

555 Northgate Drive Affordable Housing Project

Class 32 Categorical Exemption Report

prepared for

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1 Introduction

This report serves as the technical documentation of an environmental analysis performed by Rincon Consultants, Inc. for the proposed 555 Northgate Drive Affordable Housing Project in San Rafael, California. The intent of the analysis is to document whether the project is eligible for a Class 32 Categorical Exemption (CE) pursuant to *CEQA Guidelines* Section 15332. The report provides an introduction, project description, and evaluation of the project's consistency with the requirements for a Class 32 exemption. This includes an analysis of the project's potential impacts in the areas of biological resources, traffic, air quality, noise, water quality, and historic resources. The report concludes that the project is eligible for a Class 32 CE.

The *CEQA Guidelines* in Section 15332 states that a CE is allowed when:

a. The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
b. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
c. The project site has no value as habitat for endangered, rare, or threatened species.
d. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
e. The site can be adequately served by all required utilities and public services.

Additionally, *CEQA Guidelines* Section 15300.2 outlines exceptions to the applicability of a CE, including cumulative impacts, significant effects due to unusual circumstances, scenic highways, hazardous waste sites, and impacts to historical resources. A full listing of these exceptions and an assessment of their applicability to the proposed project is provided in this report.

Rincon Consultants, Inc. evaluated the project's consistency with the above requirements, including its potential impacts in the areas of biological resources, traffic, noise, air quality, and water quality as well as the applicability of the exceptions to use of a Class 32 CE, to confirm the project's eligibility for a Class 32 CE.

2 Project Location and Description

2.1 Project Location and Existing Conditions

The project site consists of one assessor's parcel, APN 175-060-32, totaling 96,786 gross square feet (2.22 acres) and located on the south side of Northgate Drive west of its intersection with Las Gallinas Avenue in San Rafael. The Marin Civic Center SMART station is approximately 0.5 mile to the east (walking distance), adjacent to U.S. 101, which is elevated above the surface streets in this part of the city.

The project site is currently developed with a two-story office building built in 1970 and surface parking. The site is generally level, sloping gently upwards to the south, and landscaping consists of ornamental trees, shrubs and grass. A sewer easement within the site runs near portions of the site's southern and western boundaries. Photographs of the project site are shown on Figure 3.

The project site has a San Rafael General Plan 2040 land use designation of Office Mixed Use. As described in the General Plan, in Office Mixed Use areas, office is the prevailing land use, but residential uses are allowed subject to specific zoning standards and permitting requirements as well as General Plan policies.

The zoning designation is Office District (O). As described in Section 14.05.010 of the San Rafael Code of Ordinances, the O District is intended "for the siting of a variety of administrative, professional, medical and general business offices." However, multifamily residential uses are a permitted use by right in the O District (Code of Ordinances Table 14.05.020).

Figure 1 shows the project site in a regional context and Figure 2 shows an aerial view of the project site at a local scale.

