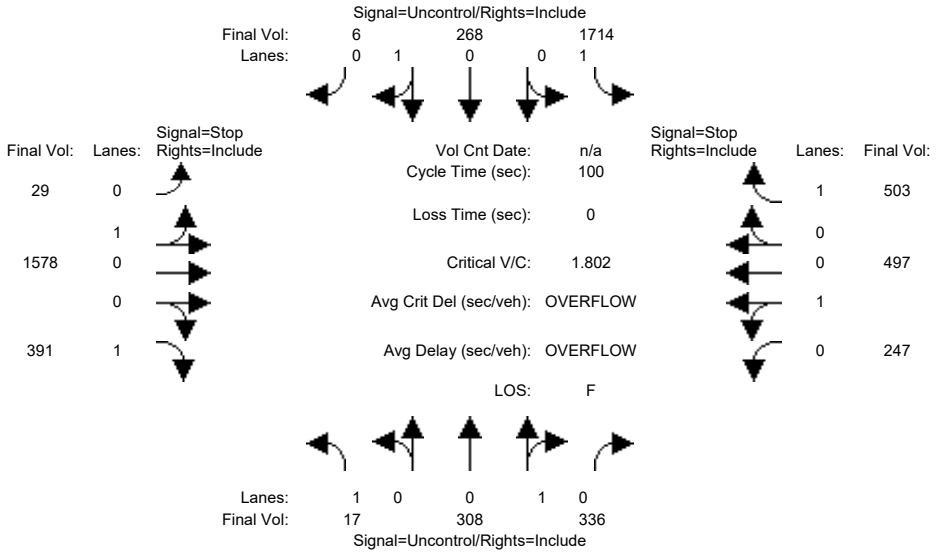
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	15	277	302	1543	241	5	26	1420	352	222	447	453
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	277	302	1543	241	5	26	1420	352	222	447	453
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	277	302	1543	241	5	26	1420	352	222	447	453
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	17	308	336	1714	268	6	29	1578	391	247	497	503
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	17	308	336	1714	268	6	29	1578	391	247	497	503
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	273	xxxx	xxxxx	643	xxxx	xxxxx	4708	4376	271	5193	4211	476
Potent Cap.:	1302	xxxx	xxxxx	951	xxxx	xxxxx	0	2	773	0	2	593
Move Cap.:	1302	xxxx	xxxxx	951	xxxx	xxxxx	0	0	773	0	0	593
Volume/Cap:	0.01	xxxx	xxxx	1.80	xxxx	xxxx	xxxx	xxxx	0.51	xxxx	xxxx	0.85
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	102	xxxx	xxxxx	xxxx	xxxx	2.9	xxxx	xxxx	9.2
Control Del:	7.8	xxxx	xxxxx	378.2	xxxx	xxxxx	xxxxx	xxxx	14.3	xxxxx	xxxx	35.9
LOS by Move:	A	*	*	F	*	*	*	*	B	*	*	E
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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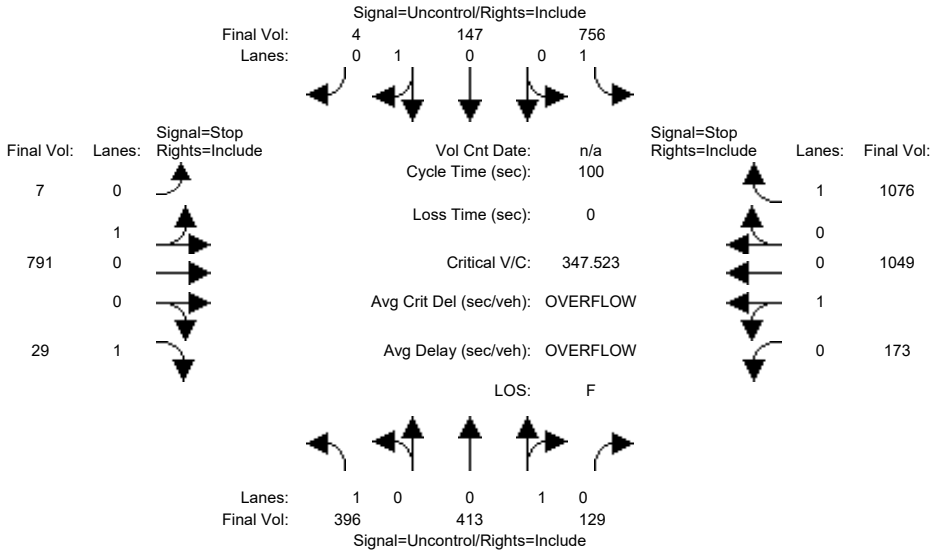
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	356	372	116	680	132	4	6	712	26	156	944	968
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	356	372	116	680	132	4	6	712	26	156	944	968
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	356	372	116	680	132	4	6	712	26	156	944	968
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	396	413	129	756	147	4	7	791	29	173	1049	1076
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	396	413	129	756	147	4	7	791	29	173	1049	1076
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	151	xxxx	xxxxx	542	xxxx	xxxxx	3991	2993	149	3339	2931	478
Potent Cap.:	1442	xxxx	xxxxx	1037	xxxx	xxxxx	2	14	903	5	15	592
Move Cap.:	1442	xxxx	xxxxx	1037	xxxx	xxxxx	0	3	903	0	3	592
Volume/Cap:	0.27	xxxx	xxxx	0.73	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	1.82
Level Of Service Module:												
2Way95thQ:	1.1	xxxx	xxxxx	6.8	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	66.5
Control Del:	8.4	xxxx	xxxxx	17.2	xxxx	xxxxx	xxxxx	xxxx	9.1	xxxxx	xxxx	392.2
LOS by Move:	A	*	*	C	*	*	*	*	A	*	*	F
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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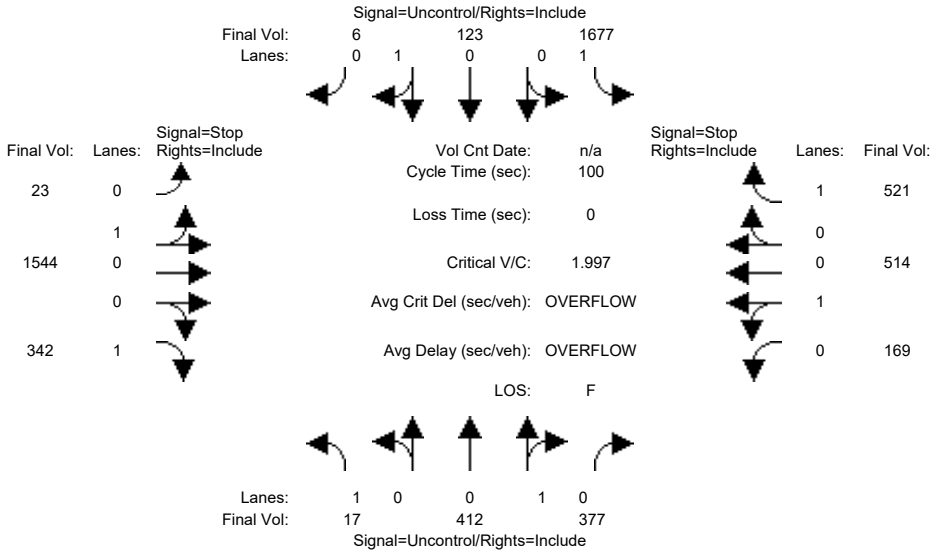
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	15	371	339	1509	111	5	21	1390	308	152	463	469
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	371	339	1509	111	5	21	1390	308	152	463	469
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	371	339	1509	111	5	21	1390	308	152	463	469
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	17	412	377	1677	123	6	23	1544	342	169	514	521
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	17	412	377	1677	123	6	23	1544	342	169	514	521
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	129	xxxx	xxxxx	789	xxxx	xxxxx	4631	4302	126	5057	4116	601
Potent Cap.:	1469	xxxx	xxxxx	840	xxxx	xxxxx	1	2	930	0	2	504
Move Cap.:	1469	xxxx	xxxxx	840	xxxx	xxxxx	0	0	930	0	0	504
Volume/Cap:	0.01	xxxx	xxxx	2.00	xxxx	xxxx	xxxx	xxxx	0.37	xxxx	xxxx	1.03
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	110	xxxx	xxxxx	xxxx	xxxx	1.7	xxxx	xxxx	15.1
Control Del:	7.5	xxxx	xxxxx	466.1	xxxx	xxxxx	xxxxx	xxxx	11.1	xxxxx	xxxx	77.8
LOS by Move:	A	*	*	F	*	*	*	*	B	*	*	F
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	0	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			+Inf		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

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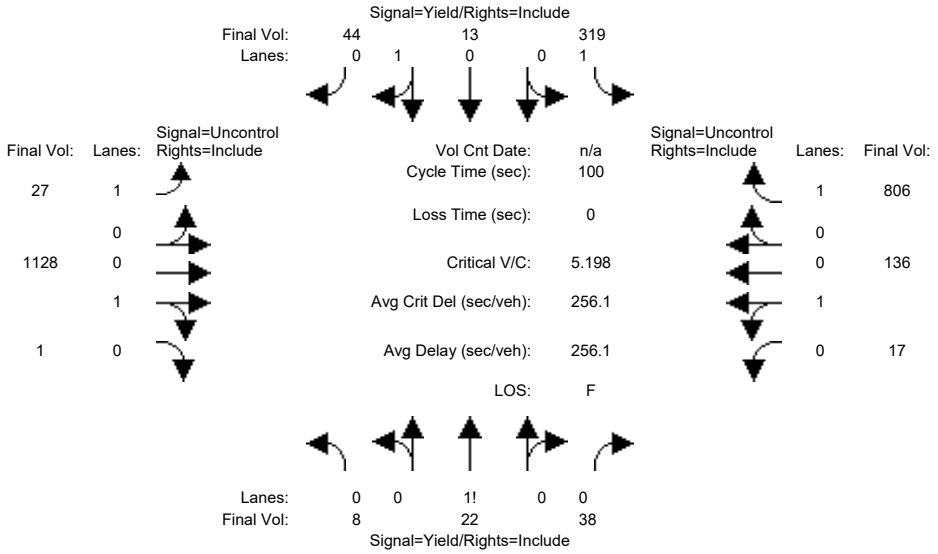
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	7	20	34	287	12	40	24	1015	1	15	122	725
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	20	34	287	12	40	24	1015	1	15	122	725
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	20	34	287	12	40	24	1015	1	15	122	725
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	8	22	38	319	13	44	27	1128	1	17	136	806
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	22	38	319	13	44	27	1128	1	17	136	806
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1782	2156	1128	1381	1351	136	941	xxxx	xxxxx	1129	xxxx	xxxxx
Potent Cap.:	64	48	251	123	152	919	737	xxxx	xxxxx	626	xxxx	xxxxx
Move Cap.:	54	45	251	61	142	919	737	xxxx	xxxxx	626	xxxx	xxxxx
Volume/Cap:	0.14	0.49	0.15	5.20	0.09	0.05	0.04	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	35.6	xxxx	xxxxx	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	2023	xxxx	xxxxx	10.1	xxxx	xxxxx	10.9	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	86	xxxxx	xxxx	xxxx	406	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.0	xxxxx	xxxxx	xxxx	0.5	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	129	xxxxx	xxxxx	xxxx	15.3	xxxxx	xxxx	xxxxx	10.9	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	C	*	*	*	B	*	*
ApproachDel:	128.6			1714.7			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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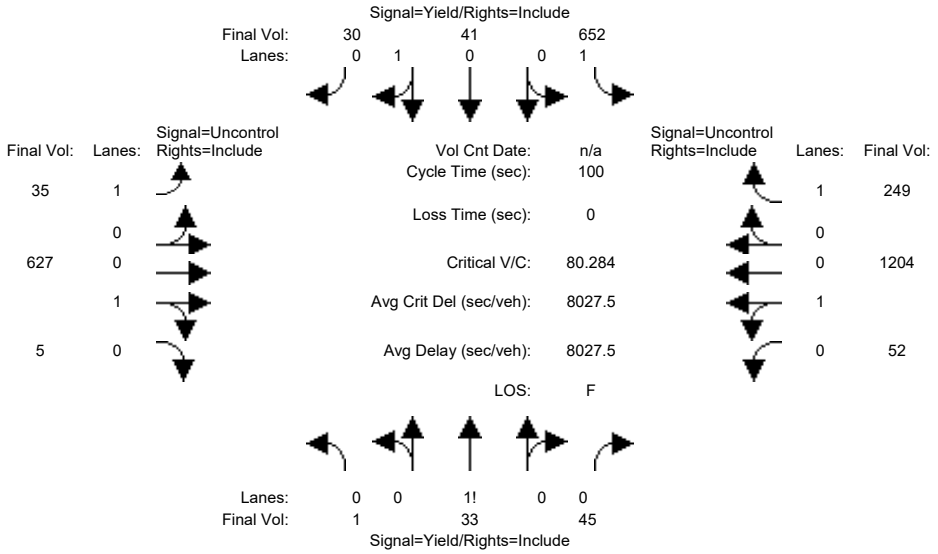
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	1	30	41	600	38	28	32	577	5	48	1108	229
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	30	41	600	38	28	32	577	5	48	1108	229
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	30	41	600	38	28	32	577	5	48	1108	229
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	33	45	652	41	30	35	627	5	52	1204	249
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	33	45	652	41	30	35	627	5	52	1204	249
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2168	2257	630	2047	2011	1204	1453	xxxx	xxxxx	633	xxxx	xxxxx
Potent Cap.:	34	42	485	42	60	226	472	xxxx	xxxxx	960	xxxx	xxxxx
Move Cap.:	9	37	485	8	52	226	472	xxxx	xxxxx	960	xxxx	xxxxx
Volume/Cap:	0.12	0.89	0.09	80.28	0.79	0.13	0.07	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	83.4	xxxx	xxxxx	0.2	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	36569	xxxx	xxxxx	13.2	xxxx	xxxxx	9.0	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	71	xxxxx	xxxx	xxxx	77	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	5.9	xxxxx	xxxxx	xxxx	4.8	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Shrd ConDel:	xxxxx	238	xxxxx	xxxxx	xxxx	175.0	xxxxx	xxxx	xxxxx	9.0	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	A	*	*
ApproachDel:	238.2			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

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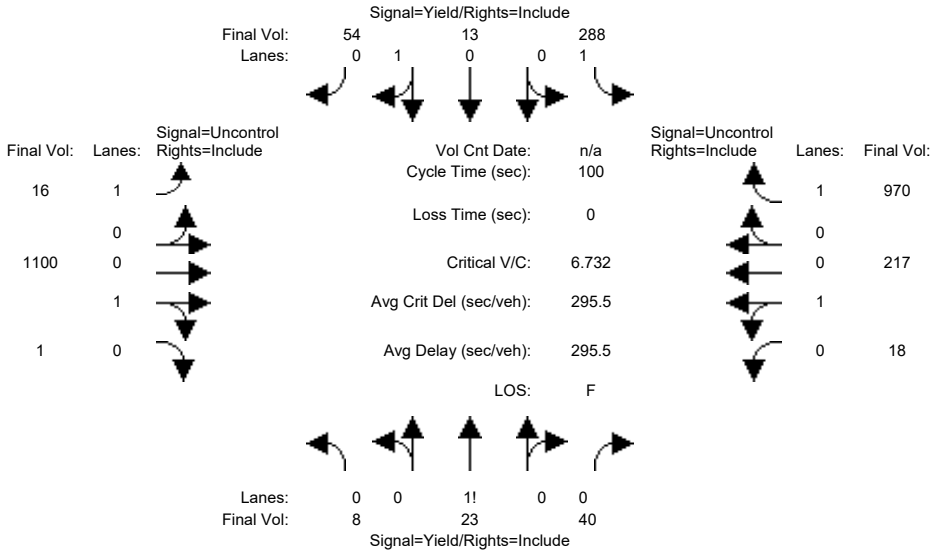
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	7	21	36	259	12	49	14	990	1	16	195	873
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	21	36	259	12	49	14	990	1	16	195	873
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	21	36	259	12	49	14	990	1	16	195	873
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	8	23	40	288	13	54	16	1100	1	18	217	970
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	23	40	288	13	54	16	1100	1	18	217	970
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1903	2354	1101	1416	1384	217	1187	xxxx	xxxxx	1101	xxxx	xxxxx
Potent Cap.:	53	36	260	116	145	828	596	xxxx	xxxxx	642	xxxx	xxxxx
Move Cap.:	44	34	260	43	137	828	596	xxxx	xxxxx	642	xxxx	xxxxx
Volume/Cap:	0.18	0.68	0.15	6.73	0.10	0.07	0.03	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	33.8	xxxx	xxxxx	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	2764	xxxx	xxxxx	11.2	xxxx	xxxxx	10.8	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	70	xxxxx	xxxx	xxxx	416	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	5.2	xxxxx	xxxxx	xxxx	0.6	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	211	xxxxx	xxxxx	xxxx	15.3	xxxxx	xxxx	xxxxx	10.8	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	C	*	*	*	B	*	*
ApproachDel:	211.3			2240.2			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

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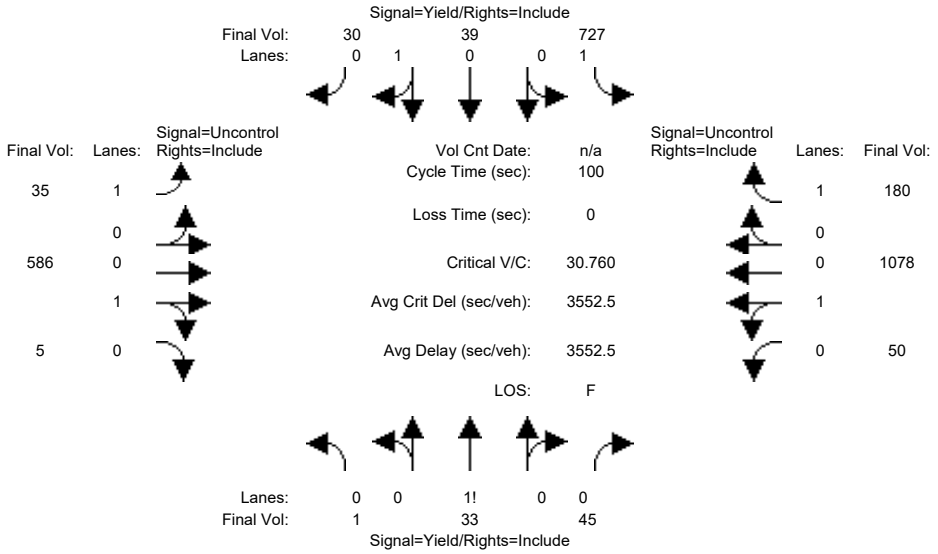
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:												
Base Vol:	1	30	41	669	36	28	32	539	5	46	992	166
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	30	41	669	36	28	32	539	5	46	992	166
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	30	41	669	36	28	32	539	5	46	992	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	33	45	727	39	30	35	586	5	50	1078	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	33	45	727	39	30	35	586	5	50	1078	180
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1961	2017	589	1875	1839	1078	1259	xxxx	xxxxx	591	xxxx	xxxxx
Potent Cap.:	48	59	512	55	76	268	559	xxxx	xxxxx	994	xxxx	xxxxx
Move Cap.:	21	53	512	24	68	268	559	xxxx	xxxxx	994	xxxx	xxxxx
Volume/Cap:	0.05	0.62	0.09	30.76	0.58	0.11	0.06	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	90.9	xxxx	xxxxx	0.2	xxxx	xxxxx	0.2	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	13705	xxxx	xxxxx	11.9	xxxx	xxxxx	8.8	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	103	xxxxx	xxxx	xxxx	101	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.1	xxxxx	xxxxx	xxxx	3.5	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Shrd ConDel:	xxxxx	107	xxxxx	xxxxx	xxxx	97.2	xxxxx	xxxx	xxxxx	8.8	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	F	*	*	*	A	*	*
ApproachDel:	107.2			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

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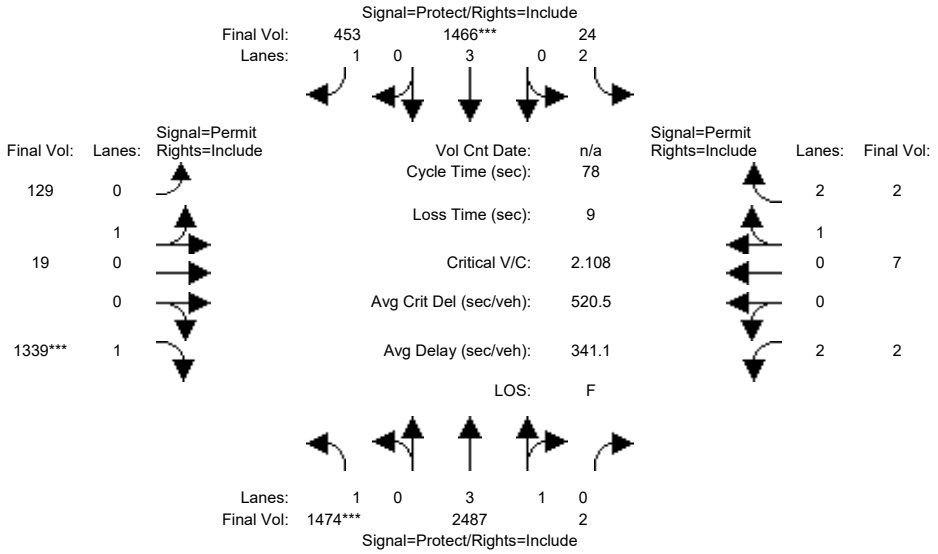
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	1327	2238	2	22	1319	408	116	17	1205	2	6	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1327	2238	2	22	1319	408	116	17	1205	2	6	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1327	2238	2	22	1319	408	116	17	1205	2	6	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1474	2487	2	24	1466	453	129	19	1339	2	7	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1474	2487	2	24	1466	453	129	19	1339	2	7	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1474	2487	2	24	1466	453	129	19	1339	2	7	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	0.87	0.13	1.00	2.00	1.00	2.00
Final Sat.:	1750	7493	7	3150	5700	1750	1570	230	1750	3150	1800	3600
Capacity Analysis Module:												
Vol/Sat:	0.84	0.33	0.33	0.01	0.26	0.26	0.08	0.08	0.77	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	30.9	29.5	29.5	11.4	10.0	10.0	28.1	28.1	28.1	28.1	28.1	28.1
Volume/Cap:	2.13	0.88	0.88	0.05	2.01	2.02	0.23	0.23	2.13	0.00	0.01	0.00
Delay/Veh:	534.8	26.0	26.0	28.7	491	508.6	17.6	17.6	536.7	16.0	16.0	16.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	534.8	26.0	26.0	28.7	491	508.6	17.6	17.6	536.7	16.0	16.0	16.0
LOS by Move:	F	C	C	C	F	F	B	B	F	B	B	B
HCM2k95thQ:	212	27	27	1	65	66	5	5	194	0	0	0

Note: Queue reported is the number of cars per lane.

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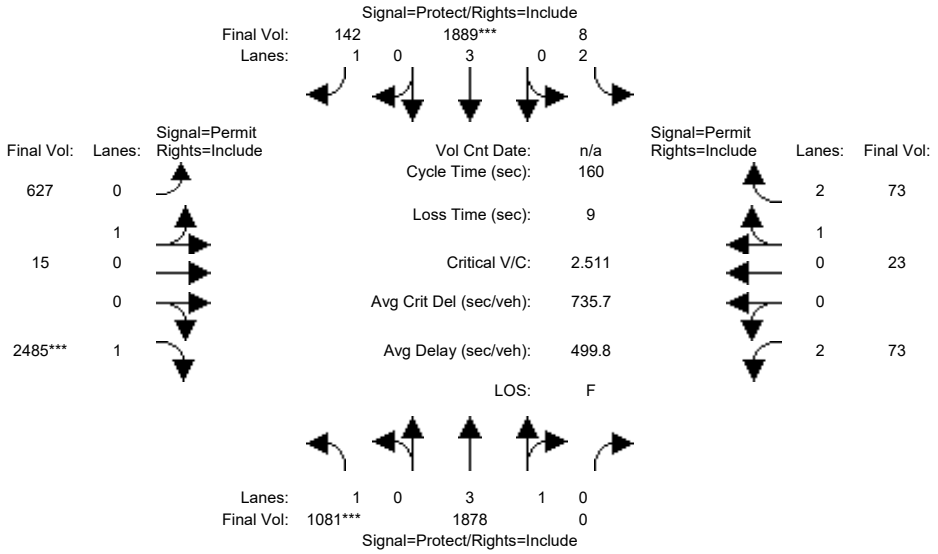
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	1027	1784	0	8	1795	135	596	14	2361	69	22	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1027	1784	0	8	1795	135	596	14	2361	69	22	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1027	1784	0	8	1795	135	596	14	2361	69	22	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	1081	1878	0	8	1889	142	627	15	2485	73	23	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1081	1878	0	8	1889	142	627	15	2485	73	23	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1081	1878	0	8	1889	142	627	15	2485	73	23	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	0.98	0.02	1.00	2.00	0.73	2.27
Final Sat.:	1750	7500	0	3150	5700	1750	1759	41	1750	3150	1305	4095
Capacity Analysis Module:												
Vol/Sat:	0.62	0.25	0.00	0.00	0.33	0.08	0.36	0.36	1.42	0.02	0.02	0.02
Crit Moves:	****				****				****			
Green Time:	39.4	48.4	0.0	12.1	21.1	21.1	90.5	90.5	90.5	90.5	90.5	90.5
Volume/Cap:	2.51	0.83	0.00	0.04	2.51	0.62	0.63	0.63	2.51	0.04	0.03	0.03
Delay/Veh:	747.0	54.6	0.0	68.6	753	70.5	24.7	24.7	717.5	15.5	15.4	15.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	747.0	54.6	0.0	68.6	753	70.5	24.7	24.7	717.5	15.5	15.4	15.4
LOS by Move:	F	D	A	E	F	E	C	C	F	B	B	B
HCM2k95thQ:	212	37	0	0	115	14	37	37	487	2	1	1

Note: Queue reported is the number of cars per lane.

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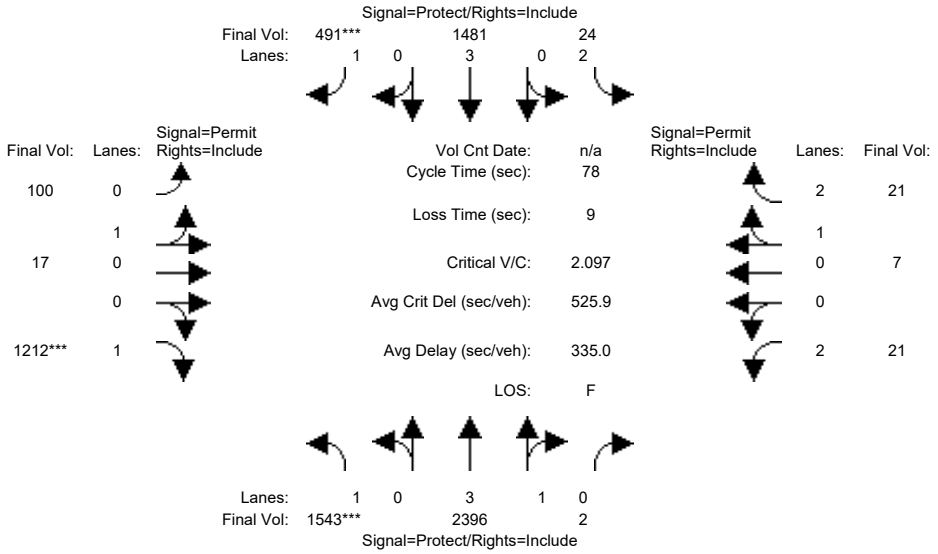
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	1389	2156	2	22	1333	442	90	15	1091	19	6	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1389	2156	2	22	1333	442	90	15	1091	19	6	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1389	2156	2	22	1333	442	90	15	1091	19	6	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1543	2396	2	24	1481	491	100	17	1212	21	7	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1543	2396	2	24	1481	491	100	17	1212	21	7	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1543	2396	2	24	1481	491	100	17	1212	21	7	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	3.99	0.01	2.00	3.00	1.00	0.86	0.14	1.00	2.00	0.72	2.28
Final Sat.:	1750	7493	7	3150	5700	1750	1543	257	1750	3150	1296	4104
Capacity Analysis Module:												
Vol/Sat:	0.88	0.32	0.32	0.01	0.26	0.28	0.06	0.06	0.69	0.01	0.01	0.01
Crit Moves:	****					****			****			
Green Time:	32.8	30.9	30.9	12.4	10.4	10.4	25.8	25.8	25.8	25.8	25.8	25.8
Volume/Cap:	2.10	0.81	0.81	0.05	1.94	2.10	0.20	0.20	2.10	0.02	0.02	0.02
Delay/Veh:	521.0	22.7	22.7	27.9	462	541.8	18.9	18.9	525.8	17.6	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	521.0	22.7	22.7	27.9	462	541.8	18.9	18.9	525.8	17.6	17.6	17.6
LOS by Move:	F	C	C	C	F	F	B	B	F	B	B	B
HCM2k95thQ:	220	24	24	1	64	72	4	4	175	0	0	0

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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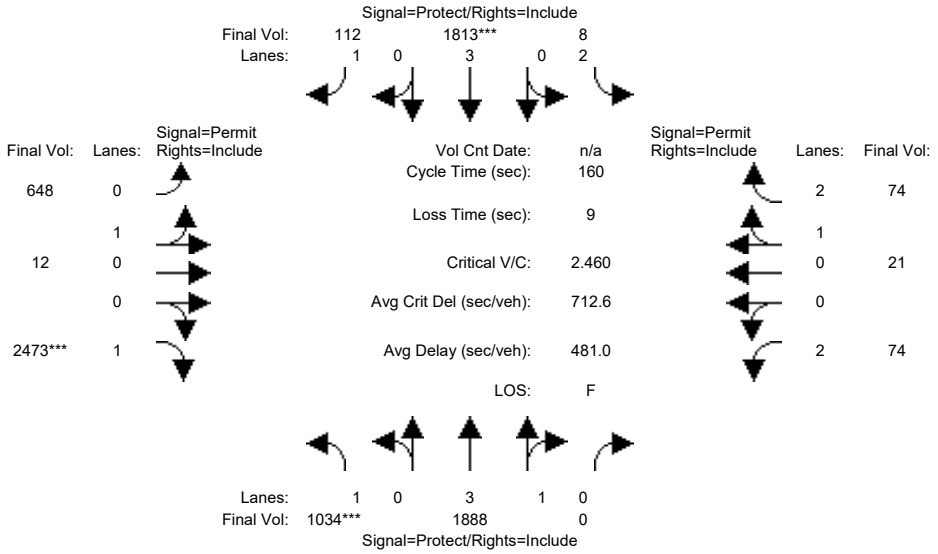
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	982	1794	0	8	1722	106	616	11	2349	70	20	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	982	1794	0	8	1722	106	616	11	2349	70	20	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	982	1794	0	8	1722	106	616	11	2349	70	20	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	1034	1888	0	8	1813	112	648	12	2473	74	21	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1034	1888	0	8	1813	112	648	12	2473	74	21	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1034	1888	0	8	1813	112	648	12	2473	74	21	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	1.00	4.00	0.00	2.00	3.00	1.00	0.98	0.02	1.00	2.00	0.67	2.33
Final Sat.:	1750	7500	0	3150	5700	1750	1768	32	1750	3150	1200	4200
Capacity Analysis Module:												
Vol/Sat:	0.59	0.25	0.00	0.00	0.32	0.06	0.37	0.37	1.41	0.02	0.02	0.02
Crit Moves:	****				****				****			
Green Time:	38.4	47.3	0.0	11.8	20.7	20.7	91.9	91.9	91.9	91.9	91.9	91.9
Volume/Cap:	2.46	0.85	0.00	0.04	2.46	0.49	0.64	0.64	2.46	0.04	0.03	0.03
Delay/Veh:	724.9	56.4	0.0	68.9	731	66.5	24.2	24.2	694.0	14.8	14.8	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	724.9	56.4	0.0	68.9	731	66.5	24.2	24.2	694.0	14.8	14.8	14.8
LOS by Move:	F	E	A	E	F	E	C	C	F	B	B	B
HCM2k95thQ:	201	38	0	0	109	11	38	38	480	2	1	1

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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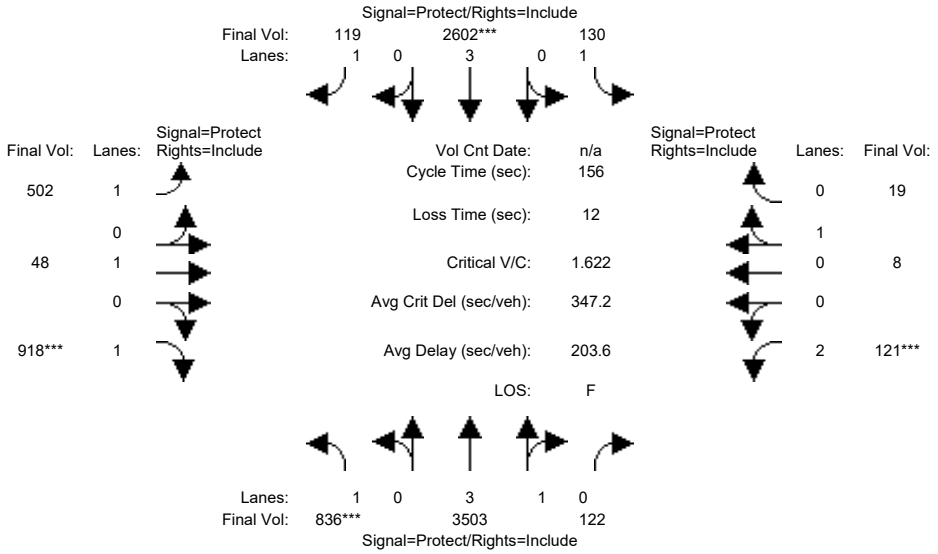
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	752	3153	110	117	2342	107	452	43	826	109	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	752	3153	110	117	2342	107	452	43	826	109	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	752	3153	110	117	2342	107	452	43	826	109	7	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	836	3503	122	130	2602	119	502	48	918	121	8	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	836	3503	122	130	2602	119	502	48	918	121	8	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	836	3503	122	130	2602	119	502	48	918	121	8	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.86	0.14	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.29	0.71
Final Sat.:	1750	7247	253	1750	5700	1750	1750	1900	1750	3150	525	1275
Capacity Analysis Module:												
Vol/Sat:	0.48	0.48	0.48	0.07	0.46	0.07	0.29	0.03	0.52	0.04	0.01	0.01
Crit Moves:	****				****				****	****		
Green Time:	45.2	76.6	76.6	11.8	43.2	43.2	43.6	49.6	49.6	6.0	12.0	12.0
Volume/Cap:	1.65	0.98	0.98	0.98	1.65	0.25	1.03	0.08	1.65	1.00	0.19	0.19
Delay/Veh:	356.1	50.6	50.6	145.4	351	44.0	103.7	37.3	353.1	156.6	68.1	68.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	356.1	50.6	50.6	145.4	351	44.0	103.7	37.3	353.1	156.6	68.1	68.1
LOS by Move:	F	D	D	F	F	D	F	D	F	F	E	E
HCM2k95thQ:	127	65	65	16	123	9	52	3	142	12	3	3

Note: Queue reported is the number of cars per lane.

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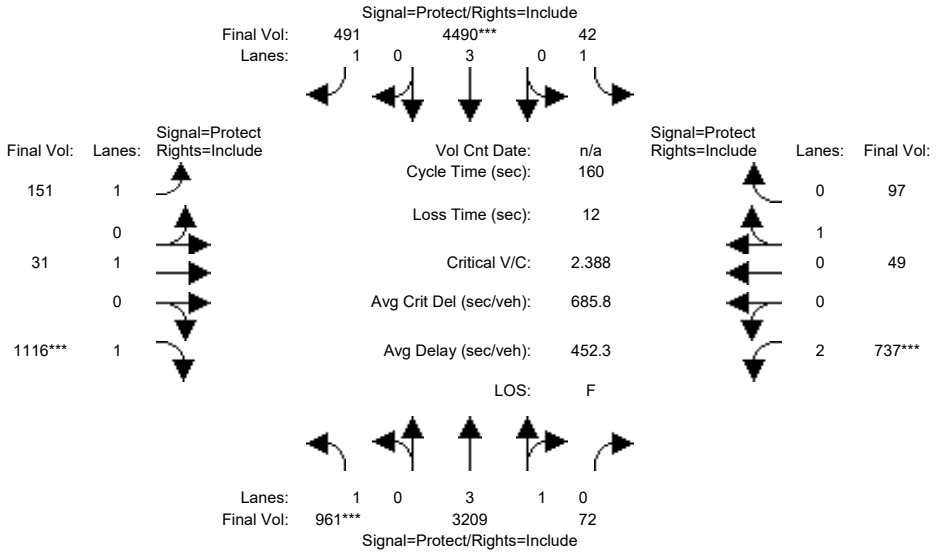
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	894	2984	67	39	4176	457	140	29	1038	685	46	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	894	2984	67	39	4176	457	140	29	1038	685	46	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	894	2984	67	39	4176	457	140	29	1038	685	46	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	961	3209	72	42	4490	491	151	31	1116	737	49	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	961	3209	72	42	4490	491	151	31	1116	737	49	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	961	3209	72	42	4490	491	151	31	1116	737	49	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.34	0.66
Final Sat.:	1750	7335	165	1750	5700	1750	1750	1900	1750	3150	609	1191
Capacity Analysis Module:												
Vol/Sat:	0.55	0.44	0.44	0.02	0.79	0.28	0.09	0.02	0.64	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	36.8	82.5	82.5	7.1	52.8	52.8	30.0	42.7	42.7	15.7	28.4	28.4
Volume/Cap:	2.39	0.85	0.85	0.54	2.39	0.85	0.46	0.06	2.39	2.39	0.46	0.46
Delay/Veh:	693.7	35.3	35.3	82.5	680	61.5	58.8	43.7	689.7	706.6	60.0	60.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	693.7	35.3	35.3	82.5	680	61.5	58.8	43.7	689.7	706.6	60.0	60.0
LOS by Move:	F	D	D	F	F	E	E	D	F	F	E	E
HCM2k95thQ:	184	52	52	5	265	42	14	2	215	82	13	13

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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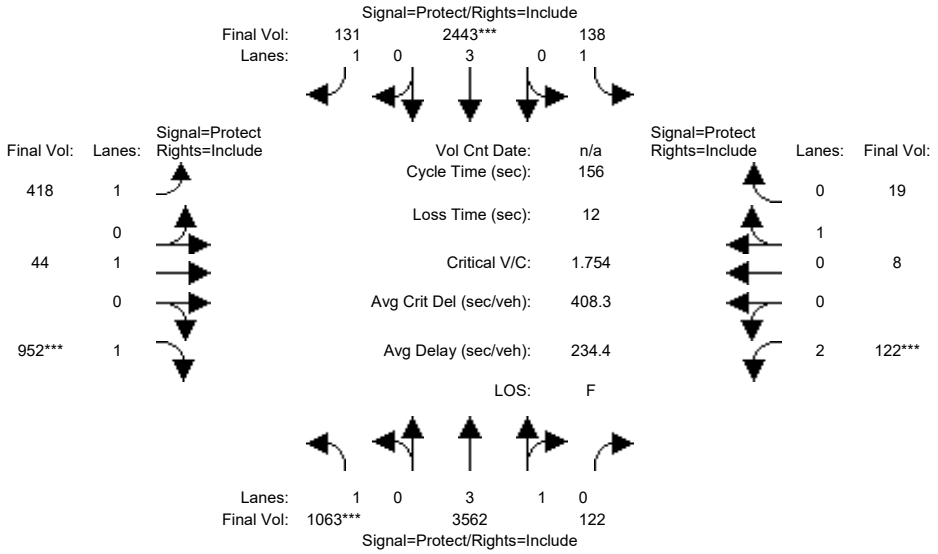
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	957	3206	110	124	2199	118	376	40	857	110	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	957	3206	110	124	2199	118	376	40	857	110	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	957	3206	110	124	2199	118	376	40	857	110	7	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1063	3562	122	138	2443	131	418	44	952	122	8	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1063	3562	122	138	2443	131	418	44	952	122	8	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1063	3562	122	138	2443	131	418	44	952	122	8	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.86	0.14	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.29	0.71
Final Sat.:	1750	7251	249	1750	5700	1750	1750	1900	1750	3150	525	1275
Capacity Analysis Module:												
Vol/Sat:	0.61	0.49	0.49	0.08	0.43	0.07	0.24	0.02	0.54	0.04	0.01	0.01
Crit Moves:	****				****				****	****		
Green Time:	53.1	78.0	78.0	12.5	37.4	37.4	40.5	47.5	47.5	6.0	13.0	13.0
Volume/Cap:	1.79	0.98	0.98	0.98	1.79	0.31	0.92	0.08	1.79	1.01	0.18	0.18
Delay/Veh:	412.2	49.3	49.3	142.2	416	49.1	80.1	38.7	415.7	159.1	67.1	67.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	412.2	49.3	49.3	142.2	416	49.1	80.1	38.7	415.7	159.1	67.1	67.1
LOS by Move:	F	D	D	F	F	D	F	D	F	F	E	E
HCM2k95thQ:	171	65	65	16	123	10	41	3	156	12	3	3

Note: Queue reported is the number of cars per lane.

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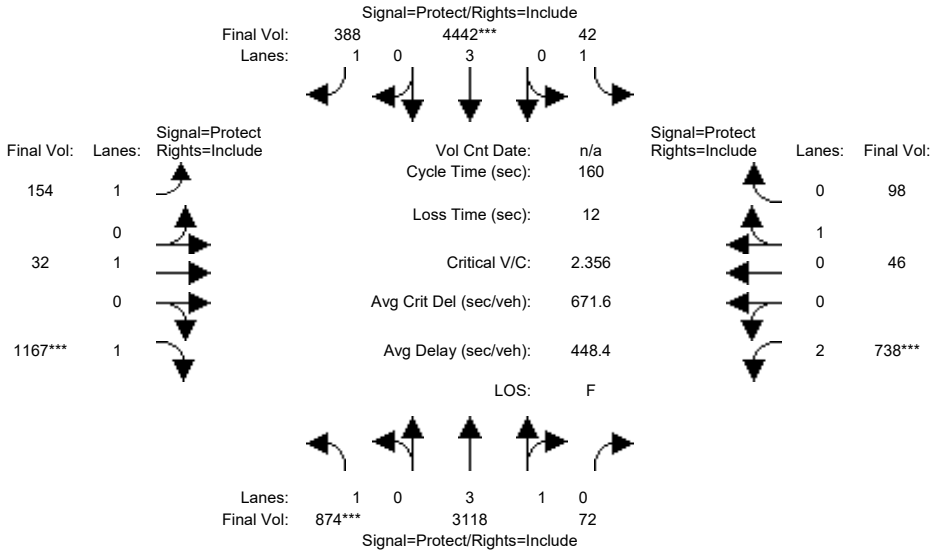
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	813	2900	67	39	4131	361	143	30	1085	686	43	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	813	2900	67	39	4131	361	143	30	1085	686	43	91
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	813	2900	67	39	4131	361	143	30	1085	686	43	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	874	3118	72	42	4442	388	154	32	1167	738	46	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	874	3118	72	42	4442	388	154	32	1167	738	46	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	874	3118	72	42	4442	388	154	32	1167	738	46	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.32	0.68
Final Sat.:	1750	7330	169	1750	5700	1750	1750	1900	1750	3150	578	1222
Capacity Analysis Module:												
Vol/Sat:	0.50	0.43	0.43	0.02	0.78	0.22	0.09	0.02	0.67	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	33.9	79.8	79.8	7.0	52.9	52.9	32.0	45.3	45.3	15.9	29.2	29.2
Volume/Cap:	2.36	0.85	0.85	0.55	2.36	0.67	0.44	0.06	2.36	2.36	0.44	0.44
Delay/Veh:	681.7	37.1	37.1	82.8	666	49.1	57.0	41.9	674.0	692.3	59.1	59.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	681.7	37.1	37.1	82.8	666	49.1	57.0	41.9	674.0	692.3	59.1	59.1
LOS by Move:	F	D	D	F	F	D	E	D	F	F	E	E
HCM2k95thQ:	166	51	51	5	260	30	14	2	224	82	13	13

Note: Queue reported is the number of cars per lane.

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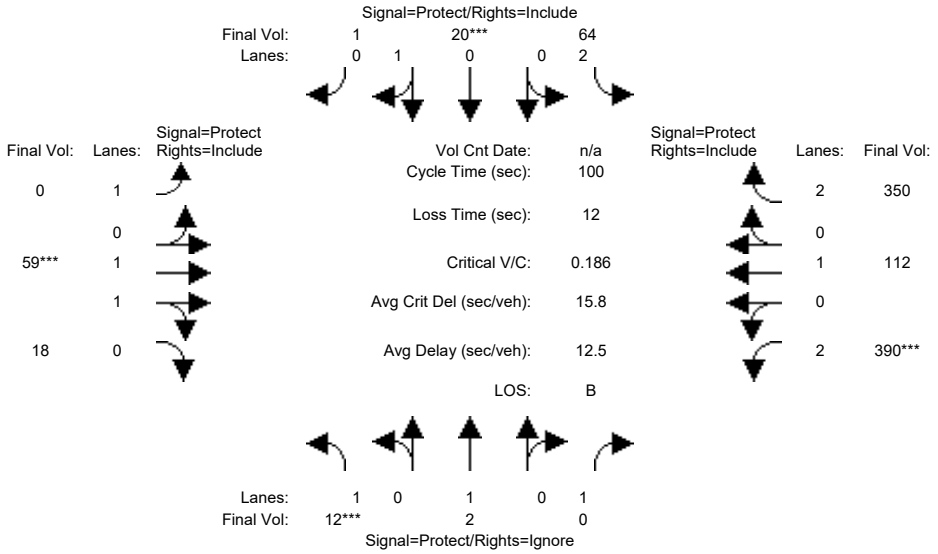
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	446	58	18	1	0	53	16	351	101	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	446	58	18	1	0	53	16	351	101	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	446	58	18	1	0	53	16	351	101	315
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	64	20	1	0	59	18	390	112	350
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	64	20	1	0	59	18	390	112	350
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	64	20	1	0	59	18	390	112	350
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.95	0.05	1.00	1.52	0.48	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1705	95	1750	2841	858	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.12	0.06	0.11
Crit Moves:	****				****			****		****		
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.3	10.3	61.7	72.0	72.0
Volume/Cap:	0.09	0.01	0.00	0.26	0.15	0.15	0.00	0.20	0.20	0.20	0.08	0.15
Delay/Veh:	42.9	42.4	0.0	43.7	43.3	43.3	0.0	41.3	41.3	8.4	4.2	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	42.4	0.0	43.7	43.3	43.3	0.0	41.3	41.3	8.4	4.2	4.4
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	3	2	2	0	3	3	6	2	4

Note: Queue reported is the number of cars per lane.

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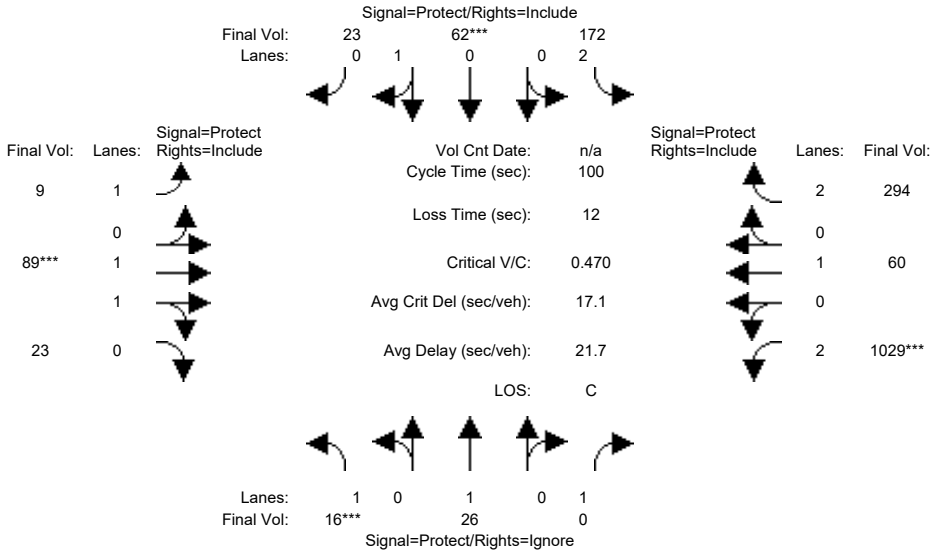
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	25	694	163	59	22	9	85	22	978	57	279
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	25	694	163	59	22	9	85	22	978	57	279
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	25	694	163	59	22	9	85	22	978	57	279
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	26	0	172	62	23	9	89	23	1029	60	294
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	0	172	62	23	9	89	23	1029	60	294
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	26	0	172	62	23	9	89	23	1029	60	294
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1311	489	1750	2939	761	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.05	0.05	0.05	0.01	0.03	0.03	0.33	0.03	0.09
Crit Moves:	****				****			****			****	
Green Time:	8.0	8.4	0.0	8.4	8.9	8.9	35.6	10.0	10.0	61.1	35.6	35.6
Volume/Cap:	0.11	0.16	0.00	0.65	0.53	0.53	0.02	0.30	0.30	0.53	0.09	0.26
Delay/Veh:	43.1	43.0	0.0	49.8	47.1	47.1	20.9	42.2	42.2	11.5	21.5	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.1	43.0	0.0	49.8	47.1	47.1	20.9	42.2	42.2	11.5	21.5	23.0
LOS by Move:	D	D	A	D	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	8	7	7	0	4	4	19	2	7

Note: Queue reported is the number of cars per lane.

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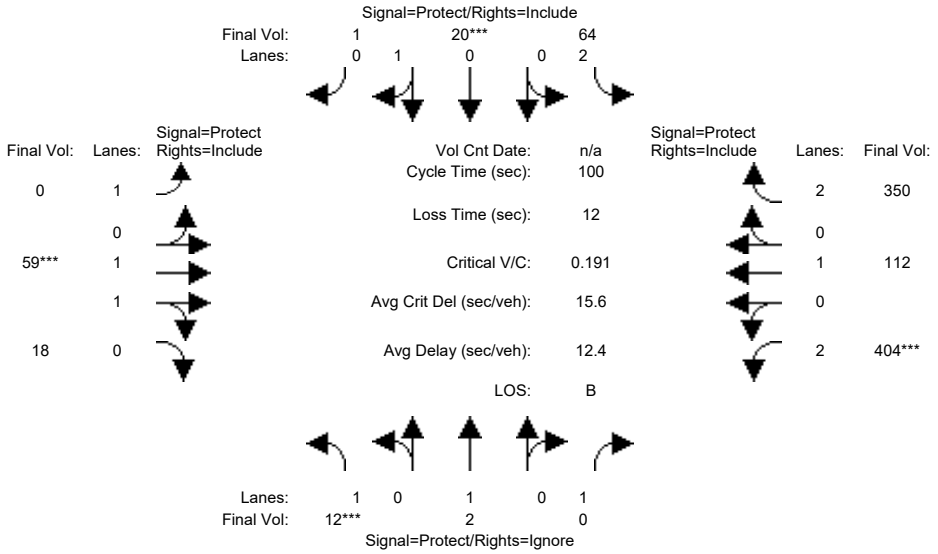
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	11	2	478	58	18	1	0	53	16	364	101	315
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	2	478	58	18	1	0	53	16	364	101	315
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	2	478	58	18	1	0	53	16	364	101	315
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	12	2	0	64	20	1	0	59	18	404	112	350
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	2	0	64	20	1	0	59	18	404	112	350
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	2	0	64	20	1	0	59	18	404	112	350
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.95	0.05	1.00	1.52	0.48	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1705	95	1750	2841	858	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.02	0.13	0.06	0.11
Crit Moves:	****				****			****		****		
Green Time:	8.0	8.0	0.0	8.0	8.0	8.0	0.0	10.0	10.0	62.0	72.0	72.0
Volume/Cap:	0.09	0.01	0.00	0.26	0.15	0.15	0.00	0.21	0.21	0.21	0.08	0.15
Delay/Veh:	42.9	42.4	0.0	43.7	43.3	43.3	0.0	41.6	41.6	8.3	4.2	4.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.9	42.4	0.0	43.7	43.3	43.3	0.0	41.6	41.6	8.3	4.2	4.4
LOS by Move:	D	D	A	D	D	D	A	D	D	A	A	A
HCM2k95thQ:	1	0	0	3	2	2	0	3	3	6	2	4

Note: Queue reported is the number of cars per lane.

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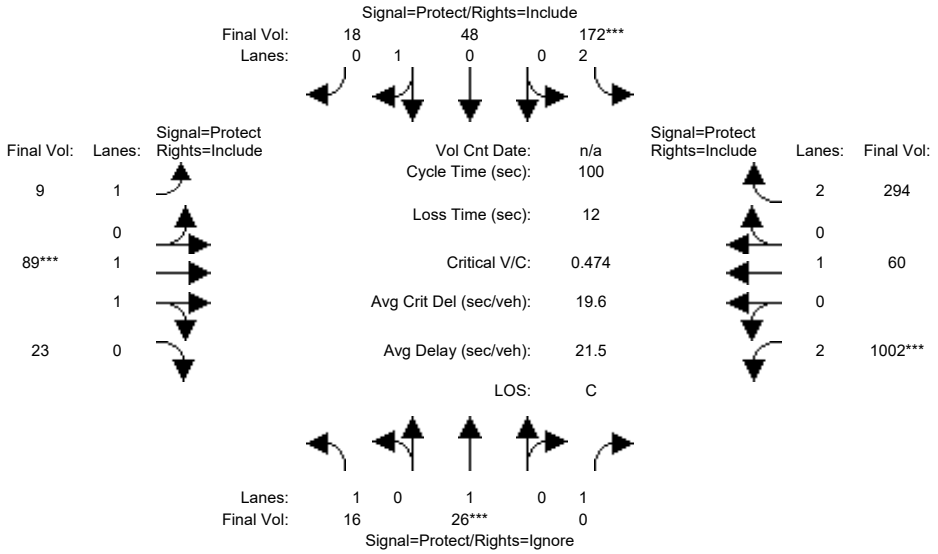
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #570: (25) Mission College Blvd Loop and Mission College Blvd



Street Name:	Mission College Blvd Loop						Mission College Blvd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	8	8	8	8	8	8	10	10	10	15	10	10
Y+R:	4.6	6.0	6.0	4.0	6.0	6.0	5.6	5.6	5.6	5.5	5.5	5.5
Volume Module:												
Base Vol:	15	25	687	163	46	17	9	85	22	952	57	279
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	25	687	163	46	17	9	85	22	952	57	279
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	25	687	163	46	17	9	85	22	952	57	279
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	16	26	0	172	48	18	9	89	23	1002	60	294
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	0	172	48	18	9	89	23	1002	60	294
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	26	0	172	48	18	9	89	23	1002	60	294
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	0.98	0.95	0.83	1.00	0.83
Lanes:	1.00	1.00	1.00	2.00	0.73	0.27	1.00	1.58	0.42	2.00	1.00	2.00
Final Sat.:	1750	1900	1750	3150	1314	486	1750	2939	761	3150	1900	3150
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.00	0.05	0.04	0.04	0.01	0.03	0.03	0.32	0.03	0.09
Crit Moves:		****		****				****		****		
Green Time:	9.1	8.0	0.0	10.2	9.1	9.1	34.9	10.0	10.0	59.8	34.9	34.9
Volume/Cap:	0.10	0.17	0.00	0.53	0.40	0.40	0.02	0.30	0.30	0.53	0.09	0.27
Delay/Veh:	41.9	43.5	0.0	44.3	44.5	44.5	21.3	42.2	42.2	12.2	22.0	23.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.9	43.5	0.0	44.3	44.5	44.5	21.3	42.2	42.2	12.2	22.0	23.5
LOS by Move:	D	D	A	D	D	D	C	D	D	B	C	C
HCM2k95thQ:	1	2	0	7	5	5	0	4	4	19	2	7

Note: Queue reported is the number of cars per lane.

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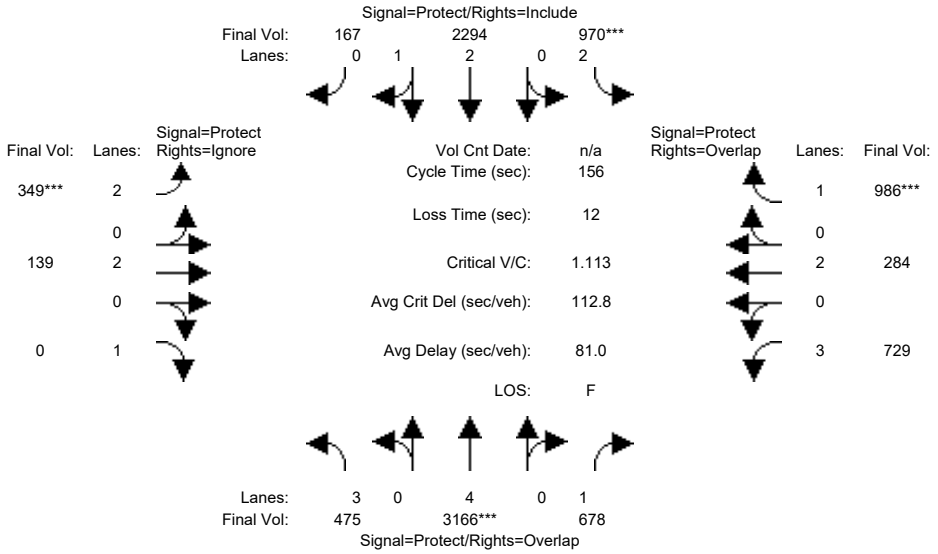
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	475	3166	678	970	2294	167	349	139	193	729	284	986
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	475	3166	678	970	2294	167	349	139	193	729	284	986
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	475	3166	678	970	2294	167	349	139	193	729	284	986
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	475	3166	678	970	2294	167	349	139	0	729	284	986
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	475	3166	678	970	2294	167	349	139	0	729	284	986
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	475	3166	678	970	2294	167	349	139	0	729	284	986
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.80	0.20	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5313	387	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.42	0.36	0.26	0.43	0.43	0.09	0.04	0.00	0.13	0.07	0.52
Crit Moves:		****		****			****					****
Green Time:	15.2	58.4	91.6	35.8	78.9	78.9	12.9	16.6	0.0	33.2	37.0	72.7
Volume/Cap:	0.85	1.11	0.61	1.11	0.85	0.85	1.11	0.34	0.00	0.60	0.32	1.11
Delay/Veh:	84.6	105	23.1	126.5	37.0	37.0	156.3	66.9	0.0	57.6	50.0	107.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.6	105	23.1	126.5	37.0	37.0	156.3	66.9	0.0	57.6	50.0	107.8
LOS by Move:	F	F	C	F	D	D	F	E	A	E	D	F
HCM2k95thQ:	15	83	35	45	51	51	20	7	0	18	11	103

Note: Queue reported is the number of cars per lane.

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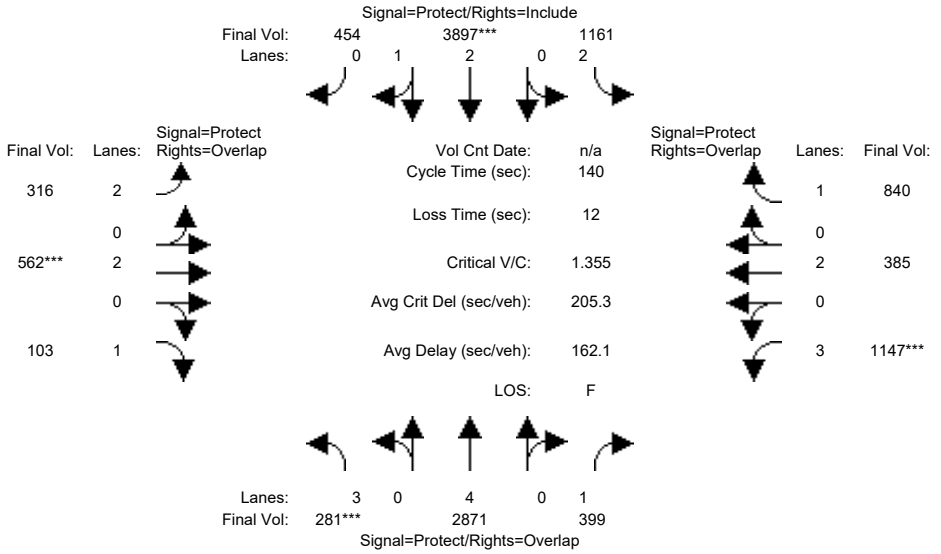
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	281	2871	399	1161	3897	454	316	562	103	1147	385	840
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	2871	399	1161	3897	454	316	562	103	1147	385	840
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	2871	399	1161	3897	454	316	562	103	1147	385	840
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	2871	399	1161	3897	454	316	562	103	1147	385	840
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	2871	399	1161	3897	454	316	562	103	1147	385	840
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	2871	399	1161	3897	454	316	562	103	1147	385	840
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.68	0.32	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5015	584	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.38	0.23	0.37	0.78	0.78	0.10	0.15	0.06	0.25	0.10	0.48
Crit Moves:	****				****			****		****		
Green Time:	7.0	44.0	69.9	42.9	79.9	79.9	19.5	15.2	22.2	25.9	21.6	64.5
Volume/Cap:	1.23	1.20	0.46	1.20	1.36	1.36	0.72	1.36	0.37	1.36	0.66	1.04
Delay/Veh:	204.1	143	23.1	149.7	195	195.0	63.4	240	53.5	227.6	58.4	80.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	204.1	143	23.1	149.7	195	195.0	63.4	240	53.5	227.6	58.4	80.6
LOS by Move:	F	F	C	F	F	F	E	F	D	F	E	F
HCM2k95thQ:	15	72	21	66	160	160	15	36	8	57	15	74

Note: Queue reported is the number of cars per lane.

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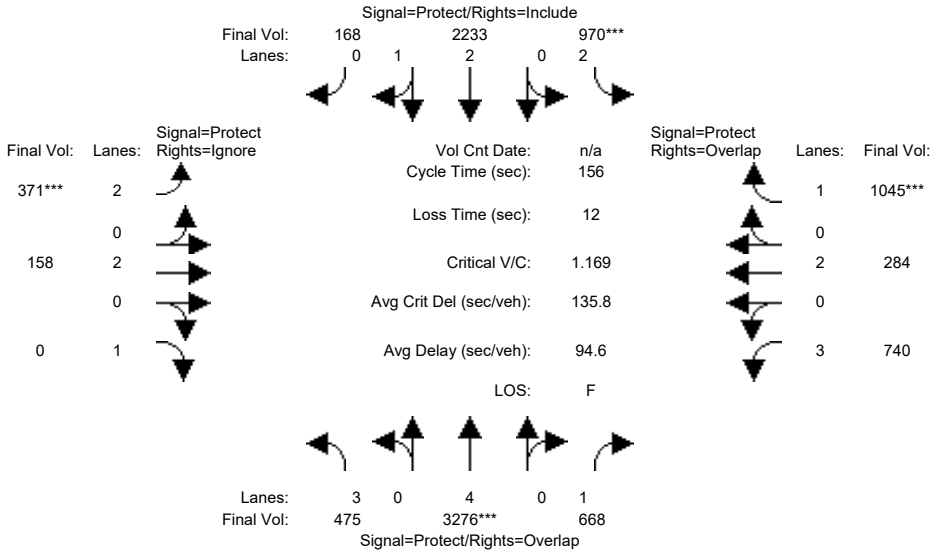
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	8	15	15	10	15	15	4	10	10	5	10	10
Y+R:	5.0	7.2	7.2	5.0	7.2	7.2	5.0	6.4	6.4	5.0	6.4	6.4
Volume Module:												
Base Vol:	475	3276	668	970	2233	168	371	158	193	740	284	1045
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	475	3276	668	970	2233	168	371	158	193	740	284	1045
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	475	3276	668	970	2233	168	371	158	193	740	284	1045
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	475	3276	668	970	2233	168	371	158	0	740	284	1045
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	475	3276	668	970	2233	168	371	158	0	740	284	1045
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	475	3276	668	970	2233	168	371	158	0	740	284	1045
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	4.00	1.00	2.00	2.79	0.21	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	5700	7600	1900	3800	5301	399	3800	3800	1900	5700	3800	1900
Capacity Analysis Module:												
Vol/Sat:	0.08	0.43	0.35	0.26	0.42	0.42	0.10	0.04	0.00	0.13	0.07	0.55
Crit Moves:		****		****			****					****
Green Time:	15.1	57.5	92.6	34.1	76.5	76.5	13.0	17.3	0.0	35.1	39.3	73.4
Volume/Cap:	0.86	1.17	0.59	1.17	0.86	0.86	1.17	0.37	0.00	0.58	0.30	1.17
Delay/Veh:	85.3	129	22.2	149.7	38.7	38.7	175.9	66.9	0.0	55.8	47.9	129.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	85.3	129	22.2	149.7	38.7	38.7	175.9	66.9	0.0	55.8	47.9	129.2
LOS by Move:	F	F	C	F	D	D	F	E	A	E	D	F
HCM2k95thQ:	15	91	33	49	50	50	22	7	0	18	10	115

Note: Queue reported is the number of cars per lane.

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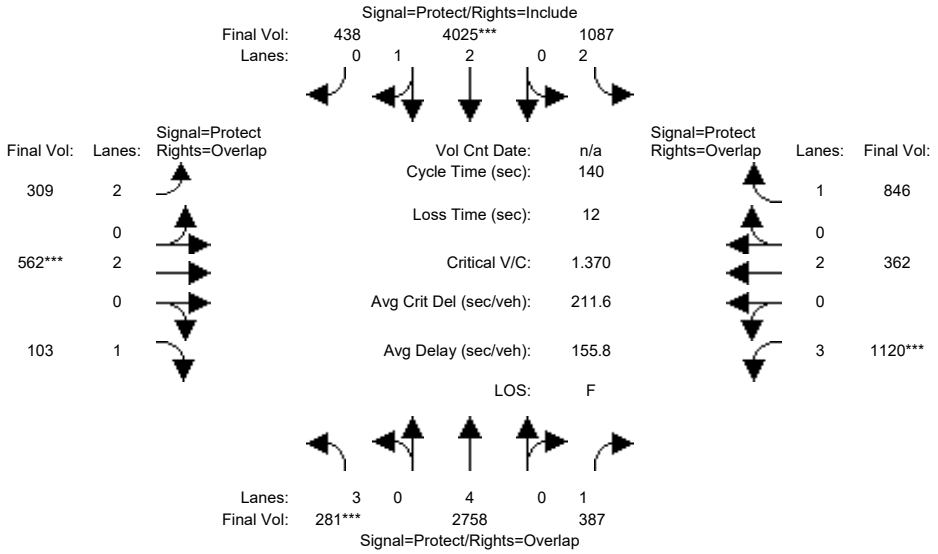
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #1206: (18) GREAT AMERICA / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	281	2758	387	1087	4025	438	309	562	103	1120	362	846
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	281	2758	387	1087	4025	438	309	562	103	1120	362	846
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	2758	387	1087	4025	438	309	562	103	1120	362	846
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	2758	387	1087	4025	438	309	562	103	1120	362	846
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	2758	387	1087	4025	438	309	562	103	1120	362	846
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	281	2758	387	1087	4025	438	309	562	103	1120	362	846
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	1.00	0.92	0.83	0.99	0.95	0.83	1.00	0.92	0.80	1.00	0.92
Lanes:	3.00	4.00	1.00	2.00	2.69	0.31	2.00	2.00	1.00	3.00	2.00	1.00
Final Sat.:	4551	7600	1750	3150	5050	550	3150	3800	1750	4551	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.36	0.22	0.35	0.80	0.80	0.10	0.15	0.06	0.25	0.10	0.48
Crit Moves:	****				****			****		****		
Green Time:	7.0	45.1	70.1	42.9	81.0	81.0	16.6	15.0	22.0	25.0	23.4	66.3
Volume/Cap:	1.23	1.13	0.44	1.13	1.38	1.38	0.83	1.38	0.37	1.38	0.57	1.02
Delay/Veh:	204.1	110	22.8	119.0	202	201.7	74.4	247	53.7	235.4	54.9	73.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	204.1	110	22.8	119.0	202	201.7	74.4	247	53.7	235.4	54.9	73.5
LOS by Move:	F	F	C	F	F	F	E	F	D	F	D	E
HCM2k95thQ:	15	64	20	56	167	167	16	36	8	57	13	72

Note: Queue reported is the number of cars per lane.