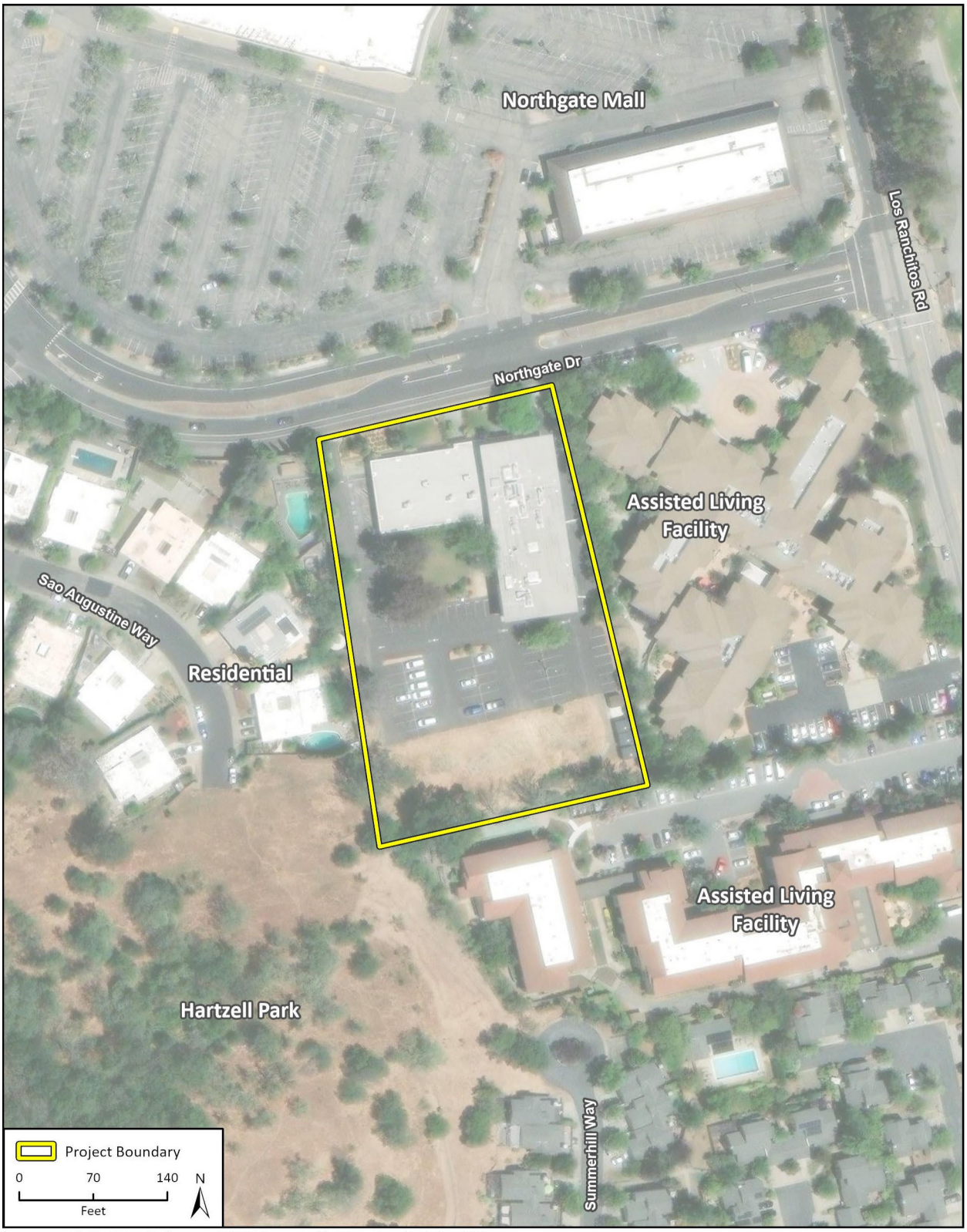
Figure 1 Regional Project Location



Basemap provided by Esri and its licensors © 2025. Map created by Rincon Consultants, Inc., 2025.

25-18320 EPS
EIRFig 1 Regional Location

Figure 2 Project Site Location



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25-18320 EPS
EIRFig 2 Project Location

Figure 3 Photographs of Project Site



Photograph 1. View of the project site's eastern driveway and Northgate Drive frontage, looking southwest from Northgate Drive.



Photograph 2. View of the site's western driveway and the western and rear portion of the site, looking south from Northgate Drive.



Photograph 3. View of the central and southeastern portions of the project site, looking southeast from the site interior.



Photograph 4. View of the rear of the existing building, looking northeast from the interior of the site.

2.2 Project Description

The project would involve demolition of the existing building and pavement on the project site and construction of a new seven-story residential building with 193 dwelling units, using provisions of State density bonus law. The first story would be a partial story to accommodate the sloping site and would consist of parking and resident amenities. The second story would consist of parking and residential units; floor 3 would consist mostly of residential units with some amenity space; and floors 4 through 7 would be residential units around two courtyards.

The project applicant proposes to utilize height and density bonuses; parking exemptions; and concessions to development standards pursuant to provisions of Government Code Section 65915 (State Density Bonus Law). These provisions allow exceedances of certain zoning ordinance standards including, but not limited to:

- Residential density
- Front yard setback
- Maximum building height
- Lot coverage maximums
- Off street parking standards

Other concessions requested are related to useable outdoor space and facade/massing plane breaks. Table 1 shows characteristics of the proposed project and Figure 4 shows the proposed site plan.

Table 1 Project Characteristics

Characteristic	Project Details
Assessor's Parcel Number	175-060-32
Lot Size	96,786 gross square feet (2.22 acres)
Height	68 feet, three inches to top of roof, plus parapet and stairwell enclosure heights up to 87'-9".
Residential Units	193 units, mix of 1- and 2-bedroom
Total Gross Floor Area	235,701 SF
Parking	150 vehicle spaces (119 in garage, 31 at surface)

SF = square feet

Source: AMG & Associates, LLC, 2025

Site Access, Parking, and Circulation

The site would be accessed by two driveways on Northgate Avenue, both 26 feet in width; the building would be set in the center of the site, and an internal roadway with access to approximately 31 surface parking spaces would traverse the site and circle the building. Vehicular access to the interior garage with an additional approximately 119 spaces would be provided by an approximately 26-foot-wide driveway at the rear and west sides of the building.

Figure 4 Proposed Site and First Level Plan



Source: AMG Land Development 2026

Common Areas and Amenities

The ground floor would include amenity spaces accommodating a co-working space, mail room and bike room, as well as a leasing office. A community room would be provided on the second floor. The third floor would contain a fitness room and reading room adjacent to two courtyards providing approximately 8,393 square feet of hardscaped and landscaped outdoor space. A dog run is also proposed at the southeast corner of the building.

Utilities and Stormwater Management

The project would connect to existing utility services. The Marin Municipal Water District provides water services within the city and the Las Gallinas Valley Sanitary District provides wastewater collection at the site. Electricity is supplied by Marin Clean Energy via Pacific Gas and Electric infrastructure. No natural gas would be supplied to the project. Impervious coverage and stormwater runoff under the proposed project would be generally the same as under current conditions. Stormwater would be directed to bioretention areas along the site's eastern and western boundaries with discharges to storm drains or would run off to City stormwater facilities.

Construction

Project construction would occur over approximately 24 months with construction beginning in Spring 2027 and ending in Spring 2029. The project would involve demolition of the existing 14,980 square foot office building, site grading and preparation and the construction of the proposed building, paving, and architectural coating activities. The proposed project would require excavation of 3,700 cubic yards of soil to be used as site fill and an import of an additional 1,600 cubic yards of soil to equal a total of 5,300 cubic yards of fill required. Pile driving would not be employed during construction. Construction fleet would be rated US EPA Tier 4 for emissions. Adherence to the City of San Rafael's Standard Conditions of Approval related to construction, such as noise and vibration control (which would include limiting use of certain equipment near property lines, as discussed in Section 3.4 of this document), is assumed in the analysis. Construction would occur Monday through Friday with an anticipated 8 hours per day of equipment use with no nighttime construction activities occurring.

3 Consistency Analysis

3.1 Criterion (a)

The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

According to the City of San Rafael's San Rafael General Plan 2040, the project site has a San Rafael General Plan 2040 land use designation of Office Mixed Use. As described in the General Plan, in Office Mixed Use areas, office is the prevailing land use, but residential uses are allowed subject to specific zoning standards and permitting requirements as well as General Plan policies. Thus, the proposed residential use is consistent with the General Plan. City staff has reviewed the project for consistency with the General Plan allowed density and found that with applicable density bonus provisions of state law (Government Code Section 65915), the project as proposed is allowable under the Office Mixed Use designation.