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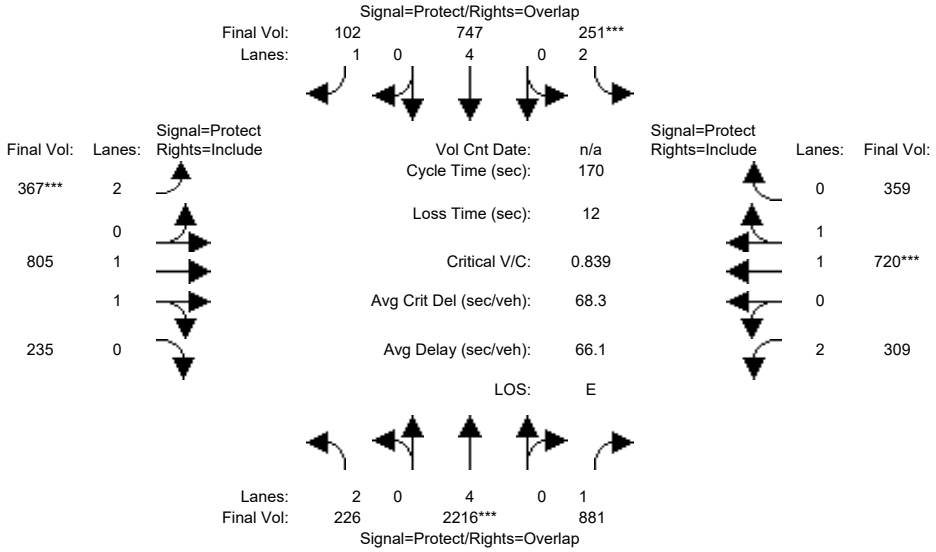
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC AM wo Conn

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	226	2216	881	251	747	102	367	805	235	309	720	359
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	226	2216	881	251	747	102	367	805	235	309	720	359
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	226	2216	881	251	747	102	367	805	235	309	720	359
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	226	2216	881	251	747	102	367	805	235	309	720	359
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	2216	881	251	747	102	367	805	235	309	720	359
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	2216	881	251	747	102	367	805	235	309	720	359
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.54	0.46	2.00	1.32	0.68
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2863	836	3150	2468	1231
Capacity Analysis Module:												
Vol/Sat:	0.07	0.29	0.50	0.08	0.10	0.06	0.12	0.28	0.28	0.10	0.29	0.29
Crit Moves:		****		****			****				****	
Green Time:	18.4	73.0	96.0	16.0	70.6	93.6	23.0	46.0	46.0	23.0	46.0	46.0
Volume/Cap:	0.66	0.68	0.89	0.85	0.24	0.11	0.86	1.04	1.04	0.73	1.08	1.08
Delay/Veh:	77.6	39.7	42.7	95.5	32.3	18.3	88.1	101	101.1	76.6	114	114.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.6	39.7	42.7	95.5	32.3	18.3	88.1	101	101.1	76.6	114	114.0
LOS by Move:	E	D	D	F	C	B	F	F	F	E	F	F
HCM2k95thQ:	12	39	67	16	14	7	22	53	53	18	57	57

Note: Queue reported is the number of cars per lane.

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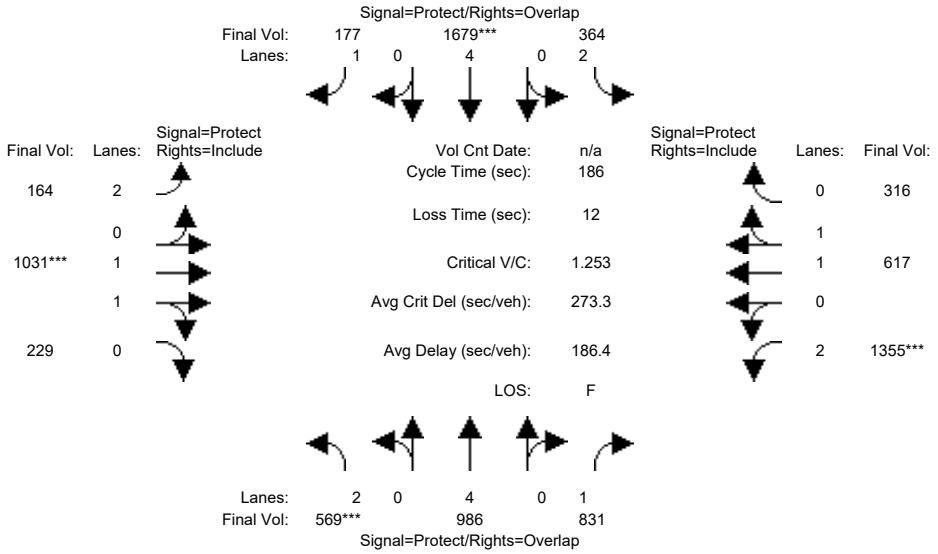
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1+FC PM wo Conn

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	569	986	831	364	1679	177	164	1031	229	1355	617	316
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	569	986	831	364	1679	177	164	1031	229	1355	617	316
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	569	986	831	364	1679	177	164	1031	229	1355	617	316
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	569	986	831	364	1679	177	164	1031	229	1355	617	316
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	569	986	831	364	1679	177	164	1031	229	1355	617	316
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	569	986	831	364	1679	177	164	1031	229	1355	617	316
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.63	0.37	2.00	1.30	0.70
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	3027	672	3150	2446	1253
Capacity Analysis Module:												
Vol/Sat:	0.18	0.13	0.47	0.12	0.22	0.10	0.05	0.34	0.34	0.43	0.25	0.25
Crit Moves:	****				****			****		****		
Green Time:	19.0	58.8	99.8	28.2	68.0	107.5	39.5	46.0	46.0	41.0	47.5	47.5
Volume/Cap:	1.77	0.41	0.89	0.76	0.60	0.18	0.25	1.38	1.38	1.95	0.99	0.99
Delay/Veh:	441.7	50.1	48.2	82.7	48.4	18.5	61.1	247	246.6	505.9	95.1	95.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	441.7	50.1	48.2	82.7	48.4	18.5	61.1	247	246.6	505.9	95.1	95.1
LOS by Move:	F	D	D	F	D	B	E	F	F	F	F	F
HCM2k95thQ:	58	21	74	22	35	13	9	88	88	140	49	49

Note: Queue reported is the number of cars per lane.

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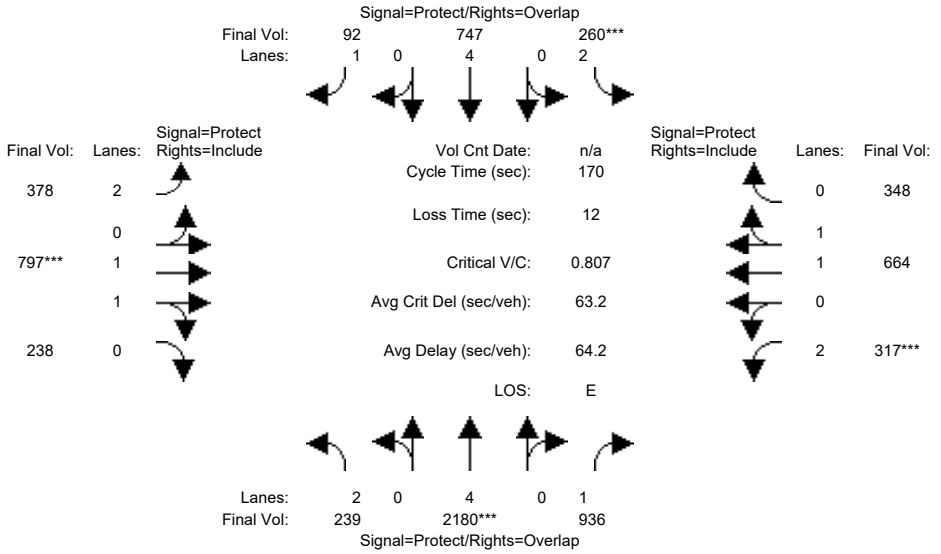
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC AM wo Conn

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	18	73	73	16	69	69	23	38	38	23	38	38
Y+R:	5.5	6.2	6.2	5.7	6.2	6.2	5.0	5.8	5.8	5.6	5.3	5.3
Volume Module:												
Base Vol:	239	2180	936	260	747	92	378	797	238	317	664	348
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	239	2180	936	260	747	92	378	797	238	317	664	348
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	239	2180	936	260	747	92	378	797	238	317	664	348
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	239	2180	936	260	747	92	378	797	238	317	664	348
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	239	2180	936	260	747	92	378	797	238	317	664	348
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	239	2180	936	260	747	92	378	797	238	317	664	348
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.53	0.47	2.00	1.29	0.71
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2849	851	3150	2427	1272
Capacity Analysis Module:												
Vol/Sat:	0.08	0.29	0.53	0.08	0.10	0.05	0.12	0.28	0.28	0.10	0.27	0.27
Crit Moves:		****		****				****		****		
Green Time:	18.4	73.0	96.0	16.0	70.6	93.6	23.0	46.0	46.0	23.0	46.0	46.0
Volume/Cap:	0.70	0.67	0.95	0.88	0.24	0.10	0.89	1.03	1.03	0.74	1.01	1.01
Delay/Veh:	79.5	39.3	51.9	100.2	32.3	18.2	91.8	99.6	99.6	77.6	93.2	93.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.5	39.3	51.9	100.2	32.3	18.2	91.8	99.6	99.6	77.6	93.2	93.2
LOS by Move:	E	D	D	F	C	B	F	F	F	E	F	F
HCM2k95thQ:	13	38	74	17	14	6	23	53	53	18	51	51

Note: Queue reported is the number of cars per lane.

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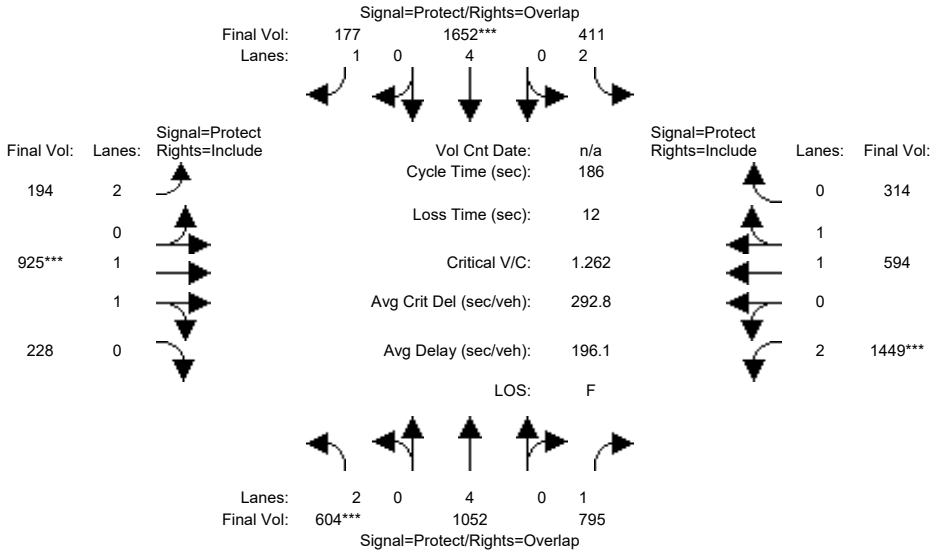
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2+FC PM wo Conn

Intersection #5603: (1) LAWRENCE EXPWY/TASMAN DR



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	19	52	52	25	68	68	39	46	46	37	44	44
Y+R:	7.1	6.2	6.2	7.1	6.2	6.2	7.0	6.1	6.1	7.1	6.2	6.2
Volume Module:												
Base Vol:	604	1052	795	411	1652	177	194	925	228	1449	594	314
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	604	1052	795	411	1652	177	194	925	228	1449	594	314
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ATI:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	604	1052	795	411	1652	177	194	925	228	1449	594	314
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	604	1052	795	411	1652	177	194	925	228	1449	594	314
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	604	1052	795	411	1652	177	194	925	228	1449	594	314
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	604	1052	795	411	1652	177	194	925	228	1449	594	314
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	0.98	0.95	0.83	0.99	0.95
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.59	0.41	2.00	1.29	0.71
Final Sat.:	3150	7600	1750	3150	7600	1750	3150	2968	732	3150	2420	1279
Capacity Analysis Module:												
Vol/Sat:	0.19	0.14	0.45	0.13	0.22	0.10	0.06	0.31	0.31	0.46	0.25	0.25
Crit Moves:	****				****			****		****		
Green Time:	19.0	58.8	99.8	28.2	68.0	108.1	40.1	46.0	46.0	41.0	46.9	46.9
Volume/Cap:	1.88	0.44	0.85	0.86	0.59	0.17	0.29	1.26	1.26	2.09	0.97	0.97
Delay/Veh:	489.8	50.6	43.9	91.4	48.2	18.2	61.2	196	196.0	566.5	91.9	91.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	489.8	50.6	43.9	91.4	48.2	18.2	61.2	196	196.0	566.5	91.9	91.9
LOS by Move:	F	D	D	F	D	B	E	F	F	F	F	F
HCM2k95thQ:	64	22	69	26	34	13	10	75	75	155	48	48

Note: Queue reported is the number of cars per lane.

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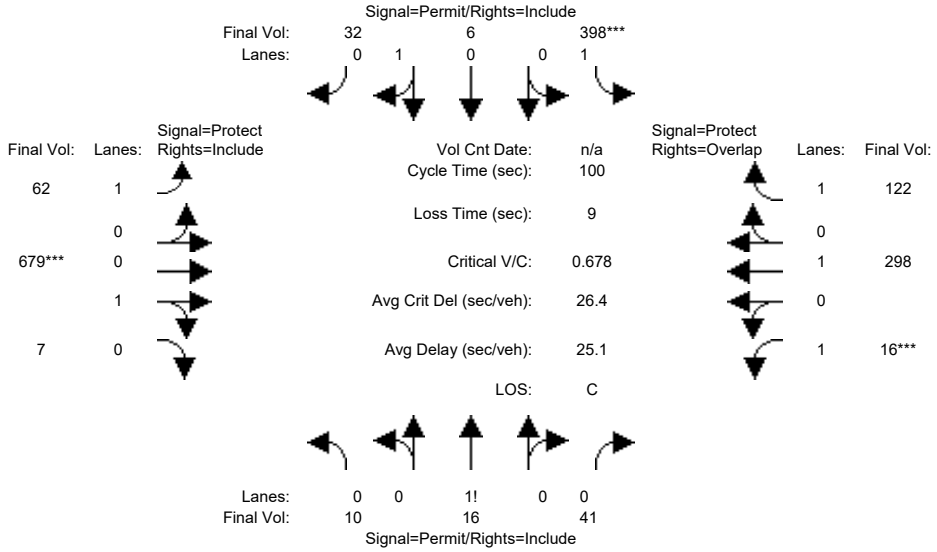
Level of Service Calculations with Mitigations

Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	16	41	395	6	32	63	668	7	15	288	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	16	41	395	6	32	63	668	7	15	288	121
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-4	-37	-1	-3	-7	-57	-1	-1	-20	-11
Initial Fut:	9	14	37	358	5	29	56	611	6	14	268	110
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	10	16	41	398	6	32	62	679	7	16	298	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	16	41	398	6	32	62	679	7	16	298	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	16	41	398	6	32	62	679	7	16	298	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.15	0.23	0.62	1.00	0.15	0.85	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	263	408	1079	1750	265	1535	1750	1782	18	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.23	0.02	0.02	0.04	0.38	0.38	0.01	0.16	0.07
Crit Moves:				****				****		****		
Green Time:	31.4	31.4	31.4	31.4	31.4	31.4	18.4	52.6	52.6	7.0	41.2	41.2
Volume/Cap:	0.12	0.12	0.12	0.72	0.07	0.07	0.19	0.72	0.72	0.13	0.38	0.17
Delay/Veh:	24.6	24.6	24.6	35.2	24.1	24.1	34.8	20.9	20.9	44.1	20.8	18.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.6	24.6	24.6	35.2	24.1	24.1	34.8	20.9	20.9	44.1	20.8	18.7
LOS by Move:	C	C	C	D	C	C	C	C	C	D	C	B
HCM2k95thQ:	3	3	3	22	2	2	4	31	31	1	12	5

Note: Queue reported is the number of cars per lane.

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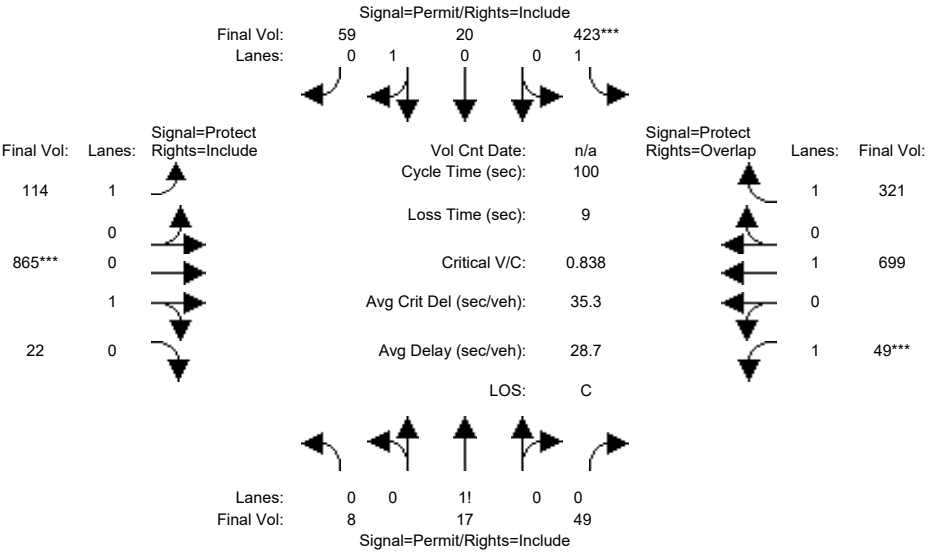
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	8	18	50	417	20	60	116	850	22	50	705	329
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	18	50	417	20	60	116	850	22	50	705	329
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-5	-28	-2	-6	-11	-54	-2	-5	-62	-34
Initial Fut:	7	16	45	389	18	54	105	796	20	45	643	295
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	8	17	49	423	20	59	114	865	22	49	699	321
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	17	49	423	20	59	114	865	22	49	699	321
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	8	17	49	423	20	59	114	865	22	49	699	321
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.10	0.24	0.66	1.00	0.25	0.75	1.00	0.98	0.02	1.00	1.00	1.00
Final Sat.:	180	412	1158	1750	450	1350	1750	1756	44	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.24	0.04	0.04	0.07	0.49	0.49	0.03	0.37	0.18
Crit Moves:				****				****		****		
Green Time:	27.6	27.6	27.6	27.6	27.6	27.6	10.1	56.4	56.4	7.0	53.2	53.2
Volume/Cap:	0.15	0.15	0.15	0.87	0.16	0.16	0.64	0.87	0.87	0.40	0.69	0.34
Delay/Veh:	27.5	27.5	27.5	50.6	27.5	27.5	51.1	27.3	27.3	46.6	19.4	13.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.5	27.5	27.5	50.6	27.5	27.5	51.1	27.3	27.3	46.6	19.4	13.6
LOS by Move:	C	C	C	D	C	C	D	C	C	D	B	B
HCM2k95thQ:	4	4	4	25	4	4	9	45	45	3	27	11

Note: Queue reported is the number of cars per lane.

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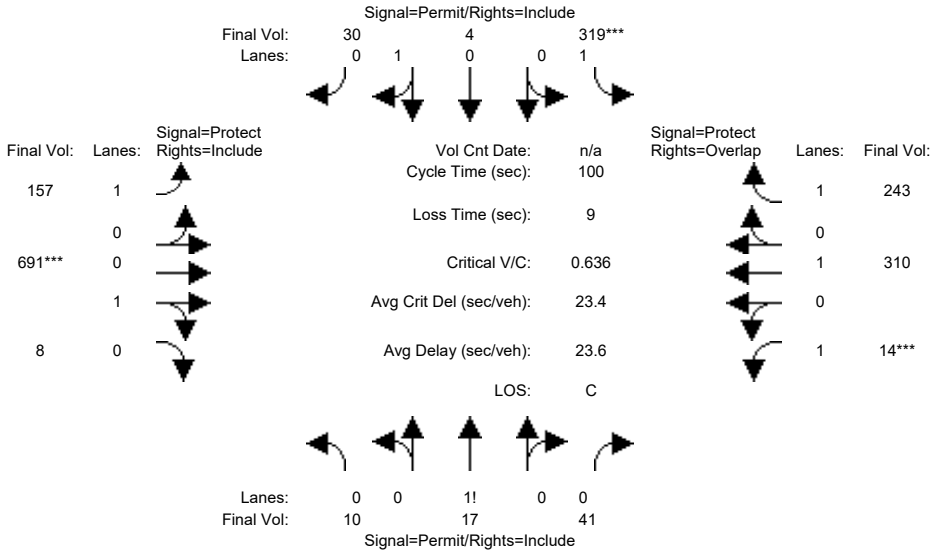
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	17	41	316	5	29	157	680	8	15	300	242
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	17	41	316	5	29	157	680	8	15	300	242
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-4	-29	-1	-2	-16	-58	-1	-2	-21	-23
Initial Fut:	9	15	37	287	4	27	141	622	7	13	279	219
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	10	17	41	319	4	30	157	691	8	14	310	243
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	17	41	319	4	30	157	691	8	14	310	243
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	17	41	319	4	30	157	691	8	14	310	243
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.15	0.24	0.61	1.00	0.13	0.87	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	258	430	1061	1750	232	1568	1750	1780	20	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.18	0.02	0.02	0.09	0.39	0.39	0.01	0.16	0.14
Crit Moves:				****				****		****		
Green Time:	26.8	26.8	26.8	26.8	26.8	26.8	22.7	57.2	57.2	7.0	41.4	41.4
Volume/Cap:	0.14	0.14	0.14	0.68	0.07	0.07	0.39	0.68	0.68	0.12	0.39	0.34
Delay/Veh:	28.0	28.0	28.0	36.7	27.4	27.4	33.4	16.8	16.8	44.0	20.8	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.0	28.0	28.0	36.7	27.4	27.4	33.4	16.8	16.8	44.0	20.8	20.2
LOS by Move:	C	C	C	D	C	C	C	B	B	D	C	C
HCM2k95thQ:	4	4	4	18	2	2	9	29	29	1	12	10

Note: Queue reported is the number of cars per lane.

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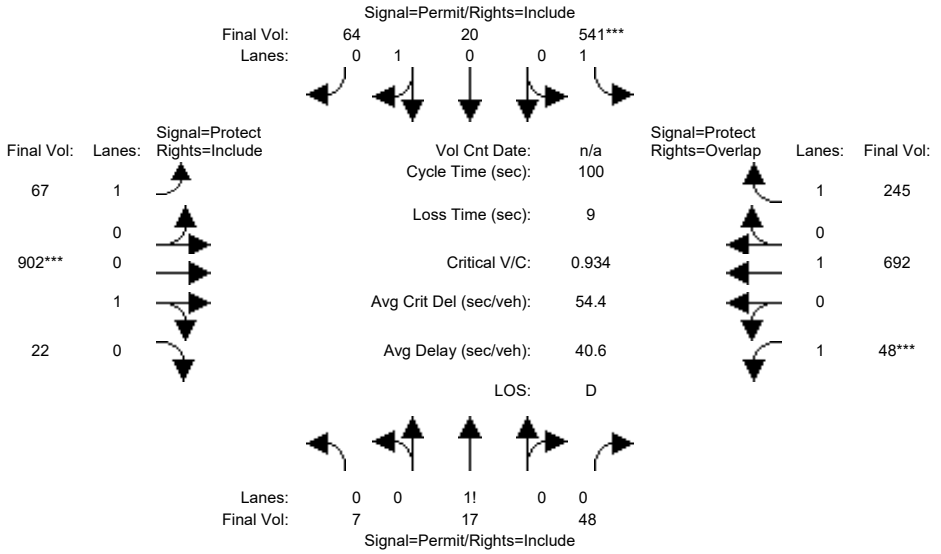
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	17	48	538	20	66	65	884	22	49	698	251
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	17	48	538	20	66	65	884	22	49	698	251
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-1	-4	-40	-2	-7	-3	-54	-2	-5	-61	-26
Initial Fut:	6	16	44	498	18	59	62	830	20	44	637	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	7	17	48	541	20	64	67	902	22	48	692	245
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	17	48	541	20	64	67	902	22	48	692	245
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	17	48	541	20	64	67	902	22	48	692	245
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.09	0.24	0.67	1.00	0.23	0.77	1.00	0.98	0.02	1.00	1.00	1.00
Final Sat.:	159	424	1167	1750	421	1379	1750	1758	42	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.31	0.05	0.05	0.04	0.51	0.51	0.03	0.36	0.14
Crit Moves:				****				****		****		
Green Time:	31.6	31.6	31.6	31.6	31.6	31.6	9.6	52.4	52.4	7.0	49.8	49.8
Volume/Cap:	0.13	0.13	0.13	0.98	0.15	0.15	0.40	0.98	0.98	0.39	0.73	0.28
Delay/Veh:	24.5	24.5	24.5	66.8	24.7	24.7	44.1	47.5	47.5	46.5	22.7	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.5	24.5	24.5	66.8	24.7	24.7	44.1	47.5	47.5	46.5	22.7	14.8
LOS by Move:	C	C	C	E	C	C	D	D	D	D	C	B
HCM2k95thQ:	3	3	3	36	4	4	5	57	57	3	29	9

Note: Queue reported is the number of cars per lane.

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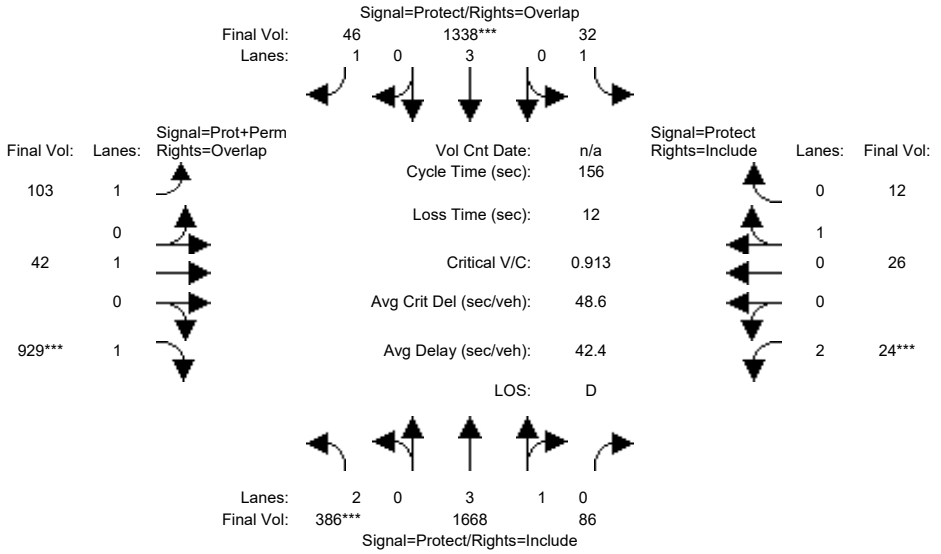
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	373	1503	77	29	1211	46	103	42	920	22	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	1503	77	29	1211	46	103	42	920	22	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-26	-2	0	0	-7	-5	-10	-4	-84	0	-1	0
Initial Fut:	347	1501	77	29	1204	41	93	38	836	22	23	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	386	1668	86	32	1338	46	103	42	929	24	26	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	386	1668	86	32	1338	46	103	42	929	24	26	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	386	1668	86	32	1338	46	103	42	929	24	26	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.80	0.20	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.68	0.32
Final Sat.:	3150	7133	366	1750	5700	1750	1750	1900	1750	3150	1218	582
Capacity Analysis Module:												
Vol/Sat:	0.12	0.23	0.23	0.02	0.23	0.03	0.00	0.02	0.53	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	36.2	69.1	69.1	11.4	44.3	44.3	29.2	57.5	93.7	6.0	34.3	34.3
Volume/Cap:	0.53	0.53	0.53	0.25	0.83	0.09	0.32	0.06	0.88	0.20	0.10	0.10
Delay/Veh:	53.1	31.8	31.8	69.3	55.9	41.1	55.3	31.8	35.6	73.5	48.6	48.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.1	31.8	31.8	69.3	55.9	41.1	55.3	31.8	35.6	73.5	48.6	48.6
LOS by Move:	D	C	C	E	E	D	E	C	D	E	D	D
HCM2k95thQ:	17	26	26	3	35	3	9	2	64	2	3	3

Note: Queue reported is the number of cars per lane.

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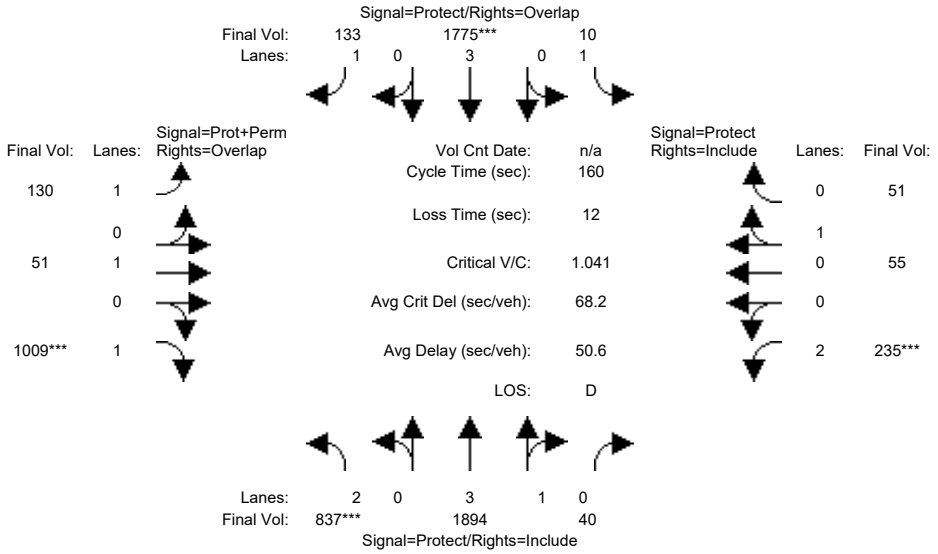
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	861	1767	37	9	1656	137	132	50	1011	219	56	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	861	1767	37	9	1656	137	132	50	1011	219	56	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-83	-6	0	0	-5	-13	-11	-3	-73	0	-5	0
Initial Fut:	778	1761	37	9	1651	124	121	47	938	219	51	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	837	1894	40	10	1775	133	130	51	1009	235	55	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	837	1894	40	10	1775	133	130	51	1009	235	55	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	837	1894	40	10	1775	133	130	51	1009	235	55	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.52	0.48
Final Sat.:	3150	7345	154	1750	5700	1750	1750	1900	1750	3150	937	863
Capacity Analysis Module:												
Vol/Sat:	0.27	0.26	0.26	0.01	0.31	0.08	0.00	0.03	0.58	0.07	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	68.0	111	111.3	16.1	57.4	57.4	14.0	13.4	81.4	12.9	12.3	12.3
Volume/Cap:	0.62	0.37	0.37	0.05	0.87	0.21	0.85	0.32	1.13	0.93	0.76	0.76
Delay/Veh:	36.9	10.0	10.0	65.2	52.0	35.8	105.0	70.1	112.8	109.8	94.0	94.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.9	10.0	10.0	65.2	52.0	35.8	105.0	70.1	112.8	109.8	94.0	94.0
LOS by Move:	D	B	B	E	D	D	F	E	F	F	F	F
HCM2k95thQ:	32	18	18	1	46	9	13	4	102	18	13	13

Note: Queue reported is the number of cars per lane.

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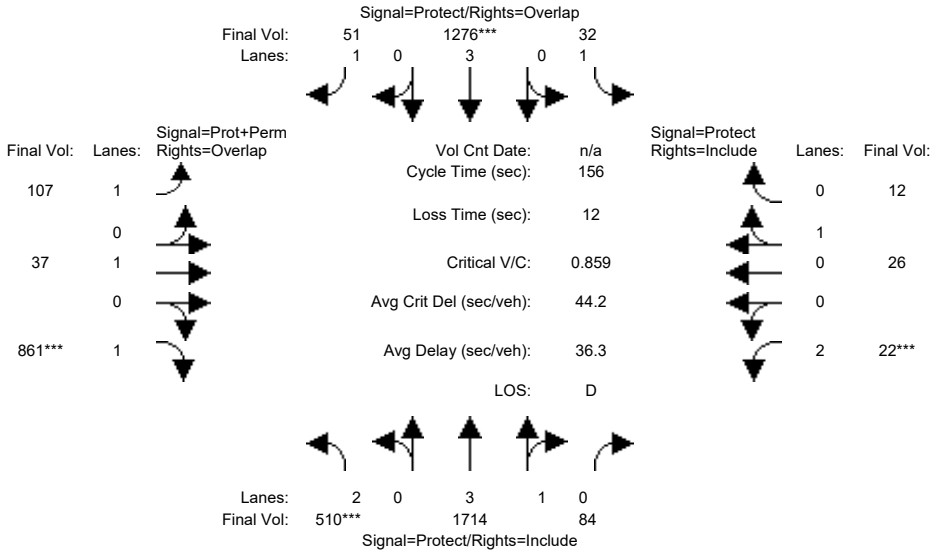
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	498	1551	76	29	1150	51	106	37	853	20	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	498	1551	76	29	1150	51	106	37	853	20	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-39	-8	0	0	-2	-5	-10	-4	-78	0	-1	0
Initial Fut:	459	1543	76	29	1148	46	96	33	775	20	23	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	510	1714	84	32	1276	51	107	37	861	22	26	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	510	1714	84	32	1276	51	107	37	861	22	26	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	510	1714	84	32	1276	51	107	37	861	22	26	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.80	0.20	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.68	0.32
Final Sat.:	3150	7147	352	1750	5700	1750	1750	1900	1750	3150	1218	582
Capacity Analysis Module:												
Vol/Sat:	0.16	0.24	0.24	0.02	0.22	0.03	0.00	0.02	0.49	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	55.9	84.6	84.6	13.5	42.2	42.2	21.4	39.9	95.8	6.0	24.5	24.5
Volume/Cap:	0.45	0.44	0.44	0.21	0.83	0.11	0.44	0.08	0.80	0.18	0.13	0.13
Delay/Veh:	38.6	21.6	21.6	67.0	57.3	42.9	63.1	44.1	27.3	73.4	56.8	56.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.6	21.6	21.6	67.0	57.3	42.9	63.1	44.1	27.3	73.4	56.8	56.8
LOS by Move:	D	C	C	E	E	D	E	D	C	E	E	E
HCM2k95thQ:	20	23	23	3	34	4	9	3	53	2	3	3

Note: Queue reported is the number of cars per lane.

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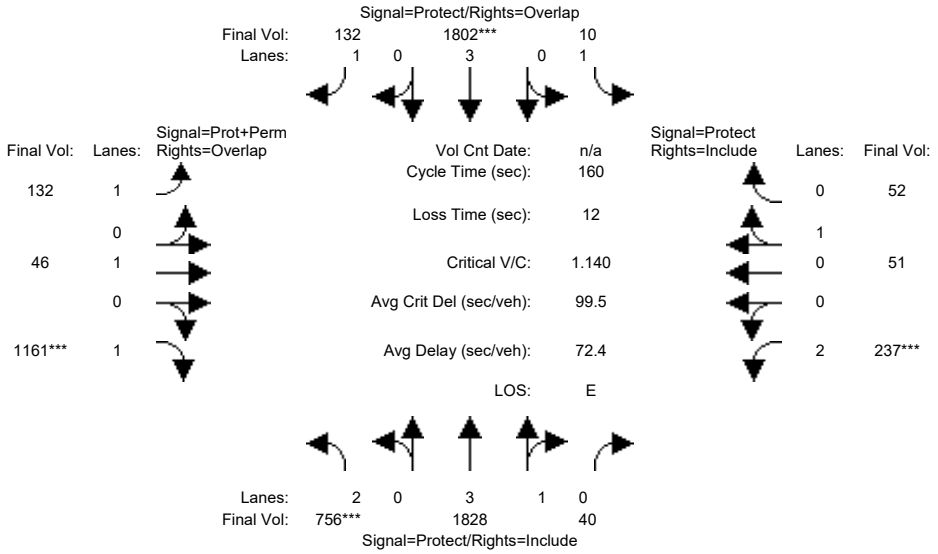
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	778	1702	37	9	1689	136	134	46	1165	220	51	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	778	1702	37	9	1689	136	134	46	1165	220	51	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-75	-2	0	0	-13	-13	-11	-3	-85	0	-4	0
Initial Fut:	703	1700	37	9	1676	123	123	43	1080	220	47	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	756	1828	40	10	1802	132	132	46	1161	237	51	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	756	1828	40	10	1802	132	132	46	1161	237	51	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	756	1828	40	10	1802	132	132	46	1161	237	51	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.49	0.51
Final Sat.:	3150	7340	160	1750	5700	1750	1750	1900	1750	3150	891	909
Capacity Analysis Module:												
Vol/Sat:	0.24	0.25	0.25	0.01	0.32	0.08	0.00	0.02	0.66	0.08	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	51.0	93.4	93.4	14.0	55.4	55.4	22.2	30.8	81.8	10.7	19.3	19.3
Volume/Cap:	0.75	0.43	0.43	0.06	0.91	0.22	0.54	0.13	1.30	1.12	0.47	0.47
Delay/Veh:	52.1	18.5	18.5	67.2	57.0	37.2	66.8	53.6	181.4	173.5	67.2	67.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	18.5	18.5	67.2	57.0	37.2	66.8	53.6	181.4	173.5	67.2	67.2
LOS by Move:	D	B	B	E	E	D	E	D	F	F	E	E
HCM2k95thQ:	34	22	22	1	49	9	12	4	139	21	10	10

Note: Queue reported is the number of cars per lane.

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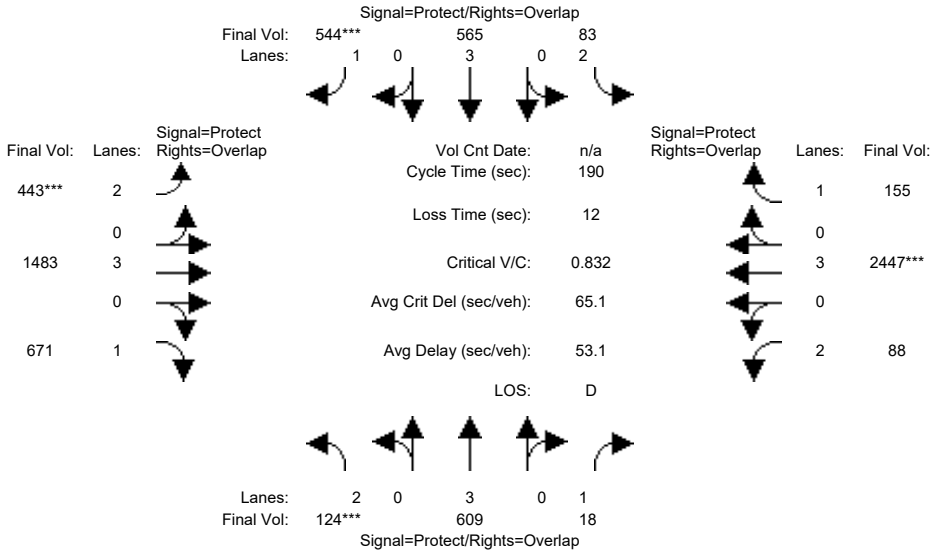
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 AM

Intersection #5812: #48: MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	609	18	83	565	546	443	1714	674	88	2813	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	609	18	83	565	546	443	1714	674	88	2813	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	-2	0	-9	-3	0	0	0
Initial Fut:	124	609	18	83	565	544	443	1705	671	88	2813	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	609	18	83	565	544	443	1483	671	88	2447	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	609	18	83	565	544	443	1483	671	88	2447	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	609	18	83	565	544	443	1483	671	88	2447	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.01	0.03	0.10	0.31	0.14	0.26	0.38	0.03	0.43	0.09
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.48	0.53	0.04	0.39	0.53	0.92	0.91	0.47	0.60	0.49	0.93	0.17
Delay/Veh:	84.7	68.6	53.1	86.1	70.5	79.1	100.5	25.1	20.8	89.1	54.6	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	68.6	53.1	86.1	70.5	79.1	100.5	25.1	20.8	89.1	54.6	23.1
LOS by Move:	F	E	D	F	E	E	F	C	C	F	D	C
HCM2k95thQ:	8	19	2	6	18	56	27	28	39	7	73	9

Note: Queue reported is the number of cars per lane.

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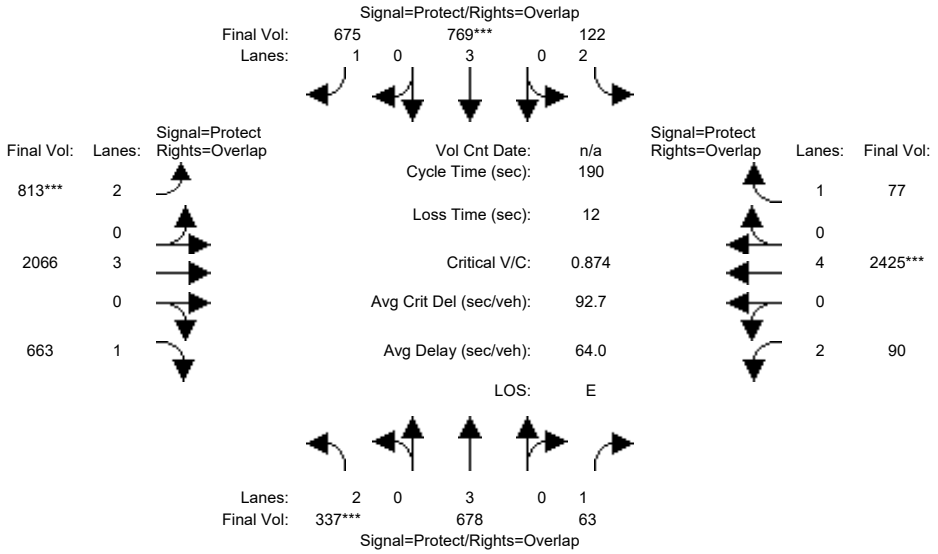
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH1 PM

Intersection #5812: #48: MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	338	678	63	122	769	675	818	2550	663	90	2433	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	338	678	63	122	769	675	818	2550	663	90	2433	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	0	0	0	0	0	-5	0	0	0	-8	0
Initial Fut:	337	678	63	122	769	675	813	2550	663	90	2425	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	337	678	63	122	769	675	813	2066	663	90	2425	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	337	678	63	122	769	675	813	2066	663	90	2425	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	337	678	63	122	769	675	813	2066	663	90	2425	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.04	0.04	0.13	0.39	0.26	0.36	0.38	0.03	0.32	0.04
Crit Moves:	****				****		****				****	
Green Time:	20.0	48.0	60.0	13.0	41.0	80.0	39.0	105	125.0	12.0	78.0	91.0
Volume/Cap:	1.02	0.47	0.11	0.57	0.63	0.92	1.26	0.66	0.58	0.45	0.78	0.09
Delay/Veh:	138.6	60.5	46.2	89.3	68.6	68.0	203.6	20.7	8.1	87.4	56.8	32.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	138.6	60.5	46.2	89.3	68.6	68.0	203.6	20.7	8.1	87.4	56.8	32.8
LOS by Move:	F	E	D	F	E	E	F	C	A	F	E	C
HCM2k95thQ:	25	20	5	8	24	66	61	32	18	7	52	6

Note: Queue reported is the number of cars per lane.

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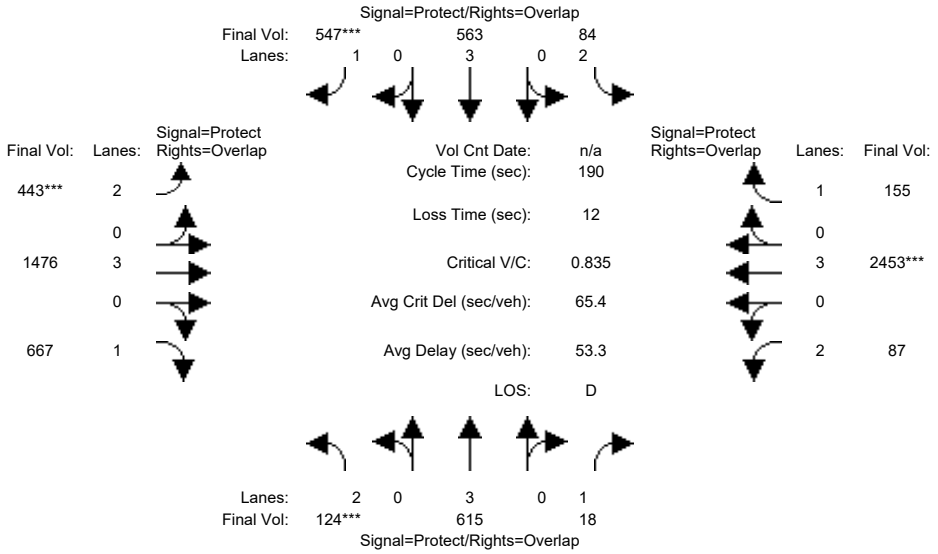
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 AM

Intersection #5812: #48: MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	100	10	7	100	10
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	124	615	18	84	563	549	443	1705	669	87	2819	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	615	18	84	563	549	443	1705	669	87	2819	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	-2	0	-8	-2	0	0	0
Initial Fut:	124	615	18	84	563	547	443	1697	667	87	2819	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	1.00	1.00	0.87	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	615	18	84	563	547	443	1476	667	87	2453	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	615	18	84	563	547	443	1476	667	87	2453	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	615	18	84	563	547	443	1476	667	87	2453	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.01	0.03	0.10	0.31	0.14	0.26	0.38	0.03	0.43	0.09
Crit Moves:	****					****	****				****	
Green Time:	15.6	38.0	48.8	12.8	35.2	64.5	29.3	106	121.8	10.8	87.9	100.7
Volume/Cap:	0.48	0.54	0.04	0.40	0.53	0.92	0.91	0.46	0.59	0.49	0.93	0.17
Delay/Veh:	84.7	68.7	53.1	86.1	70.5	80.1	100.5	25.1	20.7	89.0	54.8	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	68.7	53.1	86.1	70.5	80.1	100.5	25.1	20.7	89.0	54.8	23.1
LOS by Move:	F	E	D	F	E	F	F	C	C	F	D	C
HCM2k95thQ:	8	19	2	6	18	56	27	28	38	7	74	9

Note: Queue reported is the number of cars per lane.

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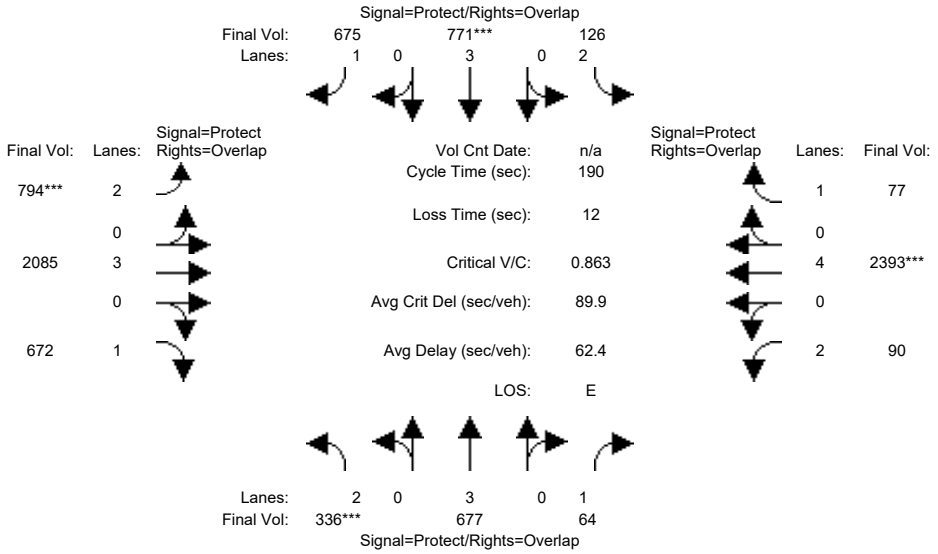
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5812: #48: MONTAGUE EXPWY/ZANKER ROAD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	20	48	48	13	41	41	29	96	96	11	78	78
Y+R:	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8	5.2	5.8	5.8
Volume Module:												
Base Vol:	337	677	64	126	771	675	797	2574	673	90	2398	77
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	337	677	64	126	771	675	797	2574	673	90	2398	77
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	0	0	0	0	0	-3	0	-1	0	-5	0
Initial Fut:	336	677	64	126	771	675	794	2574	672	90	2393	77
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	336	677	64	126	771	675	794	2085	672	90	2393	77
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	336	677	64	126	771	675	794	2085	672	90	2393	77
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	336	677	64	126	771	675	794	2085	672	90	2393	77
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	4.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	5700	1750	3150	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.04	0.04	0.14	0.39	0.25	0.37	0.38	0.03	0.31	0.04
Crit Moves:	****				****		****				****	
Green Time:	20.0	48.0	60.0	13.0	41.0	80.0	39.0	105	125.0	12.0	78.0	91.0
Volume/Cap:	1.01	0.47	0.12	0.58	0.63	0.92	1.23	0.66	0.58	0.45	0.77	0.09
Delay/Veh:	137.8	60.5	46.2	90.0	68.6	68.0	191.4	20.8	8.2	87.4	56.4	32.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	137.8	60.5	46.2	90.0	68.6	68.0	191.4	20.8	8.2	87.4	56.4	32.8
LOS by Move:	F	E	D	F	E	E	F	C	A	F	E	C
HCM2k95thQ:	25	20	5	9	24	66	58	33	18	7	51	6

Note: Queue reported is the number of cars per lane.

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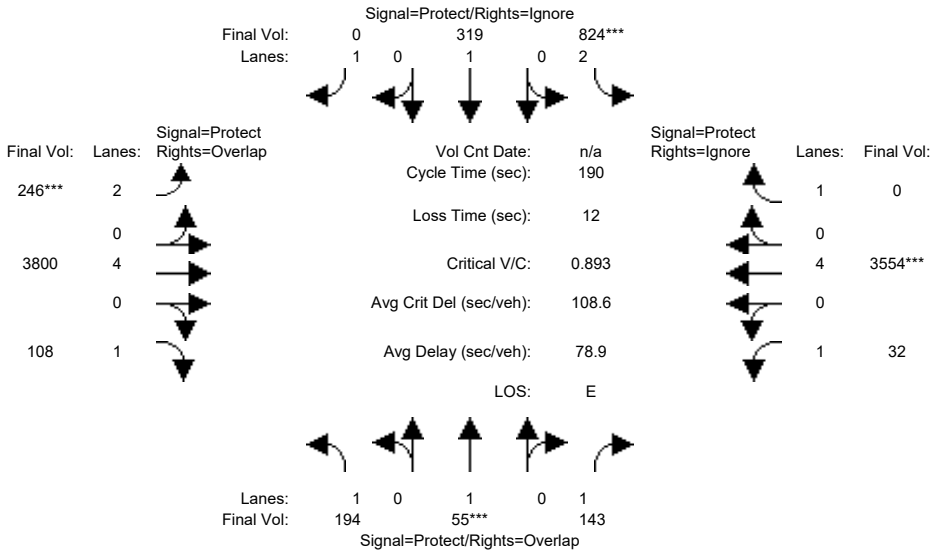
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 PH2 PM

Intersection #5805: #32: MONTAGUE EXPWY/MISSION COLLEGE BLVD



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	26	26	26	39	39	39	24	95	95	9	80	80
Y+R:	5.0	5.4	5.4	5.3	5.5	5.5	5.4	5.8	5.8	5.0	5.8	5.8
Volume Module:4:45 - 5:45 PM												
Base Vol:	194	58	143	835	321	845	249	3800	108	32	3554	224
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	194	58	143	835	321	845	249	3800	108	32	3554	224
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM Red:	0	-3	0	-11	-2	0	-3	0	0	0	0	-7
Initial Fut:	194	55	143	824	319	845	246	3800	108	32	3554	217
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	194	55	143	824	319	0	246	3800	108	32	3554	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	194	55	143	824	319	0	246	3800	108	32	3554	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	194	55	143	824	319	0	246	3800	108	32	3554	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	1750	1900	1750	3150	1900	1750	3150	7600	1750	1750	7600	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.03	0.08	0.26	0.17	0.00	0.08	0.50	0.06	0.02	0.47	0.00
Crit Moves:		****		****			****				****	
Green Time:	28.8	26.0	35.2	45.9	43.1	0.0	24.0	96.9	125.7	9.2	82.1	0.0
Volume/Cap:	0.73	0.21	0.44	1.08	0.74	0.00	0.62	0.98	0.09	0.38	1.08	0.00
Delay/Veh:	87.0	73.3	69.7	129.3	74.9	0.0	81.6	44.6	4.7	90.5	106	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.0	73.3	69.7	129.3	74.9	0.0	81.6	44.6	4.7	90.5	106	0.0
LOS by Move:	F	E	E	F	E	A	F	D	A	F	F	A
HCM2k95thQ:	23	6	15	58	31	0	16	88	2	5	95	0

Note: Queue reported is the number of cars per lane.

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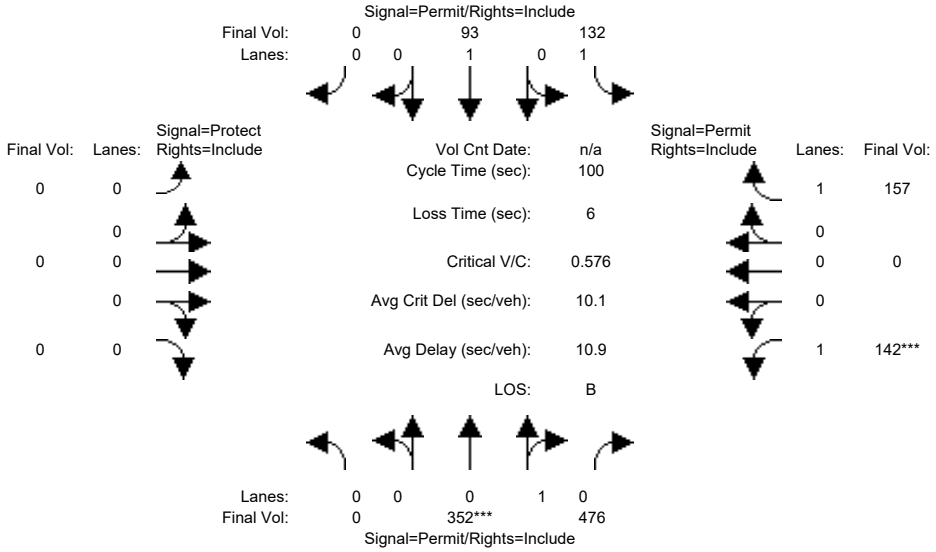
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	10	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	355	476	119	100	0	0	0	0	144	0	141
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	355	476	119	100	0	0	0	0	144	0	141
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-38	-48	0	-16	0	0	0	0	-16	0	0
Initial Fut:	0	317	428	119	84	0	0	0	0	128	0	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	352	476	132	93	0	0	0	0	142	0	157
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	352	476	132	93	0	0	0	0	142	0	157
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	352	476	132	93	0	0	0	0	142	0	157
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.43	0.57	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	766	1034	1750	1900	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.46	0.46	0.08	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.09
Crit Moves:		****								****		
Green Time:	0.0	79.9	79.9	79.9	79.9	0.0	0.0	0.0	0.0	14.1	0.0	28.2
Volume/Cap:	0.00	0.58	0.58	0.09	0.06	0.00	0.00	0.00	0.00	0.58	0.00	0.32
Delay/Veh:	0.0	4.3	4.3	2.2	2.1	0.0	0.0	0.0	0.0	43.5	0.0	28.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.3	4.3	2.2	2.1	0.0	0.0	0.0	0.0	43.5	0.0	28.7
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	C
HCM2k95thQ:	0	19	19	2	1	0	0	0	0	9	0	8

Note: Queue reported is the number of cars per lane.

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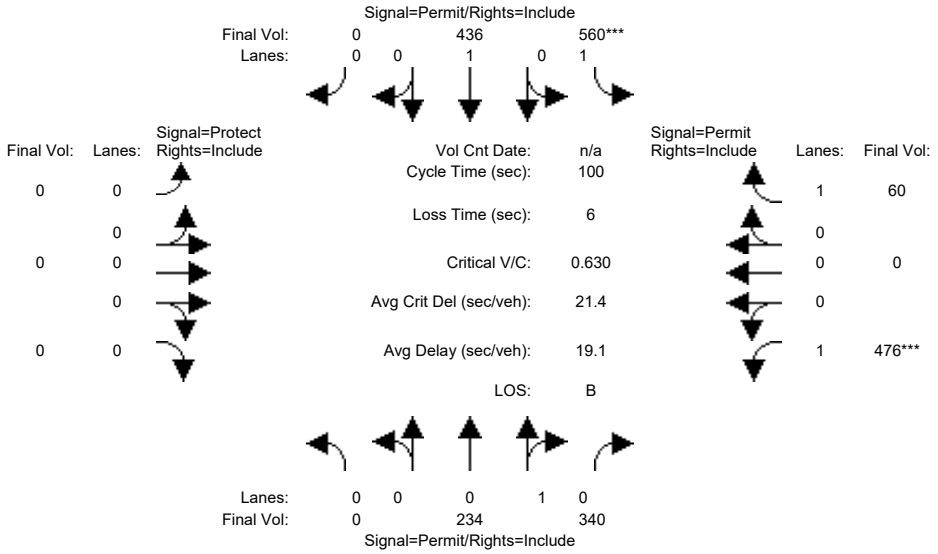
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	10	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	238	343	504	440	0	0	0	0	476	0	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	238	343	504	440	0	0	0	0	476	0	54
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-27	-37	0	-48	0	0	0	0	-48	0	0
Initial Fut:	0	211	306	504	392	0	0	0	0	428	0	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	234	340	560	436	0	0	0	0	476	0	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	234	340	560	436	0	0	0	0	476	0	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	234	340	560	436	0	0	0	0	476	0	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.41	0.59	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	735	1065	1750	1900	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.32	0.23	0.00	0.00	0.00	0.00	0.27	0.00	0.03
Crit Moves:				****						****		
Green Time:	0.0	50.8	50.8	50.8	50.8	0.0	0.0	0.0	0.0	43.2	0.0	86.3
Volume/Cap:	0.00	0.63	0.63	0.63	0.45	0.00	0.00	0.00	0.00	0.63	0.00	0.04
Delay/Veh:	0.0	19.1	19.1	19.2	16.0	0.0	0.0	0.0	0.0	23.9	0.0	1.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	19.1	19.1	19.2	16.0	0.0	0.0	0.0	0.0	23.9	0.0	1.0
LOS by Move:	A	B	B	B	B	A	A	A	A	C	A	A
HCM2k95thQ:	0	24	24	23	15	0	0	0	0	22	0	1

Note: Queue reported is the number of cars per lane.

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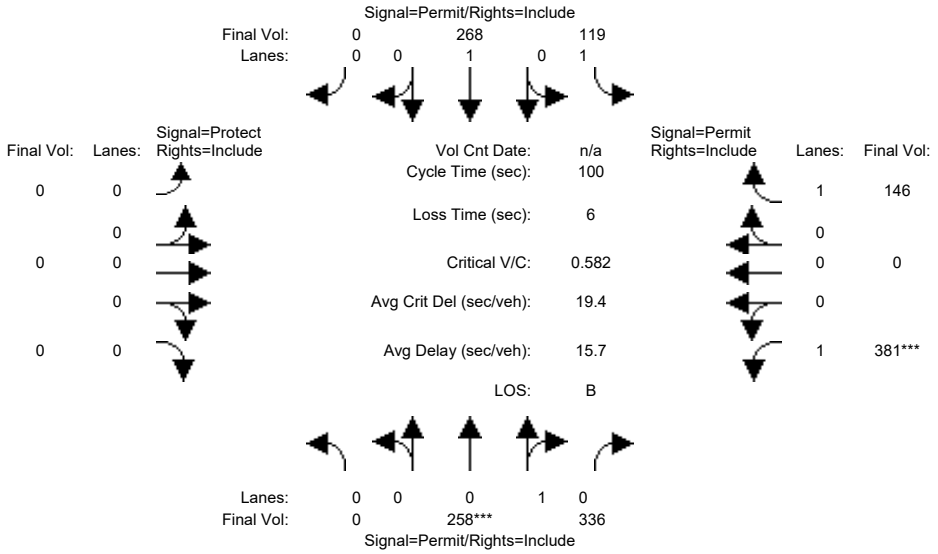
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	10	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	261	336	107	274	0	0	0	0	383	0	131
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	261	336	107	274	0	0	0	0	383	0	131
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-29	-34	0	-33	0	0	0	0	-40	0	0
Initial Fut:	0	232	302	107	241	0	0	0	0	343	0	131
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	258	336	119	268	0	0	0	0	381	0	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	258	336	119	268	0	0	0	0	381	0	146
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	258	336	119	268	0	0	0	0	381	0	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.43	0.57	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	782	1018	1750	1900	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.33	0.07	0.14	0.00	0.00	0.00	0.00	0.22	0.00	0.08
Crit Moves:		****								****		
Green Time:	0.0	56.6	56.6	56.6	56.6	0.0	0.0	0.0	0.0	37.4	0.0	74.8
Volume/Cap:	0.00	0.58	0.58	0.12	0.25	0.00	0.00	0.00	0.00	0.58	0.00	0.11
Delay/Veh:	0.0	14.9	14.9	10.2	11.1	0.0	0.0	0.0	0.0	26.4	0.0	3.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.9	14.9	10.2	11.1	0.0	0.0	0.0	0.0	26.4	0.0	3.5
LOS by Move:	A	B	B	B	B	A	A	A	A	C	A	A
HCM2k95thQ:	0	22	22	4	8	0	0	0	0	18	0	3

Note: Queue reported is the number of cars per lane.

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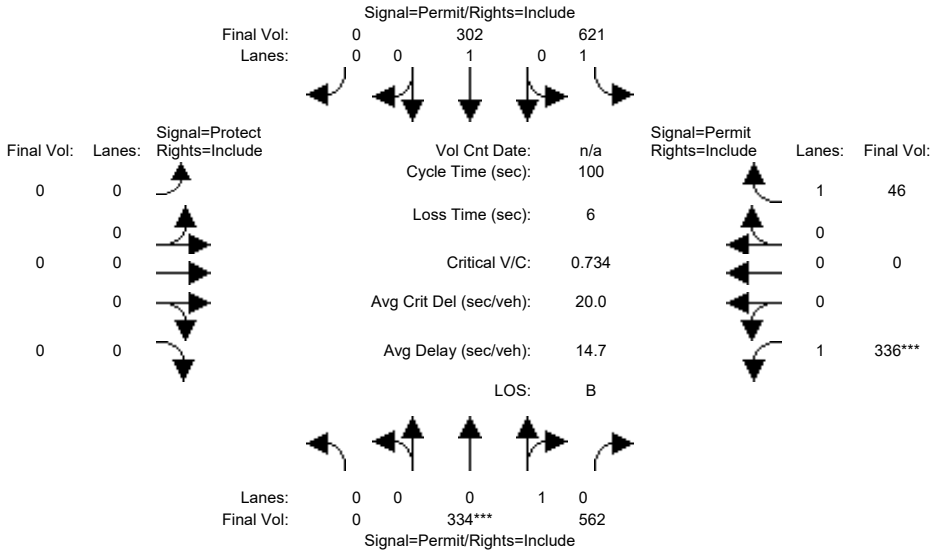
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #42: (8) Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	10	10	10	10	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	338	565	559	310	0	0	0	0	336	0	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	338	565	559	310	0	0	0	0	336	0	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-37	-59	0	-38	0	0	0	0	-34	0	0
Initial Fut:	0	301	506	559	272	0	0	0	0	302	0	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	334	562	621	302	0	0	0	0	336	0	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	334	562	621	302	0	0	0	0	336	0	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	334	562	621	302	0	0	0	0	336	0	46
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.37	0.63	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	671	1129	1750	1900	0	0	0	0	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.50	0.50	0.35	0.16	0.00	0.00	0.00	0.00	0.19	0.00	0.03
Crit Moves:		****								****		
Green Time:	0.0	67.9	67.9	67.9	67.9	0.0	0.0	0.0	0.0	26.1	0.0	52.3
Volume/Cap:	0.00	0.73	0.73	0.52	0.23	0.00	0.00	0.00	0.00	0.73	0.00	0.05
Delay/Veh:	0.0	12.6	12.6	8.4	6.2	0.0	0.0	0.0	0.0	39.8	0.0	11.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.6	12.6	8.4	6.2	0.0	0.0	0.0	0.0	39.8	0.0	11.7
LOS by Move:	A	B	B	A	A	A	A	A	A	D	A	B
HCM2k95thQ:	0	32	32	19	7	0	0	0	0	19	0	1

Note: Queue reported is the number of cars per lane.

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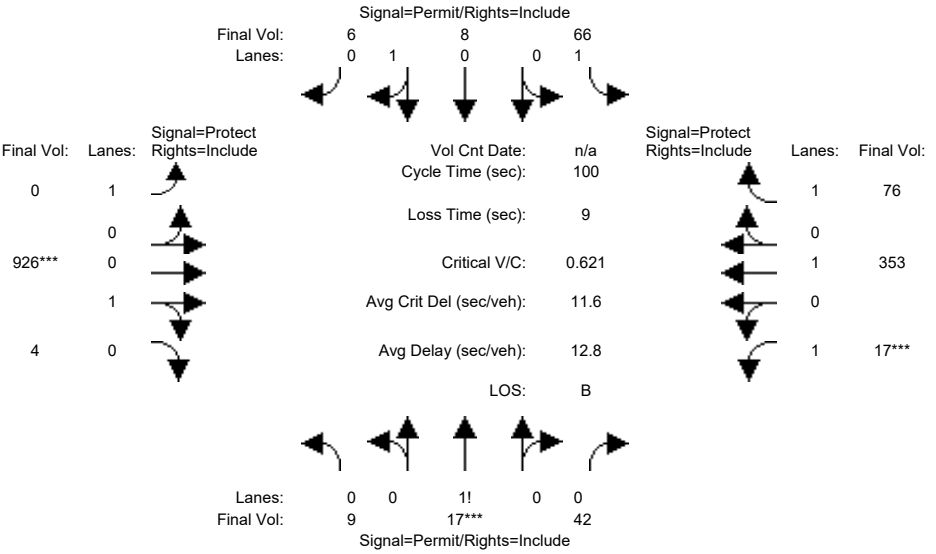
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	9	17	42	67	8	7	2	919	4	17	349	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	17	42	67	8	7	2	919	4	17	349	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-4	-8	-1	-2	-4	-86	0	-2	-31	-3
Initial Fut:	8	15	38	59	7	5	-2	833	4	15	318	68
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90
PHF Volume:	9	17	42	66	8	6	0	926	4	17	353	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	17	42	66	8	6	0	926	4	17	353	76
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	17	42	66	8	6	0	926	4	17	353	76
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.13	0.25	0.62	1.00	0.58	0.42	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	230	430	1090	1750	1050	750	1750	1791	9	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.04	0.01	0.01	0.00	0.52	0.52	0.01	0.19	0.04
Crit Moves:		****						****		****		
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	0.0	74.0	74.0	7.0	58.8	58.8
Volume/Cap:	0.39	0.39	0.39	0.37	0.07	0.07	0.00	0.70	0.70	0.14	0.32	0.07
Delay/Veh:	43.6	43.6	43.6	43.4	41.0	41.0	0.0	8.7	8.7	44.2	10.6	8.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.6	43.6	43.6	43.4	41.0	41.0	0.0	8.7	8.7	44.2	10.6	8.9
LOS by Move:	D	D	D	D	D	D	A	A	A	D	B	A
HCM2k95thQ:	5	5	5	4	1	1	0	29	29	1	10	2

Note: Queue reported is the number of cars per lane.

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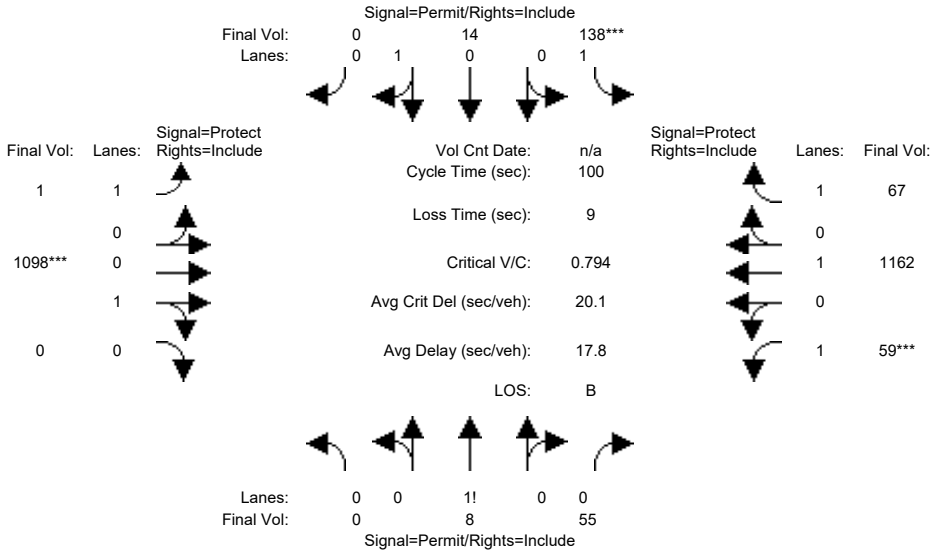
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	18	51	127	26	4	9	1010	13	54	1069	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	18	51	127	26	4	9	1010	13	54	1069	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-37	-11	0	0	-13	-11	-8	0	-28	0	0	0
Initial Fut:	-31	7	51	127	13	-7	1	1010	-15	54	1069	62
User Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.00	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92
PHF Volume:	0	8	55	138	14	0	1	1098	0	59	1162	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	8	55	138	14	0	1	1098	0	59	1162	67
PCE Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	8	55	138	14	0	1	1098	0	59	1162	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.95	0.92	0.92	1.00	0.92
Lanes:	0.00	0.12	0.88	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Final Sat.:	0	211	1539	1750	1800	0	1750	1800	0	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.04	0.08	0.01	0.00	0.00	0.61	0.00	0.03	0.61	0.04
Crit Moves:				****				****		****		
Green Time:	0.0	10.0	10.0	10.0	10.0	0.0	8.3	74.0	0.0	7.0	72.7	72.7
Volume/Cap:	0.00	0.36	0.36	0.79	0.08	0.00	0.01	0.82	0.00	0.48	0.84	0.05
Delay/Veh:	0.0	43.3	43.3	64.9	41.0	0.0	42.1	13.0	0.0	47.7	14.4	3.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	43.3	43.3	64.9	41.0	0.0	42.1	13.0	0.0	47.7	14.4	3.9
LOS by Move:	A	D	D	E	D	A	D	B	A	D	B	A
HCM2k95thQ:	0	5	5	9	1	0	0	42	0	4	43	1

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
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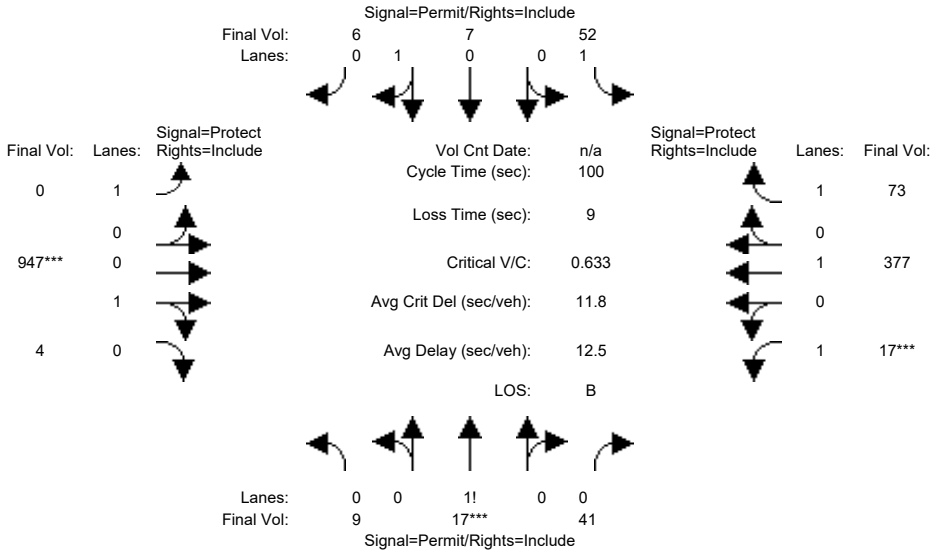
2030 Ph2 wo Conn - AM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	9	17	41	53	7	7	2	939	4	17	372	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	17	41	53	7	7	2	939	4	17	372	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-4	-6	-1	-2	-4	-87	0	-2	-33	-5
Initial Fut:	8	15	37	47	6	5	-2	852	4	15	339	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.00	0.90	0.90	0.90	0.90	0.90
PHF Volume:	9	17	41	52	7	6	0	947	4	17	377	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	9	17	41	52	7	6	0	947	4	17	377	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	9	17	41	52	7	6	0	947	4	17	377	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.13	0.25	0.62	1.00	0.55	0.45	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	233	438	1079	1750	982	818	1750	1792	8	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.03	0.01	0.01	0.00	0.53	0.53	0.01	0.20	0.04
Crit Moves:		****						****		****		
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	0.0	74.0	74.0	7.0	59.9	59.9
Volume/Cap:	0.38	0.38	0.38	0.30	0.07	0.07	0.00	0.71	0.71	0.14	0.33	0.07
Delay/Veh:	43.5	43.5	43.5	42.7	40.9	40.9	0.0	9.0	9.0	44.2	10.2	8.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.5	43.5	43.5	42.7	40.9	40.9	0.0	9.0	9.0	44.2	10.2	8.4
LOS by Move:	D	D	D	D	D	D	A	A	A	D	B	A
HCM2k95thQ:	5	5	5	3	1	1	0	31	31	1	11	2

Note: Queue reported is the number of cars per lane.

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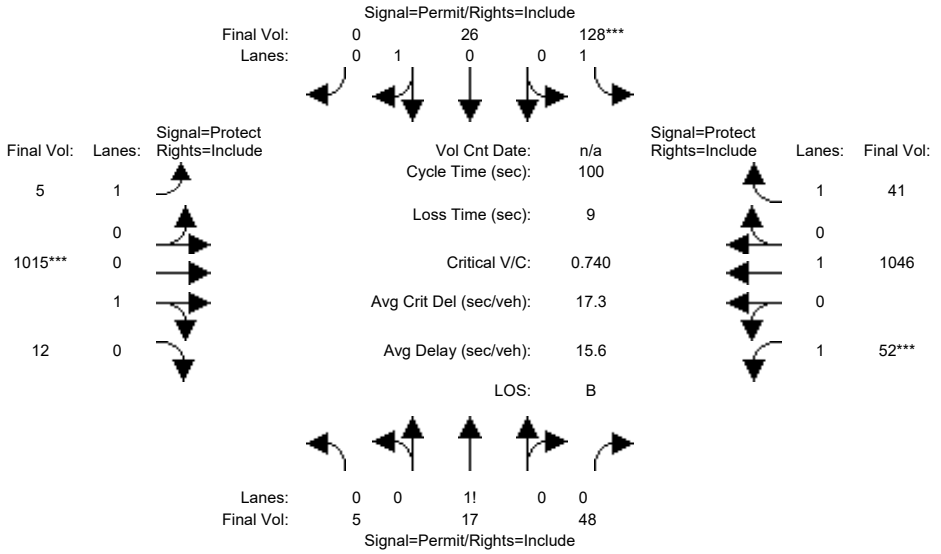
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #43: (9) Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	17	49	127	26	4	9	1018	12	53	1060	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	17	49	127	26	4	9	1018	12	53	1060	45
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-1	-5	-9	-2	-6	-4	-84	-1	-5	-98	-7
Initial Fut:	5	16	44	118	24	-2	5	934	11	48	962	38
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	17	48	128	26	0	5	1015	12	52	1046	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	17	48	128	26	0	5	1015	12	52	1046	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	17	48	128	26	0	5	1015	12	52	1046	41
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.92	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.08	0.24	0.68	1.00	1.00	0.00	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	135	431	1185	1750	1800	0	1750	1779	21	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.07	0.01	0.00	0.00	0.57	0.57	0.03	0.55	0.02
Crit Moves:				****				****		****		
Green Time:	10.0	10.0	10.0	10.0	10.0	0.0	9.1	74.0	74.0	7.0	71.9	71.9
Volume/Cap:	0.40	0.40	0.40	0.73	0.14	0.00	0.03	0.77	0.77	0.43	0.77	0.03
Delay/Veh:	43.7	43.7	43.7	58.4	41.5	0.0	41.5	10.7	10.7	47.0	11.5	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	43.7	43.7	58.4	41.5	0.0	41.5	10.7	10.7	47.0	11.5	4.1
LOS by Move:	D	D	D	E	D	A	D	B	B	D	B	A
HCM2k95thQ:	5	5	5	9	2	0	0	36	36	3	35	1

Note: Queue reported is the number of cars per lane.

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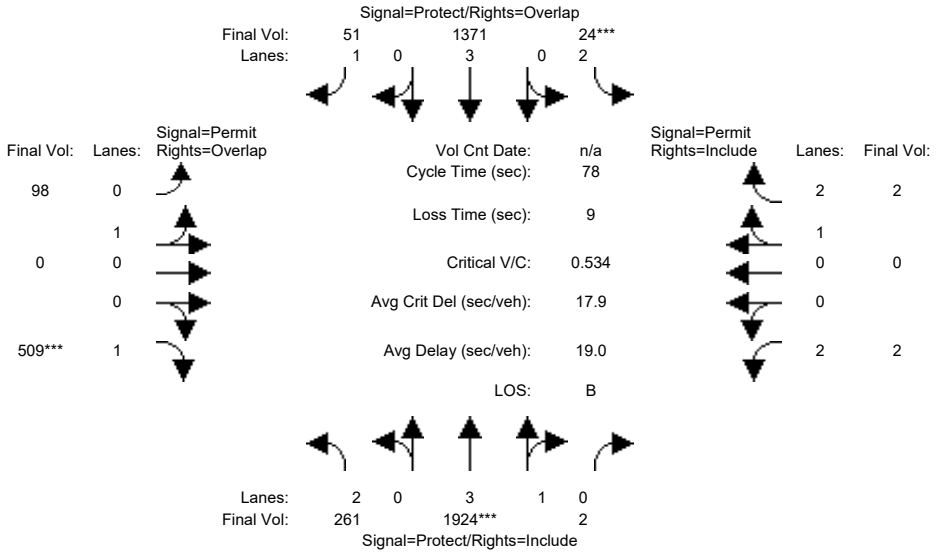
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	247	1742	2	22	1239	50	98	0	496	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	247	1742	2	22	1239	50	98	0	496	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-12	-10	0	0	-5	-4	-10	0	-38	0	0	0
Initial Fut:	235	1732	2	22	1234	46	88	0	458	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	261	1924	2	24	1371	51	98	0	509	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	261	1924	2	24	1371	51	98	0	509	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	261	1924	2	24	1371	51	98	0	509	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	2.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	3150	7491	9	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.08	0.26	0.26	0.01	0.24	0.03	0.05	0.00	0.29	0.00	0.00	0.00
Crit Moves:		****		****					****			
Green Time:	10.9	32.6	32.6	10.0	31.7	31.7	26.4	0.0	37.3	26.4	0.0	26.4
Volume/Cap:	0.59	0.61	0.61	0.06	0.59	0.07	0.16	0.00	0.61	0.00	0.00	0.00
Delay/Veh:	33.6	18.1	18.1	29.9	18.5	14.2	18.2	0.0	16.3	17.1	0.0	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.6	18.1	18.1	29.9	18.5	14.2	18.2	0.0	16.3	17.1	0.0	17.1
LOS by Move:	C	B	B	C	B	B	B	A	B	B	A	B
HCM2k95thQ:	7	17	17	1	16	2	3	0	18	0	0	0

Note: Queue reported is the number of cars per lane.

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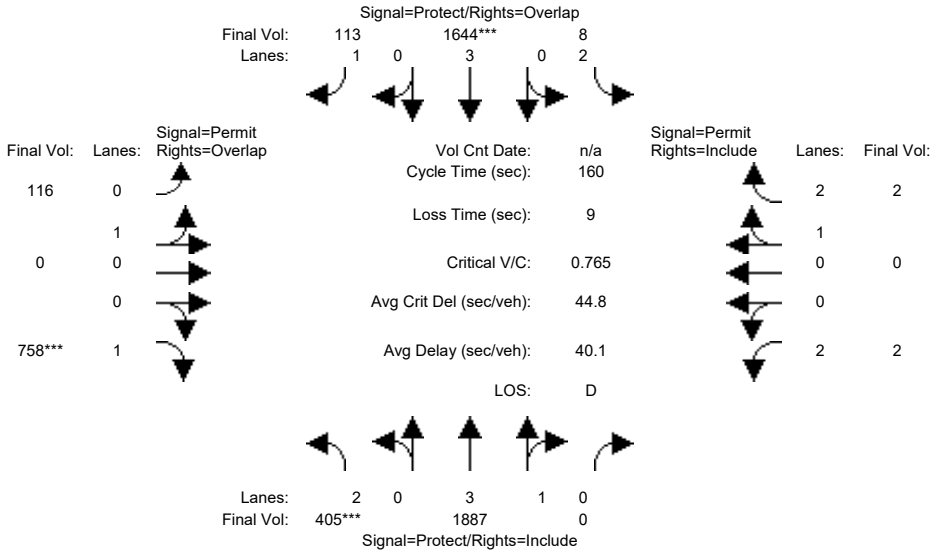
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	422	1804	0	8	1575	118	118	0	748	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	422	1804	0	8	1575	118	118	0	748	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-37	-11	0	0	-13	-11	-8	0	-28	0	0	0
Initial Fut:	385	1793	0	8	1562	107	110	0	720	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	405	1887	0	8	1644	113	116	0	758	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	405	1887	0	8	1644	113	116	0	758	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	405	1887	0	8	1644	113	116	0	758	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	2.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	3150	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.13	0.25	0.00	0.00	0.29	0.06	0.06	0.00	0.43	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	26.9	69.9	0.0	17.4	60.4	60.4	63.7	0.0	90.6	63.7	0.0	63.7
Volume/Cap:	0.76	0.58	0.00	0.02	0.76	0.17	0.16	0.00	0.76	0.00	0.00	0.00
Delay/Veh:	70.1	34.1	0.0	63.8	45.3	33.3	31.1	0.0	30.1	29.0	0.0	29.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	70.1	34.1	0.0	63.8	45.3	33.3	31.1	0.0	30.1	29.0	0.0	29.0
LOS by Move:	E	C	A	E	D	C	C	A	C	C	A	C
HCM2k95thQ:	21	30	0	0	39	8	7	0	50	0	0	0

Note: Queue reported is the number of cars per lane.

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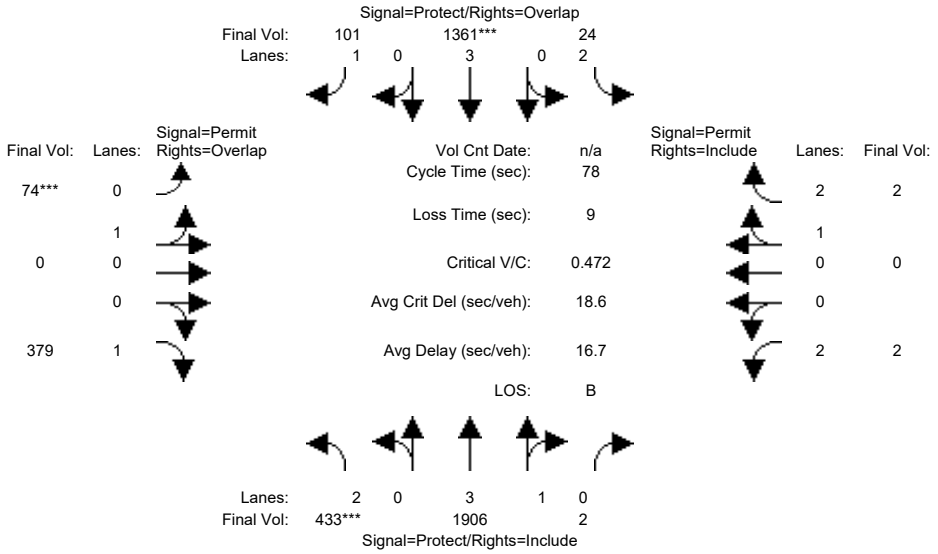
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	421	1725	2	22	1230	100	75	0	367	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	421	1725	2	22	1230	100	75	0	367	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-31	-10	0	0	-5	-9	-8	0	-26	0	0	0
Initial Fut:	390	1715	2	22	1225	91	67	0	341	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	433	1906	2	24	1361	101	74	0	379	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	1906	2	24	1361	101	74	0	379	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	433	1906	2	24	1361	101	74	0	379	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	2.00	3.99	0.01	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	3150	7491	9	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.14	0.25	0.25	0.01	0.24	0.06	0.04	0.00	0.22	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green Time:	20.1	36.6	36.6	18.4	34.9	34.9	14.0	0.0	34.1	14.0	0.0	14.0
Volume/Cap:	0.53	0.54	0.54	0.03	0.53	0.13	0.23	0.00	0.50	0.00	0.00	0.00
Delay/Veh:	25.6	14.9	14.9	22.9	15.9	12.7	27.8	0.0	16.3	26.3	0.0	26.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.6	14.9	14.9	22.9	15.9	12.7	27.8	0.0	16.3	26.3	0.0	26.3
LOS by Move:	C	B	B	C	B	B	C	A	B	C	A	C
HCM2k95thQ:	10	15	15	1	15	3	3	0	13	0	0	0

Note: Queue reported is the number of cars per lane.

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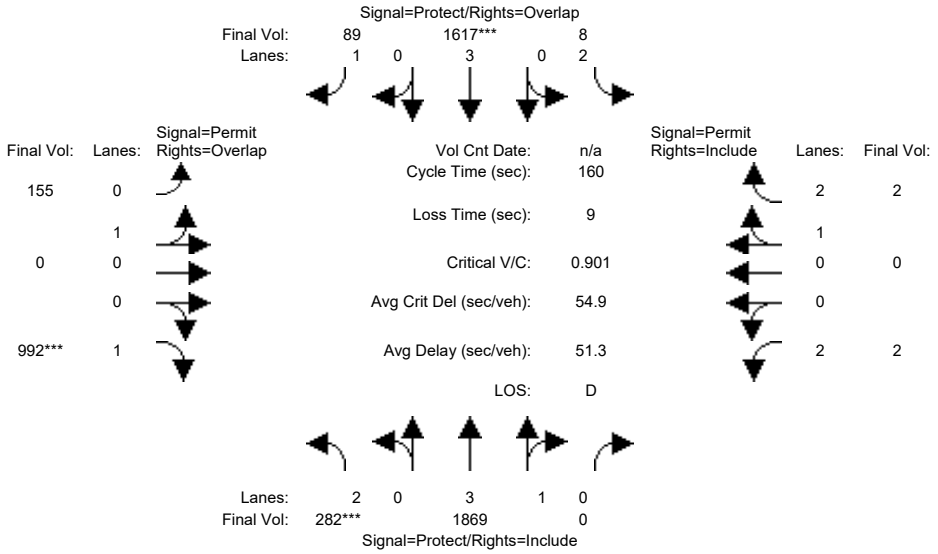
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #53: (16) GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	294	1787	0	8	1549	94	159	0	989	2	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	294	1787	0	8	1549	94	159	0	989	2	0	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-26	-11	0	0	-13	-9	-12	0	-47	0	0	0
Initial Fut:	268	1776	0	8	1536	85	147	0	942	2	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	282	1869	0	8	1617	89	155	0	992	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	1869	0	8	1617	89	155	0	992	2	0	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	282	1869	0	8	1617	89	155	0	992	2	0	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	1.00	0.95
Lanes:	2.00	4.00	0.00	2.00	3.00	1.00	1.00	0.00	1.00	2.00	0.00	3.00
Final Sat.:	3150	7500	0	3150	5700	1750	1800	0	1750	3150	0	5400
Capacity Analysis Module:												
Vol/Sat:	0.09	0.25	0.00	0.00	0.28	0.05	0.09	0.00	0.57	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	15.9	53.0	0.0	13.3	50.4	50.4	84.7	0.0	100.6	84.7	0.0	84.7
Volume/Cap:	0.90	0.75	0.00	0.03	0.90	0.16	0.16	0.00	0.90	0.00	0.00	0.00
Delay/Veh:	98.6	49.0	0.0	67.5	59.1	39.7	19.5	0.0	35.6	17.7	0.0	17.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	98.6	49.0	0.0	67.5	59.1	39.7	19.5	0.0	35.6	17.7	0.0	17.7
LOS by Move:	F	D	A	E	E	D	B	A	D	B	A	B
HCM2k95thQ:	17	35	0	0	44	7	8	0	74	0	0	0

Note: Queue reported is the number of cars per lane.

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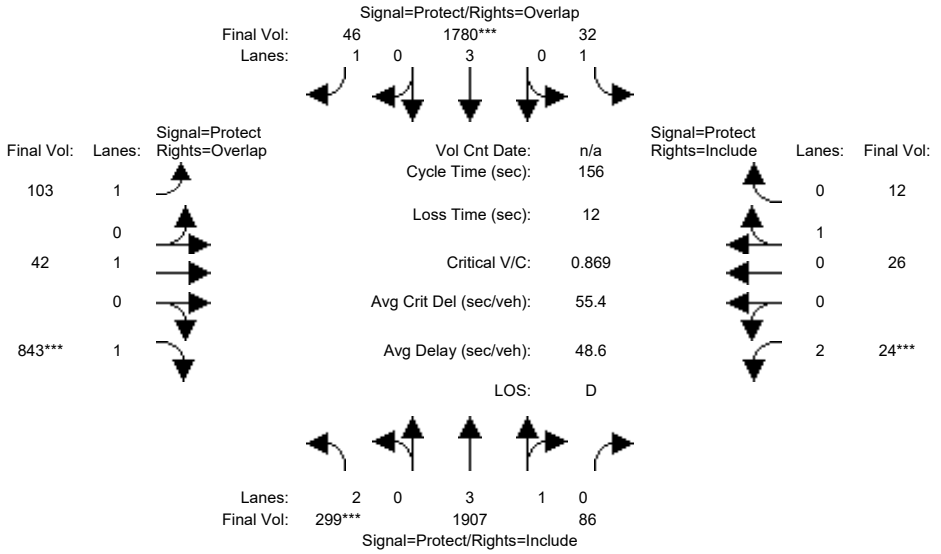
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	299	1728	77	29	1640	46	103	42	843	22	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	1728	77	29	1640	46	103	42	843	22	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-30	-12	0	0	-38	-5	-10	-4	-84	0	-1	0
Initial Fut:	269	1716	77	29	1602	41	93	38	759	22	23	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	299	1907	86	32	1780	46	103	42	843	24	26	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	299	1907	86	32	1780	46	103	42	843	24	26	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	299	1907	86	32	1780	46	103	42	843	24	26	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.82	0.18	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.68	0.32
Final Sat.:	3150	7177	322	1750	5700	1750	1750	1900	1750	3150	1218	582
Capacity Analysis Module:												
Vol/Sat:	0.09	0.27	0.27	0.02	0.31	0.03	0.06	0.02	0.48	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	16.5	61.8	61.8	8.9	54.3	86.1	31.8	67.2	83.7	6.0	41.4	41.4
Volume/Cap:	0.90	0.67	0.67	0.32	0.90	0.05	0.29	0.05	0.90	0.20	0.08	0.08
Delay/Veh:	94.5	39.3	39.3	72.5	54.1	16.1	53.0	25.8	43.6	73.5	43.0	43.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	94.5	39.3	39.3	72.5	54.1	16.1	53.0	25.8	43.6	73.5	43.0	43.0
LOS by Move:	F	D	D	E	D	B	D	C	D	E	D	D
HCM2k95thQ:	18	33	33	3	47	2	8	2	62	2	3	3

Note: Queue reported is the number of cars per lane.

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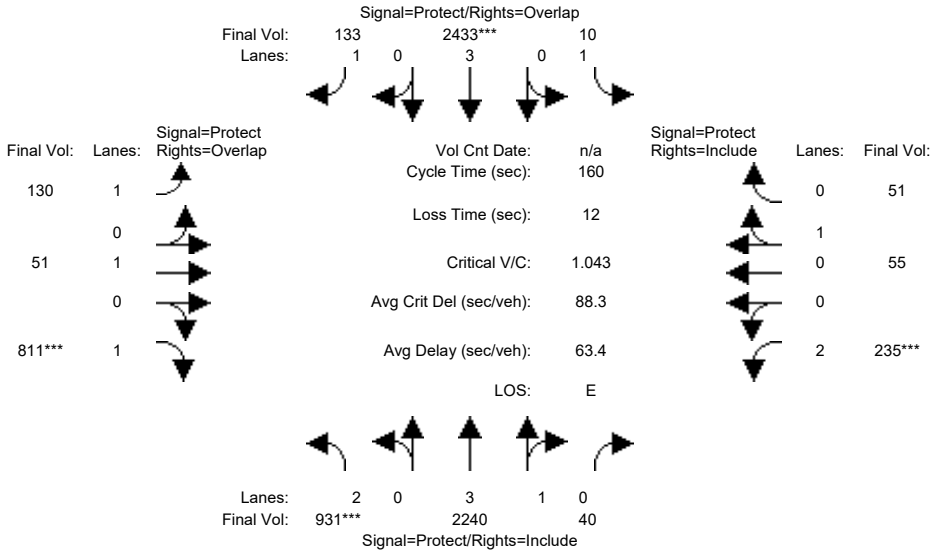
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph1 wo Conn - PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	962	2120	37	9	2291	137	132	50	836	219	56	47
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	962	2120	37	9	2291	137	132	50	836	219	56	47
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-96	-37	0	0	-28	-13	-11	-3	-82	0	-5	0
Initial Fut:	866	2083	37	9	2263	124	121	47	754	219	51	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	931	2240	40	10	2433	133	130	51	811	235	55	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	931	2240	40	10	2433	133	130	51	811	235	55	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	931	2240	40	10	2433	133	130	51	811	235	55	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.93	0.07	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.52	0.48
Final Sat.:	3150	7369	131	1750	5700	1750	1750	1900	1750	3150	937	863
Capacity Analysis Module:												
Vol/Sat:	0.30	0.30	0.30	0.01	0.43	0.08	0.07	0.03	0.46	0.07	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	45.3	98.6	98.6	12.2	65.5	84.0	18.5	25.7	71.1	11.5	18.7	18.7
Volume/Cap:	1.04	0.49	0.49	0.07	1.04	0.15	0.64	0.17	1.04	1.04	0.50	0.50
Delay/Veh:	99.3	17.0	17.0	68.9	78.3	19.6	74.5	58.1	88.6	145.9	68.2	68.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	99.3	17.0	17.0	68.9	78.3	19.6	74.5	58.1	88.6	145.9	68.2	68.2
LOS by Move:	F	B	B	E	E	B	E	E	F	F	E	E
HCM2k95thQ:	51	26	26	1	73	7	12	4	75	20	11	11

Note: Queue reported is the number of cars per lane.

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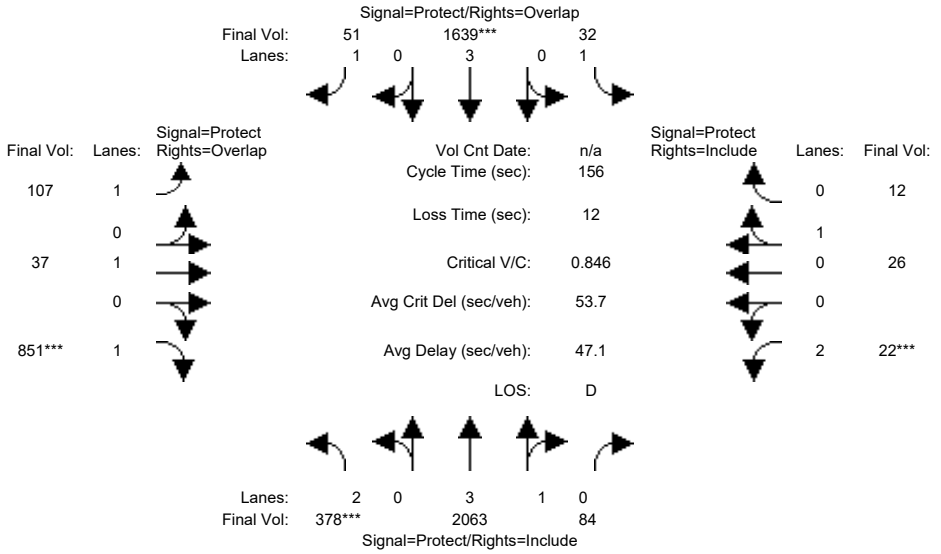
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - AM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	373	1888	76	29	1501	51	106	37	850	20	24	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	1888	76	29	1501	51	106	37	850	20	24	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-33	-31	0	0	-26	-5	-10	-4	-84	0	-1	0
Initial Fut:	340	1857	76	29	1475	46	96	33	766	20	23	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	378	2063	84	32	1639	51	107	37	851	22	26	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	378	2063	84	32	1639	51	107	37	851	22	26	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	378	2063	84	32	1639	51	107	37	851	22	26	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.84	0.16	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.68	0.32
Final Sat.:	3150	7205	295	1750	5700	1750	1750	1900	1750	3150	1218	582
Capacity Analysis Module:												
Vol/Sat:	0.12	0.29	0.29	0.02	0.29	0.03	0.06	0.02	0.49	0.01	0.02	0.02
Crit Moves:	****				****				****	****		
Green Time:	21.4	64.1	64.1	8.6	51.3	82.8	31.5	65.3	86.7	6.0	39.8	39.8
Volume/Cap:	0.87	0.70	0.70	0.33	0.87	0.06	0.30	0.05	0.87	0.18	0.08	0.08
Delay/Veh:	83.7	38.7	38.7	73.0	54.3	17.7	53.4	26.9	38.9	73.4	44.3	44.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.7	38.7	38.7	73.0	54.3	17.7	53.4	26.9	38.9	73.4	44.3	44.3
LOS by Move:	F	D	D	E	D	B	D	C	D	E	D	D
HCM2k95thQ:	21	35	35	3	43	3	9	2	60	2	3	3

Note: Queue reported is the number of cars per lane.

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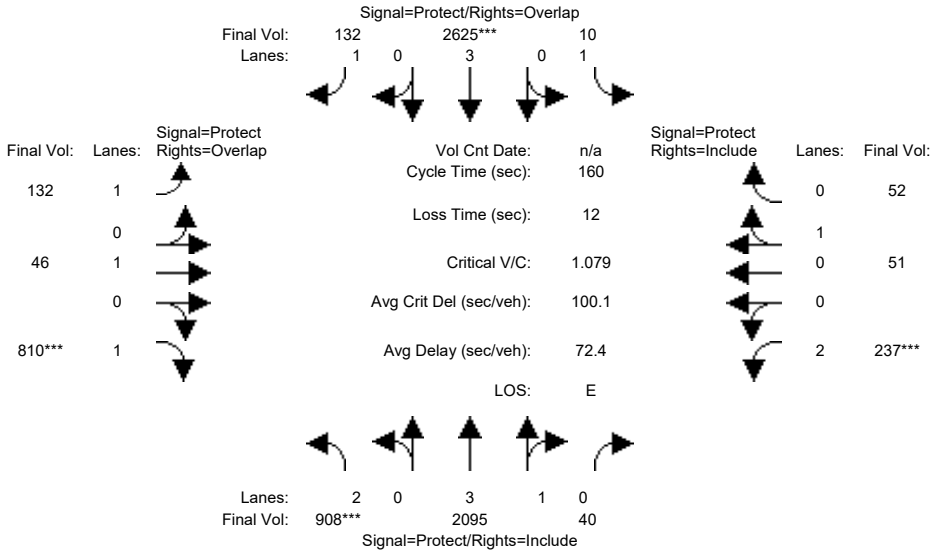
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2030 Ph2 wo Conn - PM

Intersection #54: (17) GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	937	1974	37	9	2488	136	134	46	837	220	51	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	937	1974	37	9	2488	136	134	46	837	220	51	48
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-93	-26	0	0	-47	-13	-11	-3	-84	0	-4	0
Initial Fut:	844	1948	37	9	2441	123	123	43	753	220	47	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	908	2095	40	10	2625	132	132	46	810	237	51	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	908	2095	40	10	2625	132	132	46	810	237	51	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	908	2095	40	10	2625	132	132	46	810	237	51	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.92	0.08	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.49	0.51
Final Sat.:	3150	7360	140	1750	5700	1750	1750	1900	1750	3150	891	909
Capacity Analysis Module:												
Vol/Sat:	0.29	0.28	0.28	0.01	0.46	0.08	0.08	0.02	0.46	0.08	0.06	0.06
Crit Moves:	****				****				****	****		
Green Time:	42.7	98.1	98.1	12.9	68.3	86.8	18.6	25.9	68.6	11.1	18.4	18.4
Volume/Cap:	1.08	0.46	0.46	0.07	1.08	0.14	0.65	0.15	1.08	1.08	0.49	0.49
Delay/Veh:	113.3	16.8	16.8	68.2	89.7	18.2	74.9	57.8	102.0	157.9	68.2	68.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	113.3	16.8	16.8	68.2	89.7	18.2	74.9	57.8	102.0	157.9	68.2	68.2
LOS by Move:	F	B	B	E	F	B	E	E	F	F	E	E
HCM2k95thQ:	52	24	24	1	82	7	12	4	79	21	11	11

Note: Queue reported is the number of cars per lane.

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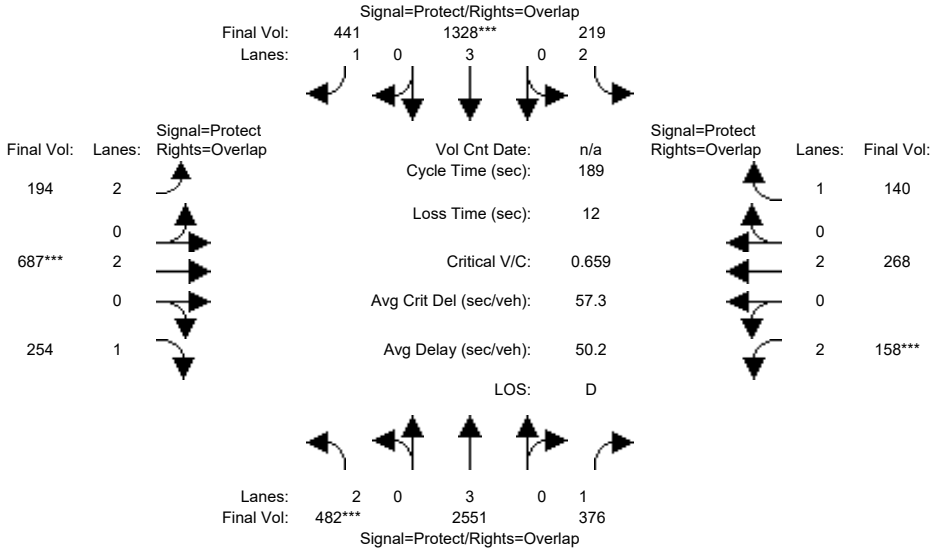
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #5611: Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	25	100	100	17	92	92	15	34	34	14	32	32
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	482	2937	376	219	1526	441	195	687	254	165	269	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	482	2937	376	219	1526	441	195	687	254	165	269	140
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-5	0	0	0	0	-1	0	0	-7	-1	0
Initial Fut:	482	2932	376	219	1526	441	194	687	254	158	268	140
User Adj:	1.00	0.87	1.00	1.00	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	482	2551	376	219	1328	441	194	687	254	158	268	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	482	2551	376	219	1328	441	194	687	254	158	268	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	482	2551	376	219	1328	441	194	687	254	158	268	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.45	0.21	0.07	0.23	0.25	0.06	0.18	0.16	0.05	0.07	0.08
Crit Moves:	****				****			****			****	
Green Time:	32.5	106	120.4	18.1	92.0	108.7	16.7	38.5	71.0	14.0	35.7	53.8
Volume/Cap:	0.89	0.79	0.34	0.73	0.48	0.44	0.70	0.89	0.42	0.68	0.37	0.28
Delay/Veh:	92.8	44.8	23.5	91.6	25.7	14.7	91.1	85.4	44.3	93.0	67.2	52.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.8	44.8	23.5	91.6	25.7	14.7	91.1	85.4	44.3	93.0	67.2	52.9
LOS by Move:	F	D	C	F	C	B	F	F	D	F	E	D
HCM2k95thQ:	33	67	26	14	23	18	15	37	21	10	12	12

Note: Queue reported is the number of cars per lane.

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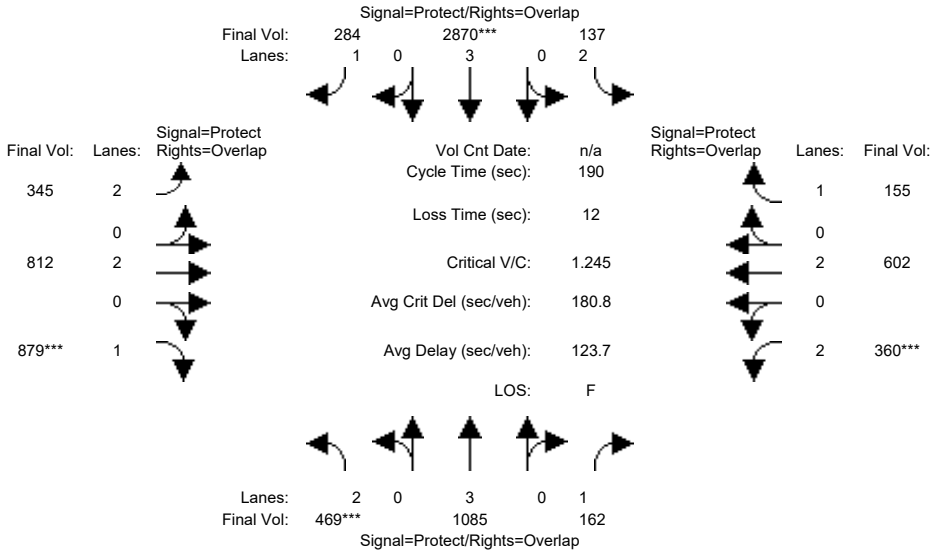
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #5611: Lawrence Expwy & Arques Ave



Street Name:	Lawrence Expwy						Arques Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	22	86	86	15	79	79	24	41	41	24	41	41
Y+R:	6.3	6.2	6.2	6.1	6.2	6.2	5.9	5.7	5.7	5.9	5.7	5.7
Volume Module:												
Base Vol:	469	1628	162	137	3596	285	347	812	879	360	602	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	469	1628	162	137	3596	285	347	812	879	360	602	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-9	0	0	-9	-1	-2	0	0	0	0	0
Initial Fut:	469	1619	162	137	3587	284	345	812	879	360	602	155
User Adj:	1.00	0.67	1.00	1.00	0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	469	1085	162	137	2870	284	345	812	879	360	602	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	469	1085	162	137	2870	284	345	812	879	360	602	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	469	1085	162	137	2870	284	345	812	879	360	602	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.83	1.00	0.92	0.83	1.00	0.84	0.83	1.00	0.92
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	1.00	2.00	2.00	1.00
Final Sat.:	3150	5700	1750	3150	5700	1750	3150	3800	1601	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.09	0.04	0.50	0.16	0.11	0.21	0.55	0.11	0.16	0.09
Crit Moves:	****				****				****	****		
Green Time:	22.0	86.0	110.0	15.0	79.0	107.4	28.4	53.0	75.0	24.0	48.6	63.6
Volume/Cap:	1.29	0.42	0.16	0.55	1.21	0.29	0.73	0.77	1.39	0.90	0.62	0.26
Delay/Veh:	231.9	29.4	11.6	86.9	163	28.7	83.0	66.2	242.9	105.4	63.8	46.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	231.9	29.4	11.6	86.9	163	28.7	83.0	66.2	242.9	105.4	63.8	46.4
LOS by Move:	F	C	B	F	F	C	F	E	F	F	E	D
HCM2k95thQ:	43	20	5	9	114	21	23	38	131	21	25	12

Note: Queue reported is the number of cars per lane.

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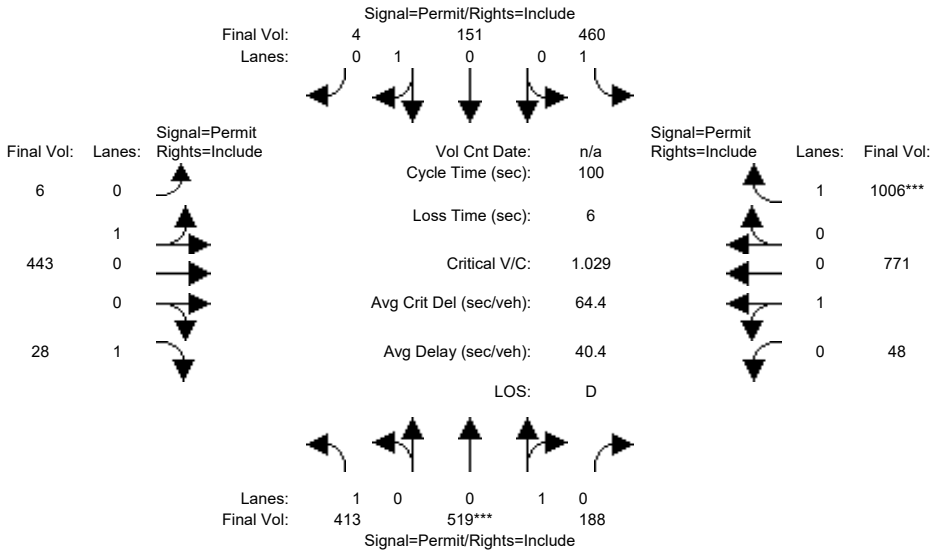
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	372	511	187	414	148	4	5	399	25	49	694	905
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	372	511	187	414	148	4	5	399	25	49	694	905
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-44	-18	0	-12	0	0	0	0	-6	0	0
Initial Fut:	372	467	169	414	136	4	5	399	25	43	694	905
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	413	519	188	460	151	4	6	443	28	48	771	1006
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	413	519	188	460	151	4	6	443	28	48	771	1006
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	413	519	188	460	151	4	6	443	28	48	771	1006
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	0.73	0.27	1.00	0.97	0.03	0.01	0.99	1.00	0.06	0.94	1.00
Final Sat.:	1750	1322	478	1750	1749	51	22	1778	1750	105	1695	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.39	0.39	0.26	0.09	0.09	0.25	0.25	0.02	0.45	0.45	0.57
Crit Moves:		****										****
Green Time:	38.2	38.2	38.2	38.2	38.2	38.2	55.8	55.8	55.8	55.8	55.8	55.8
Volume/Cap:	0.62	1.03	1.03	0.69	0.23	0.23	0.45	0.45	0.03	0.81	0.81	1.03
Delay/Veh:	26.8	72.9	72.9	29.0	21.1	21.1	13.3	13.3	9.9	23.1	23.1	58.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.8	72.9	72.9	29.0	21.1	21.1	13.3	13.3	9.9	23.1	23.1	58.5
LOS by Move:	C	E	E	C	C	C	B	B	A	C	C	E
HCM2k95thQ:	20	48	48	23	7	7	16	16	1	38	38	66

Note: Queue reported is the number of cars per lane.

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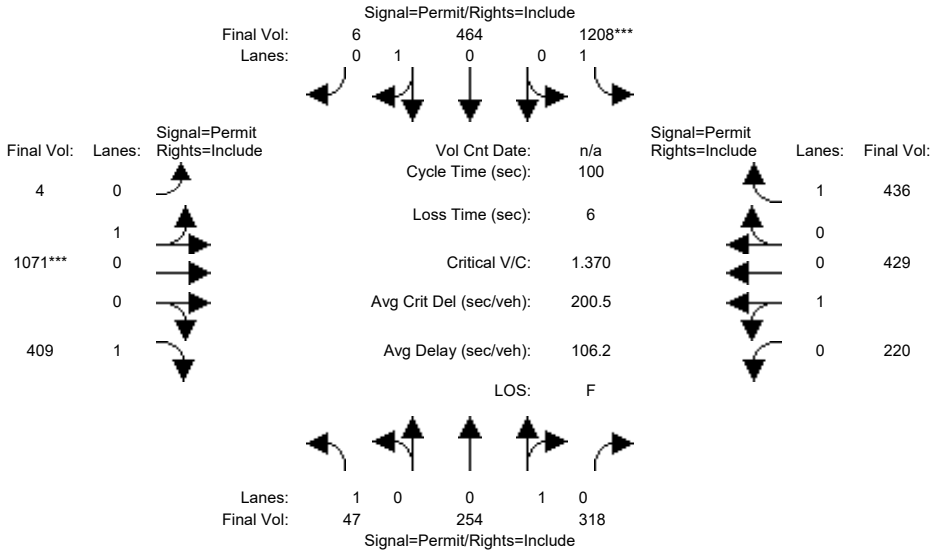
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	42	255	300	1087	460	5	4	964	368	219	386	392
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	255	300	1087	460	5	4	964	368	219	386	392
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-26	-14	0	-42	0	0	0	0	-21	0	0
Initial Fut:	42	229	286	1087	418	5	4	964	368	198	386	392
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	47	254	318	1208	464	6	4	1071	409	220	429	436
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	254	318	1208	464	6	4	1071	409	220	429	436
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	254	318	1208	464	6	4	1071	409	220	429	436
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	0.44	0.56	1.00	0.99	0.01	0.01	0.99	1.00	0.34	0.66	1.00
Final Sat.:	1750	800	1000	1750	1779	21	7	1793	1750	610	1190	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.32	0.32	0.69	0.26	0.26	0.60	0.60	0.23	0.36	0.36	0.25
Crit Moves:				****				****				
Green Time:	50.4	50.4	50.4	50.4	50.4	50.4	43.6	43.6	43.6	43.6	43.6	43.6
Volume/Cap:	0.05	0.63	0.63	1.37	0.52	0.52	1.37	1.37	0.54	0.83	0.83	0.57
Delay/Veh:	12.7	19.5	19.5	198.5	17.2	17.2	202.7	203	21.5	32.1	32.1	22.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	19.5	19.5	198.5	17.2	17.2	202.7	203	21.5	32.1	32.1	22.2
LOS by Move:	B	B	B	F	B	B	F	F	C	C	C	C
HCM2k95thQ:	2	24	24	122	17	17	111	111	19	33	33	20

Note: Queue reported is the number of cars per lane.

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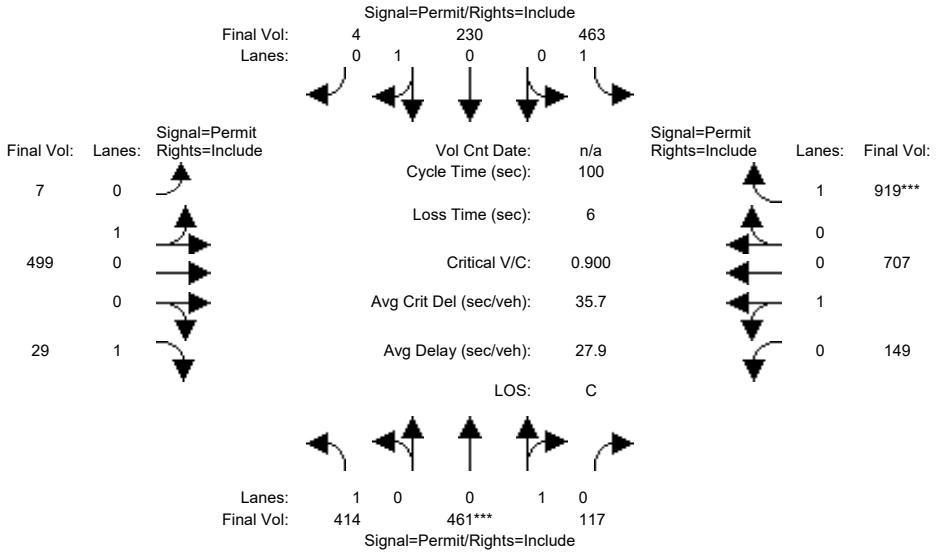
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	373	448	116	417	227	4	6	449	26	151	636	827
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	373	448	116	417	227	4	6	449	26	151	636	827
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-33	-11	0	-20	0	0	0	0	-17	0	0
Initial Fut:	373	415	105	417	207	4	6	449	26	134	636	827
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	414	461	117	463	230	4	7	499	29	149	707	919
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	414	461	117	463	230	4	7	499	29	149	707	919
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	414	461	117	463	230	4	7	499	29	149	707	919
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	0.80	0.20	1.00	0.98	0.02	0.01	0.99	1.00	0.17	0.83	1.00
Final Sat.:	1750	1437	363	1750	1766	34	24	1776	1750	313	1487	1750
Capacity Analysis Module:												
Vol/Sat:	0.24	0.32	0.32	0.26	0.13	0.13	0.28	0.28	0.02	0.48	0.48	0.53
Crit Moves:		****										****
Green Time:	35.7	35.7	35.7	35.7	35.7	35.7	58.3	58.3	58.3	58.3	58.3	58.3
Volume/Cap:	0.66	0.90	0.90	0.74	0.37	0.37	0.48	0.48	0.03	0.81	0.81	0.90
Delay/Veh:	29.8	46.2	46.2	32.9	24.2	24.2	12.4	12.4	8.8	21.5	21.5	29.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.8	46.2	46.2	32.9	24.2	24.2	12.4	12.4	8.8	21.5	21.5	29.0
LOS by Move:	C	D	D	C	C	C	B	B	A	C	C	C
HCM2k95thQ:	21	33	33	24	10	10	18	18	1	38	38	48

Note: Queue reported is the number of cars per lane.

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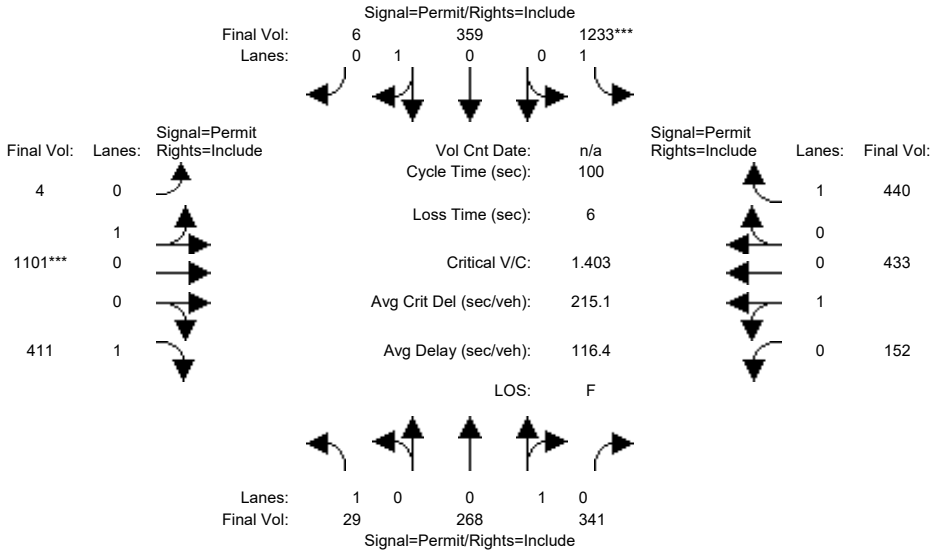
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	26	273	332	1110	357	5	4	991	370	151	390	396
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	273	332	1110	357	5	4	991	370	151	390	396
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-32	-25	0	-34	0	0	0	0	-14	0	0
Initial Fut:	26	241	307	1110	323	5	4	991	370	137	390	396
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	29	268	341	1233	359	6	4	1101	411	152	433	440
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	268	341	1233	359	6	4	1101	411	152	433	440
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	29	268	341	1233	359	6	4	1101	411	152	433	440
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	0.44	0.56	1.00	0.98	0.02	0.01	0.99	1.00	0.26	0.74	1.00
Final Sat.:	1750	792	1008	1750	1773	27	7	1793	1750	468	1332	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.34	0.34	0.70	0.20	0.20	0.61	0.61	0.23	0.33	0.33	0.25
Crit Moves:				****				****				
Green Time:	50.2	50.2	50.2	50.2	50.2	50.2	43.8	43.8	43.8	43.8	43.8	43.8
Volume/Cap:	0.03	0.67	0.67	1.40	0.40	0.40	1.40	1.40	0.54	0.74	0.74	0.57
Delay/Veh:	12.6	20.7	20.7	213.2	15.8	15.8	217.2	217	21.4	27.3	27.3	22.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.6	20.7	20.7	213.2	15.8	15.8	217.2	217	21.4	27.3	27.3	22.2
LOS by Move:	B	C	C	F	B	B	F	F	C	C	C	C
HCM2k95thQ:	1	26	26	130	13	13	117	117	19	28	28	20

Note: Queue reported is the number of cars per lane.

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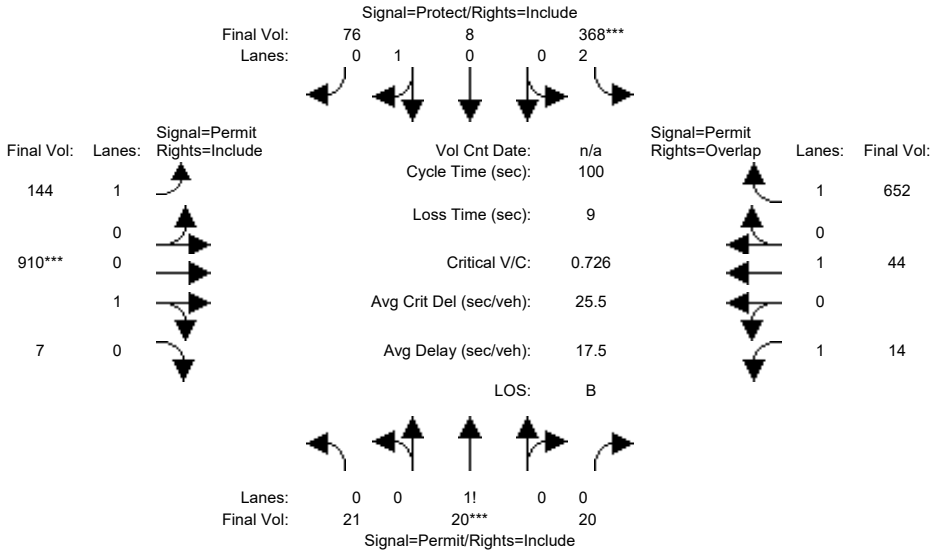
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	21	20	20	342	8	69	138	840	7	14	47	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	20	20	342	8	69	138	840	7	14	47	596
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-2	-2	-2	-11	-1	-1	-8	-21	-1	-1	-7	-9
Initial Fut:	19	18	18	331	7	68	130	819	6	13	40	587
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	21	20	20	368	8	76	144	910	7	14	44	652
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	20	20	368	8	76	144	910	7	14	44	652
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	20	20	368	8	76	144	910	7	14	44	652
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.34	0.33	0.33	2.00	0.09	0.91	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	605	573	573	3150	168	1632	1750	1787	13	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.12	0.05	0.05	0.08	0.51	0.51	0.01	0.02	0.37
Crit Moves:		****		****				****				
Green Time:	10.0	10.0	10.0	15.1	25.1	25.1	65.9	65.9	65.9	65.9	65.9	81.0
Volume/Cap:	0.35	0.35	0.35	0.77	0.18	0.18	0.13	0.77	0.77	0.01	0.04	0.46
Delay/Veh:	43.2	43.2	43.2	48.5	29.6	29.6	6.4	15.1	15.1	5.9	6.0	3.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.2	43.2	43.2	48.5	29.6	29.6	6.4	15.1	15.1	5.9	6.0	3.1
LOS by Move:	D	D	D	D	C	C	A	B	B	A	A	A
HCM2k95thQ:	5	5	5	13	0	4	4	37	37	0	1	13

Note: Queue reported is the number of cars per lane.

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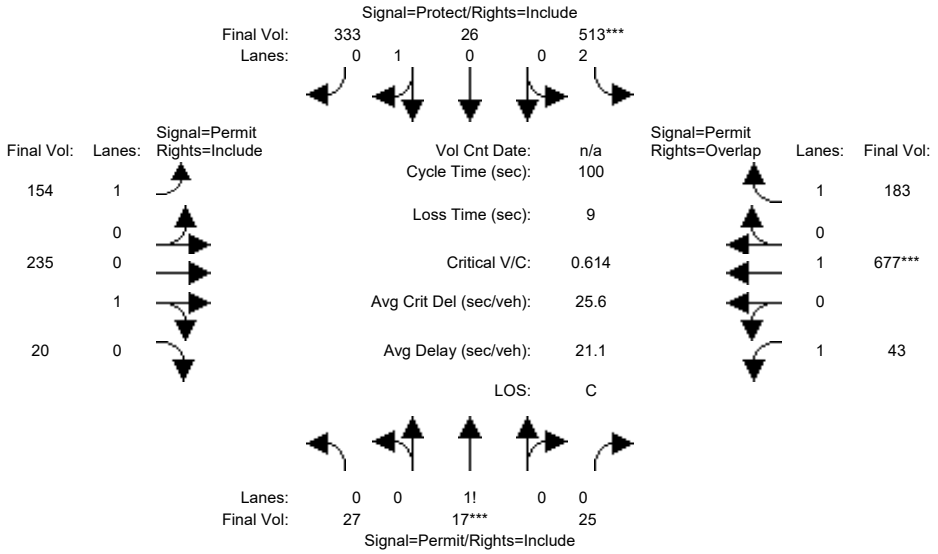
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	28	18	25	474	26	322	154	228	20	44	654	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	18	25	474	26	322	154	228	20	44	654	192
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-3	-2	-2	-2	-2	-16	-12	-12	-2	-4	-31	-24
Initial Fut:	25	16	23	472	24	306	142	216	18	40	623	168
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	27	17	25	513	26	333	154	235	20	43	677	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	17	25	513	26	333	154	235	20	43	677	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	27	17	25	513	26	333	154	235	20	43	677	183
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.39	0.25	0.36	2.00	0.07	0.93	1.00	0.92	0.08	1.00	1.00	1.00
Final Sat.:	684	438	629	3150	131	1669	1750	1662	138	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.16	0.20	0.20	0.09	0.14	0.14	0.02	0.36	0.10
Crit Moves:		****		****							****	
Green Time:	10.0	10.0	10.0	25.4	35.4	35.4	55.6	55.6	55.6	55.6	55.6	81.0
Volume/Cap:	0.40	0.40	0.40	0.64	0.56	0.56	0.16	0.25	0.25	0.04	0.64	0.13
Delay/Veh:	43.7	43.7	43.7	35.0	27.2	27.2	10.9	11.6	11.6	10.1	16.7	2.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	43.7	43.7	35.0	27.2	27.2	10.9	11.6	11.6	10.1	16.7	2.1
LOS by Move:	D	D	D	D	C	C	B	B	B	B	B	A
HCM2k95thQ:	5	5	5	16	17	17	5	8	8	1	25	3

Note: Queue reported is the number of cars per lane.

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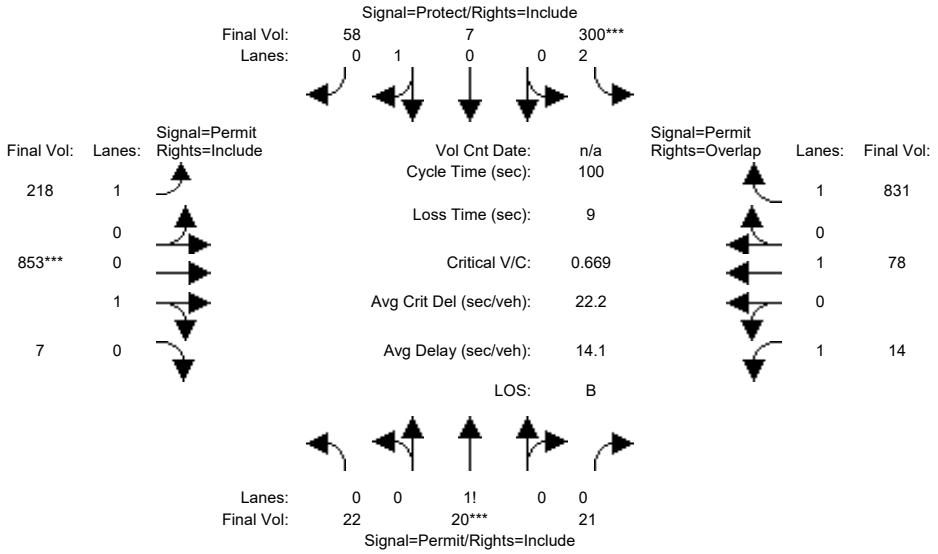
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	22	20	21	277	7	52	213	795	7	14	72	766
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	20	21	277	7	52	213	795	7	14	72	766
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-2	-2	-2	-7	-1	0	-17	-27	-1	-1	-2	-18
Initial Fut:	20	18	19	270	6	52	196	768	6	13	70	748
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	22	20	21	300	7	58	218	853	7	14	78	831
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	20	21	300	7	58	218	853	7	14	78	831
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	20	21	300	7	58	218	853	7	14	78	831
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.35	0.32	0.33	2.00	0.10	0.90	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	614	553	583	3150	186	1614	1750	1786	14	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.10	0.04	0.04	0.12	0.48	0.48	0.01	0.04	0.47
Crit Moves:		****		****				****				
Green Time:	10.0	10.0	10.0	13.5	23.5	23.5	67.5	67.5	67.5	67.5	67.5	81.0
Volume/Cap:	0.36	0.36	0.36	0.71	0.15	0.15	0.18	0.71	0.71	0.01	0.06	0.59
Delay/Veh:	43.3	43.3	43.3	46.8	30.5	30.5	6.1	12.0	12.0	5.3	5.5	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	43.3	43.3	46.8	30.5	30.5	6.1	12.0	12.0	5.3	5.5	4.1
LOS by Move:	D	D	D	D	C	C	A	B	B	A	A	A
HCM2k95thQ:	5	5	5	11	0	3	5	31	31	0	2	19

Note: Queue reported is the number of cars per lane.

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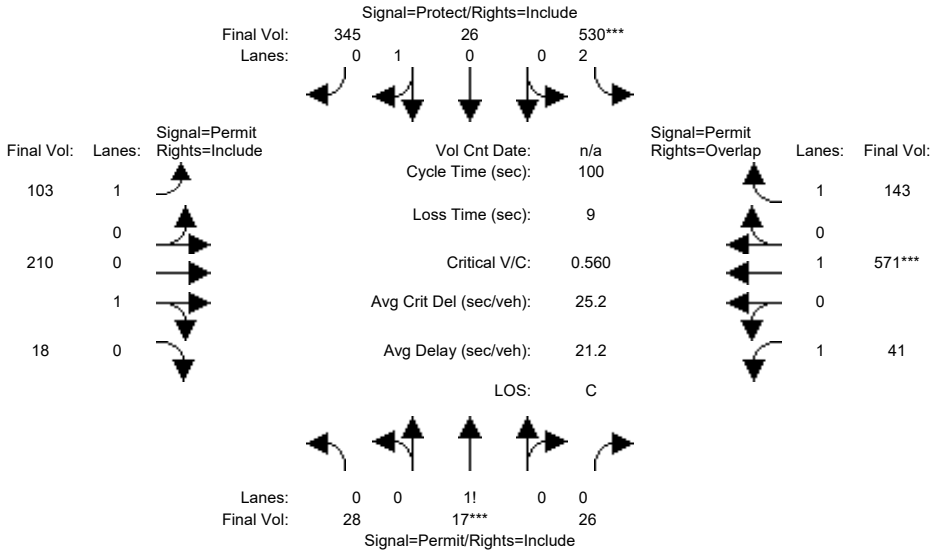
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	29	17	26	491	26	348	102	205	19	42	556	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	17	26	491	26	348	102	205	19	42	556	151
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-3	-1	-2	-3	-2	-31	-7	-12	-2	-4	-31	-19
Initial Fut:	26	16	24	488	24	317	95	193	17	38	525	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	28	17	26	530	26	345	103	210	18	41	571	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	17	26	530	26	345	103	210	18	41	571	143
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	17	26	530	26	345	103	210	18	41	571	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.40	0.24	0.36	2.00	0.07	0.93	1.00	0.92	0.08	1.00	1.00	1.00
Final Sat.:	689	424	636	3150	127	1673	1750	1654	146	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.17	0.21	0.21	0.06	0.13	0.13	0.02	0.30	0.08
Crit Moves:		****		****							****	
Green Time:	10.0	10.0	10.0	29.1	39.1	39.1	51.9	51.9	51.9	51.9	51.9	81.0
Volume/Cap:	0.41	0.41	0.41	0.58	0.53	0.53	0.11	0.24	0.24	0.05	0.58	0.10
Delay/Veh:	43.8	43.8	43.8	31.2	24.1	24.1	12.3	13.4	13.4	11.9	17.4	2.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.8	43.8	43.8	31.2	24.1	24.1	12.3	13.4	13.4	11.9	17.4	2.0
LOS by Move:	D	D	D	C	C	C	B	B	B	B	B	A
HCM2k95thQ:	5	5	5	15	17	17	4	8	8	1	21	2

Note: Queue reported is the number of cars per lane.

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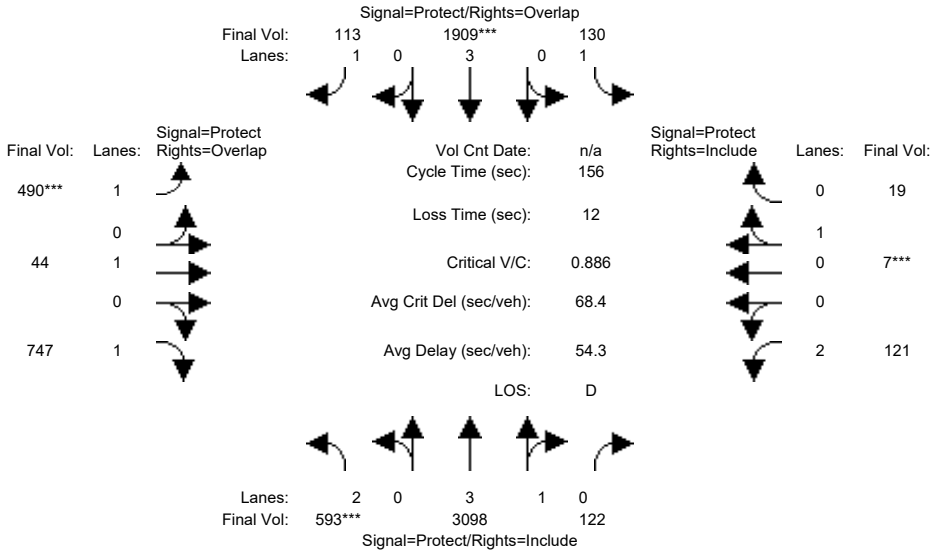
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	546	2790	110	117	1723	107	452	43	693	109	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	546	2790	110	117	1723	107	452	43	693	109	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-12	-2	0	0	-5	-5	-11	-3	-21	0	-1	0
Initial Fut:	534	2788	110	117	1718	102	441	40	672	109	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	593	3098	122	130	1909	113	490	44	747	121	7	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	593	3098	122	130	1909	113	490	44	747	121	7	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	593	3098	122	130	1909	113	490	44	747	121	7	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.84	0.16	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.26	0.74
Final Sat.:	3150	7215	285	1750	5700	1750	1750	1900	1750	3150	470	1330
Capacity Analysis Module:												
Vol/Sat:	0.19	0.43	0.43	0.07	0.33	0.06	0.28	0.02	0.43	0.04	0.01	0.01
Crit Moves:	****				****		****				****	
Green Time:	31.0	73.3	73.3	12.7	55.0	101.0	46.0	50.0	80.9	8.1	12.0	12.0
Volume/Cap:	0.95	0.91	0.91	0.91	0.95	0.10	0.95	0.07	0.82	0.74	0.18	0.18
Delay/Veh:	85.8	42.6	42.6	121.4	59.7	10.4	81.2	37.0	37.6	89.8	68.1	68.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	85.8	42.6	42.6	121.4	59.7	10.4	81.2	37.0	37.6	89.8	68.1	68.1
LOS by Move:	F	D	D	F	E	B	F	D	D	F	E	E
HCM2k95thQ:	29	54	54	15	52	4	43	3	51	10	3	3

Note: Queue reported is the number of cars per lane.

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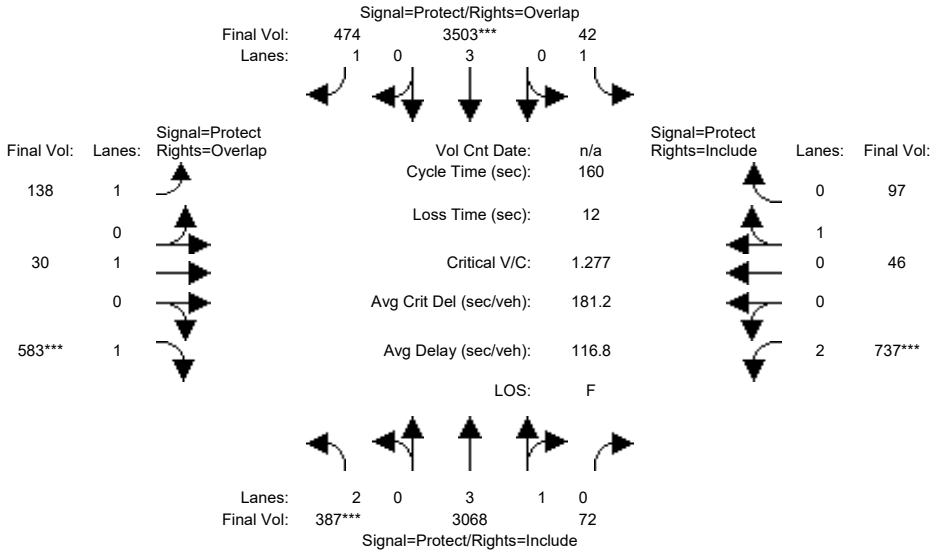
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	400	2859	67	39	3262	457	140	29	546	685	46	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	400	2859	67	39	3262	457	140	29	546	685	46	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-40	-6	0	0	-4	-16	-12	-1	-4	0	-3	0
Initial Fut:	360	2853	67	39	3258	441	128	28	542	685	43	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	387	3068	72	42	3503	474	138	30	583	737	46	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	387	3068	72	42	3503	474	138	30	583	737	46	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	387	3068	72	42	3503	474	138	30	583	737	46	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.90	0.10	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.32	0.68
Final Sat.:	3150	7328	172	1750	5700	1750	1750	1900	1750	3150	582	1218
Capacity Analysis Module:												
Vol/Sat:	0.12	0.42	0.42	0.02	0.61	0.27	0.08	0.02	0.33	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	15.4	84.8	84.8	7.6	77.0	104.7	27.7	26.3	41.7	29.3	27.9	27.9
Volume/Cap:	1.28	0.79	0.79	0.50	1.28	0.41	0.45	0.10	1.28	1.28	0.45	0.45
Delay/Veh:	220.2	31.5	31.5	79.3	169	13.4	60.5	56.9	200.0	203.1	60.2	60.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	220.2	31.5	31.5	79.3	169	13.4	60.5	56.9	200.0	203.1	60.2	60.2
LOS by Move:	F	C	C	E	F	B	E	E	F	F	E	E
HCM2k95thQ:	29	47	47	4	131	21	12	2	74	56	13	13

Note: Queue reported is the number of cars per lane.