The zoning designation is Office District (O). As described in Section 14.05.010 of the San Rafael Code of Ordinances, the O District is intended "for the siting of a variety of administrative, professional, medical and general business offices." However, multifamily residential uses are a permitted use by right in the O District (Code of Ordinances Table 14.05.020). Because the O District allows residential uses, and because the project would meet the requirements of these districts through the provisions of State Density Bonus Law, the project would be consistent with the allowable uses of and density for the project site under the San Rafael Code of Ordinances' zoning provisions. State Density Bonus Law provisions include exemption from density controls and the ability to gain concessions to development standards.

3.2 Criterion (b)

The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

The project site is located on a 2.22-acre parcel within the limits of the city of San Rafael. It is surrounded on all sides by urban uses comprising primarily commercial and residential development, as shown on Figure 2.

3.3 Criterion (c)

The project site has no value as habitat for endangered, rare, or threatened species.

Listed species are defined as species categorized as endangered, rare, or threatened (or as candidates for such designations) under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA). A project site has no value as habitat for listed species if the site lacks suitable habitat and/or appropriate habitat and micro-habitat constituents for listed species, or if suitable habitat within the project site is outside of the listed species known range.

Due to the developed and disturbed nature of the project site and surroundings, as well as the absence of native vegetation or water features on or near the site, the site does not support listed species or their habitat. There is no critical habitat on or adjacent to the site (USFWS 2025a), and the nearest wetland (a portion of the South Fork of Gallinas Creek) is approximately 2,000 feet east of the site on the other side of US 101 (USFWS 2025b). Thus, the project site has no value as habitat for endangered, rare, or threatened species.

3.4 Criterion (d)

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

The following discussion provides an analysis of the project's potential effects with respect to traffic, noise, air quality, and water quality.

3.4.1 Traffic

The section is based primarily on a Transportation Analysis prepared for the project by RK Engineering Group, and reviewed by City staff for completeness and accuracy, in November of 2025 (Appendix A).

Vehicle Miles Traveled

Pursuant to Senate Bill 743, transportation and traffic impacts should be measured using vehicle miles traveled (VMT) instead of the previously used Level of Service (California Office of Planning and Research [OPR] 2013). Reducing VMT is an effective climate strategy and is intended to decrease greenhouse gas emissions associated with the transportation sector while increasing benefits to human health.

The City of San Rafael Transportation Analysis Guidelines, dated February 2022, includes thresholds of significance and methodologies for identifying VMT related impacts. According to the City's guidelines (Section: CEQA VMT Screening Thresholds), projects that consist of 100% affordable housing in infill locations are eligible for VMT screening. These projects are presumed to generate lower VMT due to their location, density, and alignment with regional land use and transportation goals. The project site is an infill site in an urbanized area of the City of San Rafael. Urban development surrounds the site on all sides, and the site is within 0.5-mile of transit (the Marin Civic Center SMART station), a range of commercial uses (including the Northgate Mall) and services along several commercial corridors. The site is also proximate to schools and civic and institutional uses. The level of surrounding urbanization, and mix and proximity of a variety of service, commercial, transit and institutional uses, are consistent with an infill location in a statewide context. As the proposed project meets these criteria, it is exempt from a detailed VMT analysis and would have a less-than-significant impact under CEQA.

In addition, the project site is located within 0.5-mile of the Marin Civic Center SMART station. Projects in proximity to major transit stops are presumed to have a less-than-significant impact under the VMT standards applied by the State of California and most local lead agencies. Impacts related to VMT would be less than significant.

Site Circulation and Access

As discussed in the Transportation Analysis (Appendix A), the project would not result in changes to the physical or operational conditions of the roadway that would introduce hazards, and the project impact with regard to these factors would be less than significant. Site access and circulation within the site would be adequate for safe access and circulation.