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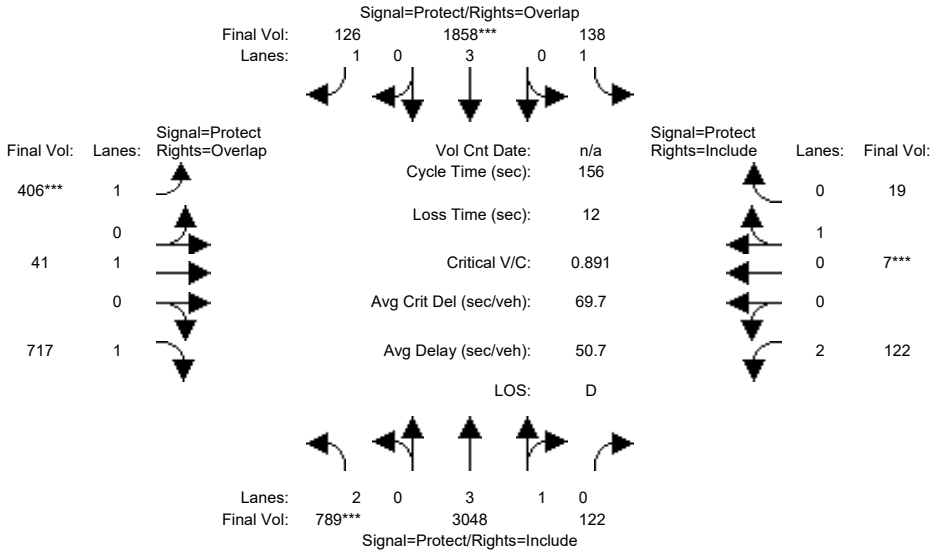
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	726	2751	110	124	1673	118	376	40	667	110	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	726	2751	110	124	1673	118	376	40	667	110	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-16	-8	0	0	-1	-5	-11	-3	-22	0	-1	0
Initial Fut:	710	2743	110	124	1672	113	365	37	645	110	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	789	3048	122	138	1858	126	406	41	717	122	7	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	789	3048	122	138	1858	126	406	41	717	122	7	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	789	3048	122	138	1858	126	406	41	717	122	7	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.84	0.16	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.26	0.74
Final Sat.:	3150	7210	289	1750	5700	1750	1750	1900	1750	3150	470	1330
Capacity Analysis Module:												
Vol/Sat:	0.25	0.42	0.42	0.08	0.33	0.07	0.23	0.02	0.41	0.04	0.01	0.01
Crit Moves:	****				****		****				****	
Green Time:	40.9	79.4	79.4	14.8	53.2	91.1	37.9	40.1	81.0	9.8	12.0	12.0
Volume/Cap:	0.96	0.83	0.83	0.83	0.96	0.12	0.96	0.08	0.79	0.62	0.18	0.18
Delay/Veh:	77.7	34.3	34.3	97.7	61.8	14.6	90.5	44.1	35.2	77.2	68.1	68.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.7	34.3	34.3	97.7	61.8	14.6	90.5	44.1	35.2	77.2	68.1	68.1
LOS by Move:	E	C	C	F	E	B	F	D	D	E	E	E
HCM2k95thQ:	37	49	49	14	52	6	37	3	48	9	3	3

Note: Queue reported is the number of cars per lane.

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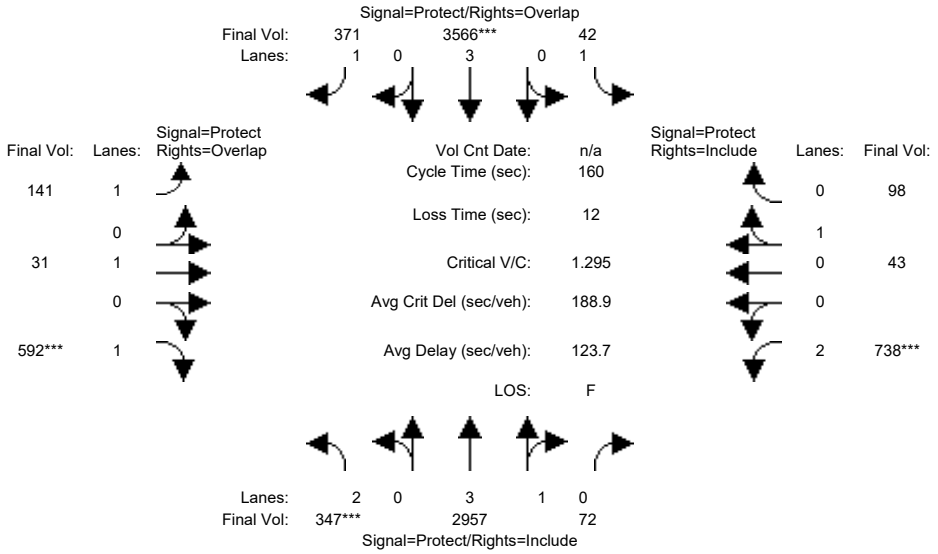
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	358	2752	67	39	3326	361	143	30	556	686	43	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	358	2752	67	39	3326	361	143	30	556	686	43	91
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-35	-2	0	0	-10	-16	-12	-1	-5	0	-3	0
Initial Fut:	323	2750	67	39	3316	345	131	29	551	686	40	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	347	2957	72	42	3566	371	141	31	592	738	43	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	347	2957	72	42	3566	371	141	31	592	738	43	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	347	2957	72	42	3566	371	141	31	592	738	43	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.90	0.10	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.31	0.69
Final Sat.:	3150	7321	178	1750	5700	1750	1750	1900	1750	3150	550	1250
Capacity Analysis Module:												
Vol/Sat:	0.11	0.40	0.40	0.02	0.63	0.21	0.08	0.02	0.34	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	13.6	83.2	83.2	7.7	77.3	106.2	29.0	28.2	41.8	28.9	28.2	28.2
Volume/Cap:	1.30	0.78	0.78	0.50	1.30	0.32	0.44	0.09	1.30	1.30	0.44	0.44
Delay/Veh:	230.9	32.0	32.0	78.8	177	11.6	59.4	55.3	207.5	211.1	59.9	59.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	230.9	32.0	32.0	78.8	177	11.6	59.4	55.3	207.5	211.1	59.9	59.9
LOS by Move:	F	C	C	E	F	B	E	E	F	F	E	E
HCM2k95thQ:	27	45	45	4	136	15	12	2	76	57	13	13

Note: Queue reported is the number of cars per lane.

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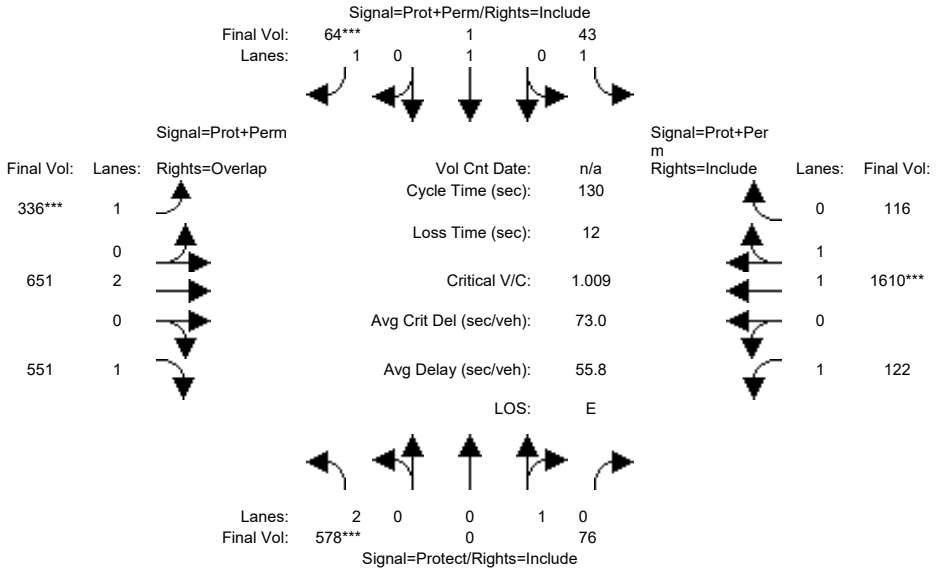
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #73: #27: FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	520	0	68	39	1	58	302	607	496	110	1454	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	520	0	68	39	1	58	302	607	496	110	1454	104
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	0	0	-21	0	0	-5	0
Initial Fut:	520	0	68	39	1	58	302	586	496	110	1449	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	578	0	76	43	1	64	336	651	551	122	1610	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	578	0	76	43	1	64	336	651	551	122	1610	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	578	0	76	43	1	64	336	651	551	122	1610	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	3150	0	1800	1750	1900	1750	1750	3800	1750	1750	3452	248
Capacity Analysis Module:												
Vol/Sat:	0.18	0.00	0.04	0.00	0.00	0.04	0.00	0.17	0.31	0.00	0.47	0.47
Crit Moves:	****					****	****				****	
Green Time:	23.5	0.0	14.7	18.8	10.0	10.0	24.6	60.0	83.5	24.5	59.9	59.9
Volume/Cap:	1.01	0.00	0.37	0.17	0.01	0.48	1.01	0.37	0.49	0.37	1.01	1.01
Delay/Veh:	94.2	0.0	54.5	49.0	55.4	60.2	105.5	22.9	12.5	46.8	60.1	60.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	94.2	0.0	54.5	49.0	55.4	60.2	105.5	22.9	12.5	46.8	60.1	60.1
LOS by Move:	F	A	D	D	E	E	F	C	B	D	E	E
HCM2k95thQ:	33	0	6	3	0	7	30	15	22	9	66	66

Note: Queue reported is the number of cars per lane.

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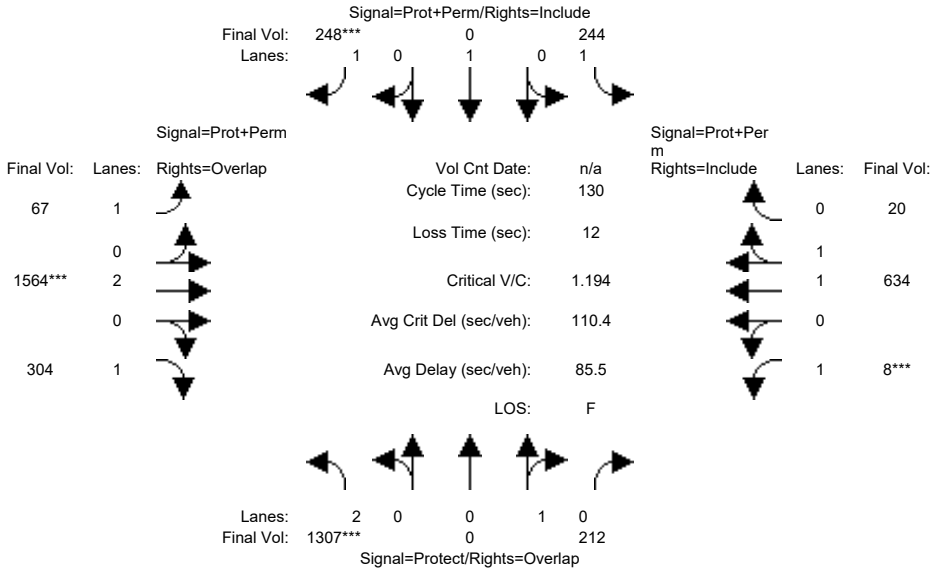
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #73: #27: FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	1268	0	206	237	0	241	65	1525	295	8	624	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1268	0	206	237	0	241	65	1525	295	8	624	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	0	0	-8	0	0	-9	0
Initial Fut:	1268	0	206	237	0	241	65	1517	295	8	615	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1307	0	212	244	0	248	67	1564	304	8	634	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1307	0	212	244	0	248	67	1564	304	8	634	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1307	0	212	244	0	248	67	1564	304	8	634	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3150	0	1800	1750	1900	1750	1750	3800	1750	1750	3589	111
Capacity Analysis Module:												
Vol/Sat:	0.41	0.00	0.12	0.00	0.00	0.14	0.00	0.41	0.17	0.00	0.18	0.18
Crit Moves:	****					****		****		****		
Green Time:	47.1	0.0	36.3	34.9	0.0	34.9	14.1	46.7	93.9	8.0	40.6	40.6
Volume/Cap:	1.14	0.00	0.42	0.52	0.00	0.53	0.35	1.14	0.24	0.08	0.57	0.57
Delay/Veh:	117.2	0.0	38.8	41.4	0.0	41.7	54.8	116	6.2	57.8	38.0	38.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	117.2	0.0	38.8	41.4	0.0	41.7	54.8	116	6.2	57.8	38.0	38.0
LOS by Move:	F	A	D	D	A	D	D	F	A	E	D	D
HCM2k95thQ:	72	0	14	17	0	17	5	65	8	1	20	20

Note: Queue reported is the number of cars per lane.

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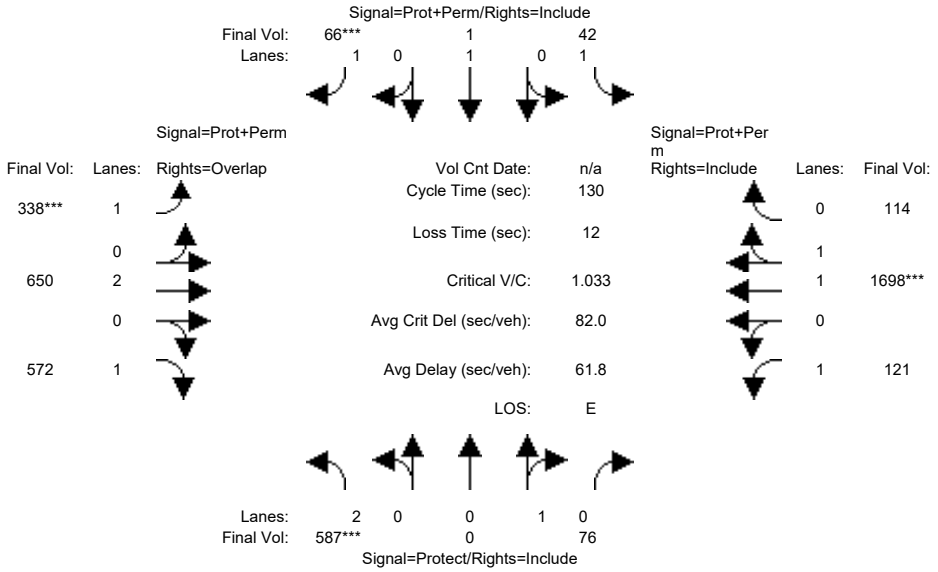
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #73: #27: FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	528	0	68	38	1	59	304	604	515	109	1537	103
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	528	0	68	38	1	59	304	604	515	109	1537	103
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	0	0	-19	0	0	-9	0
Initial Fut:	528	0	68	38	1	59	304	585	515	109	1528	103
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	587	0	76	42	1	66	338	650	572	121	1698	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	587	0	76	42	1	66	338	650	572	121	1698	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	587	0	76	42	1	66	338	650	572	121	1698	114
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95
Lanes:	2.00	0.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.87	0.13
Final Sat.:	3150	0	1800	1750	1900	1750	1750	3800	1750	1750	3466	234
Capacity Analysis Module:												
Vol/Sat:	0.19	0.00	0.04	0.00	0.00	0.04	0.00	0.17	0.33	0.00	0.49	0.49
Crit Moves:	****					****	****				****	
Green Time:	23.1	0.0	14.5	18.6	10.0	10.0	24.0	60.4	83.6	24.4	60.9	60.9
Volume/Cap:	1.05	0.00	0.38	0.17	0.01	0.49	1.05	0.37	0.51	0.37	1.05	1.05
Delay/Veh:	104.0	0.0	54.7	49.2	55.4	60.3	115.6	22.6	12.7	46.7	69.4	69.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	104.0	0.0	54.7	49.2	55.4	60.3	115.6	22.6	12.7	46.7	69.4	69.4
LOS by Move:	F	A	D	D	E	E	F	C	B	D	E	E
HCM2k95thQ:	35	0	7	3	0	7	31	15	23	9	71	71

Note: Queue reported is the number of cars per lane.

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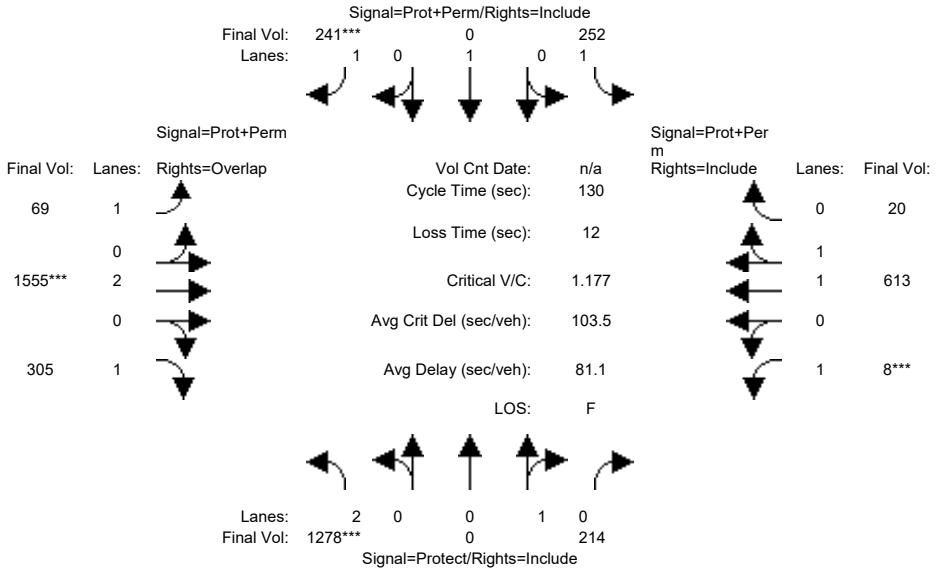
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - PM

Intersection #73: #27: FREEDOM CIRCLE W / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	8	15	15	8	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	1240	0	208	244	0	234	67	1516	296	8	603	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1240	0	208	244	0	234	67	1516	296	8	603	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	0	0	-8	0	0	-8	0
Initial Fut:	1240	0	208	244	0	234	67	1508	296	8	595	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	1278	0	214	252	0	241	69	1555	305	8	613	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1278	0	214	252	0	241	69	1555	305	8	613	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1278	0	214	252	0	241	69	1555	305	8	613	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.97	0.95
Lanes:	2.00	0.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	3150	0	1800	1750	1900	1750	1750	3800	1750	1750	3585	114
Capacity Analysis Module:												
Vol/Sat:	0.41	0.00	0.12	0.00	0.00	0.14	0.00	0.41	0.17	0.00	0.17	0.17
Crit Moves:	****					****		****		****		
Green Time:	46.9	0.0	28.4	34.3	0.0	34.3	14.6	47.2	94.1	8.0	40.6	40.6
Volume/Cap:	1.13	0.00	0.54	0.54	0.00	0.52	0.35	1.13	0.24	0.08	0.55	0.55
Delay/Veh:	110.0	0.0	46.6	42.5	0.0	41.9	54.4	108	6.1	57.8	37.6	37.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	110.0	0.0	46.6	42.5	0.0	41.9	54.4	108	6.1	57.8	37.6	37.6
LOS by Move:	F	A	D	D	A	D	D	F	A	E	D	D
HCM2k95thQ:	69	0	16	18	0	17	5	62	8	1	19	19

Note: Queue reported is the number of cars per lane.

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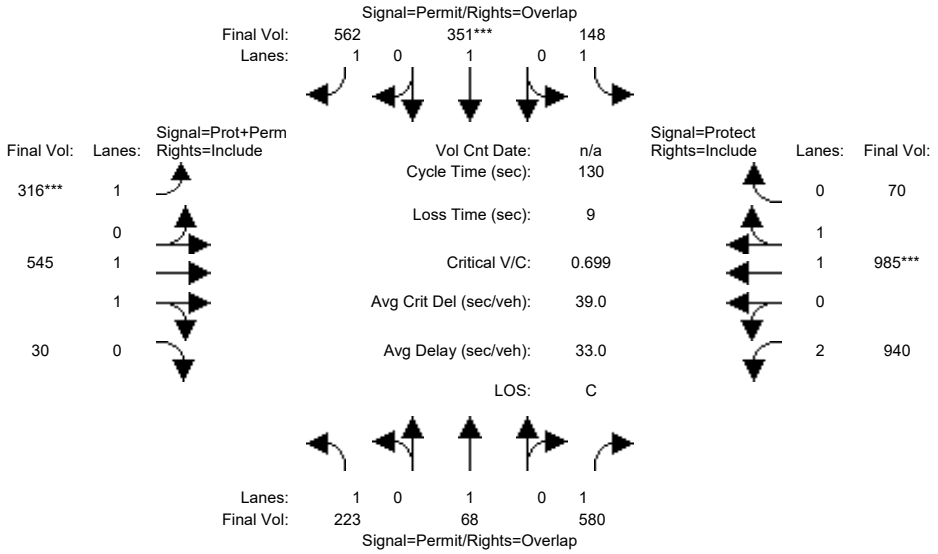
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - AM

Intersection #74: #28: FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	203	62	528	135	323	513	288	512	27	855	899	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	203	62	528	135	323	513	288	512	27	855	899	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	-4	-2	0	-16	0	0	-3	0
Initial Fut:	203	62	528	135	319	511	288	496	27	855	896	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	223	68	580	148	351	562	316	545	30	940	985	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	68	580	148	351	562	316	545	30	940	985	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	68	580	148	351	562	316	545	30	940	985	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.89	0.11	2.00	1.86	0.14
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3509	191	3150	3453	247
Capacity Analysis Module:												
Vol/Sat:	0.13	0.04	0.33	0.08	0.18	0.32	0.00	0.16	0.16	0.30	0.29	0.29
Crit Moves:					****		****				****	
Green Time:	34.3	34.3	91.3	34.3	34.3	68.0	33.6	29.7	29.7	57.0	53.0	53.0
Volume/Cap:	0.48	0.14	0.47	0.32	0.70	0.61	0.70	0.68	0.68	0.68	0.70	0.70
Delay/Veh:	41.2	36.6	8.9	38.9	47.5	23.0	48.4	48.1	48.1	30.6	33.3	33.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.2	36.6	8.9	38.9	47.5	23.0	48.4	48.1	48.1	30.6	33.3	33.3
LOS by Move:	D	D	A	D	D	C	D	D	D	C	C	C
HCM2k95thQ:	16	4	20	10	23	29	22	20	20	30	30	30

Note: Queue reported is the number of cars per lane.

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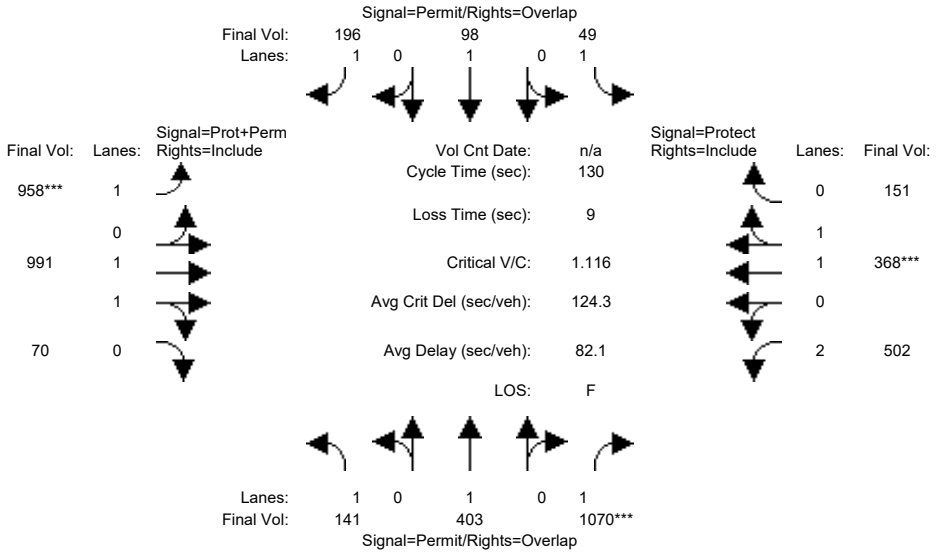
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH1 with FC - PM

Intersection #74: #28: FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	137	391	1038	48	95	194	933	965	68	487	362	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	137	391	1038	48	95	194	933	965	68	487	362	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	-4	-4	-4	0	0	-5	0
Initial Fut:	137	391	1038	48	95	190	929	961	68	487	357	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	141	403	1070	49	98	196	958	991	70	502	368	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	403	1070	49	98	196	958	991	70	502	368	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	403	1070	49	98	196	958	991	70	502	368	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.86	0.14	2.00	1.40	0.60
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3455	244	3150	2625	1074
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.61	0.03	0.05	0.11	0.00	0.29	0.29	0.16	0.14	0.14
Crit Moves:			****				****				****	
Green Time:	48.0	48.0	74.1	48.0	48.0	106.0	58.0	46.9	46.9	26.1	15.0	15.0
Volume/Cap:	0.22	0.58	1.07	0.08	0.14	0.14	1.23	0.79	0.79	0.79	1.22	1.22
Delay/Veh:	28.3	34.0	78.4	26.7	27.4	2.5	148.8	40.6	40.6	56.3	174	174.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.3	34.0	78.4	26.7	27.4	2.5	148.8	40.6	40.6	56.3	174	174.0
LOS by Move:	C	C	E	C	C	A	F	D	D	E	F	F
HCM2k95thQ:	8	23	91	3	5	4	99	34	34	22	29	29

Note: Queue reported is the number of cars per lane.

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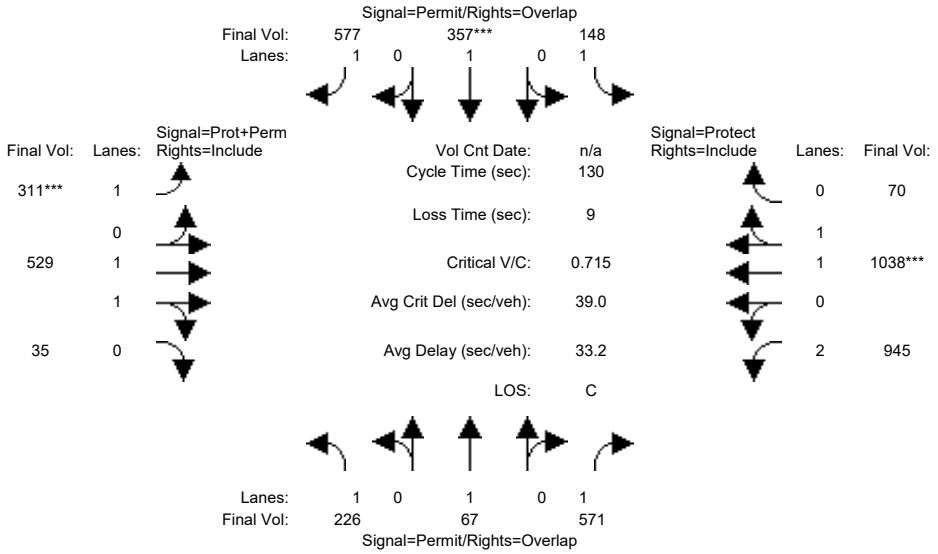
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 PH2 with FC - AM

Intersection #74: #28: FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	206	61	520	135	325	528	287	496	32	860	951	64
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	206	61	520	135	325	528	287	496	32	860	951	64
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	-3	-4	-15	0	0	-6	0
Initial Fut:	206	61	520	135	325	525	283	481	32	860	945	64
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	226	67	571	148	357	577	311	529	35	945	1038	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	226	67	571	148	357	577	311	529	35	945	1038	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	226	67	571	148	357	577	311	529	35	945	1038	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.87	0.13	2.00	1.87	0.13
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3469	231	3150	3465	235
Capacity Analysis Module:												
Vol/Sat:	0.13	0.04	0.33	0.08	0.19	0.33	0.00	0.15	0.15	0.30	0.30	0.30
Crit Moves:					****		****				****	
Green Time:	34.2	34.2	91.8	34.2	34.2	66.5	32.3	29.2	29.2	57.6	54.5	54.5
Volume/Cap:	0.49	0.13	0.46	0.32	0.71	0.64	0.71	0.68	0.68	0.68	0.71	0.71
Delay/Veh:	41.4	36.7	8.6	39.0	48.4	24.8	50.2	48.3	48.3	30.2	32.9	32.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.4	36.7	8.6	39.0	48.4	24.8	50.2	48.3	48.3	30.2	32.9	32.9
LOS by Move:	D	D	A	D	D	C	D	D	D	C	C	C
HCM2k95thQ:	16	4	19	10	23	31	22	19	19	30	31	31

Note: Queue reported is the number of cars per lane.

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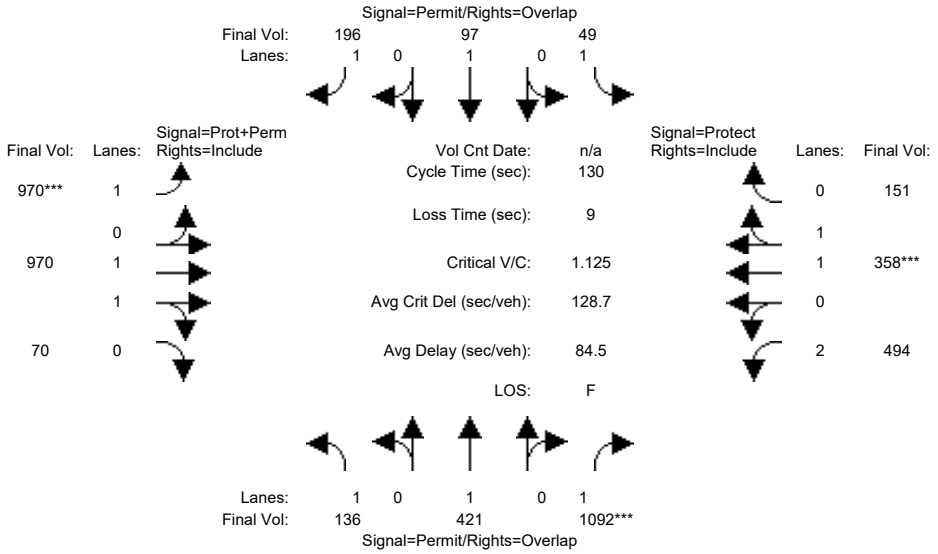
2040 PH2 with FC - PM

Intersection #74: #28: FREEDOM CIRCLE E / MISSION COLLEGE



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	11	11	11	11	11	11	10	15	15	10	15	15
Y+R:	5.1	5.1	5.1	5.1	5.1	5.1	5.0	6.4	6.4	4.5	6.4	6.4
Volume Module:												
Base Vol:	132	408	1059	48	94	194	945	945	68	479	351	146
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	408	1059	48	94	194	945	945	68	479	351	146
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	0	0	0	0	-4	-4	-4	0	0	-4	0
Initial Fut:	132	408	1059	48	94	190	941	941	68	479	347	146
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	136	421	1092	49	97	196	970	970	70	494	358	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	421	1092	49	97	196	970	970	70	494	358	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	421	1092	49	97	196	970	970	70	494	358	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.98	0.95	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.86	0.14	2.00	1.39	0.61
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	3450	249	3150	2603	1095
Capacity Analysis Module:												
Vol/Sat:	0.08	0.22	0.62	0.03	0.05	0.11	0.00	0.28	0.28	0.16	0.14	0.14
Crit Moves:			****				****				****	
Green Time:	48.5	48.5	74.4	48.5	48.5	106.0	57.5	46.6	46.6	26.0	15.0	15.0
Volume/Cap:	0.21	0.59	1.09	0.08	0.14	0.14	1.25	0.78	0.78	0.78	1.19	1.19
Delay/Veh:	27.9	34.2	83.8	26.4	27.0	2.5	160.5	40.4	40.4	55.8	165	164.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	34.2	83.8	26.4	27.0	2.5	160.5	40.4	40.4	55.8	165	164.5
LOS by Move:	C	C	F	C	C	A	F	D	D	E	F	F
HCM2k95thQ:	8	24	95	3	5	4	103	33	33	21	28	28

Note: Queue reported is the number of cars per lane.

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Patrick Henry Specific Plan
City of Santa Clara

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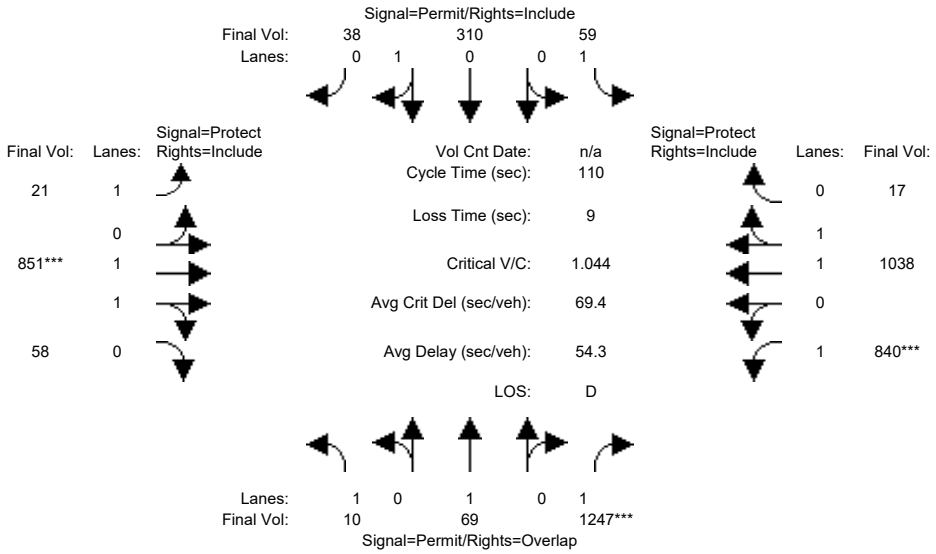
2040 PH2 with FC - PM

Intersection #41: #7: Old Ironsides/Tasman



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	6	6	4	4	4	5	10	10	4	10	10
Y+R:	6.0	6.0	6.0	6.0	6.0	6.0	5.5	6.0	6.0	5.5	6.0	6.0
Volume Module:												
Base Vol:	11	67	1217	57	298	36	20	828	61	824	1012	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	67	1217	57	298	36	20	828	61	824	1012	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-1	-20	0	0	0	0	-11	-5	-18	-16	0
Initial Fut:	10	66	1197	57	298	36	20	817	56	806	996	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	69	1247	59	310	38	21	851	58	840	1038	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	69	1247	59	310	38	21	851	58	840	1038	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	69	1247	59	310	38	21	851	58	840	1038	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.95	0.95	0.92	0.98	0.95	0.92	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	0.89	0.11	1.00	1.87	0.13	1.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1606	194	1750	3462	237	1750	3641	58
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.71	0.03	0.19	0.19	0.01	0.25	0.25	0.48	0.28	0.28
Crit Moves:			****					****		****		
Green Time:	24.5	24.5	75.1	24.5	24.5	24.5	10.5	25.9	25.9	50.6	65.9	65.9
Volume/Cap:	0.03	0.16	1.04	0.15	0.87	0.87	0.12	1.04	1.04	1.04	0.48	0.48
Delay/Veh:	33.4	34.6	55.6	34.6	58.9	58.9	45.9	84.5	84.5	73.4	12.5	12.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.4	34.6	55.6	34.6	58.9	58.9	45.9	84.5	84.5	73.4	12.5	12.5
LOS by Move:	C	C	E	C	E	E	D	F	F	E	B	B
HCM2k95thQ:	1	4	84	4	26	26	1	34	34	54	17	17

Note: Queue reported is the number of cars per lane.

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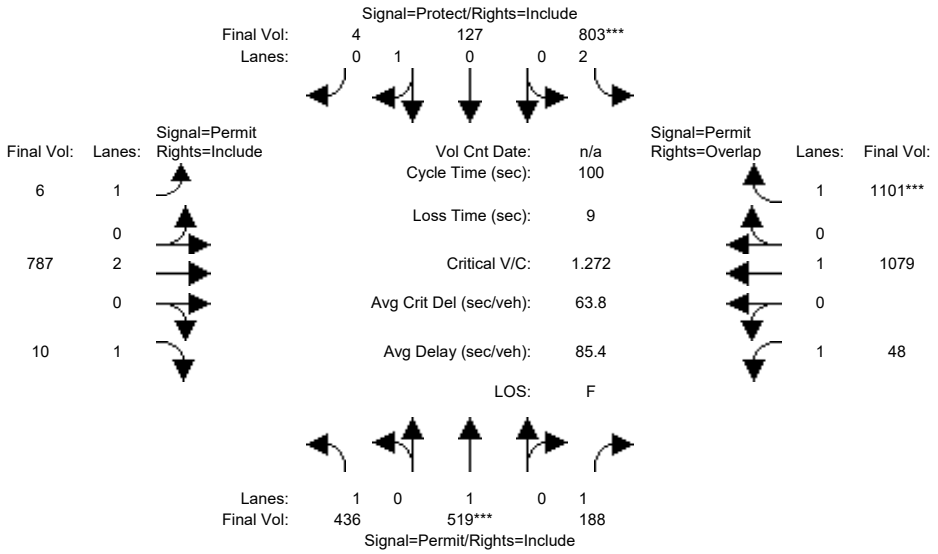
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn AM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	392	511	187	723	132	4	5	708	9	50	971	991
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	392	511	187	723	132	4	5	708	9	50	971	991
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-44	-18	0	-18	0	0	0	0	-7	0	0
Initial Fut:	392	467	169	723	114	4	5	708	9	43	971	991
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	436	519	188	803	127	4	6	787	10	48	1079	1101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	436	519	188	803	127	4	6	787	10	48	1079	1101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	436	519	188	803	127	4	6	787	10	48	1079	1101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.97	0.03	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	1900	1750	3150	1739	61	1750	3800	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.25	0.27	0.11	0.26	0.07	0.07	0.00	0.21	0.01	0.03	0.57	0.63
Crit Moves:		****		****								****
Green Time:	25.0	25.0	25.0	24.6	49.6	49.6	41.4	41.4	41.4	41.4	41.4	66.0
Volume/Cap:	1.00	1.09	0.43	1.04	0.15	0.15	0.01	0.50	0.01	0.07	1.37	0.95
Delay/Veh:	79.2	106	32.2	79.9	13.8	13.8	17.2	21.9	17.3	17.7	205	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.2	106	32.2	79.9	13.8	13.8	17.2	21.9	17.3	17.7	205	32.1
LOS by Move:	E	F	C	E	B	B	B	C	B	B	F	C
HCM2k95thQ:	31	39	10	34	4	0	0	17	0	2	104	61

Note: Queue reported is the number of cars per lane.

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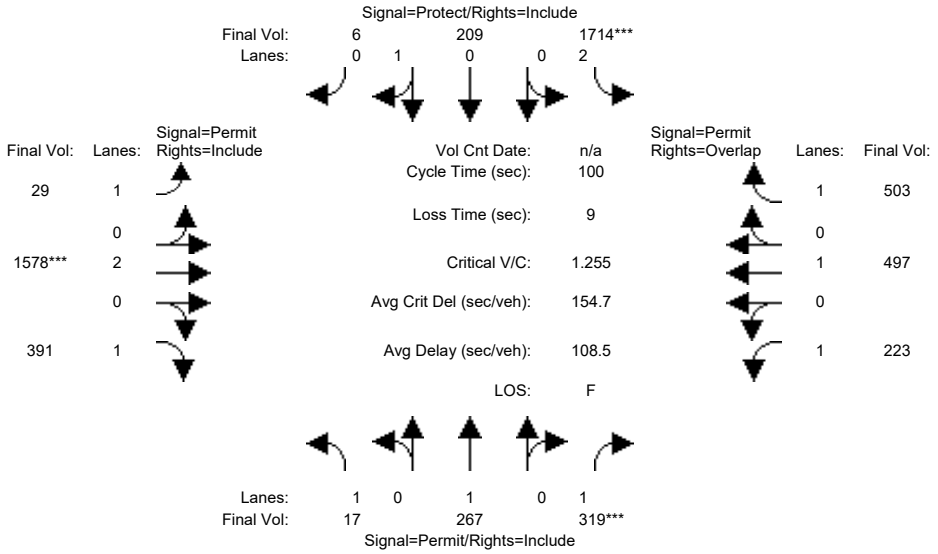
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn PM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	15	277	302	1543	241	5	26	1420	352	222	447	453
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	277	302	1543	241	5	26	1420	352	222	447	453
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-37	-15	0	-53	0	0	0	0	-21	0	0
Initial Fut:	15	240	287	1543	188	5	26	1420	352	201	447	453
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	17	267	319	1714	209	6	29	1578	391	223	497	503
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	267	319	1714	209	6	29	1578	391	223	497	503
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	267	319	1714	209	6	29	1578	391	223	497	503
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.97	0.03	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	1900	1750	3150	1753	47	1750	3800	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.18	0.54	0.12	0.12	0.02	0.42	0.22	0.13	0.26	0.29
Crit Moves:			****	****				****				
Green Time:	14.5	14.5	14.5	43.4	57.9	57.9	33.1	33.1	33.1	33.1	33.1	76.5
Volume/Cap:	0.07	0.97	1.25	1.25	0.21	0.21	0.05	1.25	0.68	0.39	0.79	0.38
Delay/Veh:	37.0	87.3	185.3	149.0	10.2	10.2	22.8	155	32.0	26.1	37.0	4.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.0	87.3	185.3	149.0	10.2	10.2	22.8	155	32.0	26.1	37.0	4.1
LOS by Move:	D	F	F	F	B	B	C	F	C	C	D	A
HCM2k95thQ:	1	19	34	84	6	0	1	71	22	11	25	11

Note: Queue reported is the number of cars per lane.

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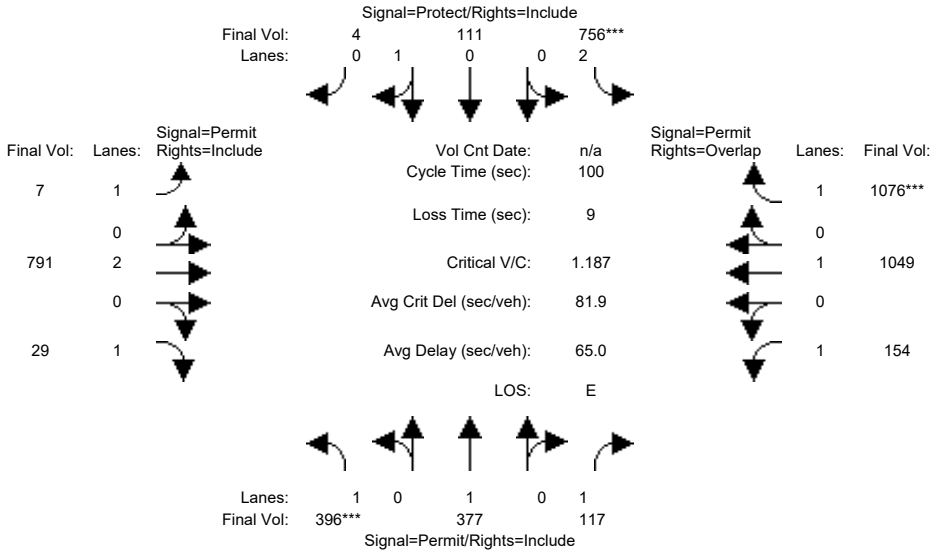
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn AM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	356	372	116	680	132	4	6	712	26	156	944	968
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	356	372	116	680	132	4	6	712	26	156	944	968
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-33	-11	0	-32	0	0	0	0	-17	0	0
Initial Fut:	356	339	105	680	100	4	6	712	26	139	944	968
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	396	377	117	756	111	4	7	791	29	154	1049	1076
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	396	377	117	756	111	4	7	791	29	154	1049	1076
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	396	377	117	756	111	4	7	791	29	154	1049	1076
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.96	0.04	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	1900	1750	3150	1731	69	1750	3800	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.23	0.20	0.07	0.24	0.06	0.06	0.00	0.21	0.02	0.09	0.55	0.61
Crit Moves:	****			****								****
Green Time:	19.0	19.0	19.0	20.2	39.2	39.2	51.8	51.8	51.8	51.8	51.8	72.0
Volume/Cap:	1.19	1.04	0.35	1.19	0.16	0.16	0.01	0.40	0.03	0.17	1.07	0.85
Delay/Veh:	150.9	99.0	35.8	139.4	19.8	19.8	11.7	14.8	11.8	12.9	72.3	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	150.9	99.0	35.8	139.4	19.8	19.8	11.7	14.8	11.8	12.9	72.3	16.1
LOS by Move:	F	F	D	F	B	B	B	B	B	B	E	B
HCM2k95thQ:	37	27	7	39	5	0	0	14	1	5	68	46

Note: Queue reported is the number of cars per lane.

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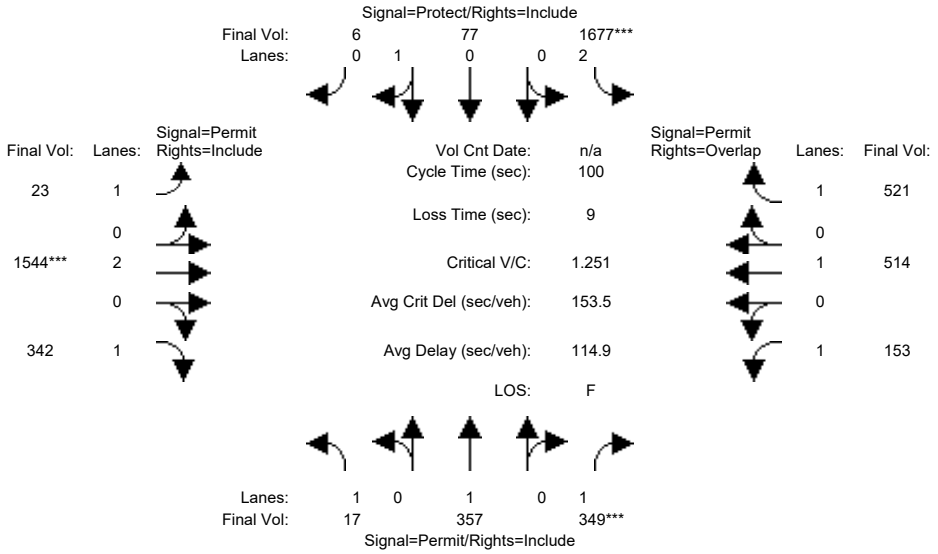
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn PM

Intersection #42: #8: Old Ironsides Dr & Old Glory Ln



Street Name:	Old Ironsides Dr						Old Glory Ln					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	15	371	339	1509	111	5	21	1390	308	152	463	469
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	371	339	1509	111	5	21	1390	308	152	463	469
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-50	-25	0	-42	0	0	0	0	-14	0	0
Initial Fut:	15	321	314	1509	69	5	21	1390	308	138	463	469
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	17	357	349	1677	77	6	23	1544	342	153	514	521
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	357	349	1677	77	6	23	1544	342	153	514	521
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	357	349	1677	77	6	23	1544	342	153	514	521
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.83	0.95	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	2.00	0.93	0.07	1.00	2.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	1900	1750	3150	1678	122	1750	3800	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.19	0.20	0.53	0.05	0.05	0.01	0.41	0.20	0.09	0.27	0.30
Crit Moves:			****	****				****				
Green Time:	15.9	15.9	15.9	42.6	58.5	58.5	32.5	32.5	32.5	32.5	32.5	75.1
Volume/Cap:	0.06	1.18	1.25	1.25	0.08	0.08	0.04	1.25	0.60	0.27	0.83	0.40
Delay/Veh:	35.8	151	181.0	147.8	9.1	9.1	23.1	153	30.1	25.2	40.7	4.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.8	151	181.0	147.8	9.1	9.1	23.1	153	30.1	25.2	40.7	4.6
LOS by Move:	D	F	F	F	A	A	C	F	C	C	D	A
HCM2k95thQ:	1	32	36	83	2	0	1	70	19	7	27	12

Note: Queue reported is the number of cars per lane.

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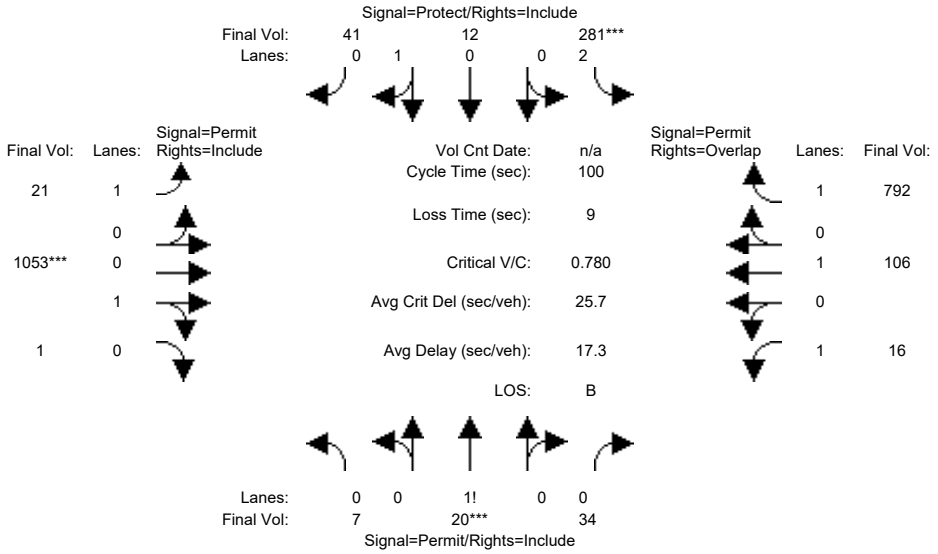
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn AM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	20	34	287	12	40	24	1015	1	15	122	725
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	20	34	287	12	40	24	1015	1	15	122	725
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-3	-34	-1	-3	-5	-67	0	-1	-27	-12
Initial Fut:	6	18	31	253	11	37	19	948	1	14	95	713
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	7	20	34	281	12	41	21	1053	1	16	106	792
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	20	34	281	12	41	21	1053	1	16	106	792
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	20	34	281	12	41	21	1053	1	16	106	792
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.11	0.33	0.56	2.00	0.23	0.77	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	191	573	986	3150	412	1387	1750	1798	2	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.03	0.03	0.03	0.09	0.03	0.03	0.01	0.59	0.59	0.01	0.06	0.45
Crit Moves:		****		****				****				
Green Time:	10.0	10.0	10.0	10.7	20.7	20.7	70.3	70.3	70.3	70.3	70.3	81.0
Volume/Cap:	0.35	0.35	0.35	0.83	0.14	0.14	0.02	0.83	0.83	0.01	0.08	0.56
Delay/Veh:	43.2	43.2	43.2	59.9	32.6	32.6	4.5	15.6	15.6	4.5	4.7	3.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.2	43.2	43.2	59.9	32.6	32.6	4.5	15.6	15.6	4.5	4.7	3.8
LOS by Move:	D	D	D	E	C	C	A	B	B	A	A	A
HCM2k95thQ:	5	5	5	11	1	2	0	43	43	0	2	18

Note: Queue reported is the number of cars per lane.

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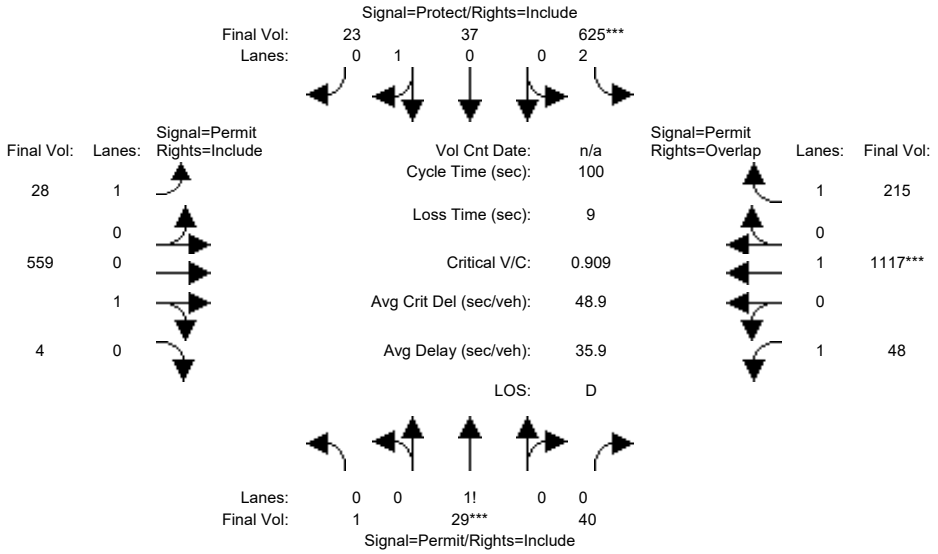
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn PM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	30	41	600	38	28	32	577	5	48	1108	229
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	30	41	600	38	28	32	577	5	48	1108	229
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-3	-4	-25	-4	-7	-6	-63	-1	-4	-80	-31
Initial Fut:	1	27	37	575	34	21	26	514	4	44	1028	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	29	40	625	37	23	28	559	4	48	1117	215
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	29	40	625	37	23	28	559	4	48	1117	215
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	29	40	625	37	23	28	559	4	48	1117	215
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.02	0.41	0.57	2.00	0.62	0.38	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	27	727	996	3150	1113	687	1750	1786	14	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.20	0.03	0.03	0.02	0.31	0.31	0.03	0.59	0.12
Crit Moves:		****		****							****	
Green Time:	10.0	10.0	10.0	20.4	30.4	30.4	60.6	60.6	60.6	60.6	60.6	81.0
Volume/Cap:	0.40	0.40	0.40	0.97	0.11	0.11	0.03	0.52	0.52	0.05	0.97	0.15
Delay/Veh:	43.7	43.7	43.7	67.7	25.1	25.1	7.9	11.7	11.7	8.0	38.7	2.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	43.7	43.7	67.7	25.1	25.1	7.9	11.7	11.7	8.0	38.7	2.1
LOS by Move:	D	D	D	E	C	C	A	B	B	A	D	A
HCM2k95thQ:	5	5	5	25	2	1	1	19	19	1	59	3

Note: Queue reported is the number of cars per lane.

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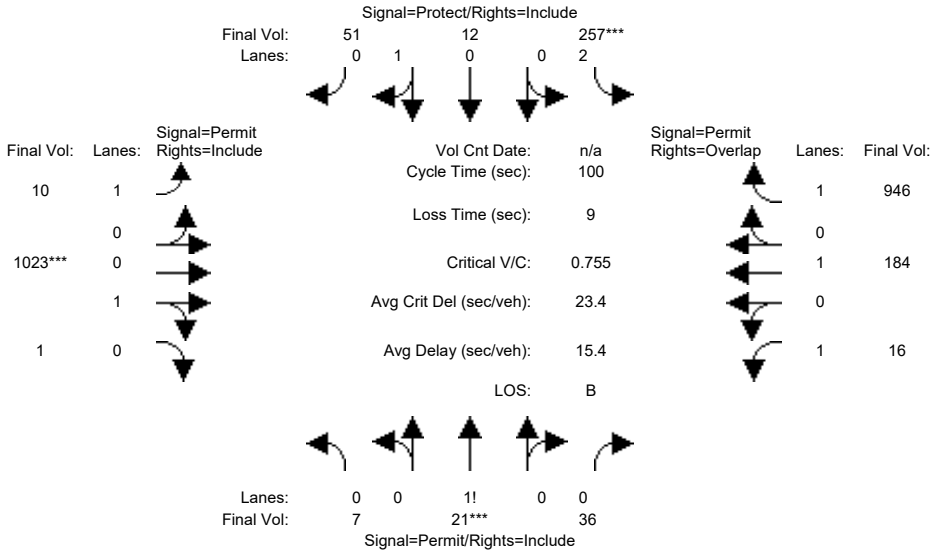
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn AM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	21	36	259	12	49	14	990	1	16	195	873
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	21	36	259	12	49	14	990	1	16	195	873
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-1	-2	-4	-28	-1	-3	-5	-69	0	-2	-29	-22
Initial Fut:	6	19	32	231	11	46	9	921	1	14	166	851
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	7	21	36	257	12	51	10	1023	1	16	184	946
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	21	36	257	12	51	10	1023	1	16	184	946
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	21	36	257	12	51	10	1023	1	16	184	946
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.11	0.33	0.56	2.00	0.19	0.81	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	184	583	982	3150	347	1453	1750	1798	2	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.08	0.04	0.04	0.01	0.57	0.57	0.01	0.10	0.54
Crit Moves:		****		****				****				
Green Time:	10.0	10.0	10.0	10.1	20.1	20.1	70.9	70.9	70.9	70.9	70.9	81.0
Volume/Cap:	0.36	0.36	0.36	0.80	0.17	0.17	0.01	0.80	0.80	0.01	0.14	0.67
Delay/Veh:	43.3	43.3	43.3	57.6	33.3	33.3	4.3	13.6	13.6	4.3	4.8	5.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.3	43.3	43.3	57.6	33.3	33.3	4.3	13.6	13.6	4.3	4.8	5.2
LOS by Move:	D	D	D	E	C	C	A	B	B	A	A	A
HCM2k95thQ:	5	5	5	10	1	3	0	40	40	0	4	24

Note: Queue reported is the number of cars per lane.

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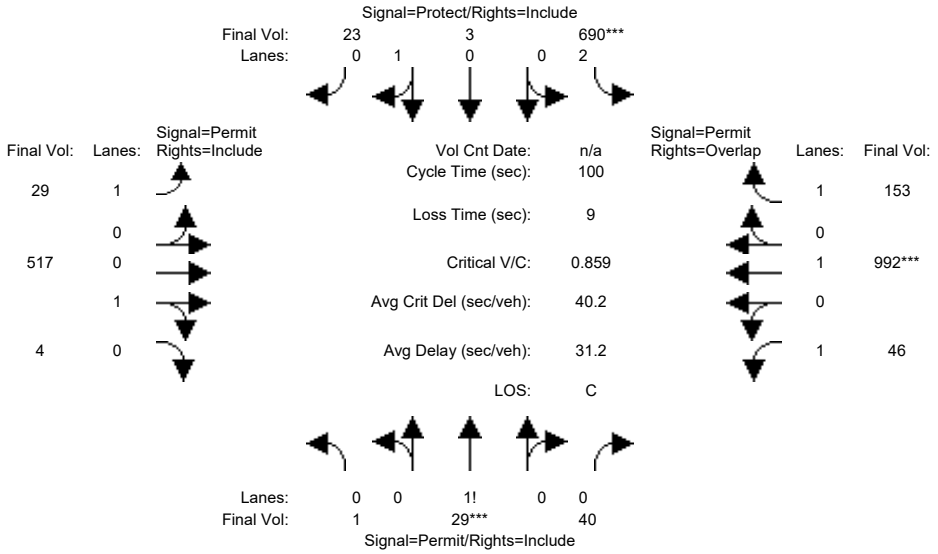
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn PM

Intersection #43: #9: Old Ironsides Dr & Patrick Henry Dr



Street Name:	Old Ironsides Dr						Patrick Henry Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	1	30	41	669	36	28	32	539	5	46	992	166
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	30	41	669	36	28	32	539	5	46	992	166
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	0	-3	-4	-34	-33	-7	-5	-63	-1	-4	-79	-25
Initial Fut:	1	27	37	635	3	21	27	476	4	42	913	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	1	29	40	690	3	23	29	517	4	46	992	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	29	40	690	3	23	29	517	4	46	992	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1	29	40	690	3	23	29	517	4	46	992	153
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.83	0.95	0.95	0.92	0.95	0.95	0.92	1.00	0.92
Lanes:	0.02	0.41	0.57	2.00	0.13	0.87	1.00	0.99	0.01	1.00	1.00	1.00
Final Sat.:	27	727	996	3150	225	1575	1750	1785	15	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.22	0.01	0.01	0.02	0.29	0.29	0.03	0.52	0.09
Crit Moves:		****		****							****	
Green Time:	10.0	10.0	10.0	23.9	33.9	33.9	57.1	57.1	57.1	57.1	57.1	81.0
Volume/Cap:	0.40	0.40	0.40	0.92	0.04	0.04	0.03	0.51	0.51	0.05	0.92	0.11
Delay/Veh:	43.7	43.7	43.7	52.8	22.2	22.2	9.4	13.4	13.4	9.5	31.1	2.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	43.7	43.7	52.8	22.2	22.2	9.4	13.4	13.4	9.5	31.1	2.0
LOS by Move:	D	D	D	D	C	C	A	B	B	A	C	A
HCM2k95thQ:	5	5	5	25	0	1	1	19	19	1	48	2

Note: Queue reported is the number of cars per lane.

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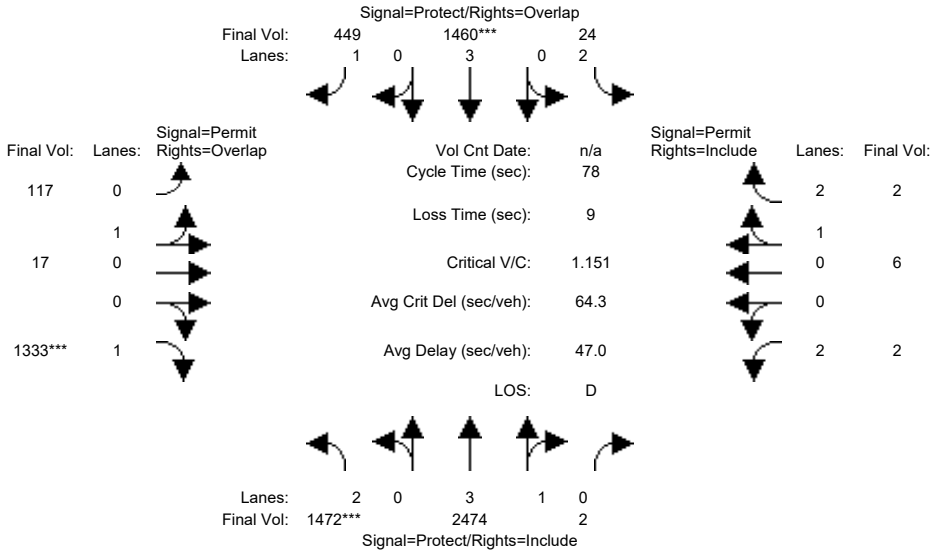
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn AM

Intersection #53: #16: GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	1327	2238	2	22	1319	408	116	17	1205	2	6	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1327	2238	2	22	1319	408	116	17	1205	2	6	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-2	-11	0	0	-5	-4	-11	-2	-5	0	-1	0
Initial Fut:	1325	2227	2	22	1314	404	105	15	1200	2	5	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1472	2474	2	24	1460	449	117	17	1333	2	6	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1472	2474	2	24	1460	449	117	17	1333	2	6	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1472	2474	2	24	1460	449	117	17	1333	2	6	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	2.00	3.99	0.01	2.00	3.00	1.00	0.87	0.13	1.00	2.00	1.00	2.00
Final Sat.:	3150	7493	7	3150	5700	1750	1575	225	1750	3150	1800	3600
Capacity Analysis Module:												
Vol/Sat:	0.47	0.33	0.33	0.01	0.26	0.26	0.07	0.07	0.76	0.00	0.00	0.00
Crit Moves:	****				****				****			
Green Time:	35.6	40.0	40.0	13.6	20.0	20.0	16.0	16.0	51.6	16.0	16.0	16.0
Volume/Cap:	1.02	0.64	0.64	0.04	1.00	1.00	0.36	0.36	1.15	0.00	0.02	0.00
Delay/Veh:	51.2	14.2	14.2	26.8	52.3	71.6	27.2	27.2	91.8	24.7	24.7	24.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.2	14.2	14.2	26.8	52.3	71.6	27.2	27.2	91.8	24.7	24.7	24.7
LOS by Move:	D	B	B	C	D	E	C	C	F	C	C	C
HCM2k95thQ:	47	20	20	1	27	27	6	6	90	0	0	0

Note: Queue reported is the number of cars per lane.

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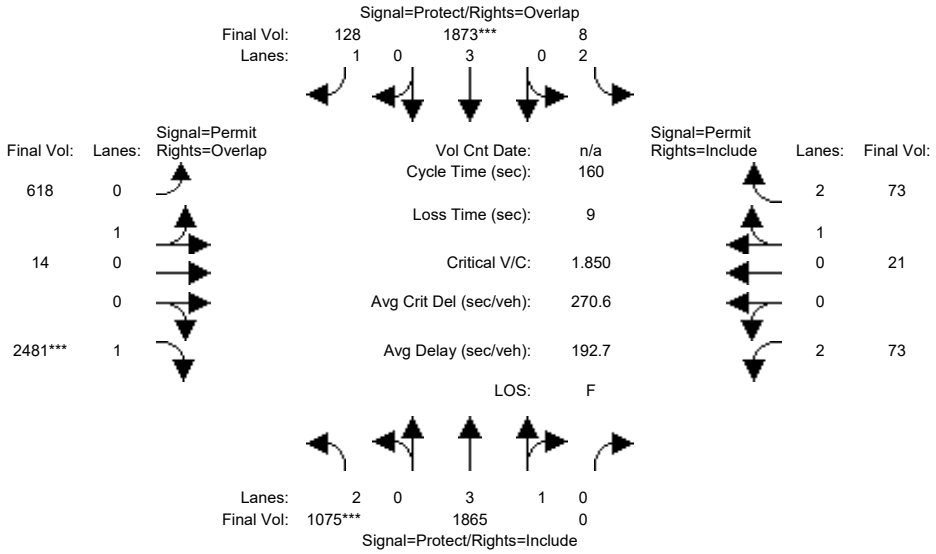
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn PM

Intersection #53: #16: GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	1027	1784	0	8	1795	135	596	14	2361	69	22	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1027	1784	0	8	1795	135	596	14	2361	69	22	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-6	-12	0	0	-16	-13	-9	-1	-4	0	-2	0
Initial Fut:	1021	1772	0	8	1779	122	587	13	2357	69	20	69
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	1075	1865	0	8	1873	128	618	14	2481	73	21	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1075	1865	0	8	1873	128	618	14	2481	73	21	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1075	1865	0	8	1873	128	618	14	2481	73	21	73
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	2.00	4.00	0.00	2.00	3.00	1.00	0.98	0.02	1.00	2.00	0.67	2.33
Final Sat.:	3150	7500	0	3150	5700	1750	1761	39	1750	3150	1213	4187
Capacity Analysis Module:												
Vol/Sat:	0.34	0.25	0.00	0.00	0.33	0.07	0.35	0.35	1.42	0.02	0.02	0.02
Crit Moves:	****				****				****			
Green Time:	52.0	86.8	0.0	10.0	44.9	44.9	54.2	54.2	117.4	54.2	54.2	54.2
Volume/Cap:	1.05	0.46	0.00	0.04	1.17	0.26	1.04	1.04	1.93	0.07	0.05	0.05
Delay/Veh:	96.1	22.4	0.0	70.6	141	45.0	98.9	98.9	443.6	35.8	35.6	35.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	96.1	22.4	0.0	70.6	141	45.0	98.9	98.9	443.6	35.8	35.6	35.6
LOS by Move:	F	C	A	E	F	D	F	F	F	D	D	D
HCM2k95thQ:	61	24	0	0	66	10	54	54	424	3	2	2

Note: Queue reported is the number of cars per lane.