RK Engineers (see Appendix A) also obtained accident data for the City of San Rafael using the online California Crash Reporting System (CCRS) dataset. RK Engineers reviewed the previous five years' worth of collision history throughout the City of San Rafael. Based on this review, there is no record of significant collision history along Northgate Drive within the vicinity of the project access points. Furthermore, Northgate Drive's posted speed limit is 25 miles per hour and is generally straight with limited grade change. Based on the Highway Design Manual, a roadway with a design speed of 25 MPH requires a stopping sight distance of 150 feet. Stopping Sight Distance, which is measured from the driver's eye level, is the total distance a driver needs to perceive an object, react, and safely bring their vehicle to a complete stop before colliding with it. This measure accounts for the time it takes the driver to see the hazard, decide to act, and apply the brakes, plus the distance the vehicle travels while braking.

Based on RK Engineering's review, there is adequate stopping sight distance along Northgate Avenue for oncoming westbound vehicles to see a vehicle stopped (waiting to make a westbound left-turn entering the project driveway), react, and safely bring their vehicle to a complete stop before colliding with it. Thus the existing shared approach lane is sufficient to accommodate the project's projected left-turn volumes without creating operational or safety concerns.

Pedestrian and Bicycle Facilities

As discussed in the Transportation Impact Study, according to San Rafael's General Plan, the city is served by a well-developed network of sidewalks and walkways, with most areas having sidewalks on at least one side of the street and commercial areas typically providing sidewalks on both sides. This condition is reflected in the study area, where sidewalks and marked pedestrian crossings are present along the project's frontage on Northgate Drive. The project site is also in proximity to the Northgate Mall and the planned Northgate Town Square, which would enhance pedestrian connectivity and provide direct access to nearby commercial land uses. The proposed project is not expected to create adverse impacts on the existing pedestrian network.

The project is not expected to generate adverse impacts to existing or planned bicycle facilities in the study area, which include Class II and III bicycle facilities. Rather, it is expected to integrate with the established bicycle network and continue to support multimodal connectivity in the surrounding community.

Impacts related to pedestrian, bicycle and transit facilities would be less than significant (Appendix A).

Conclusion

Impacts related to trip generation, VMT, pedestrian access, bicycle facilities and site circulation and access would be less than significant. The project would meet the requirements for Traffic under *criterion (d)*.

3.4.2 Noise

Noise Fundamentals

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

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

Sound changes occur in both level and frequency spectrum as it travels from the source to the receptor. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line,

the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (California Department of Transportation [Caltrans] 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels.

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed by academics and industry professionals. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is often measured using Day-Night Average Level (L_{dn} or DNL), which is a 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours (Caltrans 2013).

Noise Standards

San Rafael General Plan

The San Rafael General Plan Noise Element noise compatibility guidelines illustrate the State guidelines established by the State Department of Health Services for acceptable noise levels for each county and city. These standards and criteria are incorporated into the land use planning process to reduce future noise and land use incompatibilities. This table is the primary tool that allows the city to ensure integrated planning for compatibility between land uses and outdoor noise. As shown in Table 2, for residential land uses, noise levels of up to 60 dBA are considered "Normally Acceptable" and noise levels of 60 to 70 dBA are considered "Conditionally Acceptable".

Table 2 Noise Compatibility Guidelines for San Rafael

Land Use Categories	Exterior Noise Levels - Community Noise Equivalent Level (CNEL)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential (Low-Density, Single-Family, Duplex, Mobile Homes)	50-60	60-70	70-75	75-85
Residential (Multiple-Family)	50-65	65-70	70-75	70-85
Transient Lodging, Motels, Hotels	50-65	65-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-65	65-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	N/A	50-70	N/A	70-85
Sports Arenas, Outdoor Spectator Sports	N/A	50-75	N/A	75-85
Playgrounds, Neighborhood Parks	50-70	70-75	75-85	N/A
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	70-80	80-85	N/A
Office Buildings, Business Commercial and Professional	50-70	70-75	75-85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-80	80-85	N/A

[1] Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved meet conventional Title 24 construction standards. No special noise insulation requirements.