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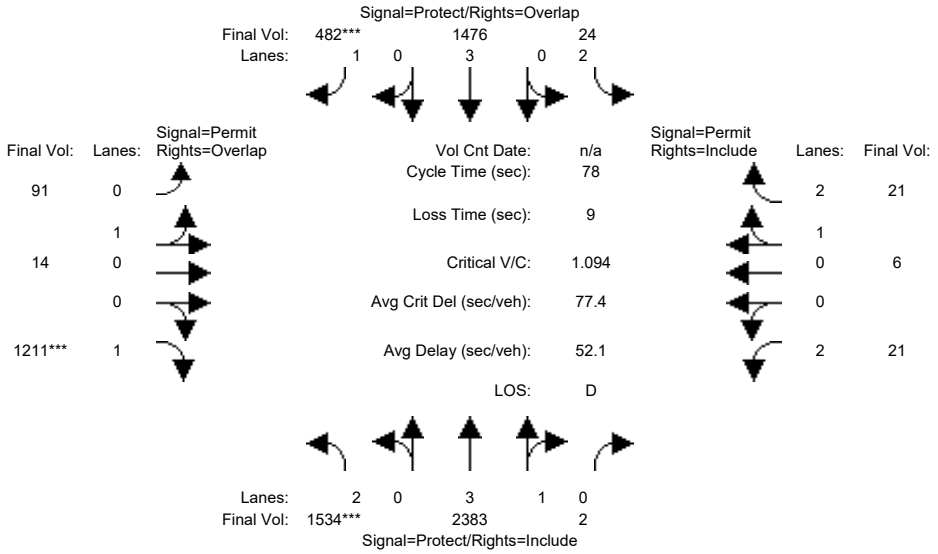
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn AM

Intersection #53: #16: GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	1389	2156	2	22	1333	442	90	15	1091	19	6	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1389	2156	2	22	1333	442	90	15	1091	19	6	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-8	-11	0	0	-5	-8	-8	-2	-1	0	-1	0
Initial Fut:	1381	2145	2	22	1328	434	82	13	1090	19	5	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1534	2383	2	24	1476	482	91	14	1211	21	6	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1534	2383	2	24	1476	482	91	14	1211	21	6	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1534	2383	2	24	1476	482	91	14	1211	21	6	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	2.00	3.99	0.01	2.00	3.00	1.00	0.86	0.14	1.00	2.00	0.63	2.37
Final Sat.:	3150	7493	7	3150	5700	1750	1554	246	1750	3150	1125	4275
Capacity Analysis Module:												
Vol/Sat:	0.49	0.32	0.32	0.01	0.26	0.28	0.06	0.06	0.69	0.01	0.00	0.00
Crit Moves:	****					****			****			
Green Time:	34.7	38.8	38.8	15.6	19.6	19.6	14.6	14.6	49.4	14.6	14.6	14.6
Volume/Cap:	1.09	0.64	0.64	0.04	1.03	1.09	0.31	0.31	1.09	0.04	0.03	0.03
Delay/Veh:	75.6	14.9	14.9	25.2	60.2	99.8	27.9	27.9	70.7	26.0	25.9	25.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	75.6	14.9	14.9	25.2	60.2	99.8	27.9	27.9	70.7	26.0	25.9	25.9
LOS by Move:	E	B	B	C	E	F	C	C	E	C	C	C
HCM2k95thQ:	55	20	20	1	29	34	5	5	74	1	0	0

Note: Queue reported is the number of cars per lane.

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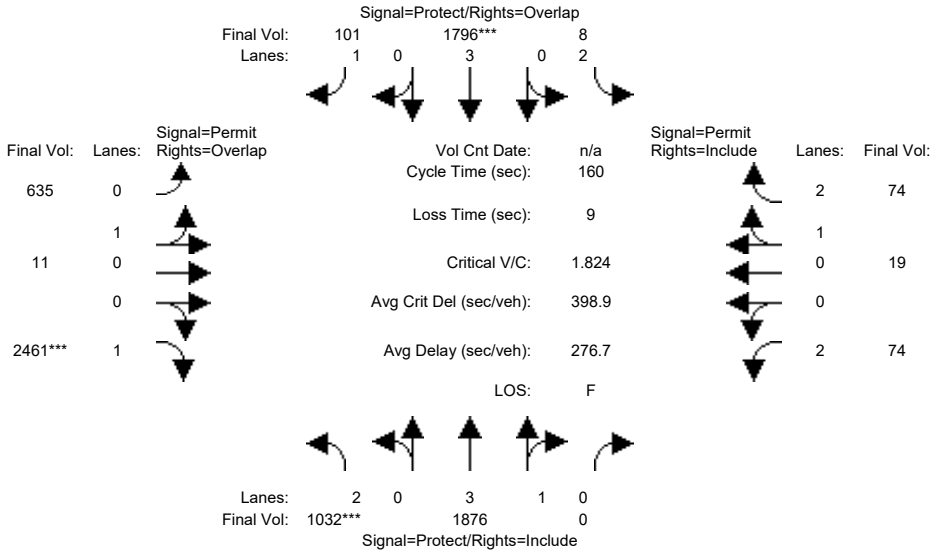
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn PM

Intersection #53: #16: GREAT AMERICA / OLD GLORY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	6	10	10	10	10	10	14	14	14	12	12	12
Y+R:	4.0	5.7	5.7	4.0	5.7	5.7	4.6	4.6	4.6	4.6	4.6	4.6
Volume Module:												
Base Vol:	982	1794	0	8	1722	106	616	11	2349	70	20	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	982	1794	0	8	1722	106	616	11	2349	70	20	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-2	-12	0	0	-16	-10	-13	-1	-11	0	-2	0
Initial Fut:	980	1782	0	8	1706	96	603	10	2338	70	18	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	1032	1876	0	8	1796	101	635	11	2461	74	19	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1032	1876	0	8	1796	101	635	11	2461	74	19	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1032	1876	0	8	1796	101	635	11	2461	74	19	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.92	0.83	1.00	0.92	0.95	0.95	0.92	0.83	0.95	0.95
Lanes:	2.00	4.00	0.00	2.00	3.00	1.00	0.98	0.02	1.00	2.00	0.61	2.39
Final Sat.:	3150	7500	0	3150	5700	1750	1771	29	1750	3150	1105	4295
Capacity Analysis Module:												
Vol/Sat:	0.33	0.25	0.00	0.00	0.32	0.06	0.36	0.36	1.41	0.02	0.02	0.02
Crit Moves:	****				****				****			
Green Time:	32.6	48.2	0.0	12.1	27.7	27.7	90.6	90.6	123.3	90.6	90.6	90.6
Volume/Cap:	1.61	0.83	0.00	0.04	1.82	0.33	0.63	0.63	1.82	0.04	0.03	0.03
Delay/Veh:	344.0	54.8	0.0	68.6	439	58.7	24.8	24.8	392.5	15.4	15.3	15.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	344.0	54.8	0.0	68.6	439	58.7	24.8	24.8	392.5	15.4	15.3	15.3
LOS by Move:	F	D	A	E	F	E	C	C	F	B	B	B
HCM2k95thQ:	89	38	0	0	93	9	35	35	405	2	1	1

Note: Queue reported is the number of cars per lane.

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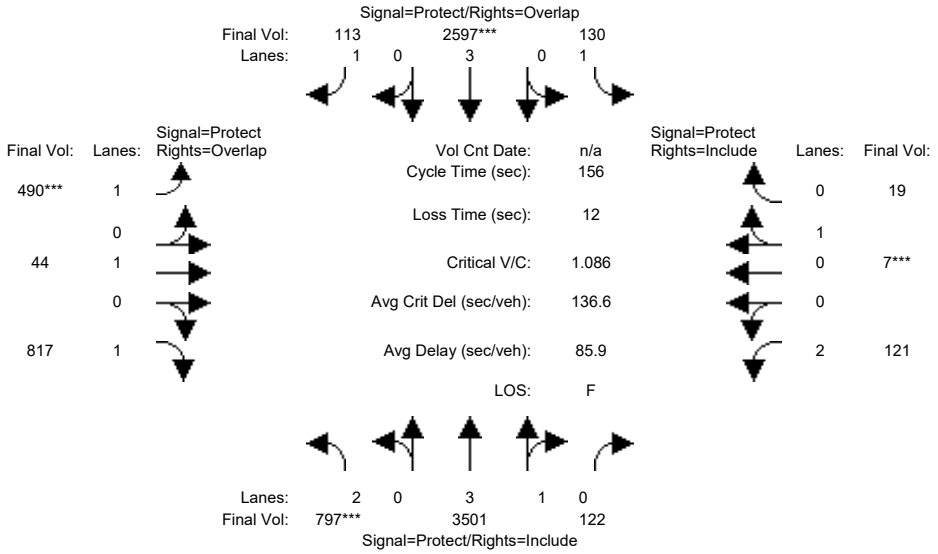
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn AM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	752	3153	110	117	2342	107	452	43	826	109	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	752	3153	110	117	2342	107	452	43	826	109	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-35	-2	0	0	-5	-5	-11	-3	-91	0	-1	0
Initial Fut:	717	3151	110	117	2337	102	441	40	735	109	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	797	3501	122	130	2597	113	490	44	817	121	7	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	797	3501	122	130	2597	113	490	44	817	121	7	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	797	3501	122	130	2597	113	490	44	817	121	7	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.86	0.14	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.26	0.74
Final Sat.:	3150	7247	253	1750	5700	1750	1750	1900	1750	3150	470	1330
Capacity Analysis Module:												
Vol/Sat:	0.25	0.48	0.48	0.07	0.46	0.06	0.28	0.02	0.47	0.04	0.01	0.01
Crit Moves:	****				****		****				****	
Green Time:	33.8	82.0	82.0	12.6	60.8	98.2	37.4	41.9	75.6	7.5	12.0	12.0
Volume/Cap:	1.17	0.92	0.92	0.92	1.17	0.10	1.17	0.09	0.96	0.80	0.18	0.18
Delay/Veh:	152.1	38.0	38.0	123.1	129	11.5	157.9	42.8	61.0	98.1	68.1	68.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	152.1	38.0	38.0	123.1	129	11.5	157.9	42.8	61.0	98.1	68.1	68.1
LOS by Move:	F	D	D	F	F	B	F	D	E	F	E	E
HCM2k95thQ:	48	59	59	15	88	5	54	3	65	10	3	3

Note: Queue reported is the number of cars per lane.

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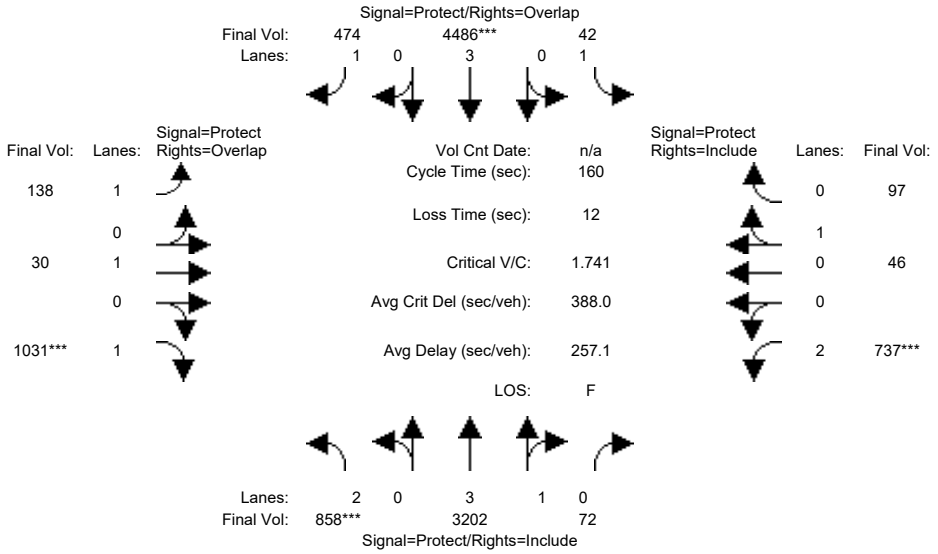
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph1 w FC wo Conn PM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	894	2984	67	39	4176	457	140	29	1038	685	46	90
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	894	2984	67	39	4176	457	140	29	1038	685	46	90
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-96	-6	0	0	-4	-16	-12	-1	-79	0	-3	0
Initial Fut:	798	2978	67	39	4172	441	128	28	959	685	43	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	858	3202	72	42	4486	474	138	30	1031	737	46	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	858	3202	72	42	4486	474	138	30	1031	737	46	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	858	3202	72	42	4486	474	138	30	1031	737	46	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.32	0.68
Final Sat.:	3150	7335	165	1750	5700	1750	1750	1900	1750	3150	582	1218
Capacity Analysis Module:												
Vol/Sat:	0.27	0.44	0.44	0.02	0.79	0.27	0.08	0.02	0.59	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	25.0	89.7	89.7	7.7	72.3	97.5	25.2	29.1	54.2	21.5	25.4	25.4
Volume/Cap:	1.74	0.78	0.78	0.50	1.74	0.44	0.50	0.09	1.74	1.74	0.50	0.50
Delay/Veh:	409.1	28.4	28.4	78.8	379	17.0	63.1	54.5	393.2	412.3	62.8	62.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	409.1	28.4	28.4	78.8	379	17.0	63.1	54.5	393.2	412.3	62.8	62.8
LOS by Move:	F	C	C	E	F	B	E	D	F	F	E	E
HCM2k95thQ:	78	47	47	4	222	23	12	2	166	70	13	13

Note: Queue reported is the number of cars per lane.

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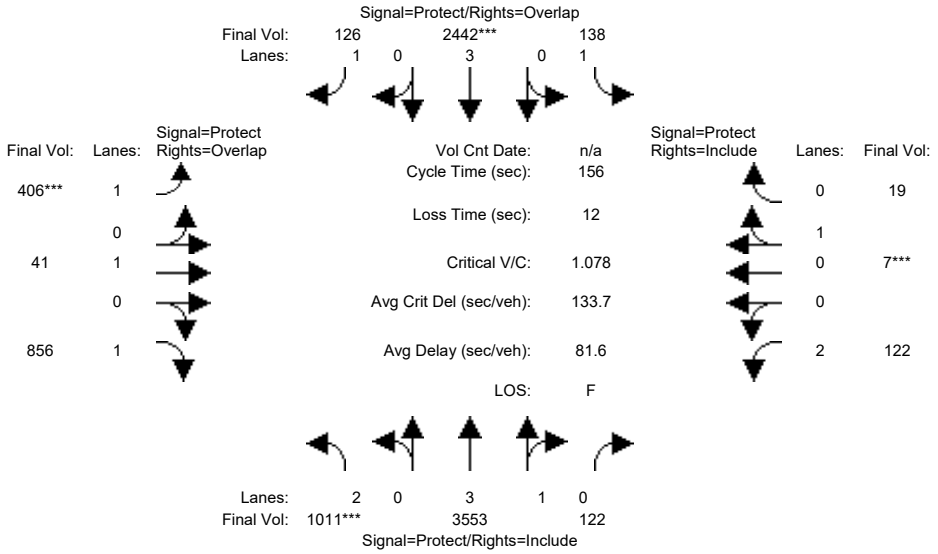
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn AM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	957	3206	110	124	2199	118	376	40	857	110	7	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	957	3206	110	124	2199	118	376	40	857	110	7	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-47	-8	0	0	-1	-5	-11	-3	-87	0	-1	0
Initial Fut:	910	3198	110	124	2198	113	365	37	770	110	6	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1011	3553	122	138	2442	126	406	41	856	122	7	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1011	3553	122	138	2442	126	406	41	856	122	7	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	1011	3553	122	138	2442	126	406	41	856	122	7	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.86	0.14	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.26	0.74
Final Sat.:	3150	7250	249	1750	5700	1750	1750	1900	1750	3150	470	1330
Capacity Analysis Module:												
Vol/Sat:	0.32	0.49	0.49	0.08	0.43	0.07	0.23	0.02	0.49	0.04	0.01	0.01
Crit Moves:	****				****		****				****	
Green Time:	43.2	86.9	86.9	14.0	57.6	88.8	31.2	35.1	78.3	8.1	12.0	12.0
Volume/Cap:	1.16	0.88	0.88	0.88	1.16	0.13	1.16	0.10	0.97	0.75	0.18	0.18
Delay/Veh:	141.0	32.5	32.5	109.6	127	15.6	161.4	48.0	62.1	90.0	68.1	68.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	141.0	32.5	32.5	109.6	127	15.6	161.4	48.0	62.1	90.0	68.1	68.1
LOS by Move:	F	C	C	F	F	B	F	D	E	F	E	E
HCM2k95thQ:	59	56	56	15	82	6	46	3	70	10	3	3

Note: Queue reported is the number of cars per lane.

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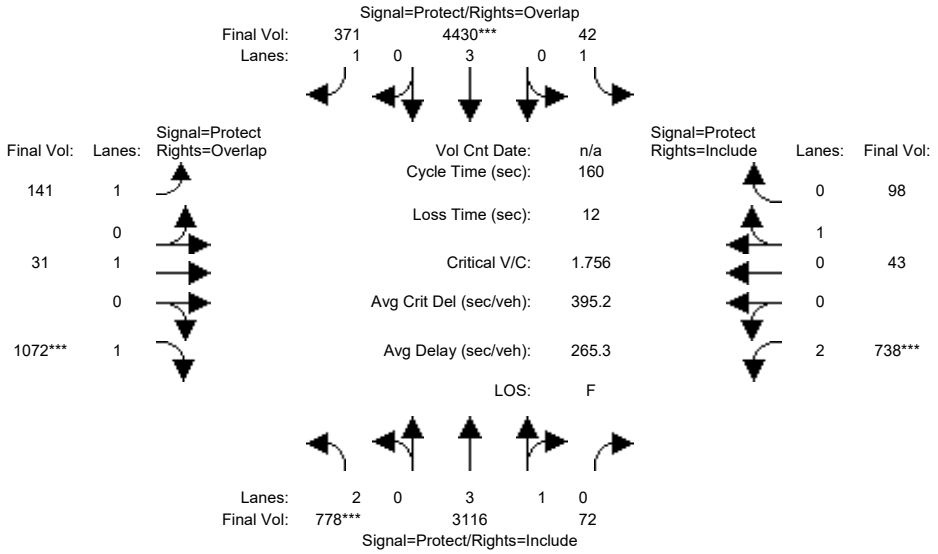
Patrick Henry Specific Plan
City of Santa Clara

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
2040 Ph2 w FC wo Conn PM

Intersection #54: #17: GREAT AMERICA / PATRICK HENRY



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	6	15	15	6	15	15	6	12	12	6	12	12
Y+R:	4.5	6.7	6.7	5.5	6.7	6.7	4.5	5.1	5.1	5.5	5.1	5.1
Volume Module:												
Base Vol:	813	2900	67	39	4131	361	143	30	1085	686	43	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	813	2900	67	39	4131	361	143	30	1085	686	43	91
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
10% TDM:	-89	-2	0	0	-11	-16	-12	-1	-88	0	-3	0
Initial Fut:	724	2898	67	39	4120	345	131	29	997	686	40	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	778	3116	72	42	4430	371	141	31	1072	738	43	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	778	3116	72	42	4430	371	141	31	1072	738	43	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	778	3116	72	42	4430	371	141	31	1072	738	43	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.99	0.95	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.95	0.95
Lanes:	2.00	3.91	0.09	1.00	3.00	1.00	1.00	1.00	1.00	2.00	0.31	0.69
Final Sat.:	3150	7330	169	1750	5700	1750	1750	1900	1750	3150	550	1250
Capacity Analysis Module:												
Vol/Sat:	0.25	0.43	0.43	0.02	0.78	0.21	0.08	0.02	0.61	0.23	0.08	0.08
Crit Moves:	****				****				****	****		
Green Time:	22.5	85.8	85.8	7.6	70.8	98.5	27.7	33.3	55.8	21.3	26.9	26.9
Volume/Cap:	1.76	0.79	0.79	0.51	1.76	0.34	0.46	0.08	1.76	1.76	0.46	0.46
Delay/Veh:	418.0	31.1	31.1	79.4	386	15.2	60.6	51.1	398.8	419.1	61.2	61.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	418.0	31.1	31.1	79.4	386	15.2	60.6	51.1	398.8	419.1	61.2	61.2
LOS by Move:	F	C	C	E	F	B	E	D	F	F	E	E
HCM2k95thQ:	71	47	47	4	221	17	12	2	174	71	13	13

Note: Queue reported is the number of cars per lane.

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Appendix D

Signal Warrant Analysis

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Old Ironside Dr — Critical Approach Speed* (mph) 25

Minor Street: Old Glory Ln/ — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population…… ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB					
Highest Minor Street Average Delay (sec/veh)	8.7	8.8	35.0	303.3					
Corresponding Minor Street Approach Volume (veh/hr)	36	44	285	514					
Minor Street Total Delay (veh-hrs)	0.1	0.1	2.8	43.3					
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	Yes					
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	Yes	Yes					
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	Yes	Yes					
Signal Warranted based on Part A?	**No**	**No**	**No**	**Yes**					

*OVFL denotes delay greater than 300s

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Old Ironside Dr	X		56	61	1050	978					
Minor Street - Highest Approach	Old Glory Ln/	X		36	44	285	514					
Signal Warranted based on Part B?				**No**	**No**	**Yes**	**Yes**					

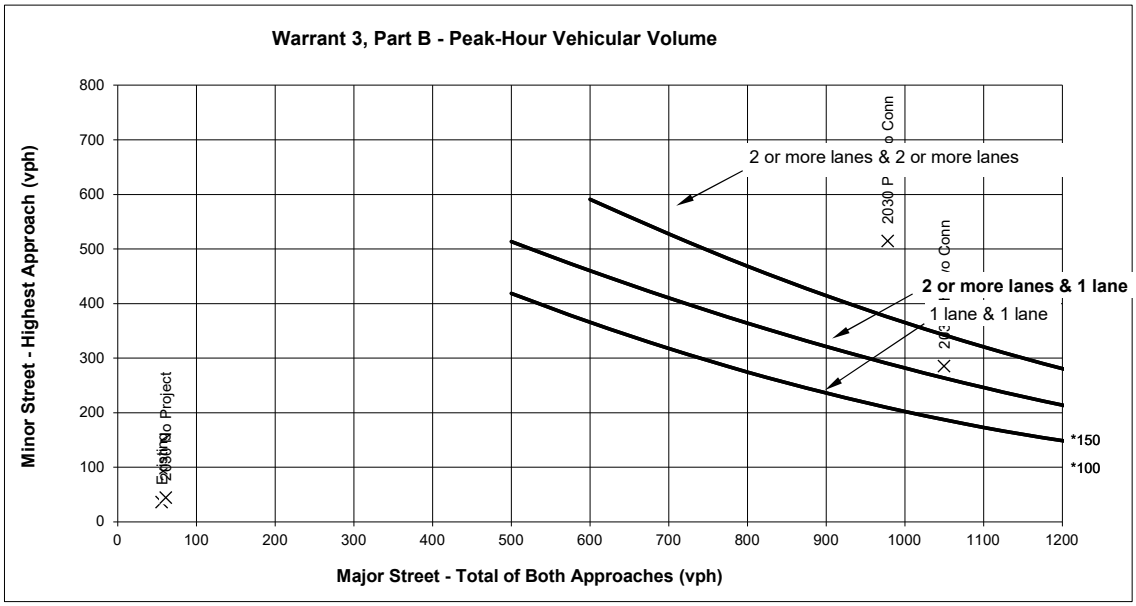
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Old Glory Ln **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Old Ironside Dr	X		56	61	1050	978					
Minor Street - Highest Approach	Old Glory Ln/	X		36	44	285	514					
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**					

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Old Ironside Dr — Critical Approach Speed* (mph) 25

Minor Street: Old Glory Ln/ — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population…… ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB					
Highest Minor Street Average Delay (sec/veh)	9.6	10.1	6432.8	OVFL					
Corresponding Minor Street Approach Volume (veh/hr)	11	16	530	376					
Minor Street Total Delay (veh-hrs)	0.0	0.0	946.3	>4					
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	Yes	Yes					
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	Yes	Yes					
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	Yes	Yes					
Signal Warranted based on Part A?	**No**	**No**	**Yes**	**Yes**					

*OVFL denotes delay greater than 300s

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Old Ironside Dr	X		224	232	1524	1772					
Minor Street - Highest Approach	Old Glory Ln/	X		11	16	530	376					
Signal Warranted based on Part B?				**No**	**No**	**Yes**	**Yes**					

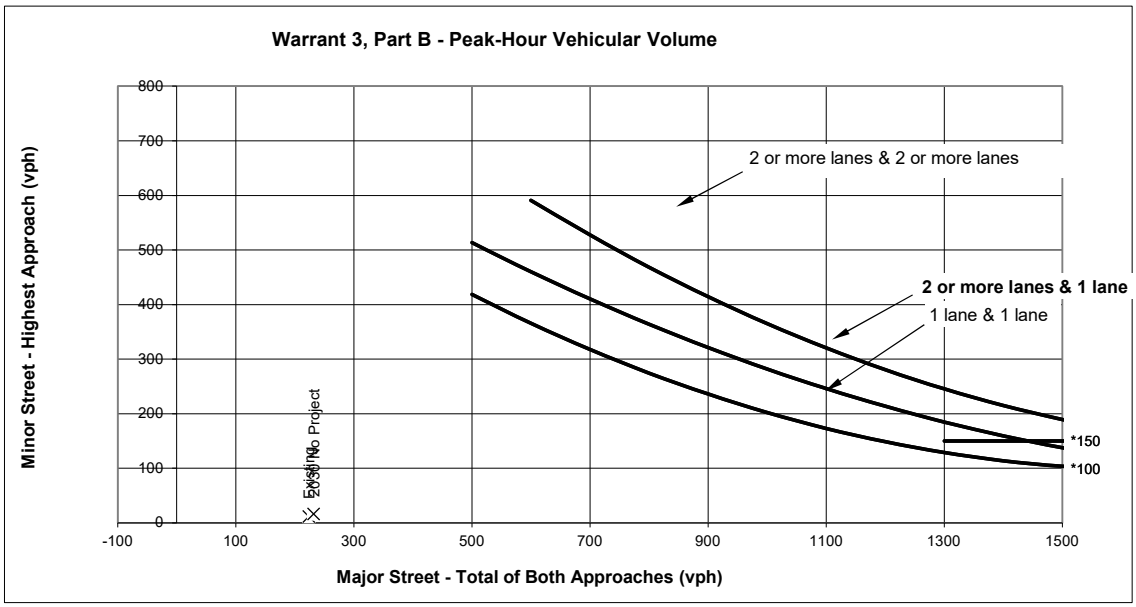
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Old Glory Ln **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR								
		One	2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Old Ironside Dr	X		224	232	1524	1772					
Minor Street - Highest Approach	Old Glory Ln/	X		11	16	530	376					
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**					

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Old Ironside Dr — Critical Approach Speed* (mph): 25

Minor Street: Old Glory Ln/ — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 Ph1 w FC (w/ MCB Conn)	2040 Ph2 w FC (w/ MCB conn)	2040 Ph1 w FC (no MCB conn)	2040 Ph2 w FC (no MCB conn)
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB	WB	WB	WB	WB	WB
Highest Minor Street Average Delay (sec/veh)	8.7	8.8	13.5	16.7	OVFL	OVFL	OVFL	OVFL	OVFL
Corresponding Minor Street Approach Volume (veh/hr)	36	44	60	176	1634	1648	1614	2011	2068
Minor Street Total Delay (veh-hrs)	0.1	0.1	0.2	0.8	>4	>4	>4	>4	>4
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No	Yes	Yes	Yes	Yes	Yes
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

*OVFL denotes delay greater than 300s

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 Ph1 w FC (w/ MCB Conn)	2040 Ph2 w FC (w/ MCB conn)	2040 Ph1 w FC (no MCB conn)	2040 Ph2 w FC (no MCB conn)
Major Street - Both Approaches	Old Ironside Dr	X		56	61	658	579	1497	1636	1586	1950	1661
Minor Street - Highest Approach	Old Glory Ln/	X		36	44	60	176	1634	1648	1614	2011	2068
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

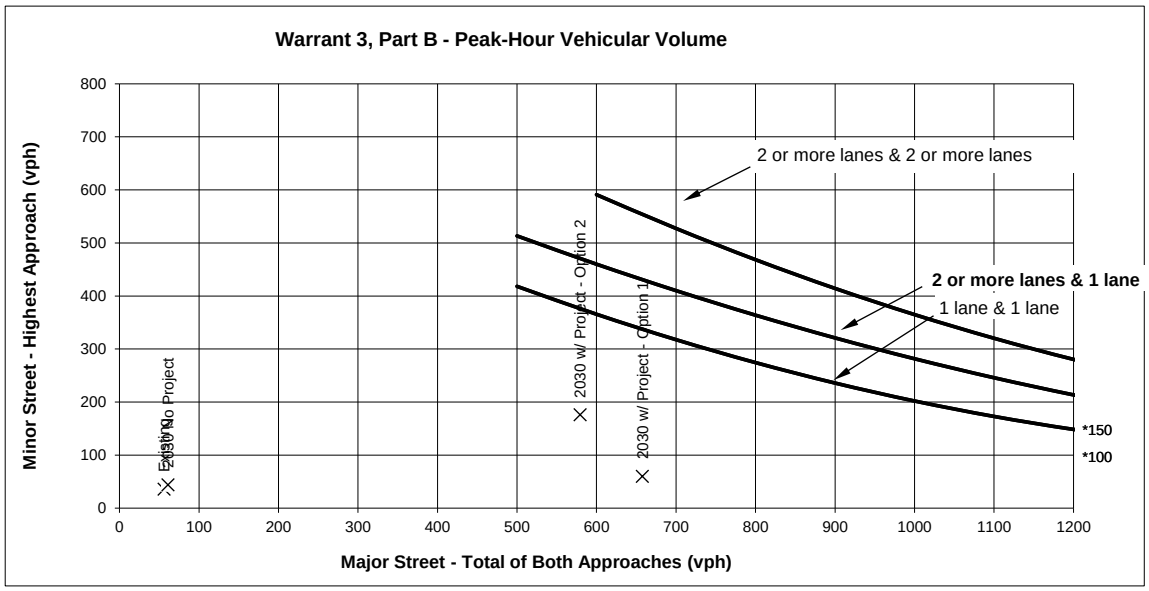
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Old Glory Ln **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD								
		One	2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 Ph1 w FC (w/ MCB Conn)	2040 Ph2 w FC (w/ MCB conn)	2040 Ph1 w FC (no MCB conn)	2040 Ph2 w FC (no MCB conn)
Major Street - Both Approaches	Old Ironside Dr	X		56	61	658	579	1497	1636	1586	1950	1661
Minor Street - Highest Approach	Old Glory Ln/	X		36	44	60	176	1634	1648	1614	2011	2068
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Old Ironside Dr — Critical Approach Speed* (mph): 25

Minor Street: Old Glory Ln/ — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 Ph1 w FC (w/ MCB Conn)	2040 Ph2 w FC (w/ MCB conn)	2040 Ph1 w FC (no MCB conn)	2040 Ph2 w FC (no MCB conn)
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB	WB	WB	WB	WB	WB
Highest Minor Street Average Delay (sec/veh)	9.6	10.1	59.4	39.5	OVFL	OVFL	OVFL	OVFL	OVFL
Corresponding Minor Street Approach Volume (veh/hr)	11	16	175	106	914	997	936	1122	1084
Minor Street Total Delay (veh-hrs)	0.0	0.0	2.9	1.2	>4	>4	>4	>4	>4
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No	Yes	Yes	Yes	Yes	Yes
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

*OVFL denotes delay greater than 300s

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 Ph1 w FC (w/ MCB Conn)	2040 Ph2 w FC (w/ MCB conn)	2040 Ph1 w FC (no MCB conn)	2040 Ph2 w FC (no MCB conn)
Major Street - Both Approaches	Old Ironside Dr	X		224	232	897	1032	1551	2149	2103	2382	2350
Minor Street - Highest Approach	Old Glory Ln/	X		11	16	175	106	1782	1336	1365	1798	1718
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

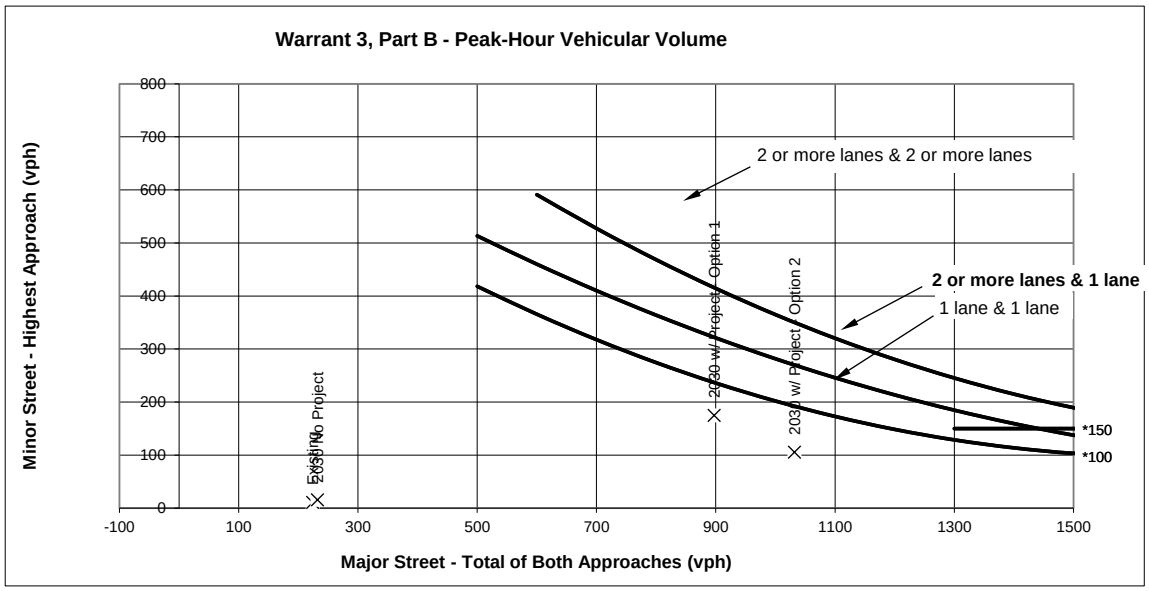
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Old Glory Ln **PM PEAK HOUR**



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* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR								
		One	2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 Ph1 w FC (w/ MCB Conn)	2040 Ph2 w FC (w/ MCB conn)	2040 Ph1 w FC (no MCB conn)	2040 Ph2 w FC (no MCB conn)
Major Street - Both Approaches	Old Ironside Dr	X		224	232	897	1032	1551	2149	2103	2382	2350
Minor Street - Highest Approach	Old Glory Ln/	X		11	16	175	106	1782	1336	1365	1798	1718
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: Old Ironside Drive — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ (or) ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB					
Highest Minor Street Average Delay (sec/veh)	10.8	10.8	169.5	143.0					
Corresponding Minor Street Approach Volume (veh/hr)	29	32	82	67					
Minor Street Total Delay (veh-hrs)	0.1	0.1	3.9	2.7					
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	No	No					
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	No	No					
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	Yes	Yes					
Signal Warranted based on Part A?	**No**	**No**	**No**	**No**					

*OVFL denotes delay greater than 300s

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Patrick Henry Drive		X	420	420	1362	1405					
Minor Street - Highest Approach	Old Ironside Drive	X		29	32	82	67					
Signal Warranted based on Part B?				**No**	**No**	**No**	**No**					

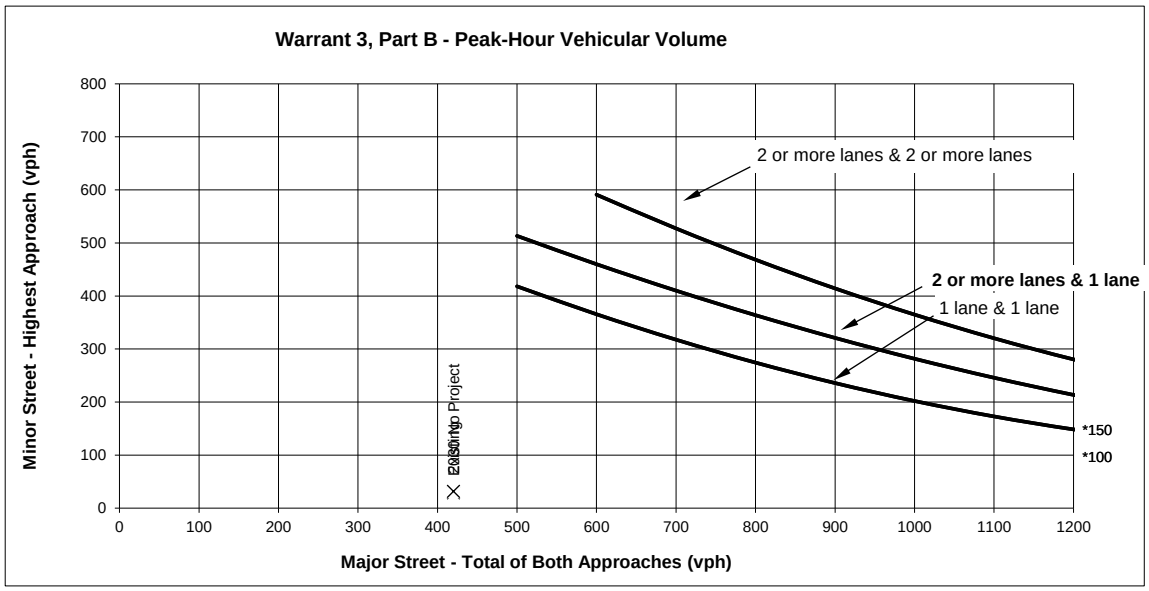
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Patrick Henry Drive **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD								
		One	2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Patrick Henry Drive		X	420	420	1362	1405					
Minor Street - Highest Approach	Old Ironside Drive	X		29	32	82	67					
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**No**	**No**					

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph) 25

Minor Street: Old Ironside Drive — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population…… ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB					
Highest Minor Street Average Delay (sec/veh)	21.5	29.7	8237.5	7066.2					
Corresponding Minor Street Approach Volume (veh/hr)	131	131	157	157					
Minor Street Total Delay (veh-hrs)	0.8	1.1	359.2	308.2					
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	Yes	Yes					
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	Yes	Yes					
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes					
Signal Warranted based on Part A?	**No**	**No**	**Yes**	**Yes**					

*OVFL denotes delay greater than 300s

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Patrick Henry Drive		X	694	848	2217	2197					
Minor Street - Highest Approach	Old Ironside Drive	X		131	131	157	157					
Signal Warranted based on Part B?				**No**	**No**	**Yes**	**Yes**					

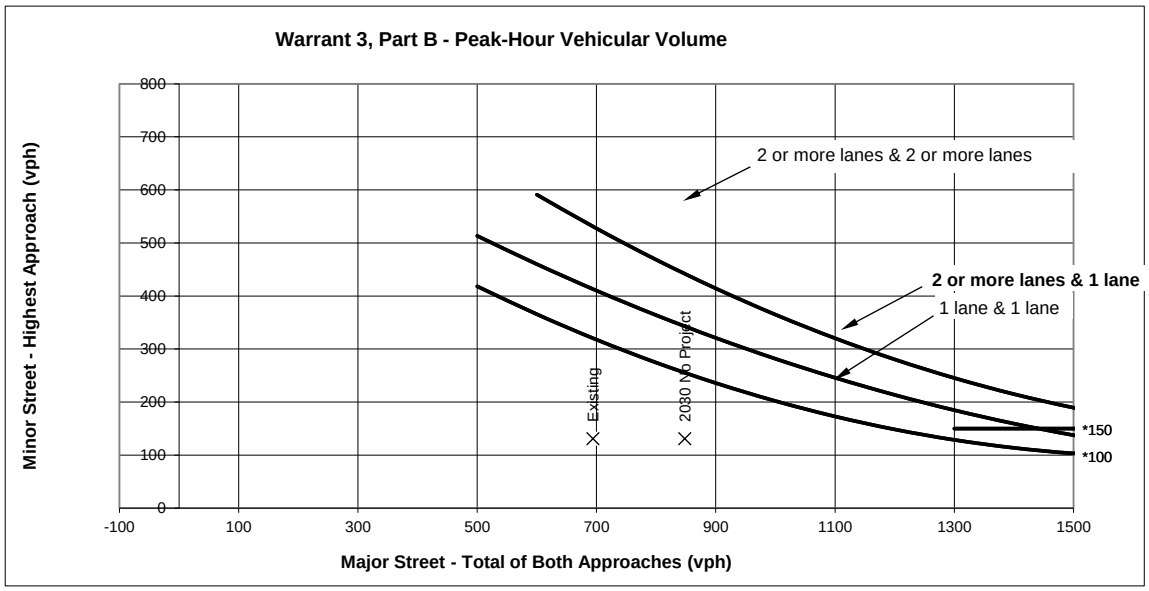
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Patrick Henry Drive **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR								
		One	2 or More	Existing	2030 No Project	2030 Ph1 wo Conn	2030 Ph2 wo Conn					
Major Street - Both Approaches	Patrick Henry Drive		X	694	848	2217	2197					
Minor Street - Highest Approach	Old Ironside Drive	X		131	131	157	157					
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**					

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph) 25

Minor Street: Old Ironside Drive — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☐ Rural (R)

In built up area of isolated community of < 10,000 population…… ☐ or ☑ Urban (U)

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 w/ Project - Option 1 (w/MCB conn)	2040 w/ Project - Option 2 (w/ MCB conn)	2040 w/ Project - Option 1 (no MCB conn)	2040 w/ Project - Option 2 (no MCB conn)
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB	SB	SB	SB
Highest Minor Street Average Delay (sec/veh)	10.8	10.8	1303.3	2070.4	12.5	1791.5	6001.8	1714.7	2240.2
Corresponding Minor Street Approach Volume (veh/hr)	29	32	432	350	207	419	336	339	319
Minor Street Total Delay (veh-hrs)	0.1	0.1	156.6	201.2	0.7	208.5	559.9	161.7	198.7
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Signal Warranted based on Part A?	**No**	**No**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

*OVFL denotes delay greater than 300s

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 w/ Project - Option 1 (w/MCB conn)	2040 w/ Project - Option 2 (w/ MCB conn)	2040 w/ Project - Option 1 (no MCB conn)	2040 w/ Project - Option 2 (no MCB conn)
Major Street - Both Approaches	Patrick Henry Drive		X	420	420	1163	1401	1292	1642	1868	1901	2089
Minor Street - Highest Approach	Old Ironside Drive	X		29	32	432	350	207	419	336	339	319
Signal Warranted based on Part B?				**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

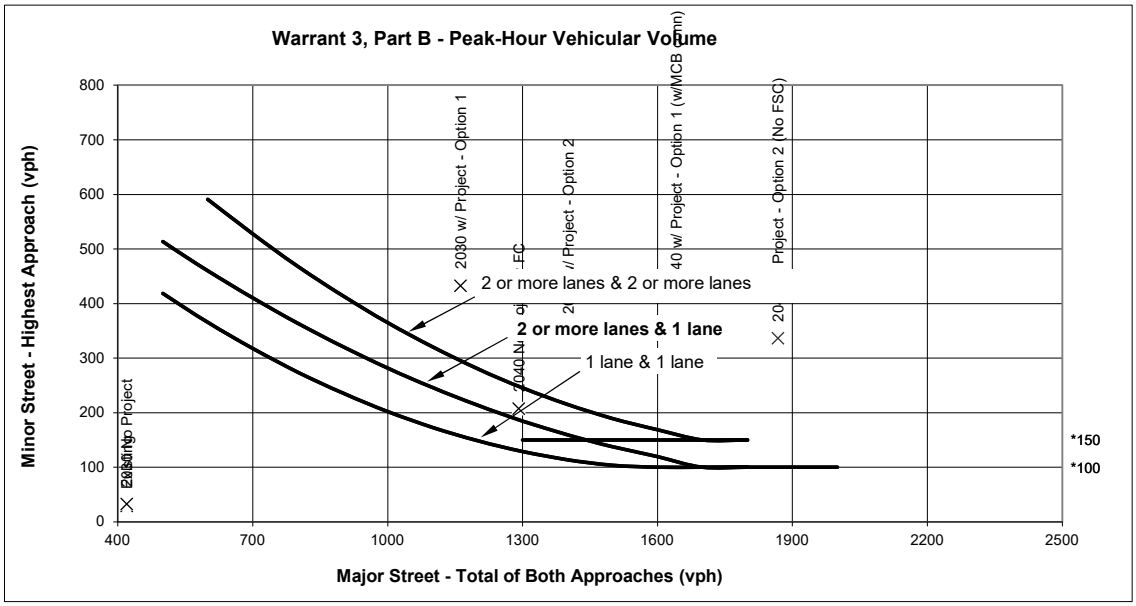
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Patrick Henry Drive **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD								
		One	2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 w/ Project - Option 1 (w/MCB	2040 w/ Project - Option 2 (w/ MCB conn)	2040 w/ Project - Option 1 (no MCB conn)	2040 w/ Project - Option 2 (no MCB conn)
Major Street - Both Approaches	Patrick Henry Drive		X	420	420	1163	1401	1292	1642	1868	1901	2089
Minor Street - Highest Approach	Old Ironside Drive	X		29	32	432	350	207	419	336	339	319
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: LJ date: 1/28/21

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph) 25

Minor Street: Old Ironside Drive — Critical Approach Speed* (mph) 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)…… ☐ Rural (R)

In built up area of isolated community of < 10,000 population…… ☐ (or)

☑ Urban (U)

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 w/ Project - Option 1 (w/MCB conn)	2040 w/ Project - Option 2 (w/ MCB conn)	2040 w/ Project - Option 1 (no MCB conn)	2040 w/ Project - Option 2 (no MCB conn)
Minor Street Approach Direction w/ Highest Delay	SB	SB	SB	SB	SB	SB	SB	SB	SB
Highest Minor Street Average Delay (sec/veh)	21.5	29.7	OVFL	OVFL	23.2	1683.6	862.5	OVFL	OVFL
Corresponding Minor Street Approach Volume (veh/hr)	131	131	497	624	428	822	865	666	733
Minor Street Total Delay (veh-hrs)	0.8	1.1	>4	>4	2.8	384.4	207.2	>4	>4
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Signal Warranted based on Part A?	**No**	**No**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

*OVFL denotes delay greater than 300s

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 w/ Project - Option 1 (w/MCB conn)	2040 w/ Project - Option 2 (w/ MCB conn)	2040 w/ Project - Option 1 (no MCB conn)	2040 w/ Project - Option 2 (no MCB conn)
Major Street - Both Approaches	Patrick Henry Drive		X	694	848	2073	1970	320	1292	1074	1999	1780
Minor Street - Highest Approach	Old Ironside Drive	X		131	131	497	624	428	822	865	666	733
Signal Warranted based on Part B?				**No**	**No**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

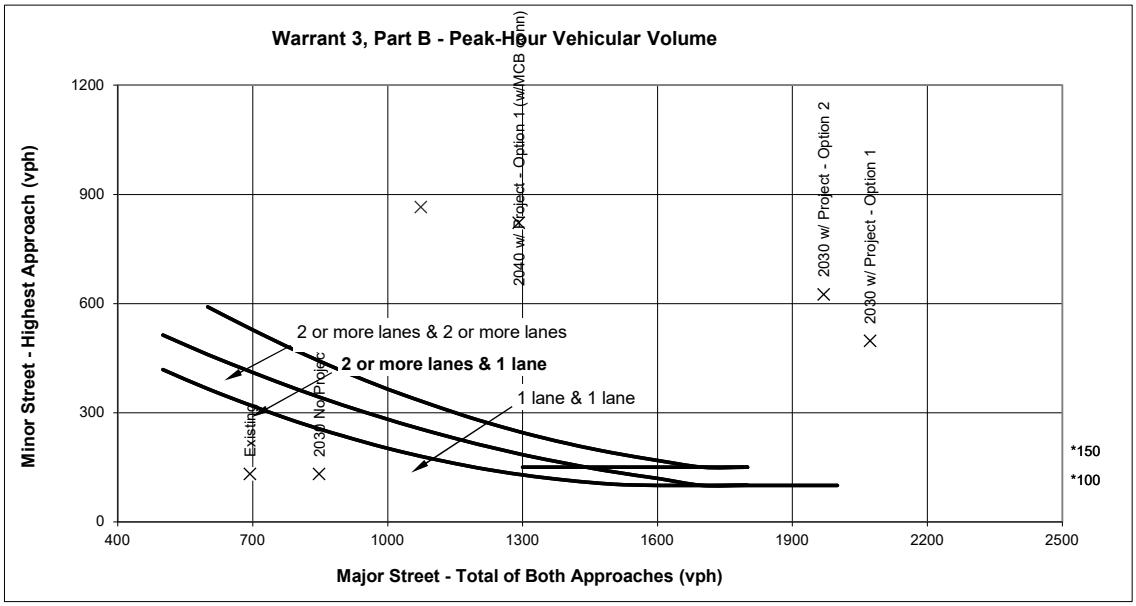
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironside Drive and Patrick Henry Drive **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR								
		One	2 or More	Existing	2030 No Project	2030 w/ Project - Option 1	2030 w/ Project - Option 2	2040 No Project w FC	2040 w/ Project - Option 1 (w/MCB	2040 w/ Project - Option 2 (w/ MCB conn)	2040 w/ Project - Option 1 (no MCB conn)	2040 w/ Project - Option 2 (no MCB conn)
Major Street - Both Approaches	Patrick Henry Drive		X	694	848	2073	1970	320	1292	1074	1999	1780
Minor Street - Highest Approach	Old Ironside Drive	X		131	131	497	624	428	822	865	666	733
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**	**Yes**	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

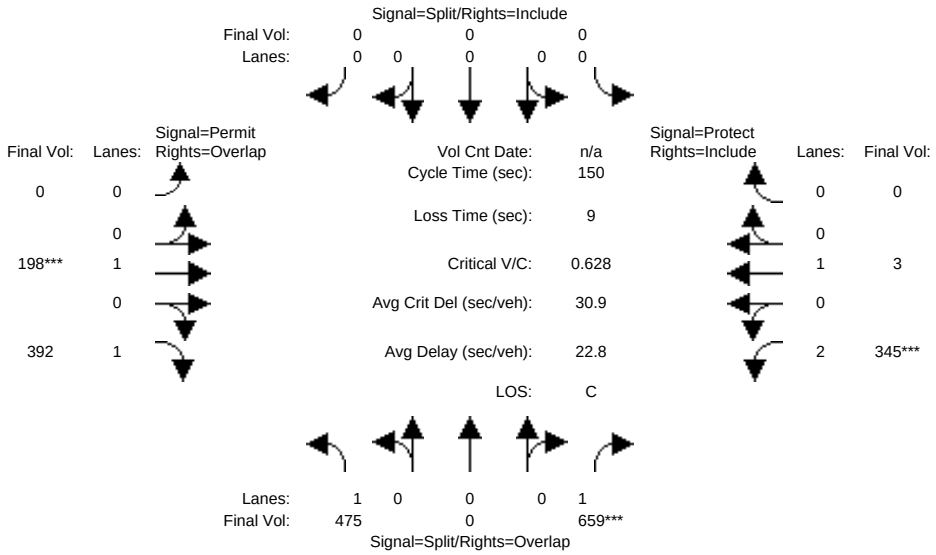
*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Appendix E

Analysis of New Intersections Within the Patrick Henry Drive Specific Plan Area

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC AM

Intersection #57: (A) Patrick Henry Drive & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	437	0	606	0	0	0	0	182	361	317	3	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	437	0	606	0	0	0	0	182	361	317	3	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	437	0	606	0	0	0	0	182	361	317	3	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	475	0	659	0	0	0	0	198	392	345	3	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	475	0	659	0	0	0	0	198	392	345	3	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	475	0	659	0	0	0	0	198	392	345	3	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	2.00	1.00	0.00
Final Sat.:	1750	0	1750	0	0	0	0	1900	1750	3150	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.27	0.00	0.38	0.00	0.00	0.00	0.00	0.10	0.22	0.11	0.00	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.60	0.00	0.77	0.00	0.00	0.00	0.00	0.17	0.77	0.17	0.34	0.00
Volume/Cap:	0.45	0.00	0.49	0.00	0.00	0.00	0.00	0.63	0.29	0.63	0.01	0.00
Uniform Del:	16.5	0.0	6.1	0.0	0.0	0.0	0.0	58.2	5.3	57.4	32.7	0.0
IncremntDel:	0.3	0.0	0.3	0.0	0.0	0.0	0.0	4.0	0.1	2.3	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	16.8	0.0	6.4	0.0	0.0	0.0	0.0	62.2	5.4	59.7	32.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	16.8	0.0	6.4	0.0	0.0	0.0	0.0	62.2	5.4	59.7	32.7	0.0
LOS by Move:	B	A	A	A	A	A	A	E	A	E	C	A
HCM2kAvgQ:	13	0	12	0	0	0	0	9	6	10	0	0

Note: Queue reported is the number of cars per lane.

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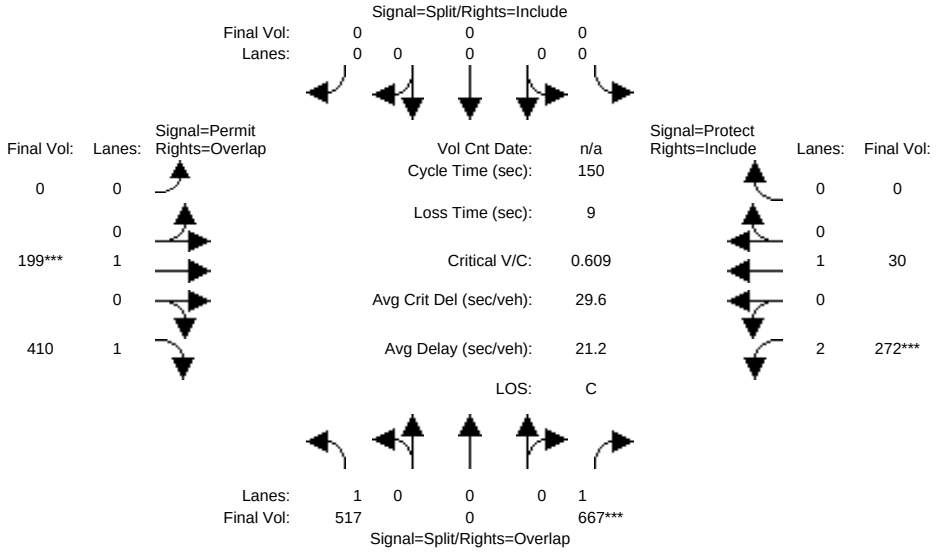
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC AM

Intersection #57: (A) Patrick Henry Drive & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	476	0	614	0	0	0	0	183	377	250	28	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	476	0	614	0	0	0	0	183	377	250	28	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	476	0	614	0	0	0	0	183	377	250	28	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	517	0	667	0	0	0	0	199	410	272	30	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	517	0	667	0	0	0	0	199	410	272	30	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	517	0	667	0	0	0	0	199	410	272	30	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	2.00	1.00	0.00
Final Sat.:	1750	0	1750	0	0	0	0	1900	1750	3150	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.30	0.00	0.38	0.00	0.00	0.00	0.00	0.10	0.23	0.09	0.02	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.63	0.00	0.77	0.00	0.00	0.00	0.00	0.17	0.80	0.14	0.31	0.00
Volume/Cap:	0.47	0.00	0.50	0.00	0.00	0.00	0.00	0.61	0.29	0.61	0.05	0.00
Uniform Del:	14.9	0.0	6.5	0.0	0.0	0.0	0.0	57.4	4.0	60.5	35.9	0.0
IncremntDel:	0.3	0.0	0.3	0.0	0.0	0.0	0.0	3.3	0.1	2.4	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	15.2	0.0	6.8	0.0	0.0	0.0	0.0	60.8	4.1	62.9	35.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.2	0.0	6.8	0.0	0.0	0.0	0.0	60.8	4.1	62.9	35.9	0.0
LOS by Move:	B	A	A	A	A	A	A	E	A	E	D	A
HCM2kAvgQ:	13	0	12	0	0	0	0	9	5	8	1	0

Note: Queue reported is the number of cars per lane.

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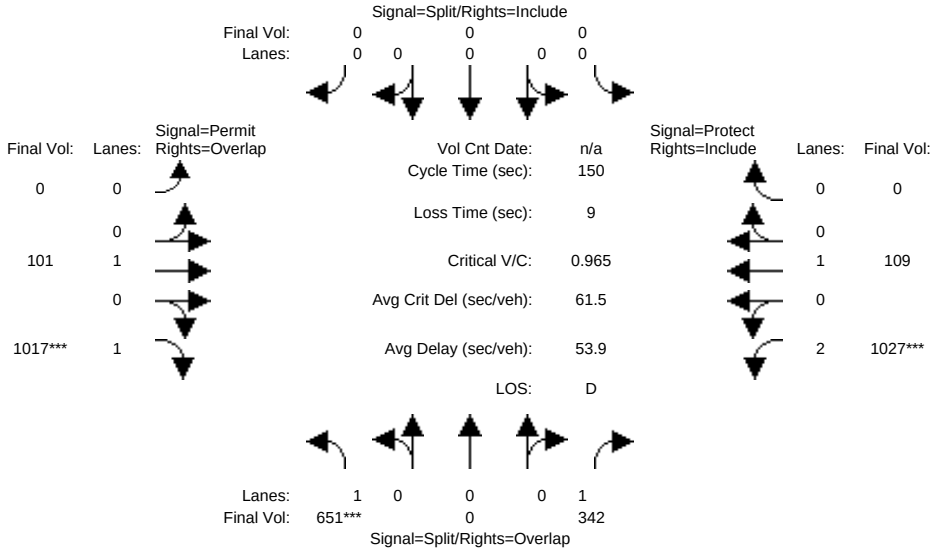
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC PM

Intersection #57: (A) Patrick Henry Drive & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	599	0	315	0	0	0	0	93	936	945	100	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	599	0	315	0	0	0	0	93	936	945	100	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	599	0	315	0	0	0	0	93	936	945	100	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	651	0	342	0	0	0	0	101	1017	1027	109	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	651	0	342	0	0	0	0	101	1017	1027	109	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	651	0	342	0	0	0	0	101	1017	1027	109	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	2.00	1.00	0.00
Final Sat.:	1750	0	1750	0	0	0	0	1900	1750	3150	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.37	0.00	0.20	0.00	0.00	0.00	0.00	0.05	0.58	0.33	0.06	0.00
Crit Moves:	****								****	****		
Green/Cycle:	0.39	0.00	0.72	0.00	0.00	0.00	0.00	0.22	0.60	0.34	0.55	0.00
Volume/Cap:	0.97	0.00	0.27	0.00	0.00	0.00	0.00	0.25	0.97	0.97	0.10	0.00
Uniform Del:	45.1	0.0	7.1	0.0	0.0	0.0	0.0	48.6	28.3	48.8	15.8	0.0
IncremntDel:	26.2	0.0	0.1	0.0	0.0	0.0	0.0	0.3	19.8	19.7	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	71.3	0.0	7.3	0.0	0.0	0.0	0.0	48.9	48.2	68.5	15.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.3	0.0	7.3	0.0	0.0	0.0	0.0	48.9	48.2	68.5	15.8	0.0
LOS by Move:	E	A	A	A	A	A	A	D	D	E	B	A
HCM2kAvgQ:	37	0	6	0	0	0	0	4	53	33	2	0

Note: Queue reported is the number of cars per lane.

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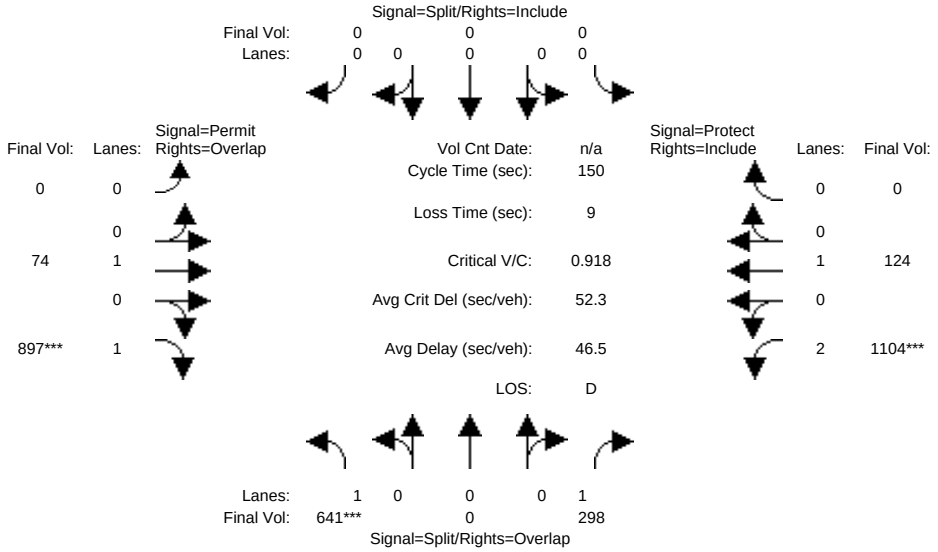
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC PM

Intersection #57: (A) Patrick Henry Drive & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	590	0	274	0	0	0	0	68	825	1016	114	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	590	0	274	0	0	0	0	68	825	1016	114	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	590	0	274	0	0	0	0	68	825	1016	114	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	641	0	298	0	0	0	0	74	897	1104	124	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	641	0	298	0	0	0	0	74	897	1104	124	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	641	0	298	0	0	0	0	74	897	1104	124	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	1.00	0.92
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	2.00	1.00	0.00
Final Sat.:	1750	0	1750	0	0	0	0	1900	1750	3150	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.37	0.00	0.17	0.00	0.00	0.00	0.00	0.04	0.51	0.35	0.07	0.00
Crit Moves:	****								****	****		
Green/Cycle:	0.40	0.00	0.78	0.00	0.00	0.00	0.00	0.16	0.56	0.38	0.54	0.00
Volume/Cap:	0.92	0.00	0.22	0.00	0.00	0.00	0.00	0.24	0.92	0.92	0.12	0.00
Uniform Del:	42.7	0.0	4.3	0.0	0.0	0.0	0.0	55.2	30.0	44.1	16.9	0.0
IncremntDel:	17.1	0.0	0.1	0.0	0.0	0.0	0.0	0.4	13.2	11.2	0.1	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	59.9	0.0	4.4	0.0	0.0	0.0	0.0	55.6	43.2	55.3	17.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.9	0.0	4.4	0.0	0.0	0.0	0.0	55.6	43.2	55.3	17.0	0.0
LOS by Move:	E	A	A	A	A	A	A	E	D	E	B	A
HCM2kAvgQ:	34	0	4	0	0	0	0	3	44	33	3	0

Note: Queue reported is the number of cars per lane.

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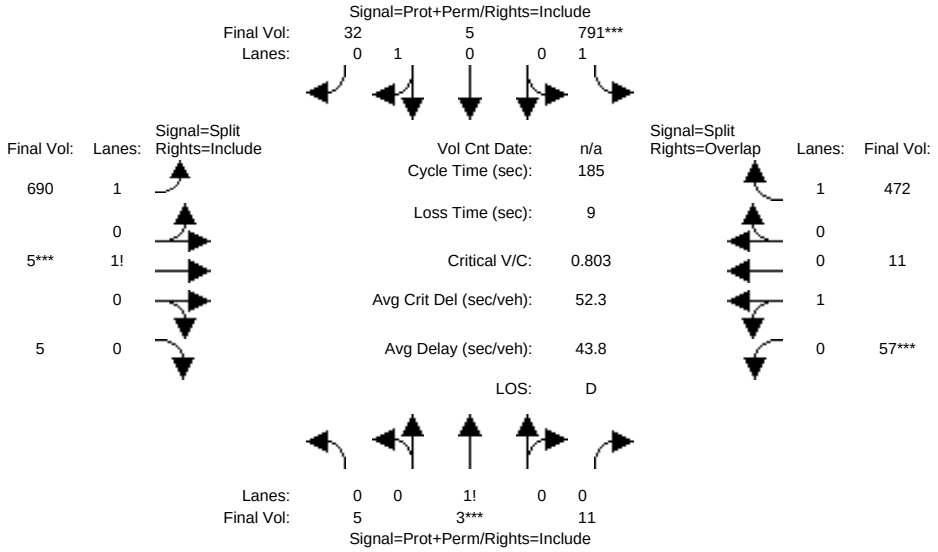
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC AM

Intersection #58: (B) Mission College Boulevard & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	5	3	10	728	5	29	635	5	5	52	10	434
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	3	10	728	5	29	635	5	5	52	10	434
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	3	10	728	5	29	635	5	5	52	10	434
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	3	11	791	5	32	690	5	5	57	11	472
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	3	11	791	5	32	690	5	5	57	11	472
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	3	11	791	5	32	690	5	5	57	11	472
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.92
Lanes:	0.28	0.17	0.55	1.00	0.15	0.85	1.97	0.02	0.01	0.84	0.16	1.00
Final Sat.:	486	292	972	1750	265	1535	3447	27	27	1510	290	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.00	0.02	0.02	0.20	0.20	0.20	0.04	0.04	0.27
Crit Moves:		****		****				****		****		
Green/Cycle:	0.26	0.05	0.05	0.58	0.37	0.37	0.26	0.26	0.26	0.05	0.05	0.64
Volume/Cap:	0.04	0.21	0.21	0.78	0.05	0.05	0.77	0.78	0.78	0.69	0.69	0.42
Uniform Del:	51.0	83.7	83.7	29.6	37.0	37.0	63.1	63.3	63.3	86.0	86.0	16.8
IncremntDel:	0.0	1.1	1.1	3.9	0.0	0.0	3.9	4.3	4.3	19.3	19.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.0	84.8	84.8	33.4	37.1	37.1	67.0	67.6	67.6	105.3	105	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.0	84.8	84.8	33.4	37.1	37.1	67.0	67.6	67.6	105.3	105	17.1
LOS by Move:	D	F	F	C	D	D	E	E	E	F	F	B
HCM2kAvgQ:	1	1	1	37	1	1	21	21	21	5	5	14

Note: Queue reported is the number of cars per lane.

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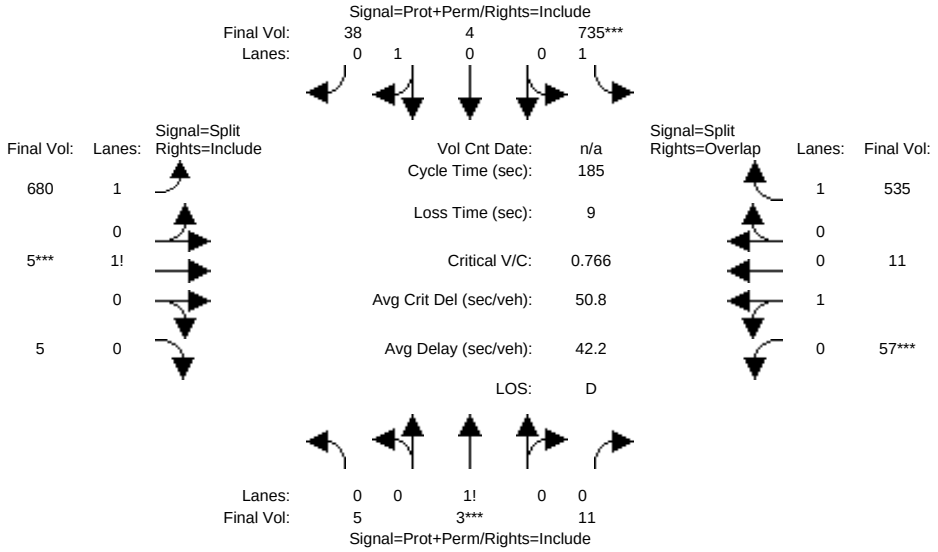
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC AM

Intersection #58: (B) Mission College Boulevard & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	5	3	10	676	4	35	626	5	5	52	10	492
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	3	10	676	4	35	626	5	5	52	10	492
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	3	10	676	4	35	626	5	5	52	10	492
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	3	11	735	4	38	680	5	5	57	11	535
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	3	11	735	4	38	680	5	5	57	11	535
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	3	11	735	4	38	680	5	5	57	11	535
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.92
Lanes:	0.28	0.17	0.55	1.00	0.10	0.90	1.97	0.02	0.01	0.84	0.16	1.00
Final Sat.:	486	292	972	1750	185	1615	3446	27	27	1510	290	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.00	0.02	0.02	0.20	0.20	0.20	0.04	0.04	0.31
Crit Moves:		****		****				****		****		
Green/Cycle:	0.26	0.05	0.05	0.57	0.37	0.37	0.27	0.27	0.27	0.05	0.05	0.62
Volume/Cap:	0.04	0.21	0.21	0.74	0.06	0.06	0.72	0.74	0.74	0.69	0.69	0.49
Uniform Del:	51.6	83.7	83.7	29.4	37.9	37.9	61.0	61.2	61.2	86.0	86.0	18.8
IncremntDel:	0.0	1.1	1.1	2.9	0.0	0.0	2.8	3.1	3.1	19.3	19.3	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	51.7	84.8	84.8	32.3	37.9	37.9	63.8	64.3	64.3	105.3	105	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.7	84.8	84.8	32.3	37.9	37.9	63.8	64.3	64.3	105.3	105	19.1
LOS by Move:	D	F	F	C	D	D	E	E	E	F	F	B
HCM2kAvgQ:	1	1	1	33	2	2	20	20	20	5	5	17

Note: Queue reported is the number of cars per lane.

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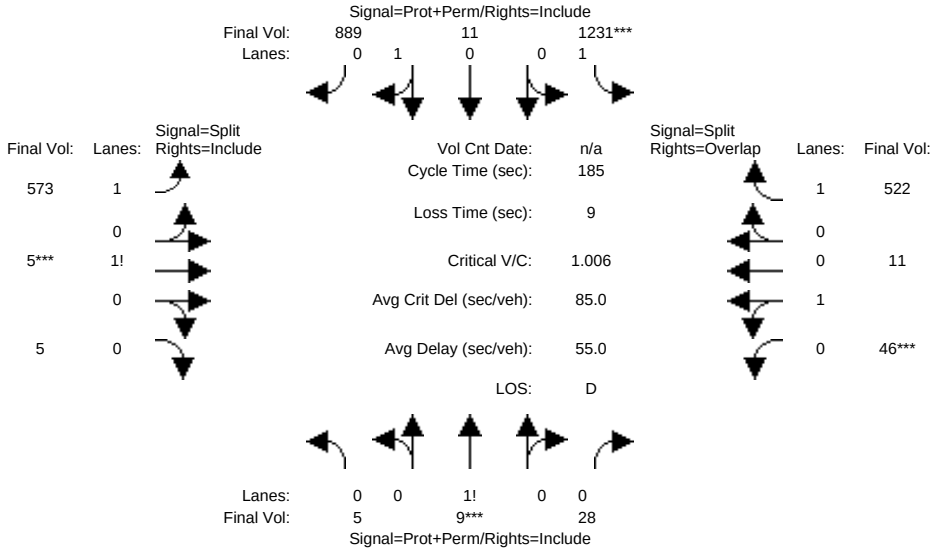
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC PM

Intersection #58: (B) Mission College Boulevard & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	5	8	26	1139	10	822	530	5	5	43	10	483
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	8	26	1139	10	822	530	5	5	43	10	483
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	8	26	1139	10	822	530	5	5	43	10	483
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	5	9	28	1231	11	889	573	5	5	46	11	522
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	9	28	1231	11	889	573	5	5	46	11	522
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	9	28	1231	11	889	573	5	5	46	11	522
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.92
Lanes:	0.13	0.20	0.67	1.00	0.01	0.99	1.96	0.02	0.02	0.81	0.19	1.00
Final Sat.:	224	359	1167	1750	22	1778	3436	32	32	1460	340	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.02	0.02	0.00	0.50	0.50	0.17	0.17	0.17	0.03	0.03	0.30
Crit Moves:		****		****				****		****		
Green/Cycle:	0.05	0.05	0.05	0.68	0.68	0.68	0.16	0.16	0.16	0.05	0.05	0.73
Volume/Cap:	0.47	0.45	0.45	1.04	0.73	0.73	1.02	1.04	1.04	0.59	0.59	0.41
Uniform Del:	85.3	84.8	84.8	29.7	18.7	18.7	77.3	77.3	77.3	85.5	85.5	9.4
IncremntDel:	3.8	3.3	3.3	35.8	2.3	2.3	41.8	47.5	47.5	9.1	9.1	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	89.0	88.1	88.1	65.5	21.1	21.1	119.1	125	124.8	94.6	94.6	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	89.0	88.1	88.1	65.5	21.1	21.1	119.1	125	124.8	94.6	94.6	9.6
LOS by Move:	F	F	F	E	C	C	F	F	F	F	F	A
HCM2kAvgQ:	3	3	3	85	34	34	23	24	24	4	4	12

Note: Queue reported is the number of cars per lane.

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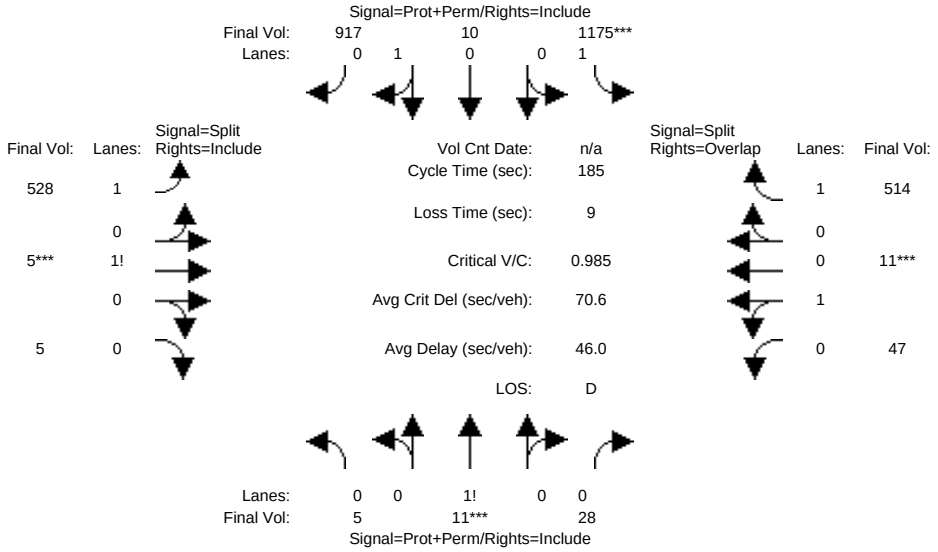
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC PM

Intersection #58: (B) Mission College Boulevard & F Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	5	10	26	1081	9	844	486	5	5	43	10	473
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	10	26	1081	9	844	486	5	5	43	10	473
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	10	26	1081	9	844	486	5	5	43	10	473
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	11	28	1175	10	917	528	5	5	47	11	514
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	11	28	1175	10	917	528	5	5	47	11	514
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	11	28	1175	10	917	528	5	5	47	11	514
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.92
Lanes:	0.12	0.24	0.64	1.00	0.01	0.99	1.96	0.02	0.02	0.81	0.19	1.00
Final Sat.:	213	427	1110	1750	19	1781	3431	35	35	1460	340	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.03	0.03	0.00	0.52	0.52	0.15	0.16	0.16	0.03	0.03	0.29
Crit Moves:		****		****				****			****	
Green/Cycle:	0.05	0.05	0.05	0.68	0.69	0.69	0.16	0.16	0.16	0.05	0.05	0.74
Volume/Cap:	0.50	0.47	0.47	0.98	0.75	0.75	0.96	0.98	0.98	0.59	0.59	0.40
Uniform Del:	85.6	84.9	84.9	28.2	18.7	18.7	77.2	77.5	77.5	85.5	85.5	9.0
IncremntDel:	4.6	3.7	3.7	21.8	2.6	2.6	28.8	33.8	33.8	9.4	9.4	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	90.2	88.6	88.6	50.1	21.3	21.3	105.9	111	111.3	94.9	94.9	9.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.2	88.6	88.6	50.1	21.3	21.3	105.9	111	111.3	94.9	94.9	9.2
LOS by Move:	F	F	F	D	C	C	F	F	F	F	F	A
HCM2kAvgQ:	3	3	3	74	35	35	20	21	21	4	4	11

Note: Queue reported is the number of cars per lane.

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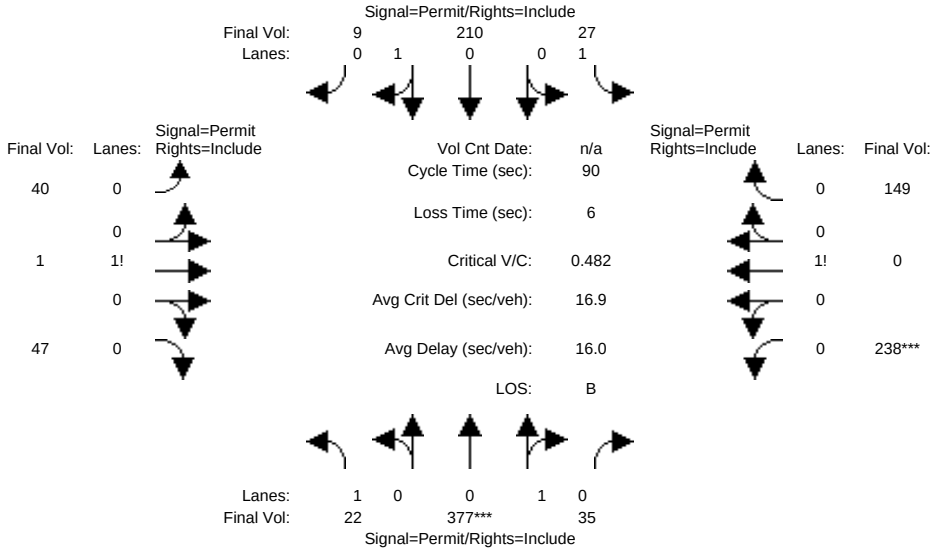
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC AM

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	20	347	32	25	193	8	37	1	43	219	0	137
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	347	32	25	193	8	37	1	43	219	0	137
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	347	32	25	193	8	37	1	43	219	0	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	22	377	35	27	210	9	40	1	47	238	0	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	377	35	27	210	9	40	1	47	238	0	149
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	377	35	27	210	9	40	1	47	238	0	149
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.92	0.08	1.00	0.96	0.04	0.46	0.01	0.53	0.62	0.00	0.38
Final Sat.:	1750	1648	152	1750	1728	72	799	22	929	1077	0	673
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.23	0.02	0.12	0.12	0.05	0.05	0.05	0.22	0.00	0.22
Crit Moves:		****								****		
Green/Cycle:	0.47	0.47	0.47	0.47	0.47	0.47	0.46	0.46	0.46	0.46	0.00	0.46
Volume/Cap:	0.03	0.48	0.48	0.03	0.26	0.26	0.11	0.11	0.11	0.48	0.00	0.48
Uniform Del:	12.6	16.1	16.1	12.6	14.1	14.1	13.9	13.9	13.9	16.9	0.0	16.9
IncremntDel:	0.0	0.4	0.4	0.0	0.2	0.2	0.1	0.1	0.1	0.5	0.0	0.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Delay/Veh:	12.6	16.5	16.5	12.6	14.3	14.3	13.9	13.9	13.9	17.4	0.0	17.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.6	16.5	16.5	12.6	14.3	14.3	13.9	13.9	13.9	17.4	0.0	17.4
LOS by Move:	B	B	B	B	B	B	B	B	B	B	A	B
HCM2kAvgQ:	0	8	8	0	4	4	1	1	1	8	0	8

Note: Queue reported is the number of cars per lane.

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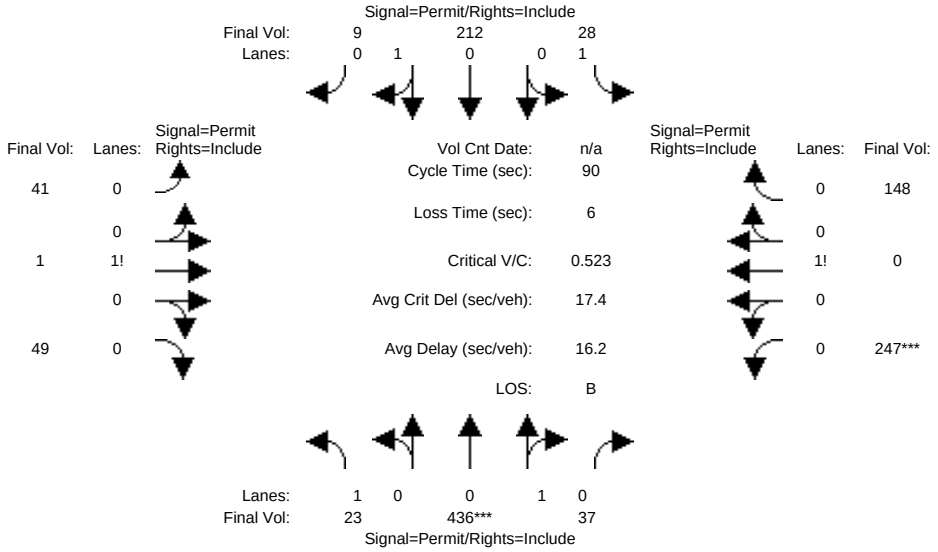
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC AM

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	21	401	34	26	195	8	38	1	45	227	0	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	401	34	26	195	8	38	1	45	227	0	136
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	401	34	26	195	8	38	1	45	227	0	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	23	436	37	28	212	9	41	1	49	247	0	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	436	37	28	212	9	41	1	49	247	0	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	23	436	37	28	212	9	41	1	49	247	0	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.92	0.08	1.00	0.96	0.04	0.45	0.01	0.54	0.63	0.00	0.37
Final Sat.:	1750	1659	141	1750	1729	71	792	21	938	1094	0	656
Capacity Analysis Module:												
Vol/Sat:	0.01	0.26	0.26	0.02	0.12	0.12	0.05	0.05	0.05	0.23	0.00	0.23
Crit Moves:		****								****		
Green/Cycle:	0.50	0.50	0.50	0.50	0.50	0.50	0.43	0.43	0.43	0.43	0.00	0.43
Volume/Cap:	0.03	0.52	0.52	0.03	0.24	0.24	0.12	0.12	0.12	0.52	0.00	0.52
Uniform Del:	11.3	15.1	15.1	11.3	12.7	12.7	15.4	15.4	15.4	18.8	0.0	18.8
IncremntDel:	0.0	0.6	0.6	0.0	0.1	0.1	0.1	0.1	0.1	0.7	0.0	0.7
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Delay/Veh:	11.3	15.7	15.7	11.3	12.8	12.8	15.4	15.4	15.4	19.5	0.0	19.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.3	15.7	15.7	11.3	12.8	12.8	15.4	15.4	15.4	19.5	0.0	19.5
LOS by Move:	B	B	B	B	B	B	B	B	B	B	A	B
HCM2kAvgQ:	0	9	9	0	4	4	2	2	2	9	0	9

Note: Queue reported is the number of cars per lane.

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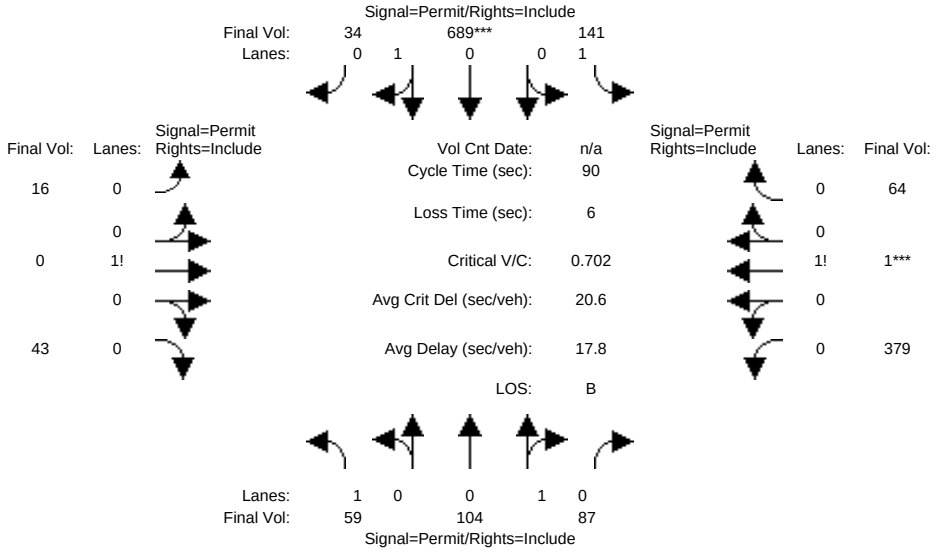
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC PM

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	54	96	80	130	634	31	15	0	40	349	1	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	96	80	130	634	31	15	0	40	349	1	59
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	96	80	130	634	31	15	0	40	349	1	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	59	104	87	141	689	34	16	0	43	379	1	64
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	104	87	141	689	34	16	0	43	379	1	64
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	104	87	141	689	34	16	0	43	379	1	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.55	0.45	1.00	0.95	0.05	0.27	0.00	0.73	0.85	0.01	0.14
Final Sat.:	1750	982	818	1750	1716	84	477	0	1273	1493	4	252
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.08	0.40	0.40	0.03	0.00	0.03	0.25	0.25	0.25
Crit Moves:					****						****	
Green/Cycle:	0.57	0.57	0.57	0.57	0.57	0.57	0.36	0.00	0.36	0.36	0.36	0.36
Volume/Cap:	0.06	0.19	0.19	0.14	0.70	0.70	0.09	0.00	0.09	0.70	0.70	0.70
Uniform Del:	8.5	9.2	9.2	9.0	13.8	13.8	19.0	0.0	19.0	24.6	24.6	24.6
IncremntDel:	0.0	0.1	0.1	0.1	2.2	2.2	0.1	0.0	0.1	3.6	3.6	3.6
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	8.6	9.3	9.3	9.0	16.0	16.0	19.1	0.0	19.1	28.1	28.1	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	9.3	9.3	9.0	16.0	16.0	19.1	0.0	19.1	28.1	28.1	28.1
LOS by Move:	A	A	A	A	B	B	B	A	B	C	C	C
HCM2kAvgQ:	1	3	3	2	16	16	1	0	1	13	13	13

Note: Queue reported is the number of cars per lane.

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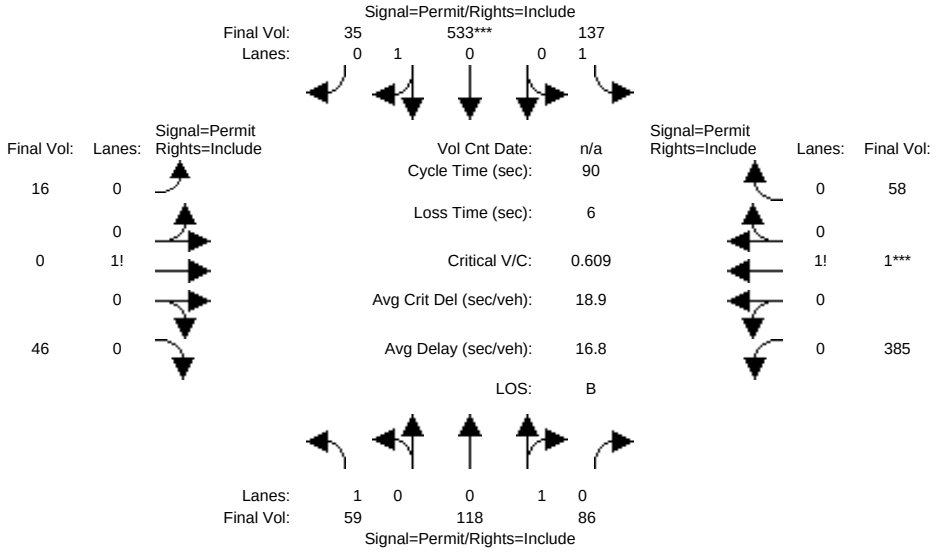
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC PM

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	54	109	79	126	490	32	15	0	42	354	1	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	54	109	79	126	490	32	15	0	42	354	1	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	54	109	79	126	490	32	15	0	42	354	1	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	59	118	86	137	533	35	16	0	46	385	1	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	118	86	137	533	35	16	0	46	385	1	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	118	86	137	533	35	16	0	46	385	1	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.58	0.42	1.00	0.94	0.06	0.26	0.00	0.74	0.86	0.01	0.13
Final Sat.:	1750	1044	756	1750	1690	110	461	0	1289	1518	4	227
Capacity Analysis Module:												
Vol/Sat:	0.03	0.11	0.11	0.08	0.32	0.32	0.04	0.00	0.04	0.25	0.25	0.25
Crit Moves:					****						****	
Green/Cycle:	0.52	0.52	0.52	0.52	0.52	0.52	0.42	0.00	0.42	0.42	0.42	0.42
Volume/Cap:	0.06	0.22	0.22	0.15	0.61	0.61	0.09	0.00	0.09	0.61	0.61	0.61
Uniform Del:	10.8	11.8	11.8	11.4	15.3	15.3	15.9	0.0	15.9	20.6	20.6	20.6
IncremntDel:	0.0	0.1	0.1	0.1	1.2	1.2	0.1	0.0	0.1	1.5	1.5	1.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	10.9	11.9	11.9	11.4	16.5	16.5	16.0	0.0	16.0	22.1	22.1	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.9	11.9	11.9	11.4	16.5	16.5	16.0	0.0	16.0	22.1	22.1	22.1
LOS by Move:	B	B	B	B	B	B	B	A	B	C	C	C
HCM2kAvgQ:	1	3	3	2	12	12	1	0	1	11	11	11

Note: Queue reported is the number of cars per lane.

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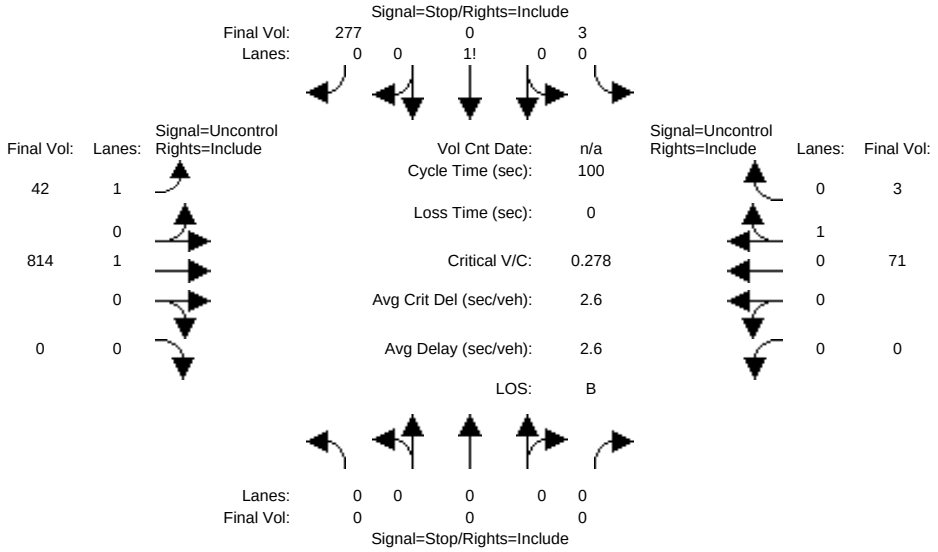
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC AM

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	3	0	255	39	749	0	0	65	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	3	0	255	39	749	0	0	65	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	3	0	255	39	749	0	0	65	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	3	0	277	42	814	0	0	71	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	3	0	277	42	814	0	0	71	3
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	971	971	72	74	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	283	255	995	1538	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	277	248	995	1538	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.28	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	966	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			10.2			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	1 0	0	0 0	0 1	0
Initial Vol:	0	0	0	3	0	255	39	749	0	0	65	3
ApproachDel:	xxxxxx			10.2			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=258]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1114]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	1 0	0	0 0	0 1	0
Initial Vol:	0	0	0	3	0	255	39	749	0	0	65	3

Major Street Volume: 856
Minor Approach Volume: 258
Minor Approach Volume Threshold: 338

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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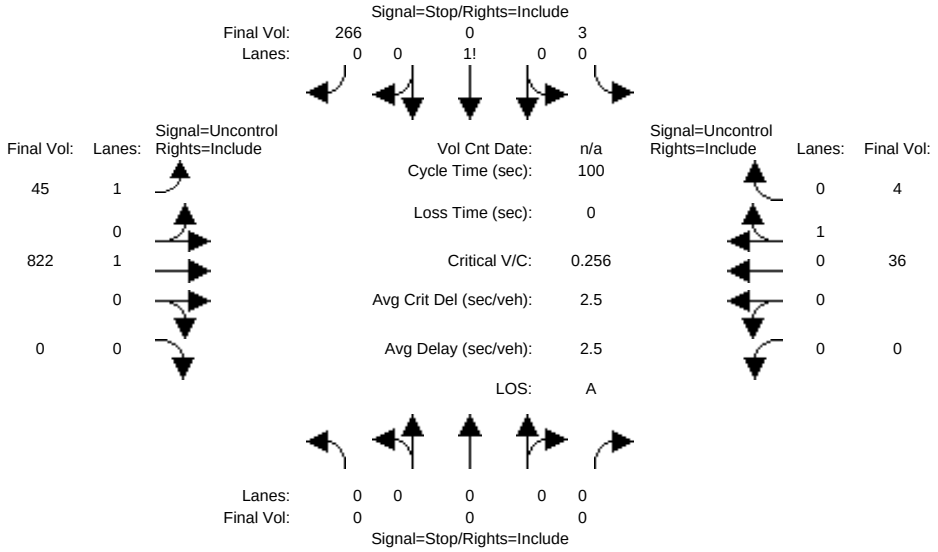
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC AM

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	3	0	245	41	756	0	0	33	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	3	0	245	41	756	0	0	33	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	3	0	245	41	756	0	0	33	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	3	0	266	45	822	0	0	36	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	3	0	266	45	822	0	0	36	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	949	949	38	40	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	291	263	1040	1582	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	285	255	1040	1582	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.26	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	1007	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			9.9			xxxxxx			xxxxxx		
ApproachLOS:	*			A			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0	0 0		0 0 1!	0 0		1 0 1	0 0		0 0 0	1 0	
Initial Vol:	0	0	0	3	0	245	41	756	0	0	33	4
ApproachDel:	xxxxxx			9.9			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=248]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1082]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0	0 0		0 0 1!	0 0		1 0 1	0 0		0 0 0	1 0	
Initial Vol:	0	0	0	3	0	245	41	756	0	0	33	4

Major Street Volume: 834
Minor Approach Volume: 248
Minor Approach Volume Threshold: 347

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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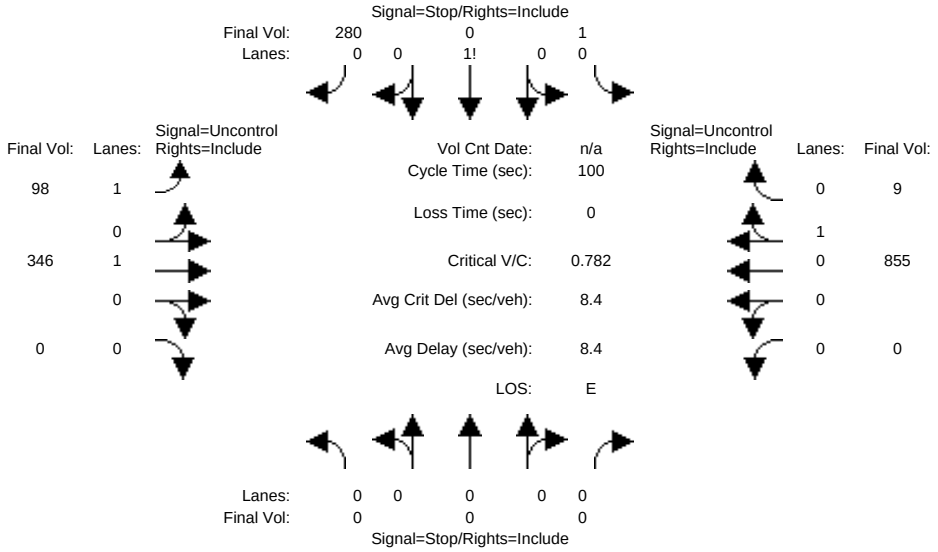
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC PM

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	1	0	258	90	318	0	0	787	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1	0	258	90	318	0	0	787	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1	0	258	90	318	0	0	787	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	1	0	280	98	346	0	0	855	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	1	0	280	98	346	0	0	855	9
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1401	1401	860	864	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	156	141	359	787	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	141	124	359	787	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.78	0.12	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	357	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	6.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	44.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	E	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			44.1			xxxxxx			xxxxxx		
ApproachLOS:	*			E			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	1 0	0	0 0	0 1	0
Initial Vol:	0	0	0	1	0	258	90	318	0	0	787	8
ApproachDel:	xxxxxx			44.1			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=259]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1462]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	1 0	0	0 0	0 1	0
Initial Vol:	0	0	0	1	0	258	90	318	0	0	787	8

Major Street Volume: 1203
Minor Approach Volume: 259
Minor Approach Volume Threshold: 221

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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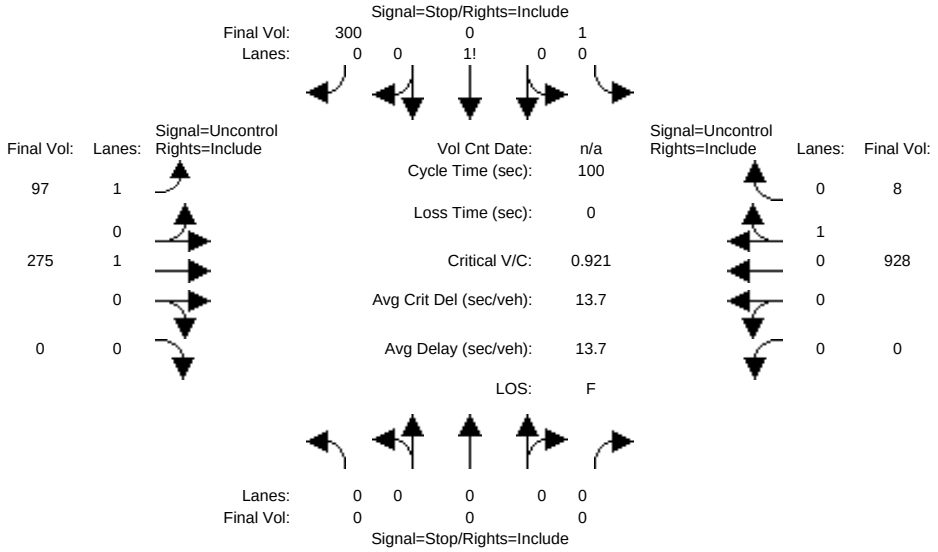
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC PM

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	1	0	276	89	253	0	0	854	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1	0	276	89	253	0	0	854	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1	0	276	89	253	0	0	854	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	1	0	300	97	275	0	0	928	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	1	0	300	97	275	0	0	928	8
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1401	1401	932	936	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	156	142	326	740	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	140	123	326	740	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	0.00	0.92	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	324	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	9.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	70.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			70.0			xxxxxx			xxxxxx		
ApproachLOS:	*			F			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	1 0	0	0 0	0 1	0
Initial Vol:	0	0	0	1	0	276	89	253	0	0	854	7
ApproachDel:	xxxxxx			70.0			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.4]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=277]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1480]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	1 0	1 0	0	0 0	0 1	0
Initial Vol:	0	0	0	1	0	276	89	253	0	0	854	7

Major Street Volume: 1203
Minor Approach Volume: 277
Minor Approach Volume Threshold: 221

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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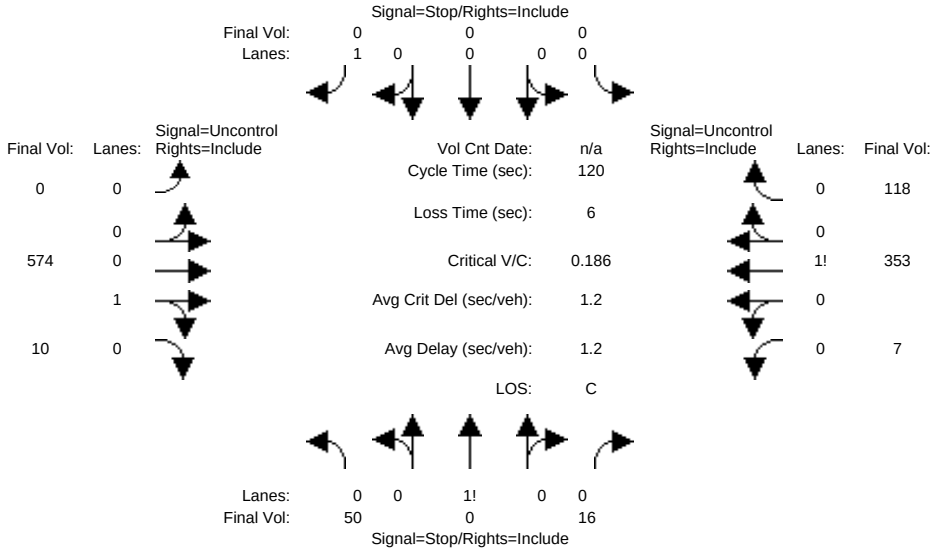
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC AM

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	46	0	15	0	0	0	0	528	9	6	325	109
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	0	15	0	0	0	0	528	9	6	325	109
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	0	15	0	0	0	0	528	9	6	325	109
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	50	0	16	0	0	0	0	574	10	7	353	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	0	16	0	0	0	0	574	10	7	353	118
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1004	1064	579	xxxx	xxxx	413	xxxx	xxxx	xxxxx	584	xxxx	xxxxx
Potent Cap.:	270	225	519	xxxx	xxxx	644	xxxx	xxxx	xxxxx	1001	xxxx	xxxxx
Move Cap.:	269	223	519	xxxx	xxxx	644	xxxx	xxxx	xxxxx	1001	xxxx	xxxxx
Volume/Cap:	0.19	0.00	0.03	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	305	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	20.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:		20.1		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		C		*			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Copyright (c) 2008 Dowling Associates, Inc.

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	1	0 0	0 1	0	0 0	1! 0	0
Initial Vol:	46	0	15	0	0	0	0	528	9	6	325	109
ApproachDel:	20.1			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=61]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1038]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	1	0 0	0 1	0	0 0	1! 0	0
Initial Vol:	46	0	15	0	0	0	0	528	9	6	325	109

Major Street Volume: 977
Minor Approach Volume: 61
Minor Approach Volume Threshold: 226

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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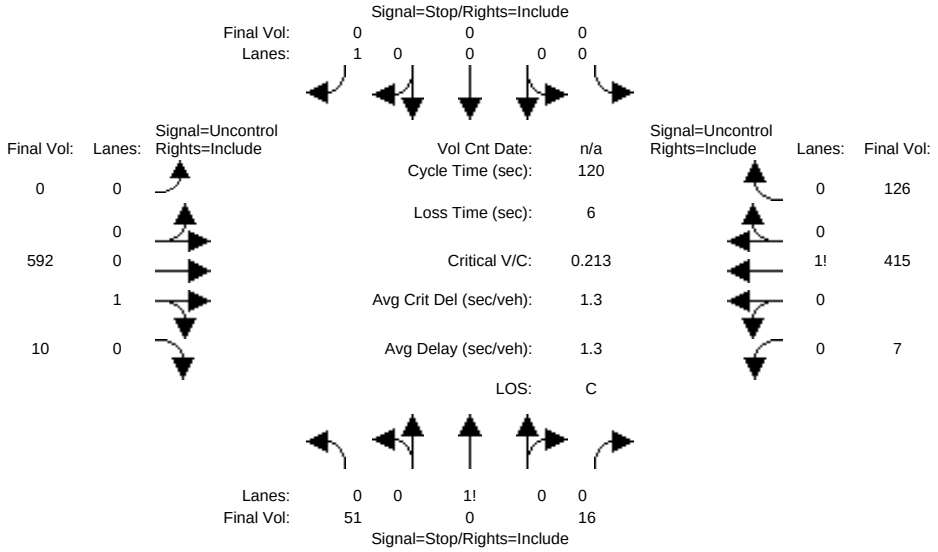
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC AM

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	47	0	15	0	0	0	0	545	9	6	382	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	0	15	0	0	0	0	545	9	6	382	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	0	15	0	0	0	0	545	9	6	382	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	51	0	16	0	0	0	0	592	10	7	415	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	51	0	16	0	0	0	0	592	10	7	415	126
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1089	1152	597	xxxx	xxxx	478	xxxx	xxxx	xxxxx	602	xxxx	xxxxx
Potent Cap.:	241	199	506	xxxx	xxxx	591	xxxx	xxxx	xxxxx	985	xxxx	xxxxx
Move Cap.:	239	198	506	xxxx	xxxx	591	xxxx	xxxx	xxxxx	985	xxxx	xxxxx
Volume/Cap:	0.21	0.00	0.03	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.7	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	274	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	22.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:		22.3		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		C		*			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Copyright (c) 2008 Dowling Associates, Inc.

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	1	0 0	0 1	0	0 0	1! 0	0
Initial Vol:	47	0	15	0	0	0	0	545	9	6	382	116
ApproachDel:	22.3			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=62]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1120]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	1	0 0	0 1	0	0 0	1! 0	0
Initial Vol:	47	0	15	0	0	0	0	545	9	6	382	116

Major Street Volume: 1058
Minor Approach Volume: 62
Minor Approach Volume Threshold: 204

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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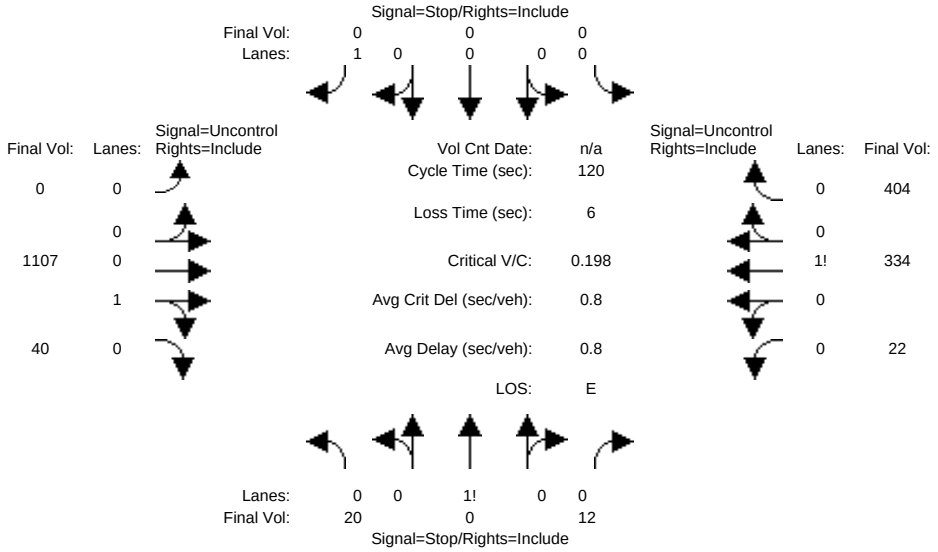
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC PM

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	18	0	11	0	0	0	0	1018	37	20	307	372
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	18	0	11	0	0	0	0	1018	37	20	307	372
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	0	11	0	0	0	0	1018	37	20	307	372
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	20	0	12	0	0	0	0	1107	40	22	334	404
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	20	0	12	0	0	0	0	1107	40	22	334	404
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1706	1908	1127	xxxx	xxxx	536	xxxx	xxxx	xxxxx	1147	xxxx	xxxxx
Potent Cap.:	102	69	251	xxxx	xxxx	549	xxxx	xxxx	xxxxx	617	xxxx	xxxxx
Move Cap.:	99	67	251	xxxx	xxxx	549	xxxx	xxxx	xxxxx	617	xxxx	xxxxx
Volume/Cap:	0.20	0.00	0.05	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.1	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	128	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	42.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	*	*	*	*	*	*	*	*
ApproachDel:		42.0		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		E		*			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Copyright (c) 2008 Dowling Associates, Inc.

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	1	0 0	0 1	0	0 0	1! 0	0
Initial Vol:	18	0	11	0	0	0	0	1018	37	20	307	372
ApproachDel:	42.0			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1783]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	1! 0	0	0 0	0 0	1	0 0	0 1	0	0 0	1! 0	0
Initial Vol:	18	0	11	0	0	0	0	1018	37	20	307	372

Major Street Volume: 1754
Minor Approach Volume: 29
Minor Approach Volume Threshold: 70 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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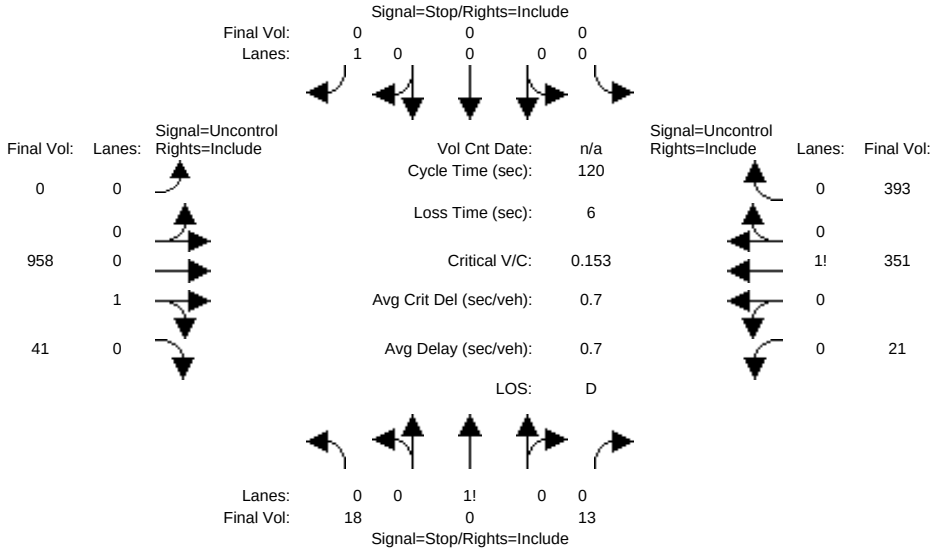
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC PM

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	17	0	12	0	0	0	0	881	38	19	323	362
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	17	0	12	0	0	0	0	881	38	19	323	362
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	0	12	0	0	0	0	881	38	19	323	362
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	18	0	13	0	0	0	0	958	41	21	351	393
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	18	0	13	0	0	0	0	958	41	21	351	393
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	6.2	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1567	1764	978	xxxx	xxxx	548	xxxx	xxxx	xxxxx	999	xxxx	xxxxx
Potent Cap.:	124	85	306	xxxx	xxxx	540	xxxx	xxxx	xxxxx	701	xxxx	xxxxx
Move Cap.:	121	82	306	xxxx	xxxx	540	xxxx	xxxx	xxxxx	701	xxxx	xxxxx
Volume/Cap:	0.15	0.00	0.04	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	161	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	32.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		32.7		xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:		D		*			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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```
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  1    0  0  0  1  0    0  0  1! 0  0
Initial Vol:   17    0    12     0    0     0     0  881    38    19  323   362
ApproachDel:      32.7           xxxxxx           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=29]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1652]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #9211 (E) Patrick Henry Drive & B Street
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  1! 0  0    0  0  0  0  1    0  0  0  1  0    0  0  1! 0  0
Initial Vol:   17    0    12     0    0     0     0  881    38    19  323   362
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1623
Minor Approach Volume:           29
Minor Approach Volume Threshold: 90 [less than minimum of 100]
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
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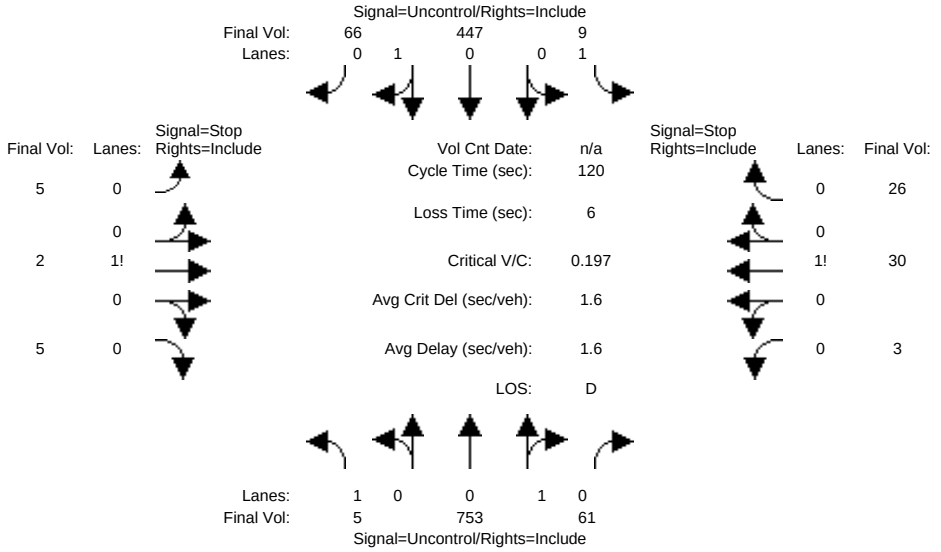
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC AM

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	5	693	56	8	411	61	5	2	5	3	28	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	693	56	8	411	61	5	2	5	3	28	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	693	56	8	411	61	5	2	5	3	28	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	753	61	9	447	66	5	2	5	3	30	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	753	61	9	447	66	5	2	5	3	30	26
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	513	xxxx	xxxxx	814	xxxx	xxxxx	1320	1322	480	1296	1325	784
Potent Cap.:	1063	xxxx	xxxxx	822	xxxx	xxxxx	135	158	590	140	157	397
Move Cap.:	1063	xxxx	xxxxx	822	xxxx	xxxxx	106	155	590	136	155	397
Volume/Cap:	0.01	xxxx	xxxx	0.01	xxxx	xxxx	0.05	0.01	0.01	0.02	0.20	0.07
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	175	xxxxx	xxxx	209	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	1.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	27.2	xxxxx	xxxxx	29.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			27.2			29.0		
ApproachLOS:	*			*			D			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0	
Initial Vol:	5	693	56	8	411	61	5	2	5	3	28	24
ApproachDel:	xxxxxx			xxxxxx			27.2			29.0		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1301]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=55]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1301]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0	
Initial Vol:	5	693	56	8	411	61	5	2	5	3	28	24

Major Street Volume: 1234
Minor Approach Volume: 55
Minor Approach Volume Threshold: 212

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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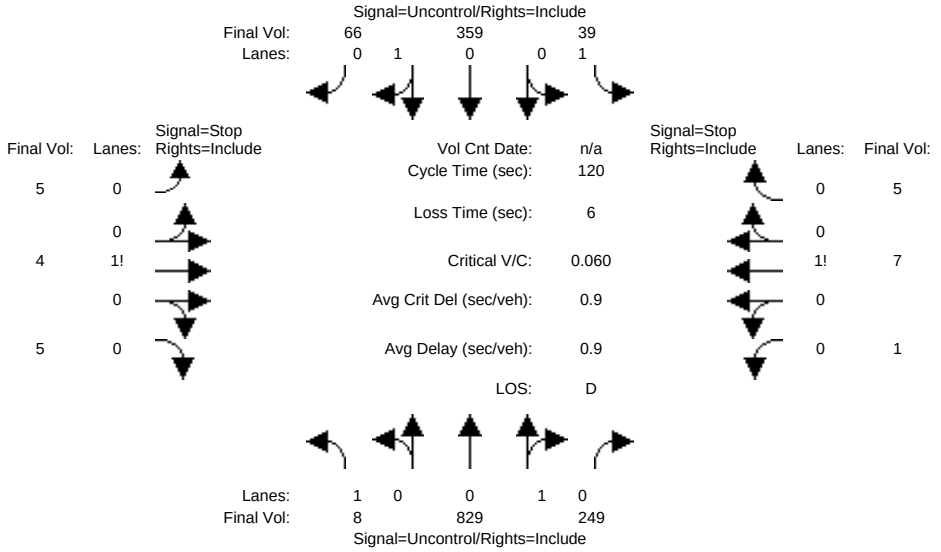
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC AM

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	7	763	229	36	330	61	5	4	5	1	6	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	763	229	36	330	61	5	4	5	1	6	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	763	229	36	330	61	5	4	5	1	6	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	8	829	249	39	359	66	5	4	5	1	7	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	829	249	39	359	66	5	4	5	1	7	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	425	xxxx	xxxxx	1078	xxxx	xxxxx	1445	1564	392	1444	1472	954
Potent Cap.:	1145	xxxx	xxxxx	654	xxxx	xxxxx	111	113	661	111	128	317
Move Cap.:	1145	xxxx	xxxxx	654	xxxx	xxxxx	99	105	661	101	120	317
Volume/Cap:	0.01	xxxx	xxxx	0.06	xxxx	xxxx	0.05	0.04	0.01	0.01	0.05	0.02
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.2	xxxx	xxxxx	10.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	146	xxxxx	xxxx	158	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	0.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	32.5	xxxxx	xxxxx	29.8	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			32.5			29.8		
ApproachLOS:	*			*			D			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	7	763	229	36	330	61	5	4	5	1	6	5
ApproachDel:	xxxxxx			xxxxxx			32.5			29.8		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=14]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1452]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1452]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	7	763	229	36	330	61	5	4	5	1	6	5

Major Street Volume: 1426
Minor Approach Volume: 14
Minor Approach Volume Threshold: 163

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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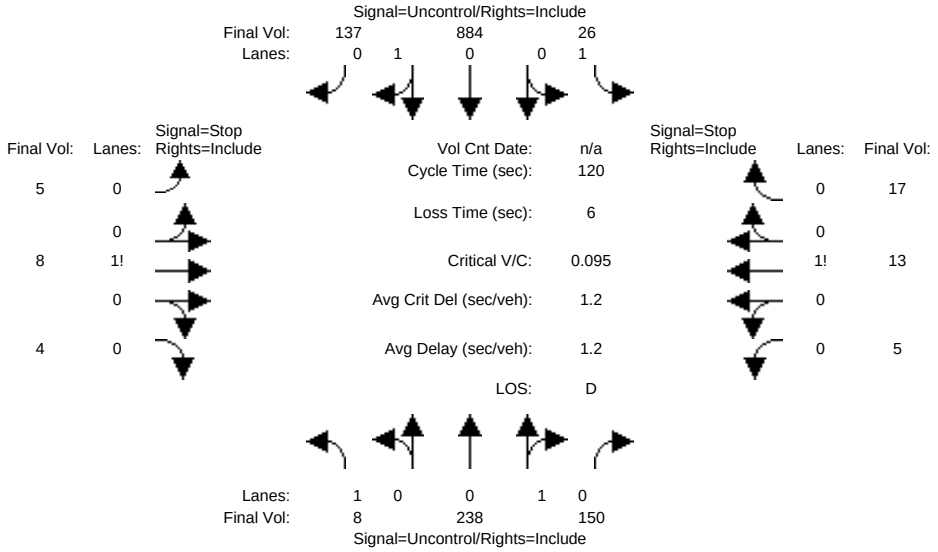
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC PM

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	7	219	138	24	813	126	5	7	4	5	12	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	219	138	24	813	126	5	7	4	5	12	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	219	138	24	813	126	5	7	4	5	12	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	8	238	150	26	884	137	5	8	4	5	13	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	238	150	26	884	137	5	8	4	5	13	17
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	1021	xxxx	xxxxx	388	xxxx	xxxxx	1348	1408	952	1339	1401	313
Potent Cap.:	688	xxxx	xxxxx	1181	xxxx	xxxxx	129	140	317	131	141	732
Move Cap.:	688	xxxx	xxxxx	1181	xxxx	xxxxx	114	136	317	121	137	732
Volume/Cap:	0.01	xxxx	xxxx	0.02	xxxx	xxxx	0.05	0.06	0.01	0.04	0.10	0.02
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.3	xxxx	xxxxx	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	148	xxxxx	xxxx	219	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	32.5	xxxxx	xxxxx	24.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			32.5			24.7		
ApproachLOS:	*			*			D			C		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0	
Initial Vol:	7	219	138	24	813	126	5	7	4	5	12	16
ApproachDel:	xxxxxx			xxxxxx			32.5			24.7		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=16]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1376]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=33]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1376]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0	
Initial Vol:	7	219	138	24	813	126	5	7	4	5	12	16

Major Street Volume: 1327
Minor Approach Volume: 33
Minor Approach Volume Threshold: 187

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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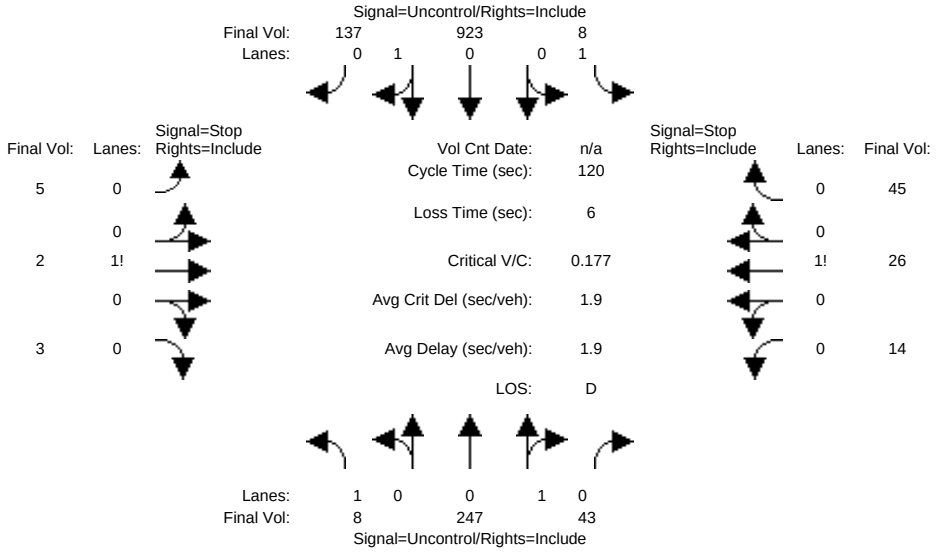
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC PM

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	7	227	40	7	849	126	5	2	3	13	24	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	227	40	7	849	126	5	2	3	13	24	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	227	40	7	849	126	5	2	3	13	24	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	8	247	43	8	923	137	5	2	3	14	26	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	247	43	8	923	137	5	2	3	14	26	45
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	1060	xxxx	xxxxx	290	xxxx	xxxxx	1326	1312	991	1293	1359	268
Potent Cap.:	665	xxxx	xxxxx	1283	xxxx	xxxxx	134	160	301	141	150	775
Move Cap.:	665	xxxx	xxxxx	1283	xxxx	xxxxx	108	157	301	136	147	775
Volume/Cap:	0.01	xxxx	xxxx	0.01	xxxx	xxxx	0.05	0.01	0.01	0.10	0.18	0.06
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.5	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	145	xxxxx	xxxx	251	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	1.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	31.9	xxxxx	xxxxx	26.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			31.9			26.5		
ApproachLOS:	*			*			D			D		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0	
Initial Vol:	7	227	40	7	849	126	5	2	3	13	24	41
ApproachDel:	xxxxxx			xxxxxx			31.9			26.5		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=10]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1344]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=78]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1344]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0 1!	0 0		0 0 1!	0 0	
Initial Vol:	7	227	40	7	849	126	5	2	3	13	24	41

Major Street Volume: 1256
Minor Approach Volume: 78
Minor Approach Volume Threshold: 206

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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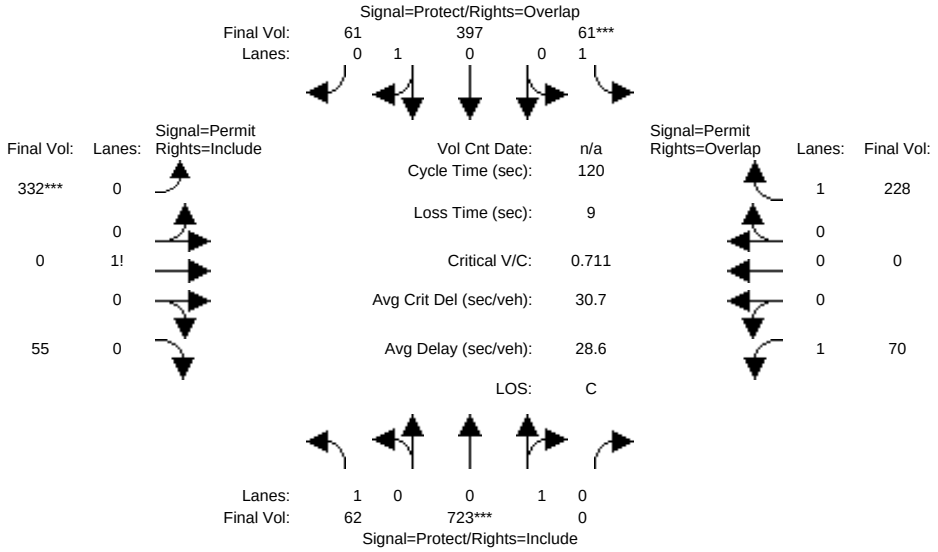
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC AM

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	57	665	0	56	365	56	305	0	51	64	0	210
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	57	665	0	56	365	56	305	0	51	64	0	210
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	57	665	0	56	365	56	305	0	51	64	0	210
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	62	723	0	61	397	61	332	0	55	70	0	228
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	62	723	0	61	397	61	332	0	55	70	0	228
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	62	723	0	61	397	61	332	0	55	70	0	228
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	0.00	1.00	0.87	0.13	0.86	0.00	0.14	1.00	0.00	1.00
Final Sat.:	1750	1800	0	1750	1561	239	1499	0	251	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.40	0.00	0.03	0.25	0.25	0.22	0.00	0.22	0.04	0.00	0.13
Crit Moves:		****		****			****					
Green/Cycle:	0.12	0.56	0.00	0.06	0.50	0.50	0.31	0.00	0.31	0.31	0.00	0.37
Volume/Cap:	0.31	0.72	0.00	0.60	0.51	0.51	0.72	0.00	0.72	0.13	0.00	0.36
Uniform Del:	48.7	19.5	0.0	55.1	19.9	19.9	36.9	0.0	36.9	29.9	0.0	27.7
IncremntDel:	0.9	2.5	0.0	9.3	0.5	0.5	4.7	0.0	4.7	0.1	0.0	0.3
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	49.6	22.0	0.0	64.4	20.4	20.4	41.6	0.0	41.6	30.1	0.0	28.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.6	22.0	0.0	64.4	20.4	20.4	41.6	0.0	41.6	30.1	0.0	28.1
LOS by Move:	D	C	A	E	C	C	D	A	D	C	A	C
HCM2kAvgQ:	2	21	0	3	12	12	15	0	15	2	0	7

Note: Queue reported is the number of cars per lane.

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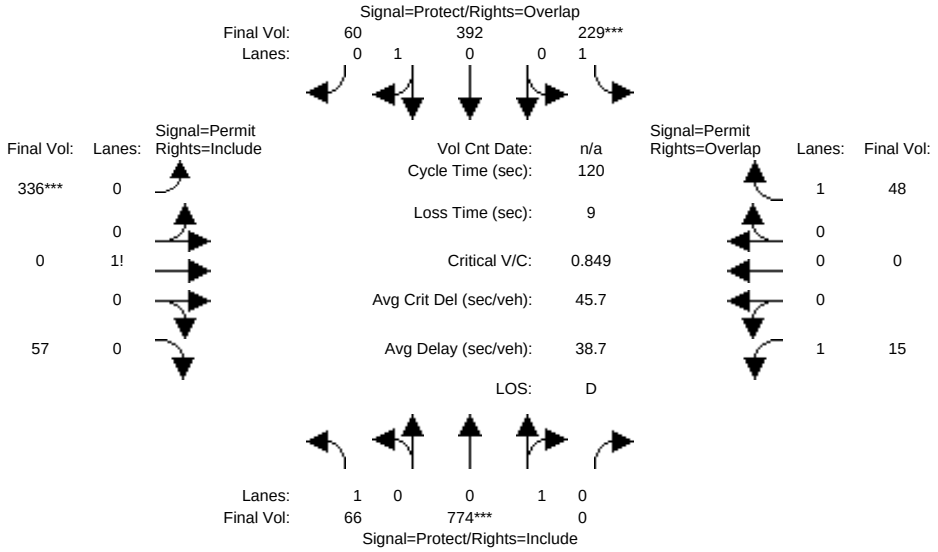
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC AM

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	712	0	211	361	55	309	0	52	14	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	712	0	211	361	55	309	0	52	14	0	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	712	0	211	361	55	309	0	52	14	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	66	774	0	229	392	60	336	0	57	15	0	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	66	774	0	229	392	60	336	0	57	15	0	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	66	774	0	229	392	60	336	0	57	15	0	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	0.00	1.00	0.87	0.13	0.86	0.00	0.14	1.00	0.00	1.00
Final Sat.:	1750	1800	0	1750	1562	238	1498	0	252	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.43	0.00	0.13	0.25	0.25	0.22	0.00	0.22	0.01	0.00	0.03
Crit Moves:		****		****			****					
Green/Cycle:	0.12	0.51	0.00	0.15	0.54	0.54	0.26	0.00	0.26	0.26	0.00	0.42
Volume/Cap:	0.30	0.85	0.00	0.85	0.47	0.47	0.85	0.00	0.85	0.03	0.00	0.07
Uniform Del:	47.8	25.6	0.0	49.4	17.2	17.2	41.9	0.0	41.9	32.8	0.0	20.9
IncremntDel:	0.8	7.6	0.0	21.6	0.4	0.4	13.8	0.0	13.8	0.0	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	48.6	33.2	0.0	70.9	17.6	17.6	55.7	0.0	55.7	32.8	0.0	20.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.6	33.2	0.0	70.9	17.6	17.6	55.7	0.0	55.7	32.8	0.0	20.9
LOS by Move:	D	C	A	E	B	B	E	A	E	C	A	C
HCM2kAvgQ:	3	28	0	12	11	11	17	0	17	0	0	1

Note: Queue reported is the number of cars per lane.

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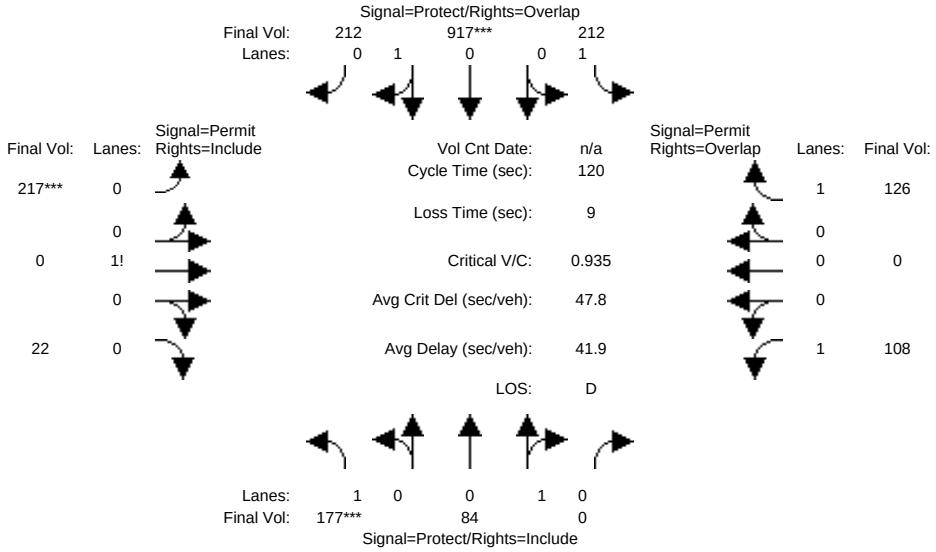
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC PM

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	163	77	0	195	844	195	200	0	20	99	0	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	163	77	0	195	844	195	200	0	20	99	0	116
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	77	0	195	844	195	200	0	20	99	0	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	177	84	0	212	917	212	217	0	22	108	0	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	177	84	0	212	917	212	217	0	22	108	0	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	177	84	0	212	917	212	217	0	22	108	0	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	0.00	1.00	0.81	0.19	0.91	0.00	0.09	1.00	0.00	1.00
Final Sat.:	1750	1800	0	1750	1462	338	1591	0	159	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.05	0.00	0.12	0.63	0.63	0.14	0.00	0.14	0.06	0.00	0.07
Crit Moves:	****				****		****					
Green/Cycle:	0.11	0.32	0.00	0.46	0.67	0.67	0.15	0.00	0.15	0.15	0.00	0.61
Volume/Cap:	0.94	0.15	0.00	0.26	0.94	0.94	0.94	0.00	0.94	0.42	0.00	0.12
Uniform Del:	53.1	29.3	0.0	19.8	17.5	17.5	50.7	0.0	50.7	46.6	0.0	10.0
IncremntDel:	47.1	0.1	0.0	0.2	13.3	13.3	39.0	0.0	39.0	1.1	0.0	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	100.2	29.4	0.0	20.0	30.8	30.8	89.7	0.0	89.7	47.7	0.0	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	100.2	29.4	0.0	20.0	30.8	30.8	89.7	0.0	89.7	47.7	0.0	10.0
LOS by Move:	F	C	A	B	C	C	F	A	F	D	A	B
HCM2kAvgQ:	11	2	0	5	43	43	13	0	13	4	0	2

Note: Queue reported is the number of cars per lane.

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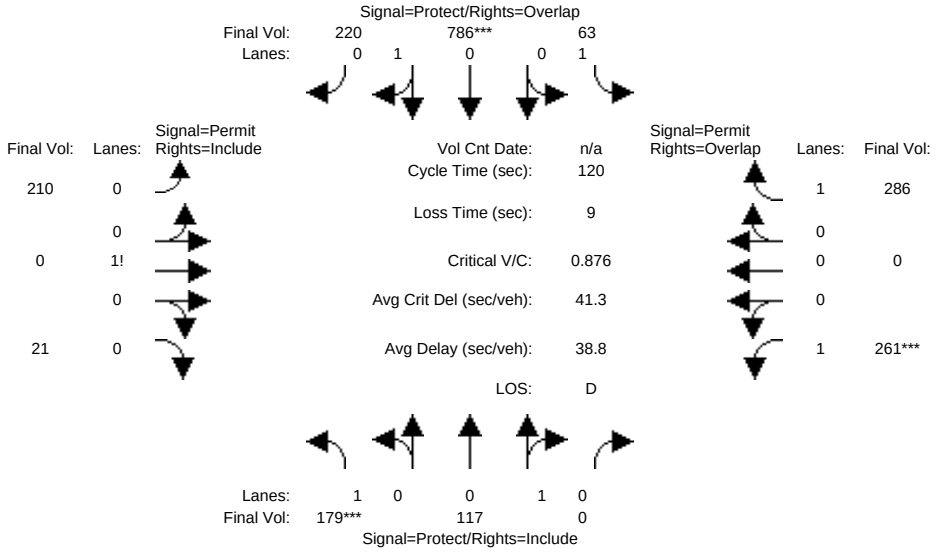
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC PM

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	165	108	0	58	723	202	193	0	19	240	0	263
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	165	108	0	58	723	202	193	0	19	240	0	263
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	165	108	0	58	723	202	193	0	19	240	0	263
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	179	117	0	63	786	220	210	0	21	261	0	286
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	117	0	63	786	220	210	0	21	261	0	286
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	117	0	63	786	220	210	0	21	261	0	286
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	0.00	1.00	0.78	0.22	0.91	0.00	0.09	1.00	0.00	1.00
Final Sat.:	1750	1800	0	1750	1407	393	1593	0	157	1750	0	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.07	0.00	0.04	0.56	0.56	0.13	0.00	0.13	0.15	0.00	0.16
Crit Moves:	****				****					****		
Green/Cycle:	0.12	0.44	0.00	0.31	0.64	0.64	0.17	0.00	0.17	0.17	0.00	0.48
Volume/Cap:	0.88	0.15	0.00	0.12	0.88	0.88	0.77	0.00	0.77	0.88	0.00	0.34
Uniform Del:	52.1	19.8	0.0	29.6	17.8	17.8	47.6	0.0	47.6	48.6	0.0	19.3
IncremntDel:	31.7	0.1	0.0	0.1	7.8	7.8	11.9	0.0	11.9	23.9	0.0	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	83.8	19.9	0.0	29.7	25.6	25.6	59.5	0.0	59.5	72.5	0.0	19.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	83.8	19.9	0.0	29.7	25.6	25.6	59.5	0.0	59.5	72.5	0.0	19.6
LOS by Move:	F	B	A	C	C	C	E	A	E	E	A	B
HCM2kAvgQ:	10	3	0	2	34	34	11	0	11	13	0	7

Note: Queue reported is the number of cars per lane.