[2] Conditionally Acceptable: New construction or development shall be undertaken only after a detailed noise analysis is made and noise reduction measures are identified and included in the project design

[3] Normally Unacceptable: New construction or development is discouraged. If new construction is proposed, a detailed analysis is required, noise reduction measures must be identified, and noise insulation features included in the design.

[4] Clearly Unacceptable: New construction or development should not be undertaken

Source: San Rafael 2021

The following goals and policies from the Noise Element are relevant to the proposed project.

Policy N-1.2: *Maintaining Acceptable Noise Levels*. Minimize noise conflicts resulting from everyday activities such as construction, sirens, yard equipment, business operations, night-time sporting events, and domestic activities.

(a) New development shall not increase noise levels by more than 3 dB L_{dn} in a residential area, or by more than 5 dB L_{dn} in a non-residential area.

Policy N-1.9: *Maintaining Peace and Quiet*. Minimize noise conflicts resulting from everyday activities such as construction, sirens, yard equipment, business operations, night-time sporting events, and domestic activities.

Program N-1.9B: *Construction Noise*. Establish a list of construction best management practices (BMPs) for future projects and incorporate the list into San Rafael Municipal Code Chapter 8.13 (Noise) The City Building Division shall verify that appropriate BMPs are included on demolition, grading, and construction plans prior to the issuance of associated permits

Policy N-1.11: *Vibration*. Minimize noise conflicts resulting from everyday activities such as construction, sirens, yard equipment, business operations, night-time sporting events, and domestic activities.

Program N-1.11A: *Vibration-Related Conditions of Approval*. Adopt Standard conditions of approval in San Rafael Municipal Code Chapter 8.13 (Noise) that apply Federal Transit Administration (FTA) criteria for acceptable levels of groundborne vibration for various building types. These conditions should:

(a) reduce the potential for vibration-related construction impacts for development projects near sensitive uses such as housing, schools, and historically significant buildings

(b) reduce the potential for operational impacts on existing or potential future sensitive uses such as uses with vibration-sensitive equipment (e.g., microscopes in hospitals and research facilities) or residences.

Vibration impacts shall be considered as part of project level environment al evaluation and approval for individual future projects. If vibration levels exceed FTA limits, conditions of approval shall identify construction and operational alternatives that mitigate impacts.

City of San Rafael Municipal Code

Chapter 8.13 Noise (Noise Ordinance) of the San Rafael Municipal Code (MHMC) implements the City's noise policies. Section 8.13.040 states that the general noise limits contained in Table 3 apply, subject to the exceptions and exemptions set forth in the chapter. Where two or more noise limits may apply, the more restrictive noise limit governs. For purposes of determining sound levels from any source of sound, a sound level measurement must be made at any point on any receiving private or public property. In multifamily structures, the microphone must be placed no closer than 3.5 feet from a wall through which the source of sound at issue is transmitting and also placed five feet above the floor regardless of whether the source of sound at issue transmits through the floor, ceiling or wall. Sound level measurements must be made with a sound level meter (Type 1 or 2) set to A-weighting, and "fast" response for intermittent sound. Slow or fast response may be used for constant noise sources. For intermittent sound, the one second rms maximum level (L_{max}) is used. For constant sound, the average level (L_{eq}) is used.