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Intersection	
Intersection Delay, s/veh	4.5
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	2	1	1
Adj Approach Flow, veh/h	590	348	1134
Demand Flow Rate, veh/h	602	355	1156
Vehicles Circulating, veh/h	352	484	202
Vehicles Exiting, veh/h	487	202	352
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	2.2	8.4	4.6
Approach LOS	A	A	A

Lane	Left	Bypass	Left	Right	Left	Bypass
Designated Moves	T	R	L	LTR	L	R
Assumed Moves	T	R	L	LTR	L	R
RT Channelized		Free				Free
Lane Util	1.000		0.530	0.470	1.000	
Critical Headway, s	4.113		5.193	5.193	5.193	
Entry Flow, veh/h	202	400	188	167	484	672
Cap Entry Lane, veh/h	883	1938	696	696	923	1938
Entry HV Adj Factor	0.980	0.980	0.981	0.979	0.981	0.980
Flow Entry, veh/h	198	392	184	164	475	659
Cap Entry, veh/h	866	1900	683	682	906	1900
V/C Ratio	0.229	0.206	0.270	0.240	0.524	0.347
Control Delay, s/veh	6.5	0.0	8.6	8.1	10.9	0.0
LOS	A	A	A	A	B	A
95th %tile Queue, veh	1	1	1	1	3	2

Intersection	
Intersection Delay, s/veh	23.1
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	1	2	1
Adj Approach Flow, veh/h	700	540	19	828
Demand Flow Rate, veh/h	714	550	19	845
Vehicles Circulating, veh/h	870	712	1516	74
Vehicles Exiting, veh/h	49	823	68	1188
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	18.0	39.3	9.9	17.3
Approach LOS	C	E	A	C

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	L	LTR	L	TR	LTR	L	TR
Assumed Moves	L	LTR	L	TR	LTR	L	TR
RT Channelized							
Lane Util	0.529	0.471	0.105	0.895	1.000	0.955	0.045
Critical Headway, s	4.293	4.113	5.193	5.193	4.113	5.193	5.193
Entry Flow, veh/h	378	336	58	492	19	807	38
Cap Entry Lane, veh/h	588	615	554	554	391	1049	1049
Entry HV Adj Factor	0.981	0.979	0.983	0.981	0.997	0.980	0.971
Flow Entry, veh/h	371	329	57	483	19	791	37
Cap Entry, veh/h	577	602	545	544	390	1029	1019
V/C Ratio	0.642	0.547	0.105	0.887	0.049	0.769	0.036
Control Delay, s/veh	20.0	15.7	7.9	43.0	9.9	17.9	3.8
LOS	C	C	A	E	A	C	A
95th %tile Queue, veh	5	3	0	10	0	8	0

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	88	386	434	246
Demand Flow Rate, veh/h	90	394	443	251
Vehicles Circulating, veh/h	484	448	70	264
Vehicles Exiting, veh/h	31	65	504	578
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.7	13.8	8.1	7.4
Approach LOS	A	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	90	394	443	251
Cap Entry Lane, veh/h	696	722	1054	868
Entry HV Adj Factor	0.978	0.980	0.981	0.979
Flow Entry, veh/h	88	386	434	246
Cap Entry, veh/h	681	707	1033	850
V/C Ratio	0.129	0.546	0.420	0.289
Control Delay, s/veh	6.7	13.8	8.1	7.4
LOS	A	B	A	A
95th %tile Queue, veh	0	3	2	1

Intersection	
Intersection Delay, s/veh	42.1
Intersection LOS	E

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	387	298	785	519
Demand Flow Rate, veh/h	395	304	800	529
Vehicles Circulating, veh/h	538	1139	401	134
Vehicles Exiting, veh/h	125	62	532	1309
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.5	50.1	72.5	10.6
Approach LOS	C	F	F	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	395	304	800	529
Cap Entry Lane, veh/h	660	362	757	988
Entry HV Adj Factor	0.980	0.980	0.981	0.981
Flow Entry, veh/h	387	298	785	519
Cap Entry, veh/h	646	355	742	970
V/C Ratio	0.599	0.840	1.057	0.535
Control Delay, s/veh	16.5	50.1	72.5	10.6
LOS	C	F	F	B
95th %tile Queue, veh	4	8	20	3

Intersection	
Intersection Delay, s/veh	26.0
Intersection LOS	D

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	2	1	1
Adj Approach Flow, veh/h	1118	1135	993
Demand Flow Rate, veh/h	1140	1158	1013
Vehicles Circulating, veh/h	1047	664	103
Vehicles Exiting, veh/h	775	103	1047
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.8	65.9	8.7
Approach LOS	A	F	A

Lane	Left	Bypass	Left	Right	Left	Bypass
Designated Moves	T	R	L	LTR	L	R
Assumed Moves	T	R	L	LTR	L	R
RT Channelized		Free				Free
Lane Util	1.000		0.530	0.470	1.000	
Critical Headway, s	4.113		5.193	5.193	5.193	
Entry Flow, veh/h	103	1037	614	544	664	349
Cap Entry Lane, veh/h	543	1938	582	582	1019	1938
Entry HV Adj Factor	0.980	0.980	0.980	0.980	0.980	0.980
Flow Entry, veh/h	101	1017	601	533	651	342
Cap Entry, veh/h	532	1900	570	570	999	1900
V/C Ratio	0.190	0.535	1.056	0.935	0.651	0.180
Control Delay, s/veh	9.3	0.0	80.0	50.0	13.3	0.0
LOS	A	A	F	E	B	A
95th %tile Queue, veh	1	3	17	12	5	1

Intersection	
Intersection Delay, s/veh	60.3
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	1	2	1
Adj Approach Flow, veh/h	586	583	42	2142
Demand Flow Rate, veh/h	598	595	43	2185
Vehicles Circulating, veh/h	1322	602	1856	64
Vehicles Exiting, veh/h	927	1297	64	1132
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	30.0	36.8	14.6	75.9
Approach LOS	D	E	B	F

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	L	LTR	L	TR	LTR	L	TR
Assumed Moves	L	LTR	L	TR	LTR	L	TR
RT Channelized							
Lane Util	0.530	0.470	0.081	0.919	1.000	0.578	0.422
Critical Headway, s	4.293	4.113	5.193	5.193	4.113	5.193	5.193
Entry Flow, veh/h	317	281	48	547	43	1263	922
Cap Entry Lane, veh/h	419	448	619	619	308	1060	1060
Entry HV Adj Factor	0.980	0.980	0.979	0.979	0.973	0.980	0.980
Flow Entry, veh/h	311	275	47	536	42	1238	904
Cap Entry, veh/h	411	439	606	606	300	1039	1039
V/C Ratio	0.756	0.627	0.078	0.884	0.140	1.192	0.870
Control Delay, s/veh	35.1	24.2	6.8	39.4	14.6	112.6	25.6
LOS	E	C	A	E	B	F	D
95th %tile Queue, veh	6	4	0	10	0	37	12

Intersection	
Intersection Delay, s/veh	75.2
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	59	444	250	864
Demand Flow Rate, veh/h	60	453	255	882
Vehicles Circulating, veh/h	1234	182	160	448
Vehicles Exiting, veh/h	96	233	1134	187
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.5	9.9	6.5	132.7
Approach LOS	B	A	A	F

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	60	453	255	882
Cap Entry Lane, veh/h	329	942	963	722
Entry HV Adj Factor	0.983	0.980	0.980	0.980
Flow Entry, veh/h	59	444	250	864
Cap Entry, veh/h	323	923	944	707
V/C Ratio	0.182	0.481	0.265	1.222
Control Delay, s/veh	14.5	9.9	6.5	132.7
LOS	B	A	A	F
95th %tile Queue, veh	1	3	1	30

Intersection	
Intersection Delay, s/veh	200.3
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	239	234	261	1341
Demand Flow Rate, veh/h	243	239	267	1367
Vehicles Circulating, veh/h	1261	488	437	291
Vehicles Exiting, veh/h	397	216	1067	436
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	43.7	9.8	9.7	298.6
Approach LOS	E	A	A	F

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	243	239	267	1367
Cap Entry Lane, veh/h	320	694	730	845
Entry HV Adj Factor	0.984	0.979	0.979	0.981
Flow Entry, veh/h	239	234	261	1341
Cap Entry, veh/h	315	679	714	828
V/C Ratio	0.759	0.345	0.366	1.618
Control Delay, s/veh	43.7	9.8	9.7	298.6
LOS	E	A	A	F
95th %tile Queue, veh	6	2	2	71

Intersection	
Intersection Delay, s/veh	5.5
Intersection LOS	A

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	2	1	1
Adj Approach Flow, veh/h	609	484	1184
Demand Flow Rate, veh/h	621	493	1207
Vehicles Circulating, veh/h	277	527	203
Vehicles Exiting, veh/h	743	203	277
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	2.0	10.6	5.2
Approach LOS	A	B	A

Lane	Left	Bypass	Left	Right	Left	Bypass
Designated Moves	T	R	L	LTR	L	R
Assumed Moves	T	R	L	LTR	L	R
RT Channelized		Free				Free
Lane Util	1.000		0.529	0.471	1.000	
Critical Headway, s	4.113		5.193	5.193	5.193	
Entry Flow, veh/h	203	418	261	232	527	680
Cap Entry Lane, veh/h	931	1938	667	667	922	1938
Entry HV Adj Factor	0.980	0.980	0.982	0.980	0.981	0.980
Flow Entry, veh/h	199	410	256	227	517	667
Cap Entry, veh/h	913	1900	655	654	905	1900
V/C Ratio	0.218	0.216	0.391	0.348	0.571	0.351
Control Delay, s/veh	6.1	0.0	10.9	10.2	12.0	0.0
LOS	A	A	B	B	B	A
95th %tile Queue, veh	1	1	2	2	4	2

Intersection	
Intersection Delay, s/veh	28.0
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	1	2	1
Adj Approach Flow, veh/h	690	603	19	777
Demand Flow Rate, veh/h	704	615	19	793
Vehicles Circulating, veh/h	812	702	1449	74
Vehicles Exiting, veh/h	55	766	67	1243
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.2	59.2	9.5	14.7
Approach LOS	C	F	A	B

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	L	LTR	L	TR	LTR	L	TR
Assumed Moves	L	LTR	L	TR	LTR	L	TR
RT Channelized							
Lane Util	0.530	0.470	0.094	0.906	1.000	0.946	0.054
Critical Headway, s	4.293	4.113	5.193	5.193	4.113	5.193	5.193
Entry Flow, veh/h	373	331	58	557	19	750	43
Cap Entry Lane, veh/h	615	640	560	560	410	1049	1049
Entry HV Adj Factor	0.980	0.980	0.983	0.980	0.997	0.980	0.975
Flow Entry, veh/h	366	324	57	546	19	735	42
Cap Entry, veh/h	602	627	550	549	409	1028	1023
V/C Ratio	0.607	0.517	0.104	0.995	0.046	0.715	0.041
Control Delay, s/veh	17.8	14.3	7.8	64.5	9.5	15.3	3.9
LOS	C	B	A	F	A	C	A
95th %tile Queue, veh	4	3	0	14	0	6	0

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	91	394	539	235
Demand Flow Rate, veh/h	93	402	550	240
Vehicles Circulating, veh/h	482	554	72	274
Vehicles Exiting, veh/h	32	68	503	682
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.7	17.5	9.9	7.3
Approach LOS	A	C	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	93	402	550	240
Cap Entry Lane, veh/h	698	649	1051	859
Entry HV Adj Factor	0.978	0.980	0.981	0.979
Flow Entry, veh/h	91	394	539	235
Cap Entry, veh/h	683	636	1031	841
V/C Ratio	0.133	0.619	0.523	0.279
Control Delay, s/veh	6.7	17.5	9.9	7.3
LOS	A	C	A	A
95th %tile Queue, veh	0	4	3	1

Intersection	
Intersection Delay, s/veh	89.2
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	393	63	840	681
Demand Flow Rate, veh/h	401	64	856	695
Vehicles Circulating, veh/h	649	1199	577	82
Vehicles Exiting, veh/h	128	234	473	1181
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	21.8	14.1	187.7	13.6
Approach LOS	C	B	F	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	401	64	856	695
Cap Entry Lane, veh/h	590	341	635	1041
Entry HV Adj Factor	0.980	0.984	0.981	0.980
Flow Entry, veh/h	393	63	840	681
Cap Entry, veh/h	579	335	622	1020
V/C Ratio	0.679	0.188	1.349	0.668
Control Delay, s/veh	21.8	14.1	187.7	13.6
LOS	C	B	F	B
95th %tile Queue, veh	5	1	36	5

Intersection	
Intersection Delay, s/veh	36.0
Intersection LOS	E

Approach	EB	WB	NB
Entry Lanes	1	2	1
Conflicting Circle Lanes	2	1	1
Adj Approach Flow, veh/h	971	1227	939
Demand Flow Rate, veh/h	990	1251	958
Vehicles Circulating, veh/h	1125	654	75
Vehicles Exiting, veh/h	780	75	1125
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	0.7	85.1	8.4
Approach LOS	A	F	A

Lane	Left	Bypass	Left	Right	Left	Bypass
Designated Moves	T	R	L	LTR	L	R
Assumed Moves	T	R	L	LTR	L	R
RT Channelized		Free				Free
Lane Util	1.000		0.530	0.470	1.000	
Critical Headway, s	4.113		5.193	5.193	5.193	
Entry Flow, veh/h	75	915	663	588	654	304
Cap Entry Lane, veh/h	514	1938	588	588	1048	1938
Entry HV Adj Factor	0.980	0.980	0.980	0.980	0.980	0.980
Flow Entry, veh/h	74	897	650	576	641	298
Cap Entry, veh/h	504	1900	576	576	1027	1900
V/C Ratio	0.146	0.472	1.128	1.001	0.624	0.157
Control Delay, s/veh	9.1	0.0	103.5	64.5	12.2	0.0
LOS	A	A	F	F	B	A
95th %tile Queue, veh	1	3	21	15	5	1

Intersection	
Intersection Delay, s/veh	49.2
Intersection LOS	E

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	2
Conflicting Circle Lanes	2	1	2	1
Adj Approach Flow, veh/h	538	572	44	2102
Demand Flow Rate, veh/h	549	583	45	2143
Vehicles Circulating, veh/h	1256	555	1742	64
Vehicles Exiting, veh/h	951	1232	63	1074
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	23.3	28.8	13.5	62.1
Approach LOS	C	D	B	F

Lane	Left	Right	Left	Right	Left	Left	Right
Designated Moves	L	LTR	L	TR	LTR	L	TR
Assumed Moves	L	LTR	L	TR	LTR	L	TR
RT Channelized							
Lane Util	0.530	0.470	0.082	0.918	1.000	0.559	0.441
Critical Headway, s	4.293	4.113	5.193	5.193	4.113	5.193	5.193
Entry Flow, veh/h	291	258	48	535	45	1198	945
Cap Entry Lane, veh/h	441	469	649	649	334	1060	1060
Entry HV Adj Factor	0.980	0.980	0.979	0.981	0.973	0.981	0.981
Flow Entry, veh/h	285	253	47	525	44	1175	927
Cap Entry, veh/h	432	460	635	636	325	1040	1039
V/C Ratio	0.661	0.550	0.074	0.825	0.135	1.130	0.892
Control Delay, s/veh	26.4	19.7	6.5	30.8	13.5	89.0	28.1
LOS	D	C	A	D	B	F	D
95th %tile Queue, veh	5	3	0	9	0	31	13

Intersection	
Intersection Delay, s/veh	33.0
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	62	444	262	705
Demand Flow Rate, veh/h	63	453	267	720
Vehicles Circulating, veh/h	1077	195	156	454
Vehicles Exiting, veh/h	97	228	984	194
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.2	10.1	6.6	59.0
Approach LOS	B	B	A	F

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	63	453	267	720
Cap Entry Lane, veh/h	385	930	967	718
Entry HV Adj Factor	0.984	0.980	0.980	0.980
Flow Entry, veh/h	62	444	262	705
Cap Entry, veh/h	379	911	947	703
V/C Ratio	0.164	0.487	0.276	1.003
Control Delay, s/veh	12.2	10.1	6.6	59.0
LOS	B	B	A	F
95th %tile Queue, veh	1	3	1	16

Intersection	
Intersection Delay, s/veh	139.0
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	231	547	296	1069
Demand Flow Rate, veh/h	235	558	302	1090
Vehicles Circulating, veh/h	1132	516	278	449
Vehicles Exiting, veh/h	407	64	1089	625
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	29.8	30.2	8.4	254.4
Approach LOS	D	D	A	F

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	235	558	302	1090
Cap Entry Lane, veh/h	364	674	856	721
Entry HV Adj Factor	0.983	0.980	0.979	0.981
Flow Entry, veh/h	231	547	296	1069
Cap Entry, veh/h	358	661	838	707
V/C Ratio	0.645	0.827	0.353	1.511
Control Delay, s/veh	29.8	30.2	8.4	254.4
LOS	D	D	A	F
95th %tile Queue, veh	4	9	2	53

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Mission College Boulevard — Critical Approach Speed* (mph): 25

Minor Street: F Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	EB	EB							
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	645	636	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	>4	>4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

*OVFL denotes delay greater than 300 secs

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Mission College Boulevard		X	1141	1190	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		762	715	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

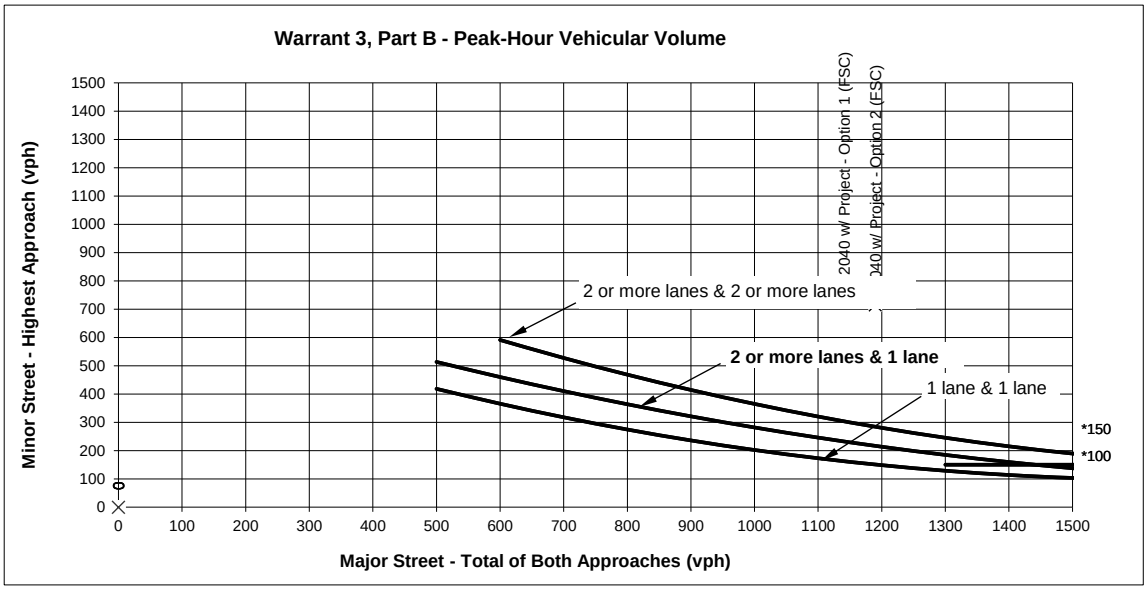
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Mission College Boulevard and F Street **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Mission College Boulevard		X	1141	1190	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		762	715	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Mission College Boulevard — Critical Approach Speed* (mph): 25

Minor Street: F Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	EB	EB	WB	WB	WB	WB	WB	WB	WB
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	540	496	0	0	0	0	0	0	0
Minor Street Total Delay (veh-hrs)	>4	>4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	No	No	No	No	No	No	No
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	No	No	No	No	No	No	No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

*OVFL denotes delay greater than 300 secs

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Mission College Boulevard		X	1076	1022	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		1971	1934	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

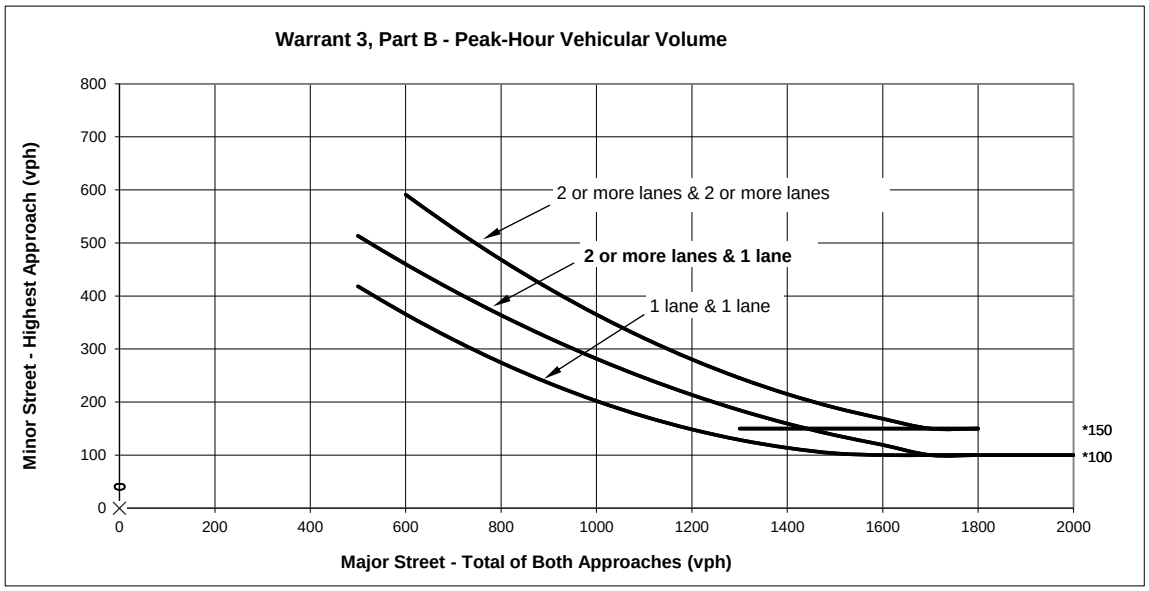
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Mission College Boulevard and F Street **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Mission College Boulevard		X	1076	1022	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		1971	1934	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Old Ironsides Drive — Critical Approach Speed* (mph): 25

Minor Street: E Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ or ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	EB	EB							
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	356	361	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	>4	>4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

*OVFL denotes delay greater than 300 secs

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Old Ironsides Drive		X	954	1254	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		356	361	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

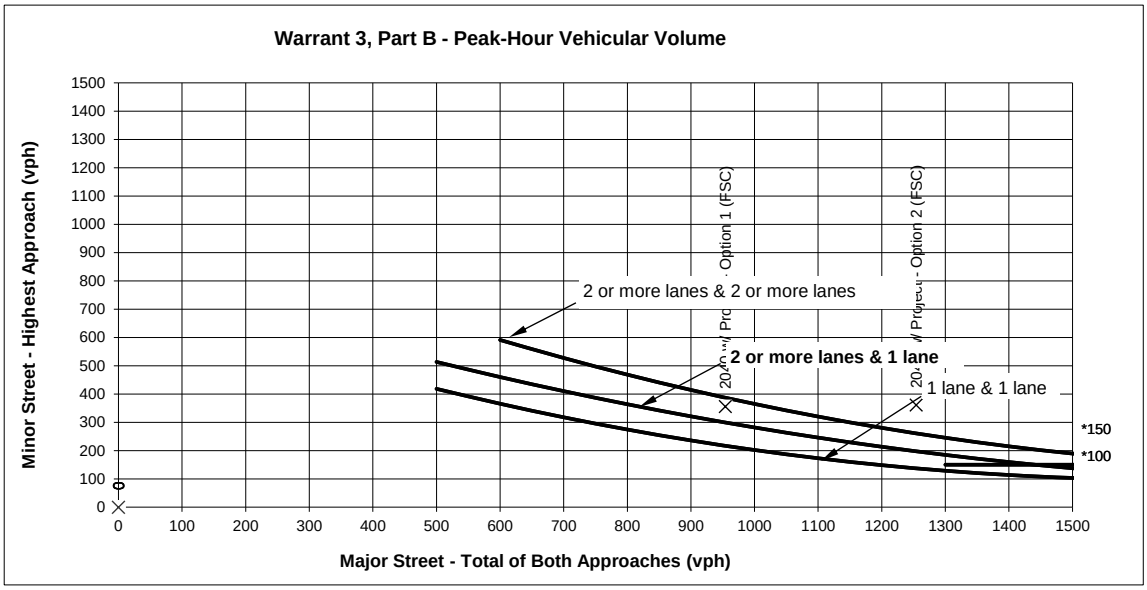
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironsides Drive And E Street **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Old Ironsides Drive		X	954	1254	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		356	361	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Old Ironsides Drive — Critical Approach Speed* (mph): 25

Minor Street: E Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ or ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	EB	EB							
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	220	212	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	>4	>4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

*OVFL denotes delay greater than 300 secs

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Old Ironsides Drive		X	2468	1966	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		220	503	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

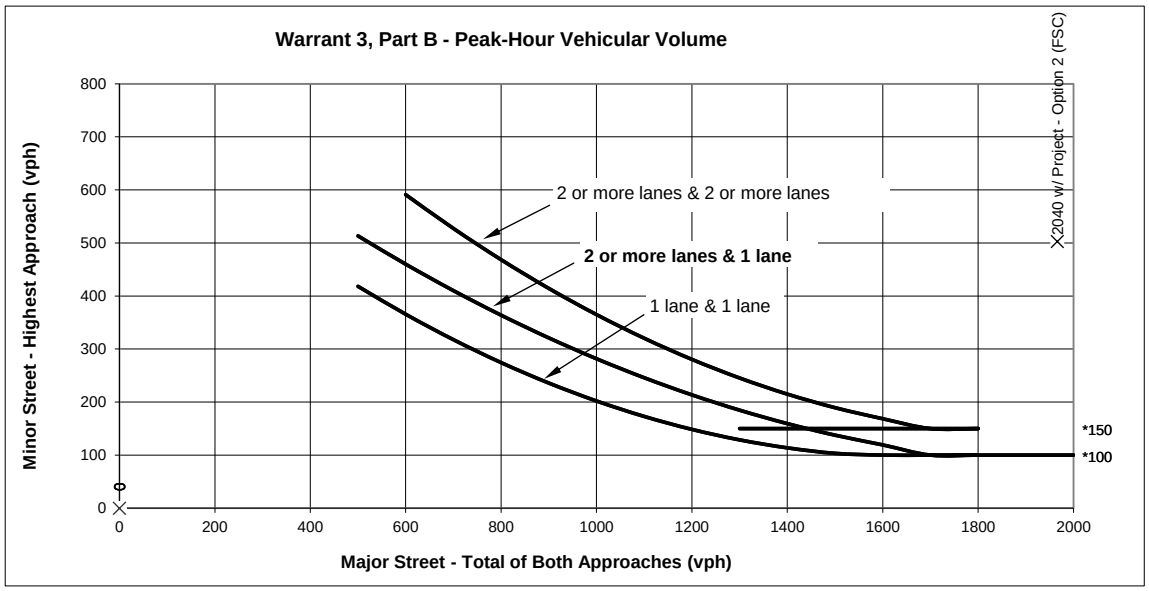
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironsides Drive And E Street **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Old Ironsides Drive		X	2468	1966	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		220	503	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: A Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

(☑ or ☐)

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	WB	WB							
Highest Minor Street Average Delay (sec/veh)	76.7	122.1							
Corresponding Minor Street Approach Volume (veh/hr)	356	363	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	7.6	12.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Patrick Henry Drive		X	625	685	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		356	363	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

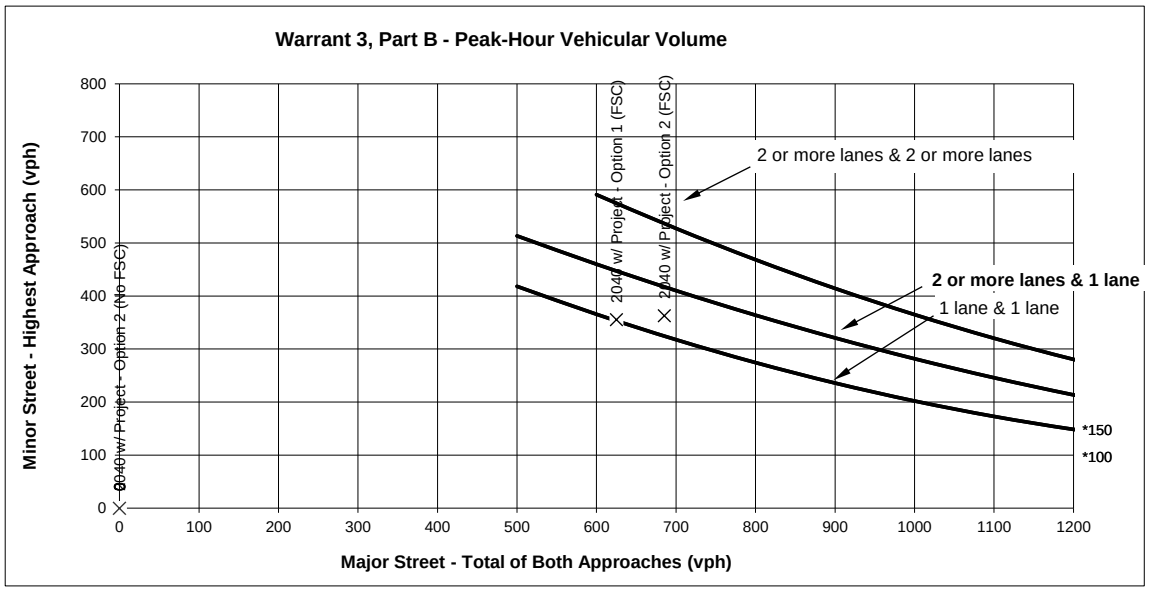
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Patrick Henry Drive and A Street **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Patrick Henry Drive		X	625	685	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		356	363	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: A Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB	WB	WB	WB	WB	WB
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	409	408	0	0	0	0	0	0	0
Minor Street Total Delay (veh-hrs)	>4	>4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	No	No	No	No	No	No	No
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	No	No	No	No	No	No	No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

*OVFL denotes delay greater than 300 secs

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Patrick Henry Drive		X	1025	890	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		409	408	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

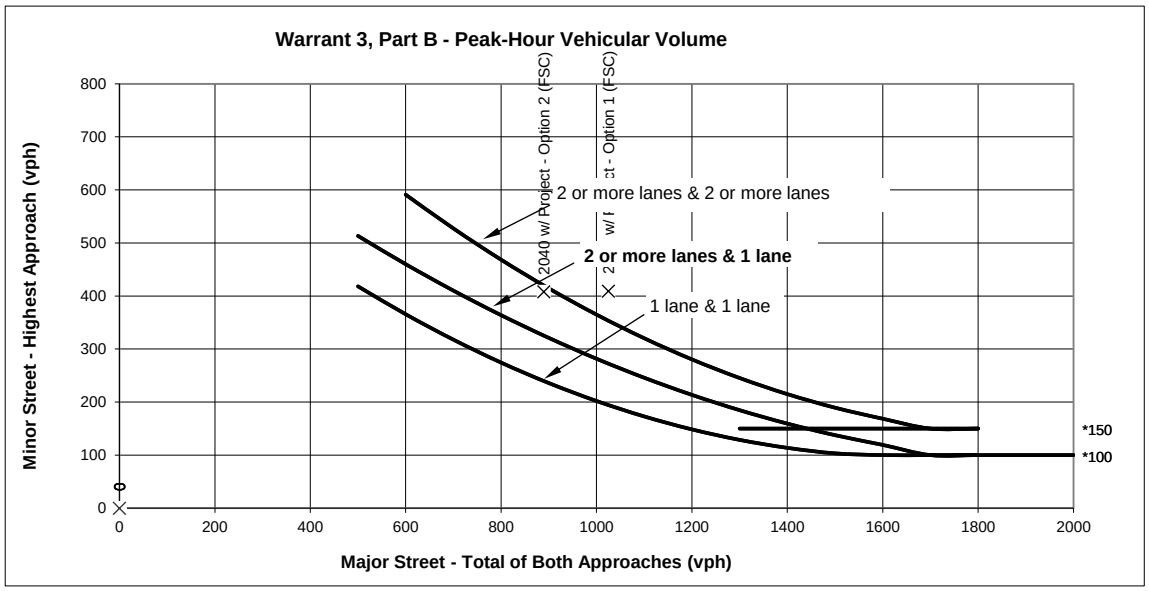
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Patrick Henry Drive and A Street **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Patrick Henry Drive		X	1025	890	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		409	408	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: F Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ or ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	NB	NB							
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	1043	1090	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	>4	>4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Patrick Henry Drive		X	863	838	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		1043	1090	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

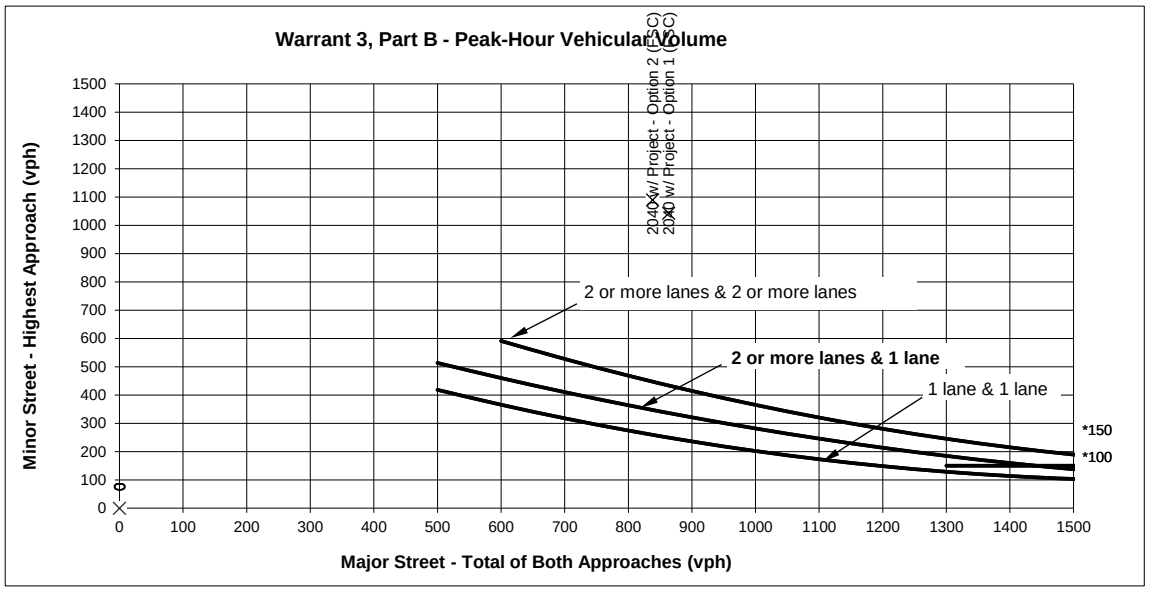
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Patrick Henry Drive and F Street **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Patrick Henry Drive		X	863	838	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		1043	1090	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: F Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	NB	NB	WB	WB	WB	WB	WB	WB	WB
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	914	864	0	0	0	0	0	0	0
Minor Street Total Delay (veh-hrs)	>4	>4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	No	No	No	No	No	No	No
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	No	No	No	No	No	No	No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

*OVFL denotes delay greater than 300 secs

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Patrick Henry Drive		X	2074	2023	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		914	864	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

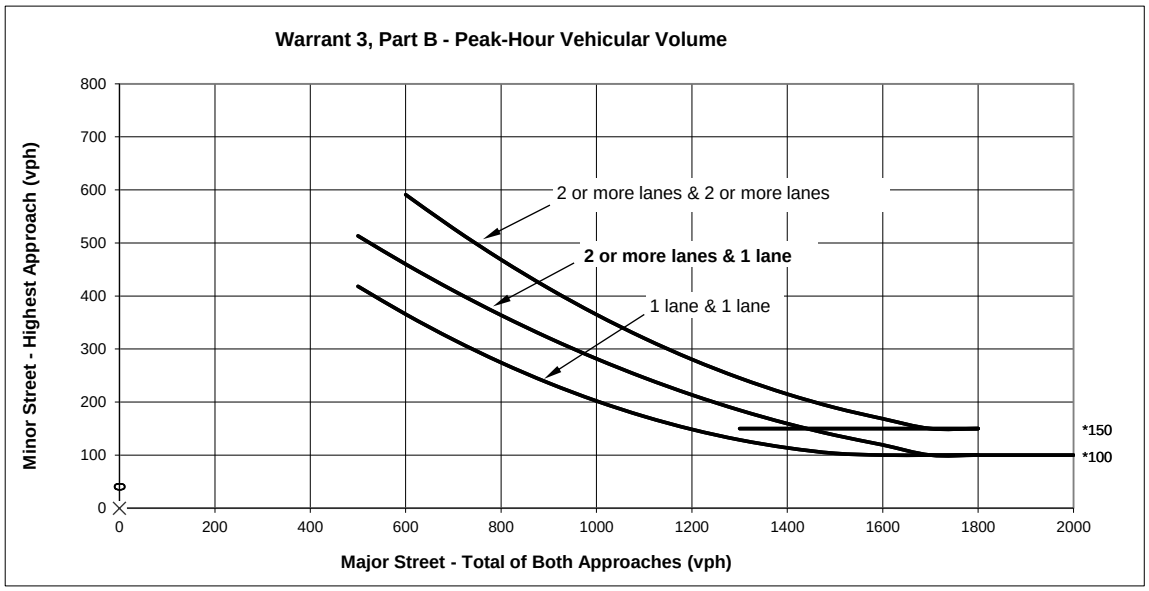
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Patrick Henry Drive and F Street **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

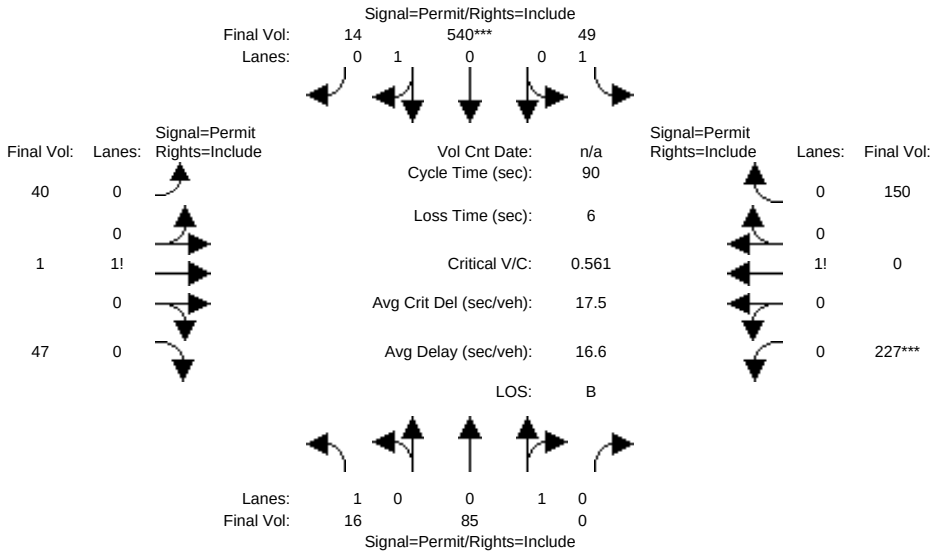
Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Patrick Henry Drive		X	2074	2023	0	0	0	0	0	0	0
Minor Street - Highest Approach	F Street	X		914	864	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC AM (no MCB conn)

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	15	78	0	45	497	13	37	1	43	209	0	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	78	0	45	497	13	37	1	43	209	0	138
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	78	0	45	497	13	37	1	43	209	0	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	16	85	0	49	540	14	40	1	47	227	0	150
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	85	0	49	540	14	40	1	47	227	0	150
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	16	85	0	49	540	14	40	1	47	227	0	150
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	1.00	0.00	1.00	0.97	0.03	0.46	0.01	0.53	0.60	0.00	0.40
Final Sat.:	1750	1800	0	1750	1754	46	799	22	929	1054	0	696
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.00	0.03	0.31	0.31	0.05	0.05	0.05	0.22	0.00	0.22
Crit Moves:					****					****		
Green/Cycle:	0.55	0.55	0.00	0.55	0.55	0.55	0.38	0.38	0.38	0.38	0.00	0.38
Volume/Cap:	0.02	0.09	0.00	0.05	0.56	0.56	0.13	0.13	0.13	0.56	0.00	0.56
Uniform Del:	9.2	9.6	0.0	9.4	13.2	13.2	18.0	18.0	18.0	21.7	0.0	21.7
IncremntDel:	0.0	0.0	0.0	0.0	0.7	0.7	0.1	0.1	0.1	1.1	0.0	1.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Delay/Veh:	9.2	9.6	0.0	9.4	14.0	14.0	18.1	18.1	18.1	22.8	0.0	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.2	9.6	0.0	9.4	14.0	14.0	18.1	18.1	18.1	22.8	0.0	22.8
LOS by Move:	A	A	A	A	B	B	B	B	B	C	A	C
HCM2kAvgQ:	0	1	0	1	11	11	2	2	2	9	0	9

Note: Queue reported is the number of cars per lane.

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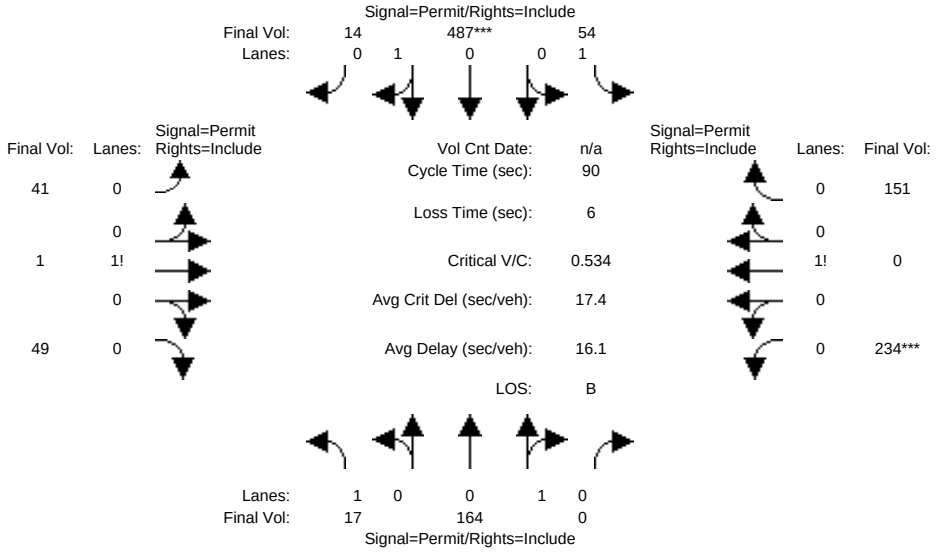
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC AM (no MCB conn)

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	16	151	0	50	448	13	38	1	45	215	0	139
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	16	151	0	50	448	13	38	1	45	215	0	139
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	16	151	0	50	448	13	38	1	45	215	0	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	17	164	0	54	487	14	41	1	49	234	0	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	164	0	54	487	14	41	1	49	234	0	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	17	164	0	54	487	14	41	1	49	234	0	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	1.00	0.00	1.00	0.97	0.03	0.45	0.01	0.54	0.61	0.00	0.39
Final Sat.:	1750	1800	0	1750	1749	51	792	21	938	1063	0	687
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.00	0.03	0.28	0.28	0.05	0.05	0.05	0.22	0.00	0.22
Crit Moves:					****					****		
Green/Cycle:	0.52	0.52	0.00	0.52	0.52	0.52	0.41	0.41	0.41	0.41	0.00	0.41
Volume/Cap:	0.02	0.17	0.00	0.06	0.53	0.53	0.13	0.13	0.13	0.53	0.00	0.53
Uniform Del:	10.4	11.3	0.0	10.6	14.3	14.3	16.4	16.4	16.4	20.0	0.0	20.0
IncremntDel:	0.0	0.1	0.0	0.0	0.6	0.6	0.1	0.1	0.1	0.8	0.0	0.8
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Delay/Veh:	10.4	11.4	0.0	10.7	14.9	14.9	16.5	16.5	16.5	20.7	0.0	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	11.4	0.0	10.7	14.9	14.9	16.5	16.5	16.5	20.7	0.0	20.7
LOS by Move:	B	B	A	B	B	B	B	B	B	C	A	C
HCM2kAvgQ:	0	2	0	1	10	10	2	2	2	9	0	9

Note: Queue reported is the number of cars per lane.

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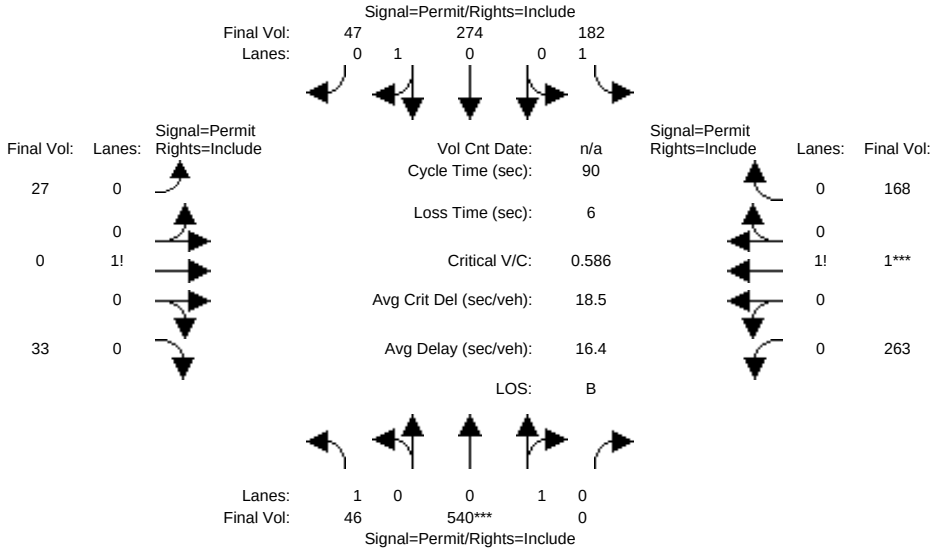
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC PM (no MCB conn)

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	42	497	0	167	252	43	25	0	30	242	1	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	497	0	167	252	43	25	0	30	242	1	155
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	497	0	167	252	43	25	0	30	242	1	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	46	540	0	182	274	47	27	0	33	263	1	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	46	540	0	182	274	47	27	0	33	263	1	168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	46	540	0	182	274	47	27	0	33	263	1	168
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	1.00	0.00	1.00	0.85	0.15	0.45	0.00	0.55	0.60	0.01	0.39
Final Sat.:	1750	1800	0	1750	1538	262	795	0	955	1064	4	682
Capacity Analysis Module:												
Vol/Sat:	0.03	0.30	0.00	0.10	0.18	0.18	0.03	0.00	0.03	0.25	0.25	0.25
Crit Moves:		****									****	
Green/Cycle:	0.51	0.51	0.00	0.51	0.51	0.51	0.42	0.00	0.42	0.42	0.42	0.42
Volume/Cap:	0.05	0.59	0.00	0.20	0.35	0.35	0.08	0.00	0.08	0.59	0.59	0.59
Uniform Del:	11.0	15.3	0.0	12.0	13.1	13.1	15.6	0.0	15.6	20.0	20.0	20.0
IncremntDel:	0.0	1.0	0.0	0.1	0.2	0.2	0.0	0.0	0.0	1.2	1.2	1.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	11.0	16.3	0.0	12.1	13.3	13.3	15.6	0.0	15.6	21.2	21.2	21.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.0	16.3	0.0	12.1	13.3	13.3	15.6	0.0	15.6	21.2	21.2	21.2
LOS by Move:	B	B	A	B	B	B	B	A	B	C	C	C
HCM2kAvgQ:	1	11	0	3	6	6	1	0	1	10	10	10

Note: Queue reported is the number of cars per lane.

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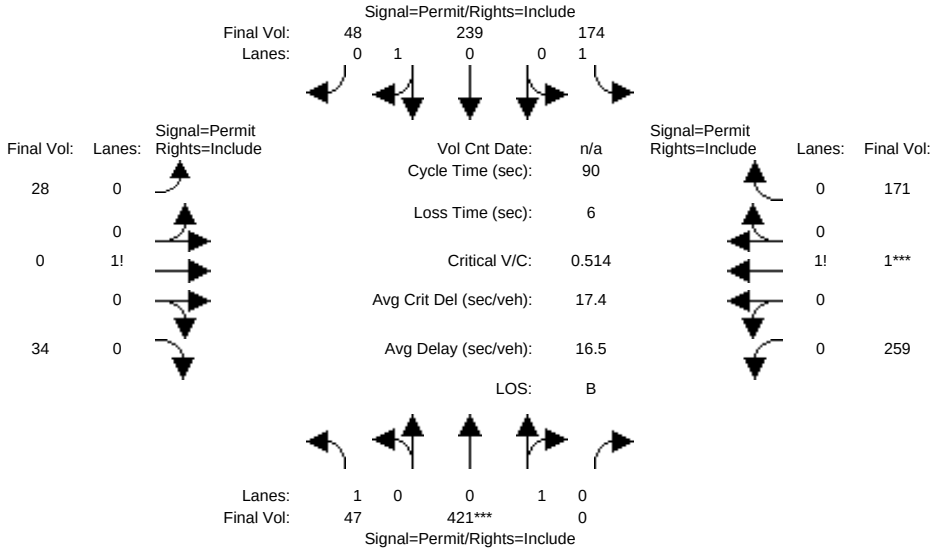
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC PM (no MCB conn)

Intersection #9205: (C) Patrick Henry Drive & A street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	43	387	0	160	220	44	26	0	31	238	1	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	387	0	160	220	44	26	0	31	238	1	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	387	0	160	220	44	26	0	31	238	1	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	47	421	0	174	239	48	28	0	34	259	1	171
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	421	0	174	239	48	28	0	34	259	1	171
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	421	0	174	239	48	28	0	34	259	1	171
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	1.00	0.00	1.00	0.83	0.17	0.46	0.00	0.54	0.60	0.01	0.39
Final Sat.:	1750	1800	0	1750	1500	300	798	0	952	1052	4	694
Capacity Analysis Module:												
Vol/Sat:	0.03	0.23	0.00	0.10	0.16	0.16	0.04	0.00	0.04	0.25	0.25	0.25
Crit Moves:		****									****	
Green/Cycle:	0.45	0.45	0.00	0.45	0.45	0.45	0.48	0.00	0.48	0.48	0.48	0.48
Volume/Cap:	0.06	0.51	0.00	0.22	0.35	0.35	0.07	0.00	0.07	0.51	0.51	0.51
Uniform Del:	13.7	17.5	0.0	14.9	15.9	15.9	12.7	0.0	12.7	16.2	16.2	16.2
IncremntDel:	0.0	0.6	0.0	0.1	0.3	0.3	0.0	0.0	0.0	0.5	0.5	0.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Delay/Veh:	13.8	18.0	0.0	15.0	16.2	16.2	12.7	0.0	12.7	16.8	16.8	16.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.8	18.0	0.0	15.0	16.2	16.2	12.7	0.0	12.7	16.8	16.8	16.8
LOS by Move:	B	B	A	B	B	B	B	A	B	B	B	B
HCM2kAvgQ:	1	9	0	3	5	5	1	0	1	9	9	9

Note: Queue reported is the number of cars per lane.

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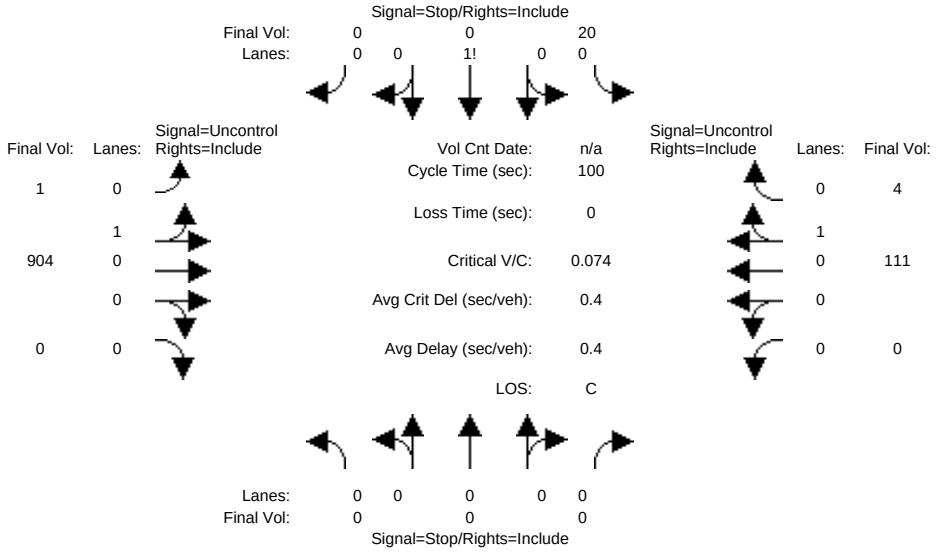
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC AM (no MCB conn)

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	18	0	0	1	832	0	0	102	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	0	1	832	0	0	102	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	0	1	832	0	0	102	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	20	0	0	1	904	0	0	111	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	20	0	0	1	904	0	0	111	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1020	xxxx	xxxxx	115	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	265	xxxx	xxxxx	1486	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	264	xxxx	xxxxx	1486	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.07	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	19.7	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			19.7			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	1 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	18	0	0	1	832	0	0	102	4
ApproachDel:	xxxxxx			19.7			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=957]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	1 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	18	0	0	1	832	0	0	102	4

Major Street Volume: 939
Minor Approach Volume: 18
Minor Approach Volume Threshold: 236

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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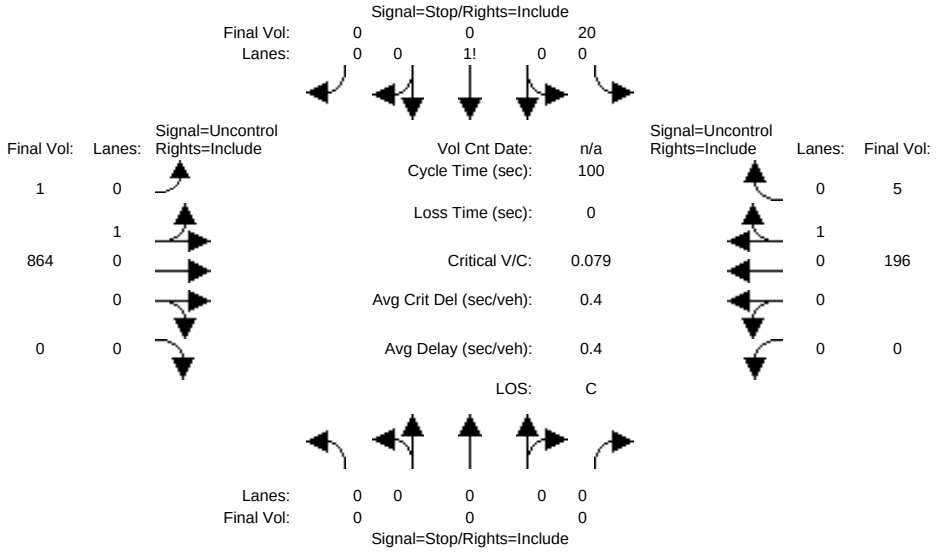
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC AM (no MCB conn)

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	18	0	0	1	795	0	0	180	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	18	0	0	1	795	0	0	180	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	18	0	0	1	795	0	0	180	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	20	0	0	1	864	0	0	196	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	20	0	0	1	864	0	0	196	5
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1065	xxxx	xxxxx	201	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	249	xxxx	xxxxx	1383	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	249	xxxx	xxxxx	1383	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.08	xxxx	xxxx	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	20.7	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			20.7			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	1 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	18	0	0	1	795	0	0	180	5
ApproachDel:	xxxxxx			20.7			xxxxxx			xxxxxx		

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=18]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=999]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	1 0	0 0	0	0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	18	0	0	1	795	0	0	180	5

Major Street Volume: 981
Minor Approach Volume: 18
Minor Approach Volume Threshold: 225

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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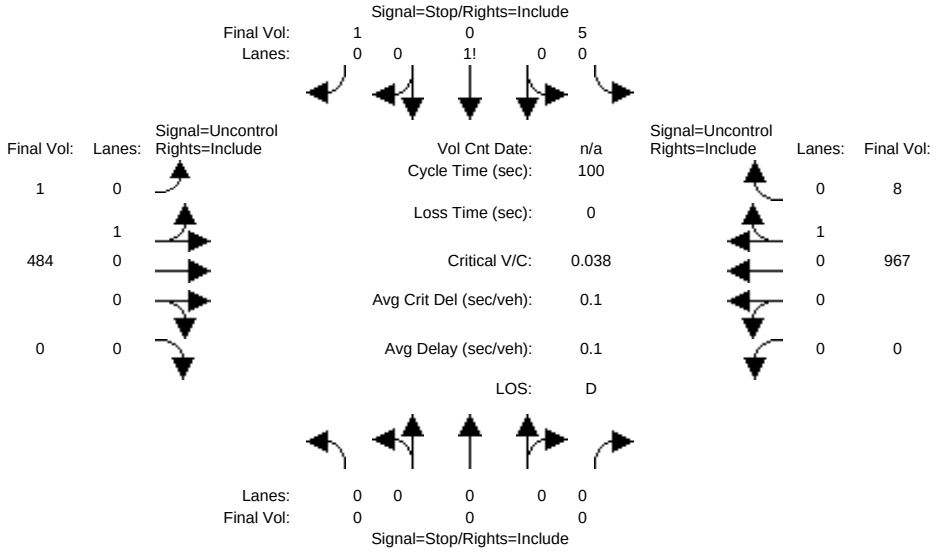
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC PM (no MCB conn)

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	5	0	1	1	445	0	0	890	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	5	0	1	1	445	0	0	890	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	5	0	1	1	445	0	0	890	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	5	0	1	1	484	0	0	967	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	5	0	1	1	484	0	0	967	8
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1457	1457	971	975	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	144	131	309	716	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	144	131	309	716	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.04	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	B	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	158	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	28.7	xxxxx	10.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	B	*	*	*	*	*
ApproachDel:	xxxxxx			28.7			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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```
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
Initial Vol:    0    0     0     5    0     1     1  445     0     0  890     7
ApproachDel:    xxxxxx             28.7           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=6]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1349]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #9210 (D) Patrick Henry Drive & C Street
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
Initial Vol:    0    0     0     5    0     1     1  445     0     0  890     7
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1343
Minor Approach Volume:           6
Minor Approach Volume Threshold: 141
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

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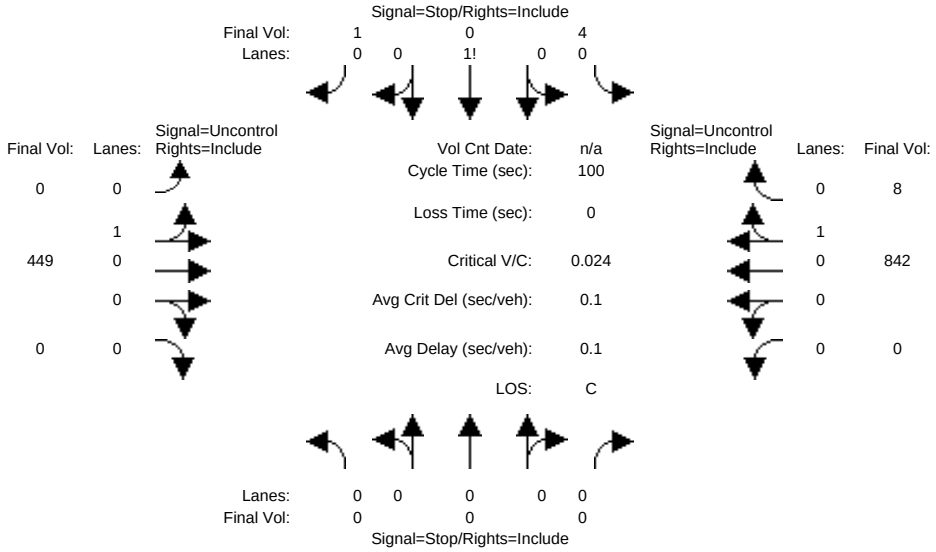
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC PM (no MCB conn)

Intersection #9210: (D) Patrick Henry Drive & C Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	4	0	1	0	413	0	0	775	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	4	0	1	0	413	0	0	775	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	4	0	1	0	413	0	0	775	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	4	0	1	0	449	0	0	842	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	4	0	1	0	449	0	0	842	8
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1295	1295	846	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	181	164	365	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	181	164	365	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.02	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	201	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	23.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			23.4			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9210 (D) Patrick Henry Drive & C Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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```
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0     4    0     1     0  413     0     0  775     7
ApproachDel:    xxxxxx             23.4           xxxxxx           xxxxxx
------------|---------------||---------------||---------------||---------------|
Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1200]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
                Peak Hour Volume Signal Warrant Report [Urban]
********************************************************************************
Intersection #9210 (D) Patrick Henry Drive & C Street
********************************************************************************
Future Volume Alternative: Peak Hour Warrant NOT Met
------------|---------------||---------------||---------------||---------------|
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  0  1  0  0    0  0  0  1  0
Initial Vol:    0    0     0     4    0     1     0  413     0     0  775     7
------------|---------------||---------------||---------------||---------------|
Major Street Volume:             1195
Minor Approach Volume:           5
Minor Approach Volume Threshold: 172
--------------------------------------------------------------------------------
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an
"indicator" of the likelihood of an unsignalized intersection warranting
a traffic signal in the future.  Intersections that exceed this warrant
are probably more likely to meet one or more of the other volume based
signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace
a rigorous and complete traffic signal warrant analysis by the responsible
jurisdiction.  Consideration of the other signal warrants, which is beyond
the scope of this software, may yield different results.
```

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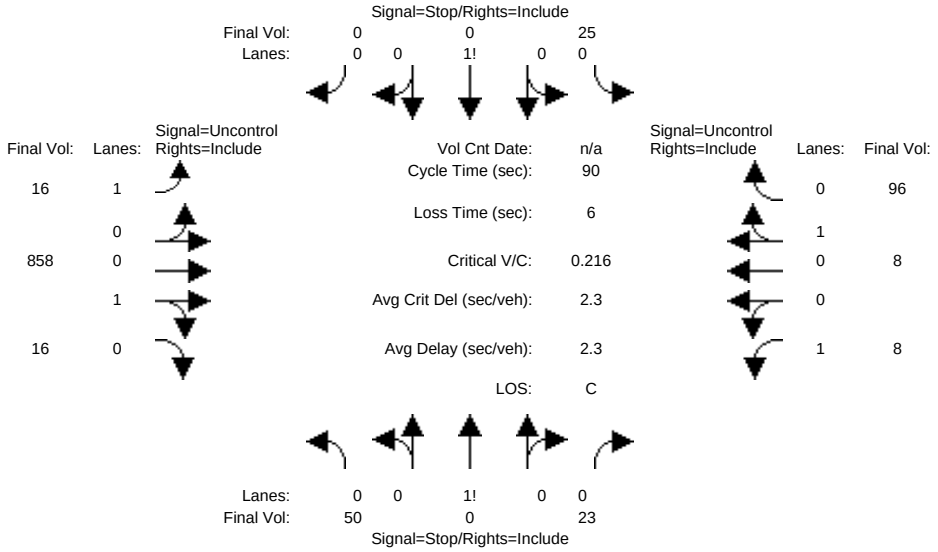
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC AM (no MCB conn)

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	46	0	21	23	0	0	15	789	15	7	7	88
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	46	0	21	23	0	0	15	789	15	7	7	88
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	46	0	21	23	0	0	15	789	15	7	7	88
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	50	0	23	25	0	0	16	858	16	8	8	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	0	23	25	0	0	16	858	16	8	8	96
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	xxxx	xxxxx	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	xxxxx	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	969	1017	866	980	xxxx	xxxxx	103	xxxx	xxxxx	874	xxxx	xxxxx
Potent Cap.:	235	240	356	231	xxxx	xxxxx	1501	xxxx	xxxxx	781	xxxx	xxxxx
Move Cap.:	231	235	356	213	xxxx	xxxxx	1501	xxxx	xxxxx	781	xxxx	xxxxx
Volume/Cap:	0.22	0.00	0.06	0.12	xxxx	xxxx	0.01	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	24.2	xxxx	xxxxx	7.4	xxxx	xxxxx	9.7	xxxx	xxxxx
LOS by Move:	*	*	*	C	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	260	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	24.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:	24.2			24.2			xxxxxx			xxxxxx		
ApproachLOS:	C			C			*			*		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	1 0	0	0	1 0	0	1	0	1 0	0	1	0
Initial Vol:	46	0	21	23	0	0	15	789	15	7	7	88
ApproachDel:	24.2			24.2			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1011]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=23]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1011]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	1 0	0	0	1 0	0	1	0	1 0	0	1	0
Initial Vol:	46	0	21	23	0	0	15	789	15	7	7	88

Major Street Volume: 921
Minor Approach Volume: 67
Minor Approach Volume Threshold: 313

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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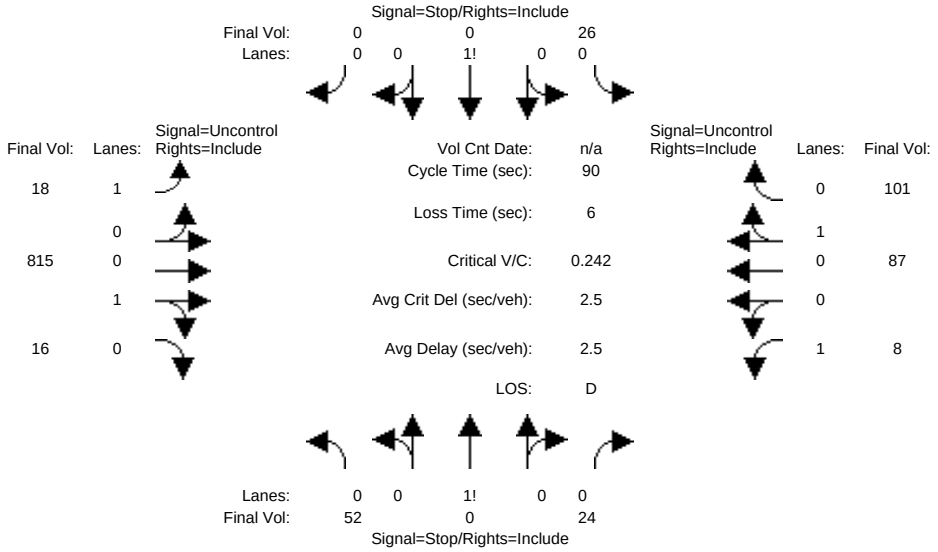
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC AM (no MCB conn)

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	48	0	22	24	0	0	17	750	15	7	80	93
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	0	22	24	0	0	17	750	15	7	80	93
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	48	0	22	24	0	0	17	750	15	7	80	93
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	52	0	24	26	0	0	18	815	16	8	87	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	52	0	24	26	0	0	18	815	16	8	87	101
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	xxxx	xxxxx	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	xxxxx	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1013	1064	823	1025	xxxx	xxxxx	188	xxxx	xxxxx	832	xxxx	xxxxx
Potent Cap.:	219	225	376	215	xxxx	xxxxx	1398	xxxx	xxxxx	810	xxxx	xxxxx
Move Cap.:	216	220	376	198	xxxx	xxxxx	1398	xxxx	xxxxx	810	xxxx	xxxxx
Volume/Cap:	0.24	0.00	0.06	0.13	xxxx	xxxx	0.01	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	25.9	xxxx	xxxxx	7.6	xxxx	xxxxx	9.5	xxxx	xxxxx
LOS by Move:	*	*	*	D	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	249	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	25.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		25.7			25.9			xxxxxx			xxxxxx	
ApproachLOS:		D			D			*			*	

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	1 0	0	0	1 0	0	1 0	1 0	0	1 0
Initial Vol:	48	0	22	24	0	0	17	750	15	7	80	93
ApproachDel:	25.7			25.9			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=70]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1056]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=24]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1056]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	1 0	0	0	1 0	0	1 0	1 0	0	1 0
Initial Vol:	48	0	22	24	0	0	17	750	15	7	80	93

Major Street Volume: 962
Minor Approach Volume: 70
Minor Approach Volume Threshold: 298

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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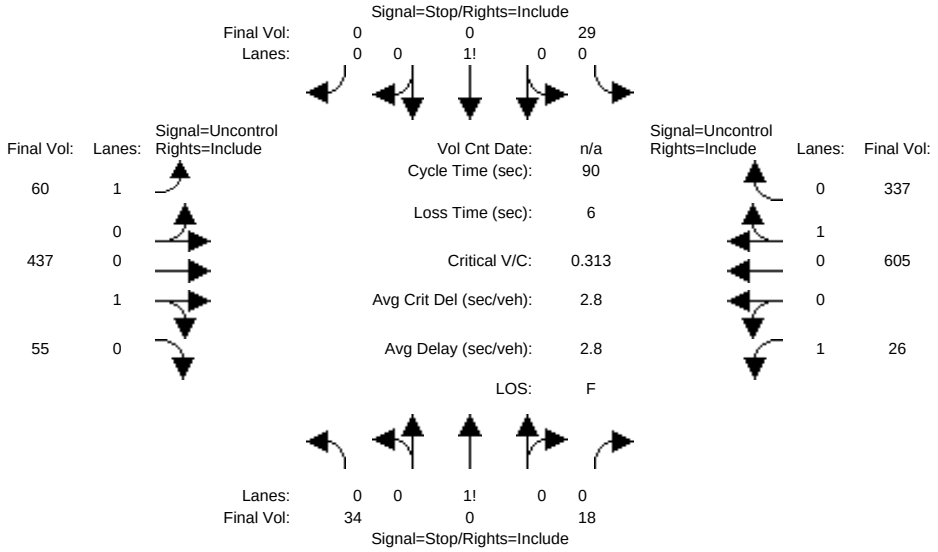
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC PM (no MCB conn)

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	31	0	17	27	0	0	55	402	51	24	557	310
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	0	17	27	0	0	55	402	51	24	557	310
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	0	17	27	0	0	55	402	51	24	557	310
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	34	0	18	29	0	0	60	437	55	26	605	337
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	34	0	18	29	0	0	60	437	55	26	605	337
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	xxxx	xxxxx	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	xxxxx	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1410	1579	465	1420	xxxx	xxxxx	942	xxxx	xxxxx	492	xxxx	xxxxx
Potent Cap.:	117	110	602	115	xxxx	xxxxx	736	xxxx	xxxxx	1082	xxxx	xxxxx
Move Cap.:	108	99	602	103	xxxx	xxxxx	736	xxxx	xxxxx	1082	xxxx	xxxxx
Volume/Cap:	0.31	0.00	0.03	0.28	xxxx	xxxx	0.08	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.1	xxxx	xxxxx	0.3	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	53.3	xxxx	xxxxx	10.3	xxxx	xxxxx	8.4	xxxx	xxxxx
LOS by Move:	*	*	*	F	*	*	B	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	152	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	40.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	E	*	*	*	*	*	*	*	*	*	*
ApproachDel:		40.6			53.3			xxxxxx			xxxxxx	
ApproachLOS:		E			F			*			*	

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0	0		1 0	0 0	0	1 0	0 1	0	1 0	0 1	0
Initial Vol:	31	0	17	27	0	0	55	402	51	24	557	310
ApproachDel:	40.6			53.3			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1474]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1474]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0	0		1 0	0 0	0	1 0	0 1	0	1 0	0 1	0
Initial Vol:	31	0	17	27	0	0	55	402	51	24	557	310

Major Street Volume: 1399
Minor Approach Volume: 48
Minor Approach Volume Threshold: 169

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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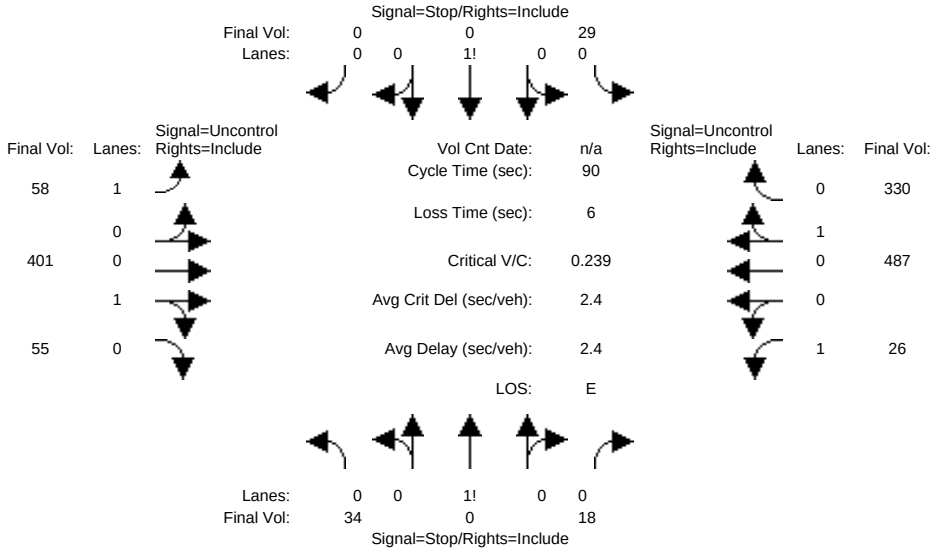
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC PM (no MCB conn)

Intersection #9211: (E) Patrick Henry Drive & B Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	31	0	17	27	0	0	53	369	51	24	448	304
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	0	17	27	0	0	53	369	51	24	448	304
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	0	17	27	0	0	53	369	51	24	448	304
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	34	0	18	29	0	0	58	401	55	26	487	330
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	34	0	18	29	0	0	58	401	55	26	487	330
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	xxxx	xxxxx	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	xxxx	xxxxx	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1248	1414	429	1258	xxxx	xxxxx	817	xxxx	xxxxx	457	xxxx	xxxxx
Potent Cap.:	151	139	630	149	xxxx	xxxxx	820	xxxx	xxxxx	1115	xxxx	xxxxx
Move Cap.:	141	126	630	135	xxxx	xxxxx	820	xxxx	xxxxx	1115	xxxx	xxxxx
Volume/Cap:	0.24	0.00	0.03	0.22	xxxx	xxxx	0.07	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.8	xxxx	xxxxx	0.2	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	39.0	xxxx	xxxxx	9.7	xxxx	xxxxx	8.3	xxxx	xxxxx
LOS by Move:	*	*	*	E	*	*	A	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	194	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	30.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	D	*	*	*	*	*	*	*	*	*	*
ApproachDel:		30.2			39.0			xxxxxx			xxxxxx	
ApproachLOS:		D			E			*			*	

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			1 0 0 0 0			1 0 0 1 0			1 0 0 1 0		
Initial Vol:	31	0	17	27	0	0	53	369	51	24	448	304
ApproachDel:	30.2			39.0			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=48]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1324]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=27]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1324]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9211 (E) Patrick Henry Drive & B Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			1 0 0 0 0			1 0 0 1 0			1 0 0 1 0		
Initial Vol:	31	0	17	27	0	0	53	369	51	24	448	304

Major Street Volume: 1249
Minor Approach Volume: 48
Minor Approach Volume Threshold: 208

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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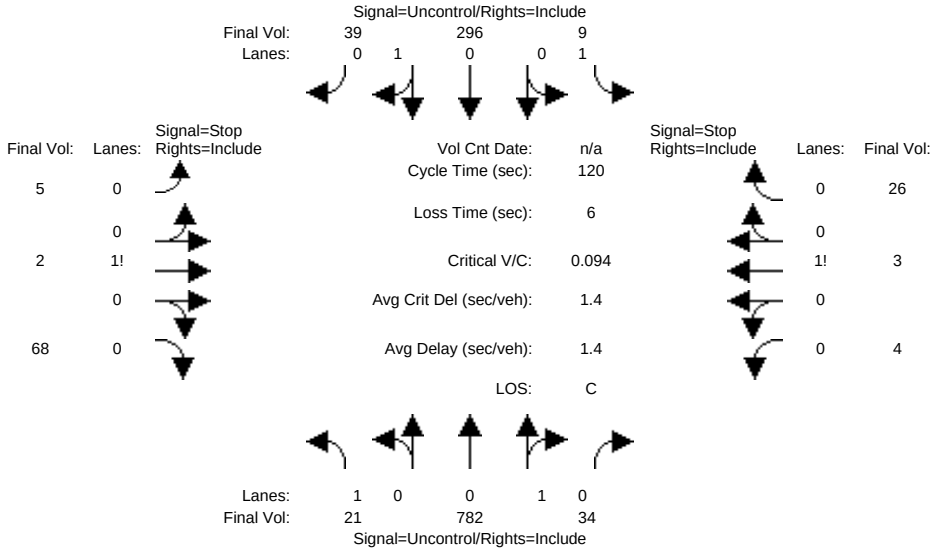
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC AM (no MCB conn)

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	19	719	31	8	272	36	5	2	63	4	3	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	719	31	8	272	36	5	2	63	4	3	24
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	19	719	31	8	272	36	5	2	63	4	3	24
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	21	782	34	9	296	39	5	2	68	4	3	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	21	782	34	9	296	39	5	2	68	4	3	26
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	335	xxxx	xxxxx	815	xxxx	xxxxx	1187	1189	315	1208	1192	798
Potent Cap.:	1236	xxxx	xxxxx	821	xxxx	xxxxx	167	189	730	161	189	389
Move Cap.:	1236	xxxx	xxxxx	821	xxxx	xxxxx	150	184	730	142	184	389
Volume/Cap:	0.02	xxxx	xxxx	0.01	xxxx	xxxx	0.04	0.01	0.09	0.03	0.02	0.07
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	537	xxxxx	xxxx	292	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.5	xxxxx	xxxxx	0.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.8	xxxxx	xxxxx	18.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			12.8			18.9		
ApproachLOS:	*			*			B			C		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	19	719	31	8	272	36	5	2	63	4	3	24
ApproachDel:	xxxxxx			xxxxxx			12.8			18.9		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=70]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1186]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=31]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1186]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	19	719	31	8	272	36	5	2	63	4	3	24

Major Street Volume: 1085
Minor Approach Volume: 70
Minor Approach Volume Threshold: 257

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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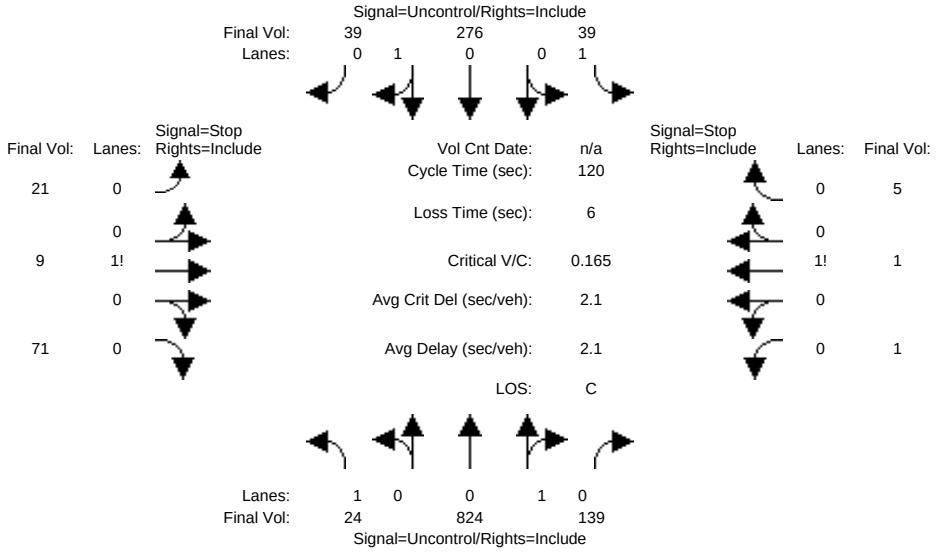
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC AM (no MCB conn)

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	22	758	128	36	254	36	19	8	65	1	1	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	758	128	36	254	36	19	8	65	1	1	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	758	128	36	254	36	19	8	65	1	1	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	24	824	139	39	276	39	21	9	71	1	1	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	24	824	139	39	276	39	21	9	71	1	1	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	315	xxxx	xxxxx	963	xxxx	xxxxx	1318	1385	296	1355	1335	893
Potent Cap.:	1256	xxxx	xxxxx	723	xxxx	xxxxx	135	145	748	128	155	343
Move Cap.:	1256	xxxx	xxxxx	723	xxxx	xxxxx	125	134	748	104	144	343
Volume/Cap:	0.02	xxxx	xxxx	0.05	xxxx	xxxx	0.16	0.06	0.09	0.01	0.01	0.02
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	10.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	309	xxxxx	xxxx	225	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.4	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.2	xxxxx	xxxxx	21.6	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			22.2			21.6		
ApproachLOS:	*			*			C			C		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	22	758	128	36	254	36	19	8	65	1	1	5
ApproachDel:	xxxxxx			xxxxxx			22.2			21.6		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1333]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=7]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1333]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	22	758	128	36	254	36	19	8	65	1	1	5

Major Street Volume: 1234
Minor Approach Volume: 92
Minor Approach Volume Threshold: 212

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

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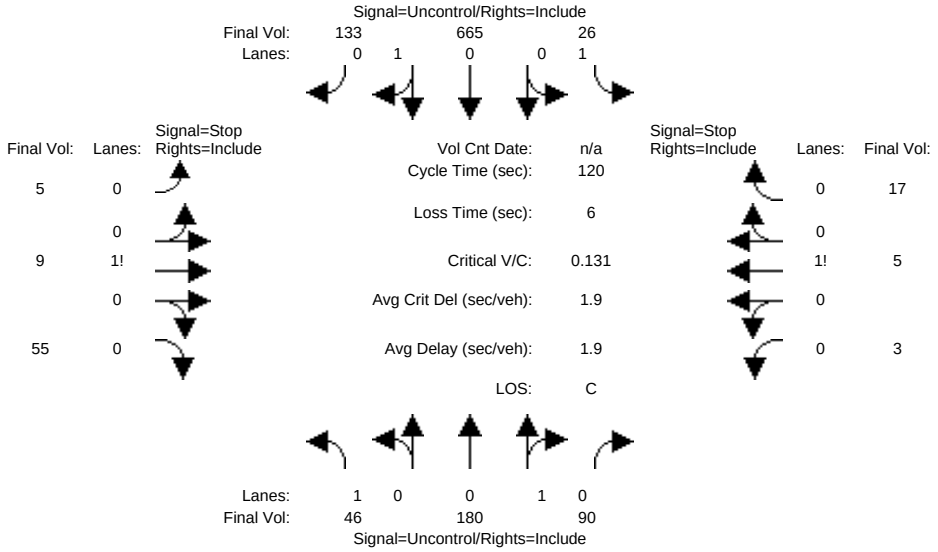
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH1 w FC PM (no MCB conn)

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	42	166	83	24	612	122	5	8	51	3	5	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	166	83	24	612	122	5	8	51	3	5	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	166	83	24	612	122	5	8	51	3	5	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	46	180	90	26	665	133	5	9	55	3	5	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	46	180	90	26	665	133	5	9	55	3	5	17
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	798	xxxx	xxxxx	271	xxxx	xxxxx	1112	1146	732	1133	1167	226
Potent Cap.:	833	xxxx	xxxxx	1304	xxxx	xxxxx	188	201	425	182	195	819
Move Cap.:	833	xxxx	xxxxx	1304	xxxx	xxxxx	169	186	425	144	181	819
Volume/Cap:	0.05	xxxx	xxxx	0.02	xxxx	xxxx	0.03	0.05	0.13	0.02	0.03	0.02
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.6	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	332	xxxxx	xxxx	353	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx	xxxxx	0.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	18.7	xxxxx	xxxxx	16.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			18.7			16.0		
ApproachLOS:	*			*			C			C		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1	0	1 0 0	1	0	0 0	1!	0	0 0	1!	0
Initial Vol:	42	166	83	24	612	122	5	8	51	3	5	16
ApproachDel:	xxxxxx			xxxxxx			18.7			16.0		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=64]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1137]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=24]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1137]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1	0	1 0 0	1	0	0 0	1!	0	0 0	1!	0
Initial Vol:	42	166	83	24	612	122	5	8	51	3	5	16

Major Street Volume: 1049
Minor Approach Volume: 64
Minor Approach Volume Threshold: 268

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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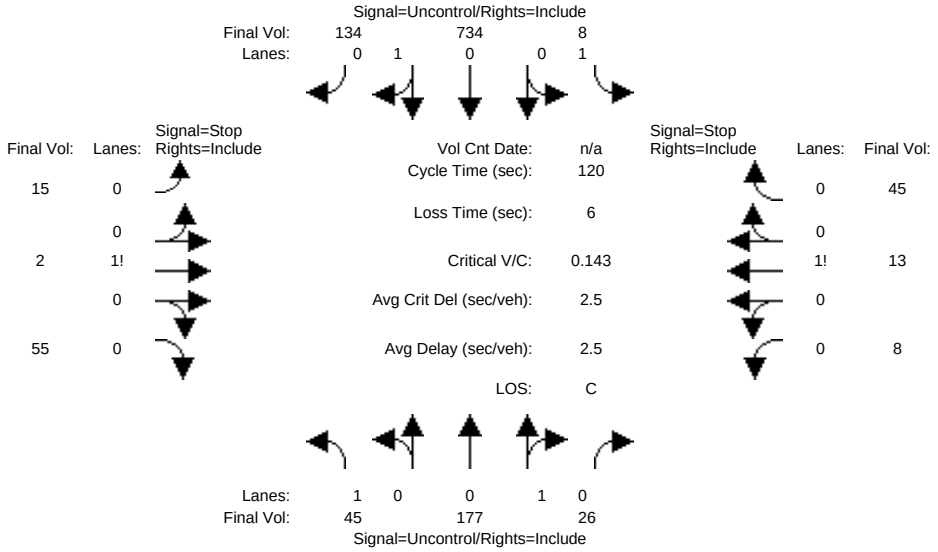
Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
40PH2 w FC PM (no MCB conn)

Intersection #9212: (F) Old Ironsides Drive & A Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	41	163	24	7	675	123	14	2	51	7	12	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	41	163	24	7	675	123	14	2	51	7	12	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	163	24	7	675	123	14	2	51	7	12	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	45	177	26	8	734	134	15	2	55	8	13	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	45	177	26	8	734	134	15	2	55	8	13	45
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	867	xxxx	xxxxx	203	xxxx	xxxxx	1124	1108	801	1124	1162	190
Potent Cap.:	785	xxxx	xxxxx	1381	xxxx	xxxxx	184	212	388	184	197	857
Move Cap.:	785	xxxx	xxxxx	1381	xxxx	xxxxx	158	199	388	149	184	857
Volume/Cap:	0.06	xxxx	xxxx	0.01	xxxx	xxxx	0.10	0.01	0.14	0.05	0.07	0.05
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	9.9	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	291	xxxxx	xxxx	375	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.0	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	21.5	xxxxx	xxxxx	16.6	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	C	*
ApproachDel:	xxxxxx			xxxxxx			21.5			16.6		
ApproachLOS:	*			*			C			C		

Note: Queue reported is the number of cars per lane.

Peak Hour Delay Signal Warrant Report

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	41	163	24	7	675	123	14	2	51	7	12	41
ApproachDel:	xxxxxx			xxxxxx			21.5			16.6		

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=67]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1160]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=60]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1160]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #9212 (F) Old Ironsides Drive & A Street

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		0 0	1! 0	0	0 0	1! 0	0
Initial Vol:	41	163	24	7	675	123	14	2	51	7	12	41

Major Street Volume: 1033
Minor Approach Volume: 67
Minor Approach Volume Threshold: 274

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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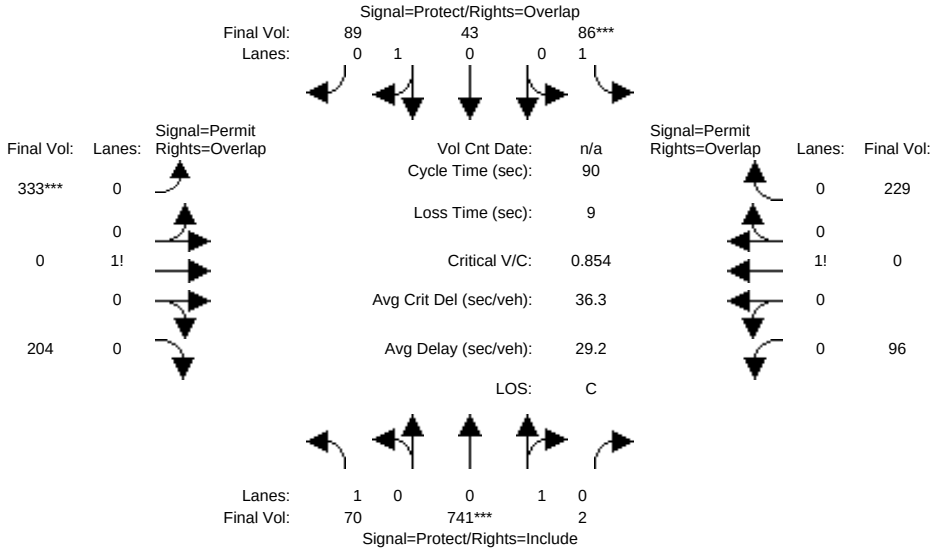
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC AM (no MCB conn)

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	64	682	2	79	40	82	306	0	188	88	0	211
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	64	682	2	79	40	82	306	0	188	88	0	211
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	64	682	2	79	40	82	306	0	188	88	0	211
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	70	741	2	86	43	89	333	0	204	96	0	229
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	741	2	86	43	89	333	0	204	96	0	229
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	741	2	86	43	89	333	0	204	96	0	229
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.99	0.01	1.00	0.33	0.67	0.62	0.00	0.38	0.29	0.00	0.71
Final Sat.:	1750	1795	5	1750	590	1210	1084	0	666	515	0	1235
Capacity Analysis Module:												
Vol/Sat:	0.04	0.41	0.41	0.05	0.07	0.07	0.31	0.00	0.31	0.19	0.00	0.19
Crit Moves:		****		****			****					
Green/Cycle:	0.23	0.47	0.47	0.08	0.32	0.32	0.35	0.00	0.58	0.35	0.00	0.43
Volume/Cap:	0.18	0.88	0.88	0.63	0.23	0.23	0.88	0.00	0.53	0.53	0.00	0.43
Uniform Del:	28.1	21.4	21.4	40.2	22.2	22.2	27.4	0.0	11.6	23.3	0.0	18.1
IncremntDel:	0.2	10.1	10.1	9.2	0.2	0.2	13.4	0.0	0.5	0.9	0.0	0.4
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	28.3	31.5	31.5	49.4	22.4	22.4	40.7	0.0	12.2	24.2	0.0	18.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.3	31.5	31.5	49.4	22.4	22.4	40.7	0.0	12.2	24.2	0.0	18.5
LOS by Move:	C	C	C	D	C	C	D	A	B	C	A	B
HCM2kAvgQ:	2	23	23	4	3	3	18	0	10	8	0	7

Note: Queue reported is the number of cars per lane.

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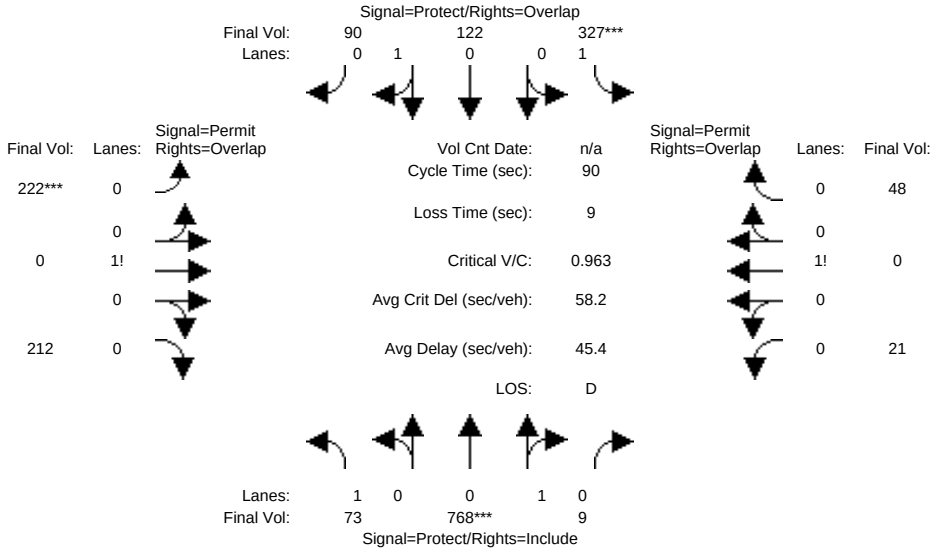
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC AM (no MCB conn)

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	67	707	8	301	112	83	204	0	195	19	0	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	67	707	8	301	112	83	204	0	195	19	0	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	707	8	301	112	83	204	0	195	19	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	73	768	9	327	122	90	222	0	212	21	0	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	768	9	327	122	90	222	0	212	21	0	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	768	9	327	122	90	222	0	212	21	0	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.99	0.01	1.00	0.57	0.43	0.51	0.00	0.49	0.30	0.00	0.70
Final Sat.:	1750	1780	20	1750	1034	766	895	0	855	528	0	1222
Capacity Analysis Module:												
Vol/Sat:	0.04	0.43	0.43	0.19	0.12	0.12	0.25	0.00	0.25	0.04	0.00	0.04
Crit Moves:		****		****			****					
Green/Cycle:	0.26	0.45	0.45	0.19	0.39	0.39	0.26	0.00	0.51	0.26	0.00	0.45
Volume/Cap:	0.16	0.96	0.96	0.96	0.30	0.30	0.96	0.00	0.48	0.15	0.00	0.09
Uniform Del:	26.0	24.1	24.1	35.9	19.2	19.2	33.0	0.0	14.2	25.8	0.0	14.1
IncremntDel:	0.2	22.9	22.9	38.8	0.2	0.2	32.8	0.0	0.4	0.2	0.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	26.2	47.0	47.0	74.8	19.4	19.4	65.8	0.0	14.6	26.0	0.0	14.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.2	47.0	47.0	74.8	19.4	19.4	65.8	0.0	14.6	26.0	0.0	14.1
LOS by Move:	C	D	D	E	B	B	E	A	B	C	A	B
HCM2kAvgQ:	2	28	28	15	4	4	18	0	9	2	0	1

Note: Queue reported is the number of cars per lane.

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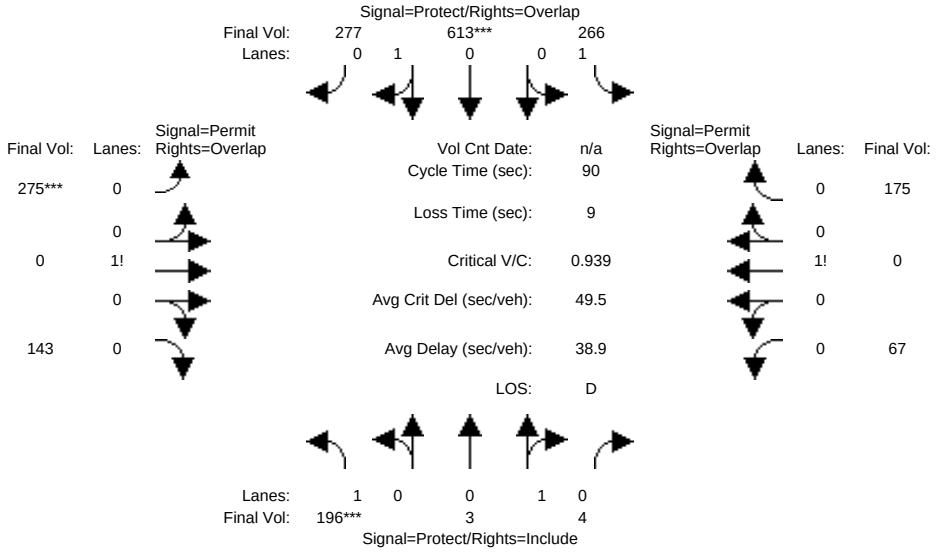
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH1 w FC PM (no MCB conn)

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	180	3	4	245	564	255	253	0	132	62	0	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	3	4	245	564	255	253	0	132	62	0	161
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	180	3	4	245	564	255	253	0	132	62	0	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	196	3	4	266	613	277	275	0	143	67	0	175
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	196	3	4	266	613	277	275	0	143	67	0	175
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	196	3	4	266	613	277	275	0	143	67	0	175
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.43	0.57	1.00	0.69	0.31	0.66	0.00	0.34	0.28	0.00	0.72
Final Sat.:	1750	771	1029	1750	1240	560	1150	0	600	487	0	1263
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.00	0.15	0.49	0.49	0.24	0.00	0.24	0.14	0.00	0.14
Crit Moves:	****				****		****					
Green/Cycle:	0.12	0.27	0.27	0.37	0.53	0.53	0.25	0.00	0.37	0.25	0.00	0.63
Volume/Cap:	0.94	0.02	0.02	0.41	0.94	0.94	0.94	0.00	0.64	0.54	0.00	0.22
Uniform Del:	39.3	23.9	23.9	20.9	20.0	20.0	32.9	0.0	23.2	29.0	0.0	7.2
IncremntDel:	45.4	0.0	0.0	0.4	16.6	16.6	27.9	0.0	2.1	1.4	0.0	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	84.7	23.9	23.9	21.3	36.5	36.5	60.8	0.0	25.4	30.4	0.0	7.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.7	23.9	23.9	21.3	36.5	36.5	60.8	0.0	25.4	30.4	0.0	7.3
LOS by Move:	F	C	C	C	D	D	E	A	C	C	A	A
HCM2kAvgQ:	10	0	0	6	30	30	17	0	11	7	0	3

Note: Queue reported is the number of cars per lane.

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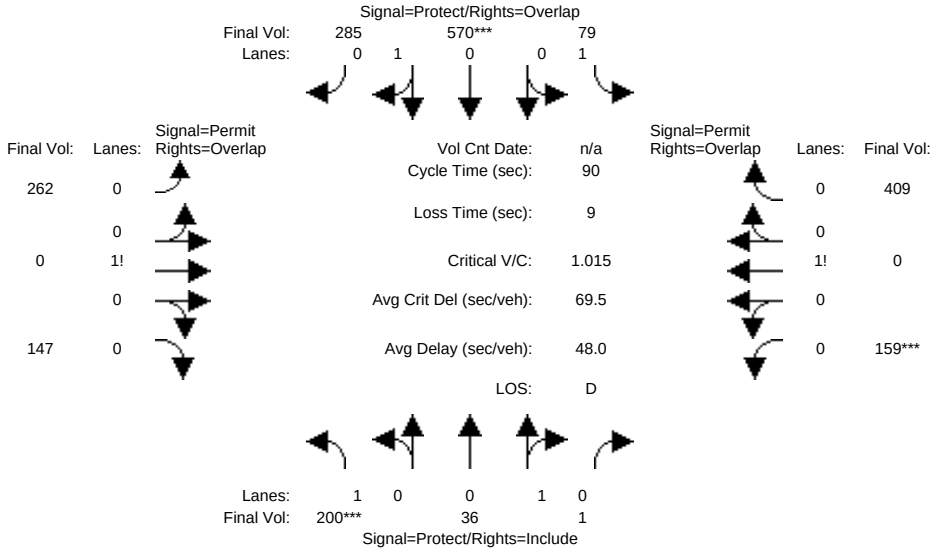
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
40PH2 w FC PM (no MCB conn)

Intersection #9225: (G) Old Ironsides Drive & E Street



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	184	33	1	73	524	262	241	0	135	146	0	376
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	184	33	1	73	524	262	241	0	135	146	0	376
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	184	33	1	73	524	262	241	0	135	146	0	376
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	200	36	1	79	570	285	262	0	147	159	0	409
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	200	36	1	79	570	285	262	0	147	159	0	409
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	200	36	1	79	570	285	262	0	147	159	0	409
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.97	0.03	1.00	0.67	0.33	0.64	0.00	0.36	0.28	0.00	0.72
Final Sat.:	1750	1747	53	1750	1200	600	1122	0	628	489	0	1261
Capacity Analysis Module:												
Vol/Sat:	0.11	0.02	0.02	0.05	0.47	0.47	0.23	0.00	0.23	0.32	0.00	0.32
Crit Moves:	****				****					****		
Green/Cycle:	0.11	0.34	0.34	0.24	0.47	0.47	0.32	0.00	0.43	0.32	0.00	0.56
Volume/Cap:	1.01	0.06	0.06	0.19	1.01	1.01	0.73	0.00	0.54	1.01	0.00	0.58
Uniform Del:	39.9	19.9	19.9	27.3	23.9	23.9	27.2	0.0	18.9	30.6	0.0	13.0
IncremntDel:	67.9	0.0	0.0	0.2	34.7	34.7	4.9	0.0	0.8	41.8	0.0	0.9
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Delay/Veh:	107.9	20.0	20.0	27.5	58.6	58.6	32.1	0.0	19.7	72.4	0.0	13.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	107.9	20.0	20.0	27.5	58.6	58.6	32.1	0.0	19.7	72.4	0.0	13.9
LOS by Move:	F	B	B	C	E	E	C	A	B	E	A	B
HCM2kAvgQ:	11	1	1	2	34	34	12	0	9	25	0	11

Note: Queue reported is the number of cars per lane.

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Intersection	
Intersection Delay, s/veh	15.0
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	88	377	61	668
Demand Flow Rate, veh/h	90	385	62	681
Vehicles Circulating, veh/h	899	103	92	248
Vehicles Exiting, veh/h	30	51	897	240
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.9	7.7	4.1	20.6
Approach LOS	B	A	A	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	90	385	62	681
Cap Entry Lane, veh/h	460	1019	1031	882
Entry HV Adj Factor	0.978	0.979	0.985	0.981
Flow Entry, veh/h	88	377	61	668
Cap Entry, veh/h	450	998	1016	865
V/C Ratio	0.196	0.378	0.060	0.772
Control Delay, s/veh	10.9	7.7	4.1	20.6
LOS	B	A	A	C
95th %tile Queue, veh	1	2	0	8

Intersection	
Intersection Delay, s/veh	57.8
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	537	325	813	218
Demand Flow Rate, veh/h	548	332	829	223
Vehicles Circulating, veh/h	230	1167	428	169
Vehicles Exiting, veh/h	162	90	350	1330
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.3	70.4	95.9	6.2
Approach LOS	B	F	F	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	548	332	829	223
Cap Entry Lane, veh/h	898	352	737	954
Entry HV Adj Factor	0.980	0.979	0.981	0.978
Flow Entry, veh/h	537	325	813	218
Cap Entry, veh/h	880	344	722	933
V/C Ratio	0.610	0.944	1.126	0.234
Control Delay, s/veh	13.3	70.4	95.9	6.2
LOS	B	F	F	A
95th %tile Queue, veh	4	10	24	1

Intersection	
Intersection Delay, s/veh	17.0
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	60	432	586	503
Demand Flow Rate, veh/h	62	440	598	513
Vehicles Circulating, veh/h	733	626	214	316
Vehicles Exiting, veh/h	96	186	581	750
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.3	24.2	14.6	14.6
Approach LOS	A	C	B	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	62	440	598	513
Cap Entry Lane, veh/h	543	604	912	824
Entry HV Adj Factor	0.968	0.982	0.980	0.980
Flow Entry, veh/h	60	432	586	503
Cap Entry, veh/h	525	593	894	807
V/C Ratio	0.114	0.728	0.656	0.623
Control Delay, s/veh	8.3	24.2	14.6	14.6
LOS	A	C	B	B
95th %tile Queue, veh	0	6	5	4

Intersection	
Intersection Delay, s/veh	124.6
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	418	242	203	1156
Demand Flow Rate, veh/h	426	246	207	1179
Vehicles Circulating, veh/h	964	483	551	268
Vehicles Exiting, veh/h	483	275	839	461
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	72.5	9.8	9.8	187.7
Approach LOS	F	A	A	F

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	426	246	207	1179
Cap Entry Lane, veh/h	431	697	651	864
Entry HV Adj Factor	0.981	0.984	0.980	0.980
Flow Entry, veh/h	418	242	203	1156
Cap Entry, veh/h	423	686	638	847
V/C Ratio	0.989	0.353	0.318	1.364
Control Delay, s/veh	72.5	9.8	9.8	187.7
LOS	F	A	A	F
95th %tile Queue, veh	12	2	1	48

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	91	385	181	555
Demand Flow Rate, veh/h	93	393	184	566
Vehicles Circulating, veh/h	791	226	98	256
Vehicles Exiting, veh/h	31	56	786	363
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.7	9.4	5.3	14.8
Approach LOS	A	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	93	393	184	566
Cap Entry Lane, veh/h	512	901	1024	875
Entry HV Adj Factor	0.978	0.980	0.982	0.981
Flow Entry, veh/h	91	385	181	555
Cap Entry, veh/h	501	883	1006	858
V/C Ratio	0.182	0.436	0.180	0.647
Control Delay, s/veh	9.7	9.4	5.3	14.8
LOS	A	A	A	B
95th %tile Queue, veh	1	2	1	5

Intersection	
Intersection Delay, s/veh	90.1
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	434	69	850	539
Demand Flow Rate, veh/h	442	70	866	550
Vehicles Circulating, veh/h	479	1083	560	95
Vehicles Exiting, veh/h	166	343	361	1058
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.9	12.6	184.2	10.3
Approach LOS	C	B	F	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	442	70	866	550
Cap Entry Lane, veh/h	700	383	645	1028
Entry HV Adj Factor	0.982	0.986	0.981	0.979
Flow Entry, veh/h	434	69	850	539
Cap Entry, veh/h	687	377	633	1006
V/C Ratio	0.632	0.183	1.342	0.535
Control Delay, s/veh	16.9	12.6	184.2	10.3
LOS	C	B	F	B
95th %tile Queue, veh	5	1	36	3

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	62	431	468	461
Demand Flow Rate, veh/h	64	439	477	470
Vehicles Circulating, veh/h	685	506	206	313
Vehicles Exiting, veh/h	98	177	543	632
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.9	17.8	10.8	13.0
Approach LOS	A	C	B	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	64	439	477	470
Cap Entry Lane, veh/h	570	681	920	826
Entry HV Adj Factor	0.969	0.982	0.980	0.981
Flow Entry, veh/h	62	431	468	461
Cap Entry, veh/h	552	669	901	811
V/C Ratio	0.112	0.644	0.519	0.569
Control Delay, s/veh	7.9	17.8	10.8	13.0
LOS	A	C	B	B
95th %tile Queue, veh	0	5	3	4

Intersection	
Intersection Delay, s/veh	73.0
Intersection LOS	F

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	409	568	237	934
Demand Flow Rate, veh/h	417	579	242	953
Vehicles Circulating, veh/h	824	508	348	366
Vehicles Exiting, veh/h	495	82	893	721
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	39.8	32.7	8.1	128.5
Approach LOS	E	D	A	F

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	417	579	242	953
Cap Entry Lane, veh/h	496	680	798	784
Entry HV Adj Factor	0.981	0.981	0.980	0.980
Flow Entry, veh/h	409	568	237	934
Cap Entry, veh/h	486	667	782	768
V/C Ratio	0.841	0.852	0.303	1.216
Control Delay, s/veh	39.8	32.7	8.1	128.5
LOS	E	D	A	F
95th %tile Queue, veh	8	10	1	32

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Old Ironsides Drive — Critical Approach Speed* (mph): 25

Minor Street: E Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ or ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	EB	EB							
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	494	492	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	>4	>4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

*OVFL denotes delay greater than 300 secs

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Old Ironsides Drive		X	402	992	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		494	492	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

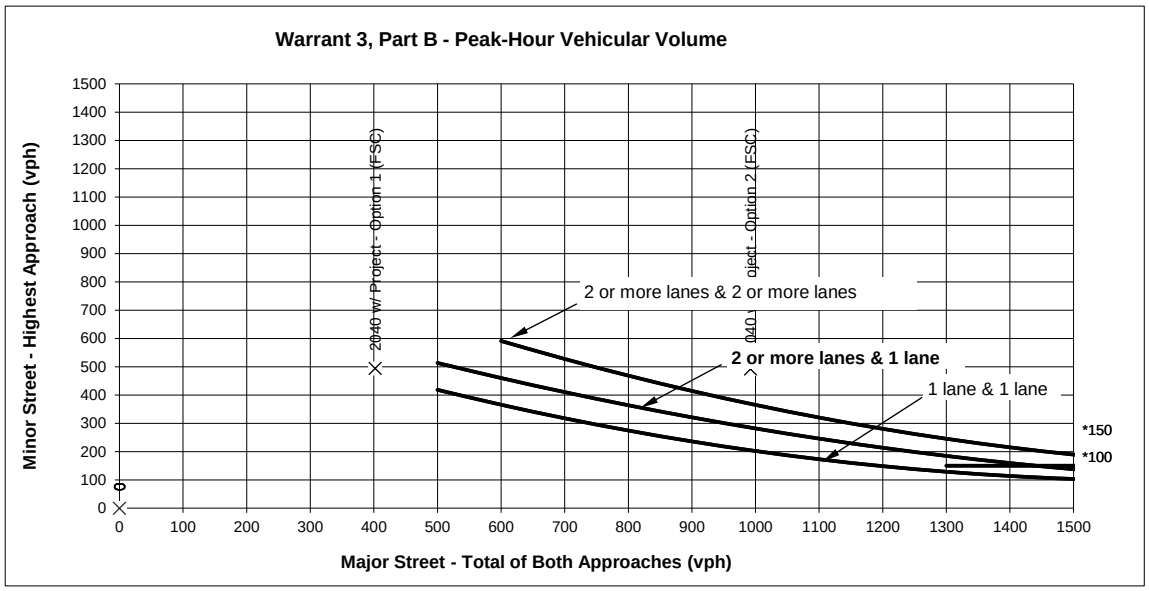
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironsides Drive And E Street (No Conn) **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Old Ironsides Drive		X	402	992	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		494	492	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Old Ironsides Drive — Critical Approach Speed* (mph): 25

Minor Street: E Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ or ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	EB	EB							
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	385	376	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	>4	>4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

*OVFL denotes delay greater than 300 secs

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Old Ironsides Drive		X	2128	1718	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		385	522	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

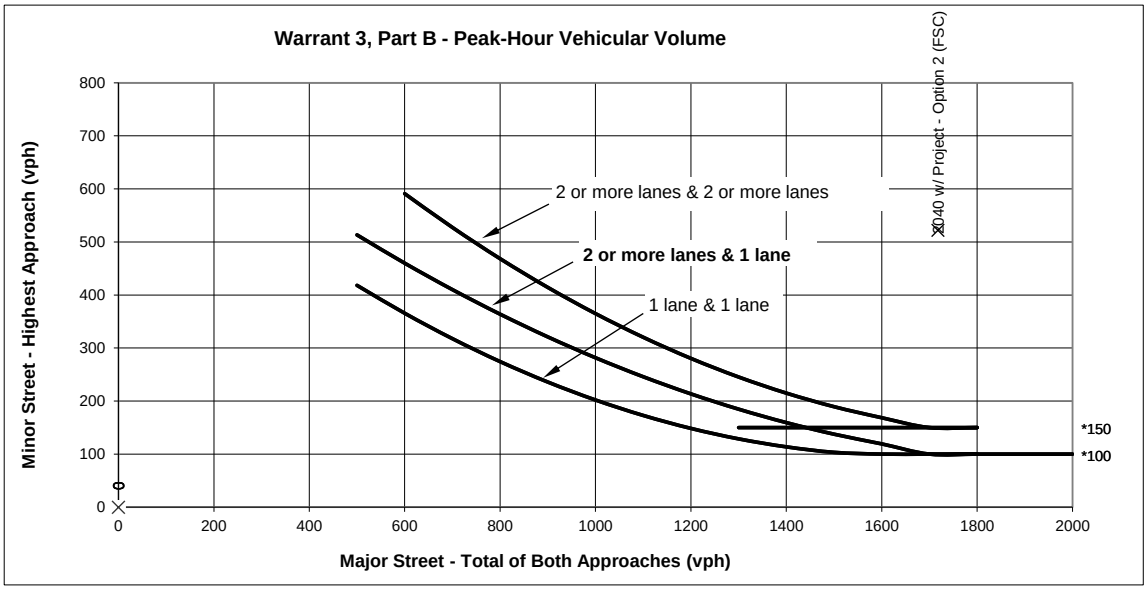
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Old Ironsides Drive And E Street (No Conn) **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		PM PEAK HOUR							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Old Ironsides Drive		X	2128	1718	0	0	0	0	0	0	0
Minor Street - Highest Approach	E Street	X		385	522	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: A Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

AM PEAK PERIOD

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	WB	WB							
Highest Minor Street Average Delay (sec/veh)	74.9	105.8							
Corresponding Minor Street Approach Volume (veh/hr)	347	354	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Minor Street Total Delay (veh-hrs)	7.2	10.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**	**#N/A**

PART B

AM PEAK PERIOD

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Patrick Henry Drive		X	648	678	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		347	354	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**No**	**No**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

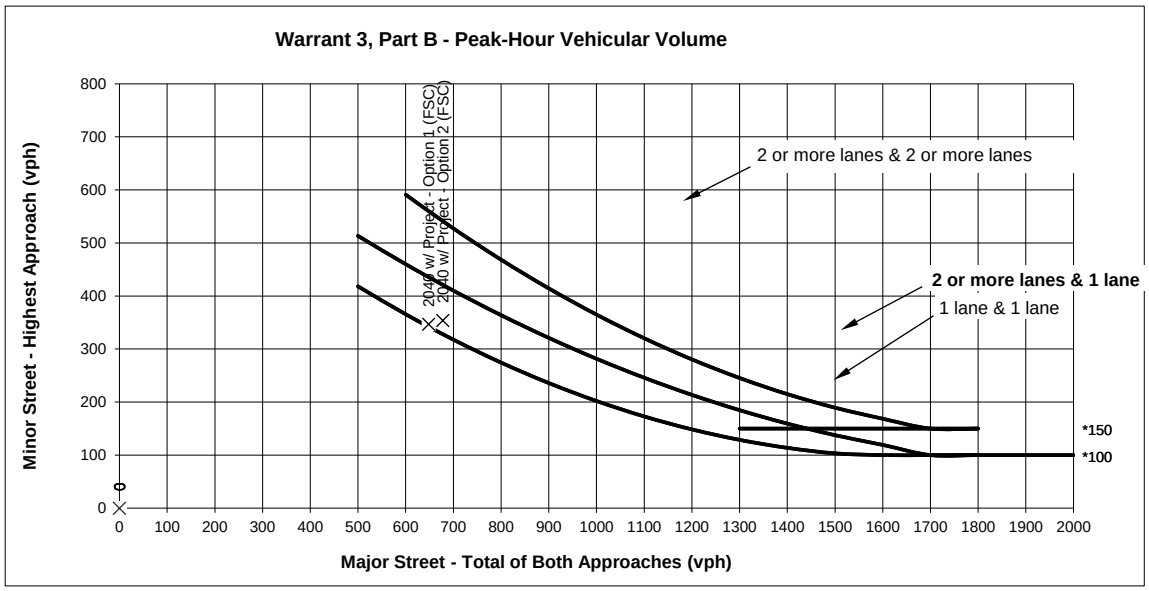
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Patrick Henry Drive and A Street (No Conn) **AM PEAK PERIOD**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

		Approach Lanes		AM PEAK PERIOD							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Patrick Henry Drive		X	648	678	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		347	354	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**No**	**No**							

*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Patrick Henry Drive Specific Plan Traffic Study

TRAFFIC SIGNAL WARRANTS WORKSHEET

Analyst: SJ date: 8/27/20

Major Street: Patrick Henry Drive — Critical Approach Speed* (mph): 25

Minor Street: A Street — Critical Approach Speed* (mph): 25

**Posted Speed.*

Critical speed of major street traffic > 50 mph (64 km/h)……..…..…..…….. ☑ **Rural (R)**

In built up area of isolated community of < 10,000 population……..…….. ☐ or ☐ **Urban (U)**

AM PEAK PERIOD

Warrant 3 - Peak Hour

PART A

(All parts 1, 2, and 3 below must be satisfied)

PM PEAK HOUR

	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Minor Street Approach Direction w/ Highest Delay	WB	WB	WB	WB	WB	WB	WB	WB	WB
Highest Minor Street Average Delay (sec/veh)	OVFL	OVFL							
Corresponding Minor Street Approach Volume (veh/hr)	398	396	0	0	0	0	0	0	0
Minor Street Total Delay (veh-hrs)	>4	>4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds 4 vehicle-hours for a 1-lane approach and 5 vehicle-hours for a 2-lane approach; AND	Yes	Yes	No	No	No	No	No	No	No
2. The volume on the same minor street approach equals or exceeds 100 vph for 1 moving lane of traffic or 150 vph for 2 moving lanes; AND	Yes	Yes	No	No	No	No	No	No	No
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with 4 or more approaches or 650 vph for intersections with 3 approaches.	Yes	Yes	No	No	No	No	No	No	No
Signal Warranted based on Part A?	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

*OVFL denotes delay greater than 300 secs

PART B

PM PEAK HOUR

		Approach Lanes: One	Approach Lanes: 2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Major Street - Both Approaches	Patrick Henry Drive		X	1001	854	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		398	396	0	0	0	0	0	0	0
Signal Warranted based on Part B?				**Yes**	**Yes**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

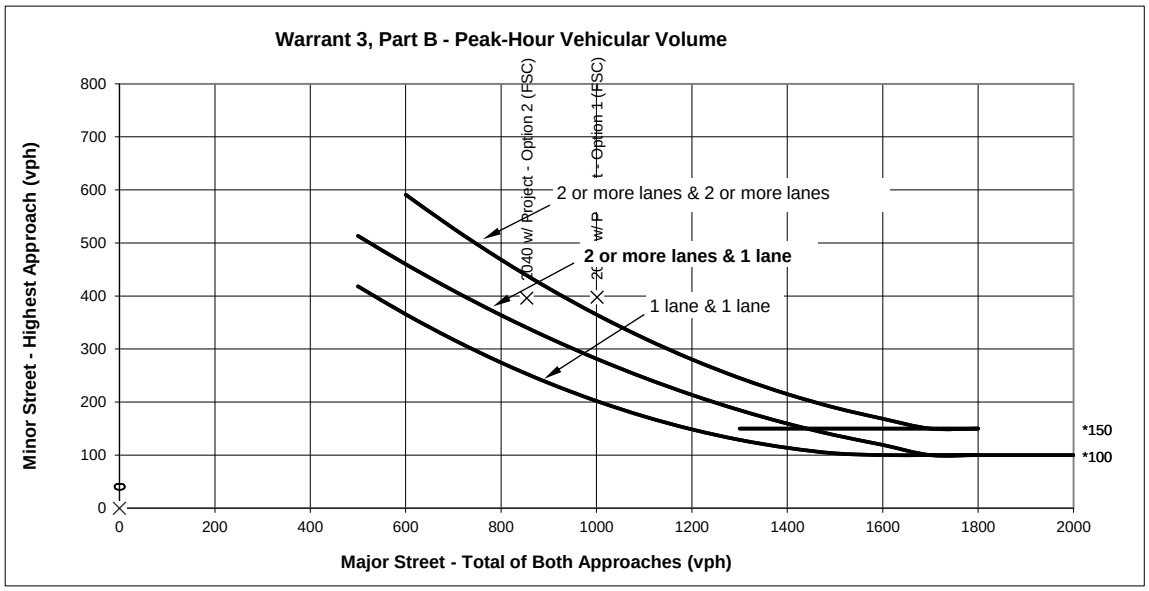
The Warrant is satisfied if the plotted point for vehicles per hour on the major street (both approaches) and the corresponding per hour higher vehicle volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) fall above the applicable curves in California MUTCD Figure 4C-3 or 4C-4.

Source: California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California).

Notes:

Patrick Henry Drive Specific Plan Traffic Study

Patrick Henry Drive and A Street (No Conn) **PM PEAK HOUR**



Source: Figure 4C-3 *California Manual on Uniform Traffic Control Devices for Streets and Highways (FHWA's MUTCD 2010 Edition, as amended for use in California)* .

* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Warrant 3, Part B - Peak-Hour Vehicular Volume

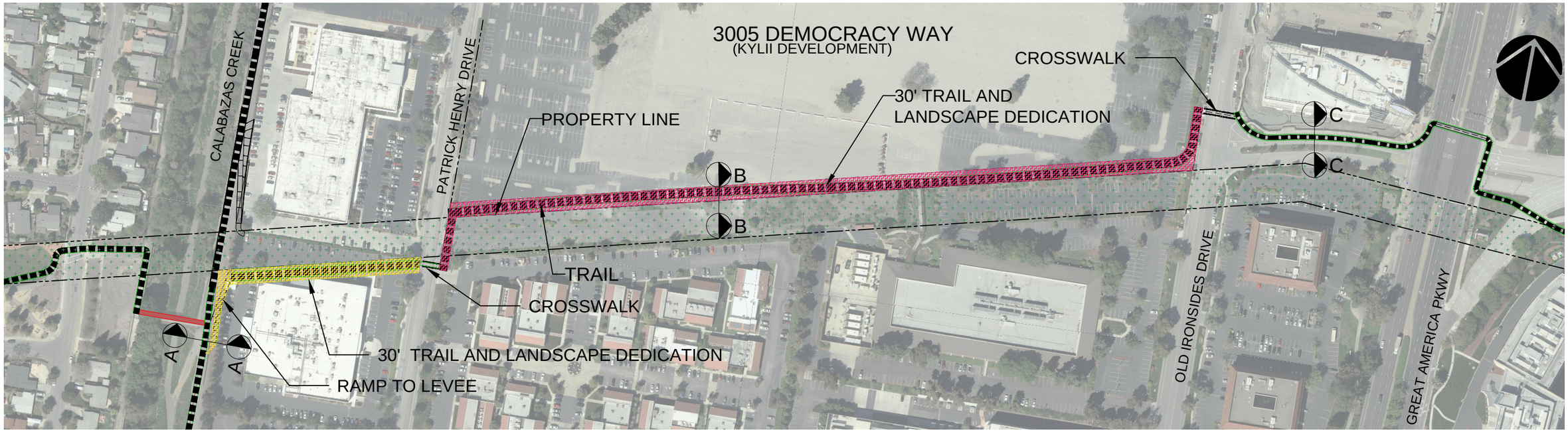
		Approach Lanes		PM PEAK HOUR							
		One	2 or More	2040 w/ Project - Option 1 (FSC)	2040 w/ Project - Option 2 (FSC)	0	0	0	0	0	0	0
Major Street - Both Approaches	Patrick Henry Drive		X	1001	854	0	0	0	0	0	0	0
Minor Street - Highest Approach	A Street	X		398	396	0	0	0	0	0	0	0
Signal Warranted Based on Part B - Peak-Hour Volumes?				**Yes**	**Yes**							

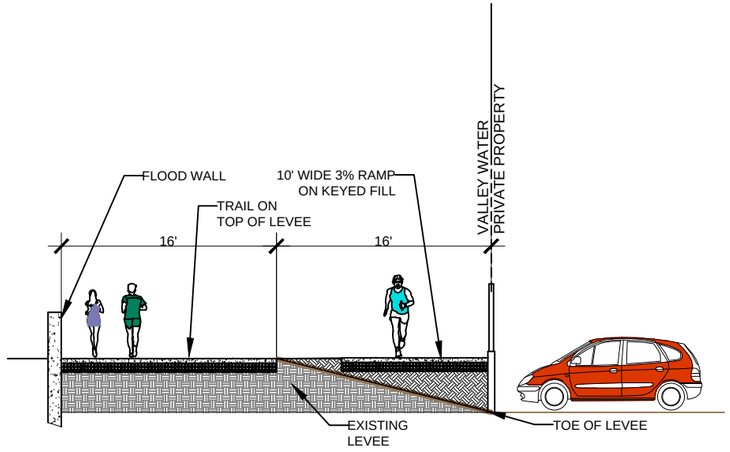
*Warrant is satisfied if plotted points fall above the appropriate curve in graph above.

Appendix F

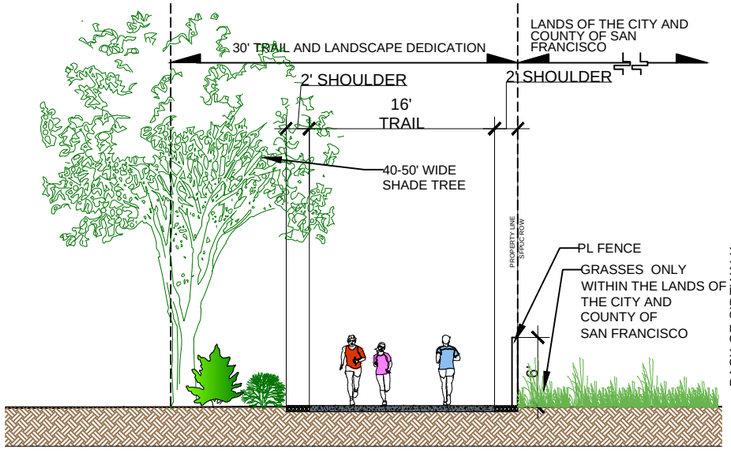
Hetch Hetchy and Calabazas Creek
Preliminary Trail Alignment Plans

HETCH HETCHY ROW - PRELIMINARY TRAIL ALIGNMENT PLAN

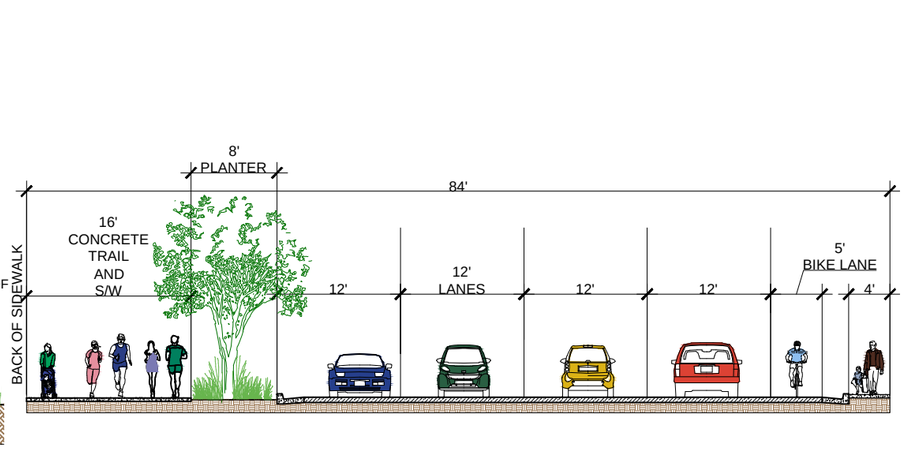




SECTION A- A RAMP TO VALLEY WATER LEVEE



SECTION B- B TRAIL WITHIN 3005 DEMOCRACY WAY PROJECT

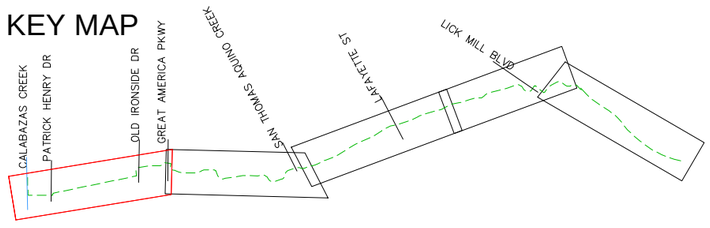


SECTION C- C TRAIL AT OLD GLORY LANE

LEGEND

- BIKE / PEDESTRIAN TRAIL
- TUNNEL
- UNDERPASS AND RAMP
- OVERPASS
- PEDESTRIAN BRIDGE
- EXIST. PEDESTRIAN BRIDGE
- AT GRADE CROSSING
- RETAINING WALL
- 3500 DEMOCRACY WAY DEDICATION REQUIRED
- PATRICK HENRY SP DEDICATION REQUIRED
- CITY LIMITS/BOUNDARY LINE
- ALTERNATE TRAIL ALIGNMENT
- SCHOOL
- PARK
- SHOPPING CENTER
- RAIL STATION
- RIPARIAN ZONE
- LANDS OF THE CITY AND COUNTY OF SF
- CREEK

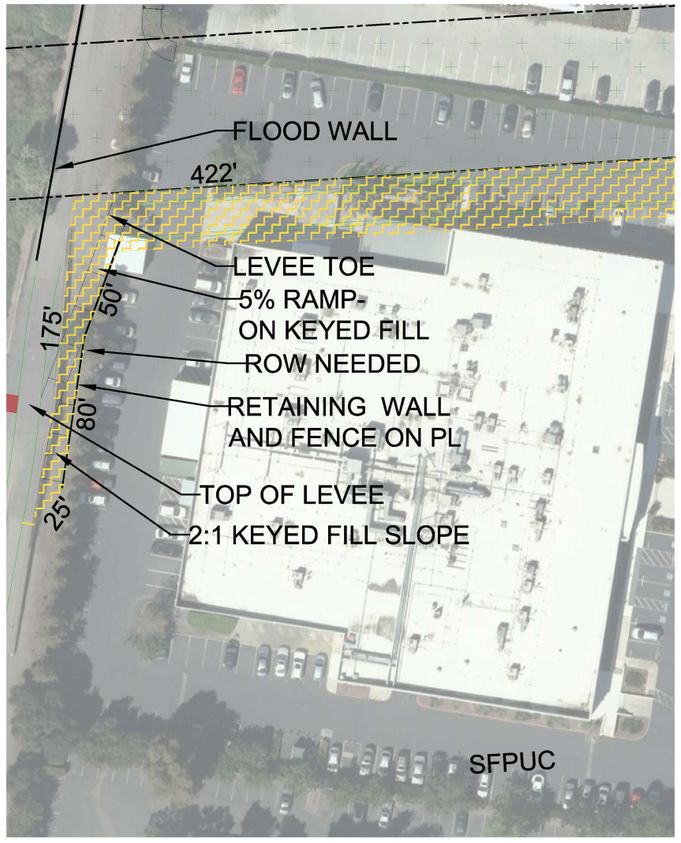
KEY MAP



CITY OF SANTA CLARA
DEPARTMENT OF PUBLIC WORKS

CREEK TRAIL NETWORK EXPANSION MASTER PLAN
PREPARED: MAY 6, 2020

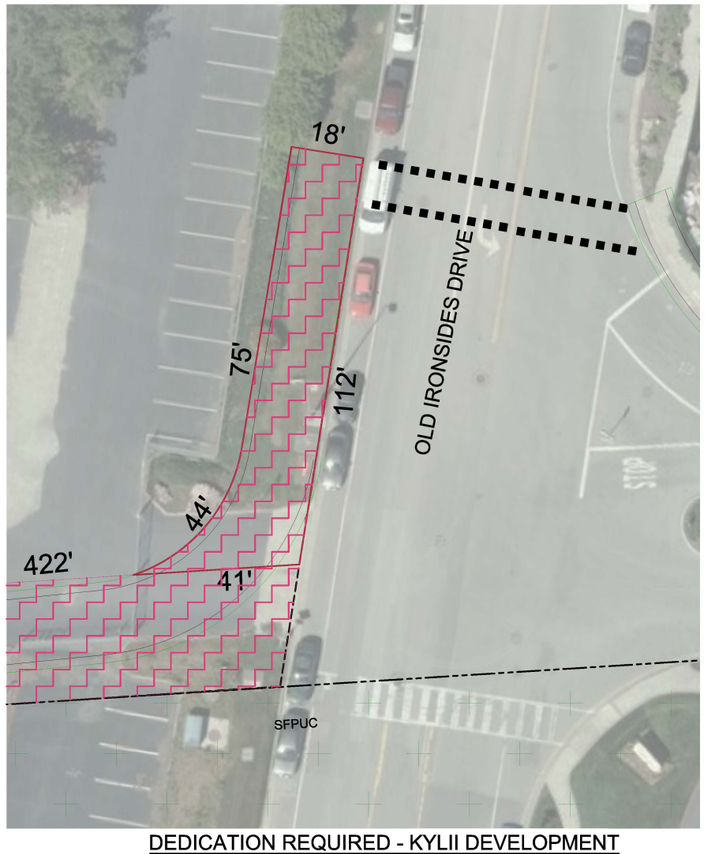
HETCH HETCHY ROW - PRELIMINARY TRAIL ALIGNMENT PLAN



DEDICATON REQUIRED - RAMP TO LEVEE
NTS



EASEMENT REQUIRED - PATRICK HENRY DRIVE
NTS

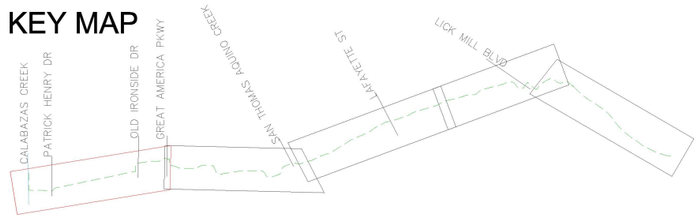


DEDICATION REQUIRED - KYLII DEVELOPMENT
NTS

LEGEND

- BIKE / PEDESTRIAN TRAIL
- TUNNEL
- UNDERPASS AND RAMP
- OVERPASS
- PEDESTRIAN BRIDGE
- EXIST. PEDESTRIAN BRIDGE
- AT GRADE CROSSING
- RETAINING WALL
- 3500 DEMOCRACY WAY DEDICATION REQUIRED
- PATRICK HENRY SP DEDICATION REQUIRED
- CITY LIMITS/BOUNDARY LINE
- ALTERNATE TRAIL ALIGNMENT
- SCHOOL
- PARK
- SHOPPING CENTER
- RAIL STATION
- RIPARIAN ZONE
- LANDS OF THE CITY AND COUNTY OF SF
- CREEK

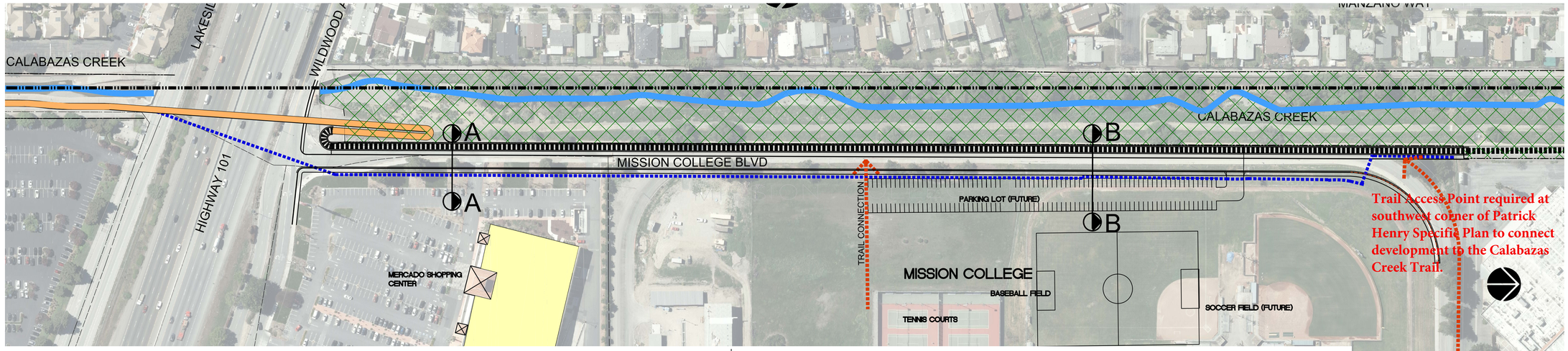
KEY MAP

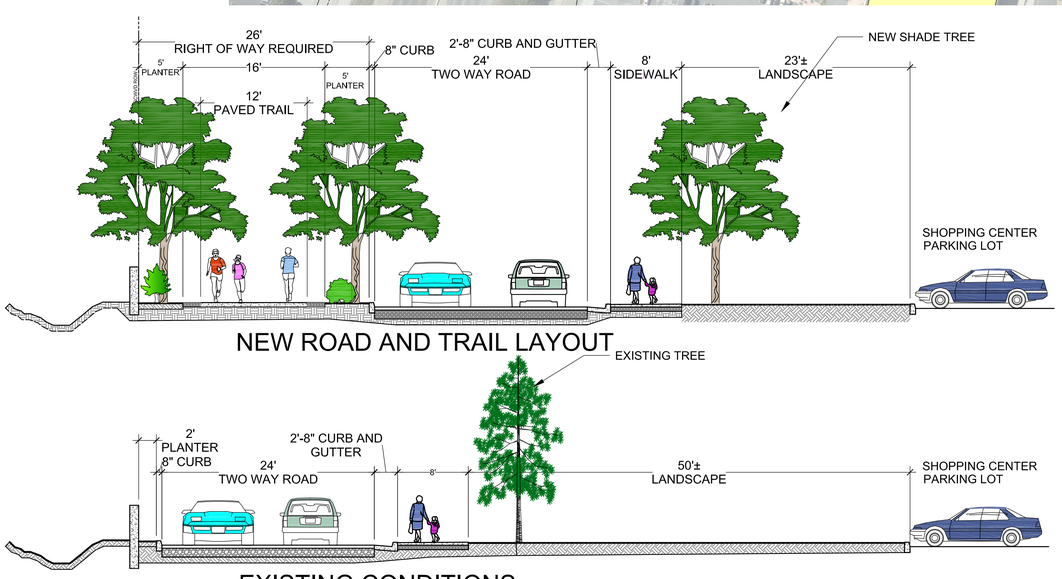


CITY OF SANTA CLARA
DEPARTMENT OF PUBLIC WORKS

CREEK TRAIL NETWORK EXPANSION MASTER PLAN
PREPARED: MAY 6, 2020

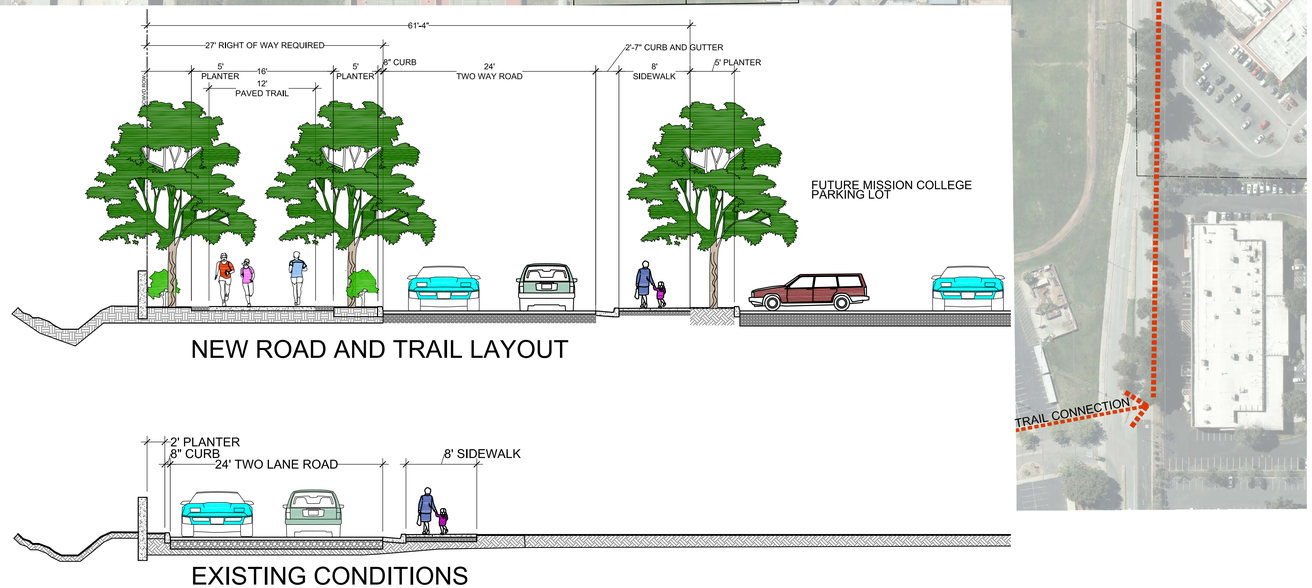
CALABAZAS CREEK - PRELIMINARY TRAIL ALIGNMENT PLAN





SECTION A-A AT SHOPPING CENTER

SCALE: 1/8"=1'-0"



SECTION B-B AT BASEBALL FIELD

SCALE: 1/8"=1'-0"

LEGEND

- BIKE / PEDESTRIAN TRAIL
- TUNNEL
- UNDERPASS AND RAMP
- OVERPASS
- PEDESTRIAN BRIDGE
- EXIST. PEDESTRIAN BRIDGE
- AT GRADE CROSSING
- RETAINING WALL
- RIGHT OF WAY REQUIRED
- CITY LIMITS/BOUNDARY LINE
- ALTERNATE TRAIL ALIGNMENT
- SCHOOL
- PARK
- SHOPPING CENTER
- RAIL STATION
- RIPARIAN ZONE
- HETCH HETCHY
- CREEK

KEY MAP