Table 3 San Rafael General Noise Limits

	Noise Level (dBA)			
	Daytime[1]		Nighttime[1]	
Land Use	Intermittent	Constant	Intermittent	Constant
Residential	60	50	50	40
Mixed-Use	65	55	55	45
Multifamily Residential	40	35	35	30
Commercial	65	55	65	55
Industrial	70	60	70	60

[1] Daytime = 7am-9pm (Sun-Thu); 7am-10pm (Fri-Sat); Nighttime = 9pm-7am (Sun-Thu); 10pm-7am (Fri-Sat)

Source: City of San Rafael Ordinance, Chapter 8.13

Section 8.13.050(A), Standard exceptions to general noise limits – Construction, states that on any construction project on property within the city, construction, alteration, demolition, maintenance of construction equipment, deliveries of materials or equipment, or repair activities otherwise allowed under applicable law are allowed between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, and 9:00 a.m. and 6:00 p.m. on Saturdays, provided that the noise level at any point outside of the property plane of the project does not exceed 90 dBA. All such activities are precluded on Sundays and holidays.

Sensitive Receptors

Some land uses are generally regarded as being more sensitive to noise than others due to the types of population groups or activities involved. Sensitive population groups include children and the elderly. Sensitive land uses generally include residential areas, hospitals, schools, childcare facilities, senior facilities, libraries, churches, and parks. The nearest sensitive receptors are a senior assisted living facility at the eastern and southern project boundary of the project site, single-family residences adjacent to the western project boundary of the project site and the Mt. Olivet San Rafael Cemetery to the northeast.

Existing Noise Environment

The project site is in the City of San Rafael in a characteristically suburban area subject to noise from nearby Highway 101, local traffic on public streets Northgate Drive and Los Ranchitos Road), buses, trains, light rail (Pacific Avenue rail), construction, and small power equipment (e.g., lawn mowers, edger, etc.). The San Rafael General Plan Appendix I includes noise contours, indicating that ambient noise in the project area is approximately 60 DNL/CNEL.

Construction Noise

Construction of the project would generate temporary noise that would be audible at nearby sensitive receptors to the south and west of the project site. Noise associated with construction is a function of the type of construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the construction activities. Based on construction details provided by the applicant, it is estimated that the construction period for all phases would be from Spring 2027 through Spring 2029.

While all phases of construction would generate noise, the demolition, grading and building construction phases would represent the loudest periods of noise-generating activity. The greatest anticipated sources of construction noise would be generated by large earthmoving equipment such as large bulldozers and industrial concrete saws. Construction noise was estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) (FHWA 2006), as shown in Table 4.

Table 4 Project Construction Noise Levels

Construction Activity Phase	Approximate Noise Level (dBA L_{max})		
	RCNM Reference Noise Level (50 feet)	Alma Via Senior Assisted Living to the East and South (10 feet)	Single-Family Residences to the West (10 feet)
Demolition	90	104	104
Site Preparation	85	99	99
Grading	85	99	99
Building Construction	78	92	72
Paving	80	94	94
Architectural Coating	78	92	92

Notes: Calculations performed with the FHWA's RCNM software are included in Appendix B
dBA = A-weighted decibels, L_{max} = maximum noise level

As shown in Table 4, expected noise levels generated during the building construction phase of construction at the nearest residential property lines approximately 10 feet to the east, west and south from the edge of the construction activity would be up to 104 dBA $L_{max.}$ Therefore, without implementation of the COA, construction noise could exceed the City of San Rafael's construction standard of 90 dBA L_{max}.

The City applies conditions of approval (COAs) to implement and ensure project consistency with *Program N-1.9B: Construction Noise* of the 2040 General Plan EIR. The following Standard COA would be applied to the project.

- **COA-Construction Noise.** During construction, the project shall:
  1. Properly muffle and maintain all construction equipment powered by internal combustion engines.
  2. Prohibit unnecessary idling of combustion engines.
  3. Locate all stationary noise-generating construction equipment such as air compressors as far as practical from existing nearby residences and other noise-sensitive land uses. Such equipment shall also be acoustically shielded.
  4. Select quiet construction equipment, particularly air compressors, whenever possible. Fit motorized equipment with proper mufflers in good working order.
  5. Residences adjacent to project sites shall be notified in advance by writing of the proposed construction schedule before construction activities commence.
  6. The project applicant shall designate a "noise disturbance coordinator" responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of any noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. A telephone number for the disturbance coordinator shall be posted at the construction site.
  7. Erect temporary noise barriers to limit construction noise to no more than 90 dBA Lmax at residences. Temporary noise barriers shall be constructed with solid materials (e.g., wood) with a density of at least 1.5 pounds per square foot with no gaps from the ground to the top of the barrier at a minimum height of 12 feet along the southern and eastern project boundaries. If a sound blanket is used, barriers shall be constructed with solid material with a density of at least one pound per square foot with no gaps from the ground to the top of the barrier and be lined on the construction side with acoustical blanket, curtain or equivalent absorptive material rated sound transmission class (STC) 32 or higher.

Additionally, project construction activity specified by the applicant (scheduled for Mondays through Fridays between 7:00 a.m. and 6:00 p.m. and Saturdays between 9:00 a.m. and 6:00 p.m.) would occur within the allowable construction day and time limits defined in the City of San Rafael Code of Ordinances: between 7:00 a.m. and 8:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday.

Implementation of the COA above would involve use of temporary noise barriers to the east, west and south, which would decrease construction noise by at least 15 dBA (Harris 1991; Bies, Hansen, Howard 2018) to 89 dBA L_{max}. The Mt. Olivet San Rafael Cemetery and other sensitive receptors are located further away and thus noise levels would be lower. This would be below the construction noise threshold of 90 dBA L_{max} and impacts would be less than significant.

Construction Vibration

The project does not include any substantial vibration sources associated with operation. Therefore, construction activities have the greatest potential to generate groundborne vibration affecting nearby receptors, especially during grading of the project site. When accounting for equipment setbacks, construction equipment may be used within approximately 18 feet from the senior assisted living facility building to the east. Table 5 identifies vibration velocity levels at the nearby sensitive receptors from a vibratory roller and large bulldozer equipment (representative of equipment 100 horsepower [hp] or greater), as well as smaller equipment such as a small bulldozer (under 100 hp).

Table 5 Construction Vibration Levels

Equipment	Approximate Vibration Level (in/sec PPV)			
	Reference Level (25 Feet)	Alma Via Senior Assisted Living to the East (18 feet)	Single-Family Residences to the West (40 feet)	Drake Terrace Senior Assisted Living to the South (45 feet)
Vibratory Roller	0.210	0.344	0.104	0.087
Large Bulldozer	0.089	0.146	0.044	0.037
Loaded Truck	0.076	0.124	0.038	0.031
Small Bulldozer	0.003	0.005	0.001	0.001
FTA Threshold for Architectural Damage	–	0.2	0.2	0.2
Thresholds Exceeded?	–	**Yes**	**No**	**No**

Notes: Calculations are included in Appendix B

Source: FTA 2018.

The City has not adopted specific standards for vibration impacts during construction. Therefore, the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) is used to evaluate construction vibration impacts related to potential building damage. Based on the FTA criteria, construction vibration impacts would be significant if vibration levels exceed 0.2 in/sec PPV at residential structures, which is the limit for potential architectural damage at these structures. Based on the information presented in Table 5, vibration levels could be up to approximately 0.344 in/sec PPV at the senior assisted living residential building to the east when a vibratory roller is used. Therefore, without vibration reduction measures, construction vibration could exceed the 0.2 in/sec PPV threshold for architectural damage to nearby residential structures to the east. Vibration noise levels would not exceed the standards when using a small bulldozer or other equipment under 100 hp.

The City applies COAs to implement *Program N-1.11A: Vibration,* of the 2040 General Plan EIR. The following COA would be required.

- **COA-Construction Vibration.** During construction, the project shall:
  1. Avoid the use of large earthmoving equipment (greater than 100 hp) within 15 feet of residential buildings and within 12 feet of commercial buildings, as this is the distance where these buildings are susceptible to damage from vibration from this equipment.
  2. Schedule construction activities with the highest potential to produce vibration to hours with the least potential to affect nearby institutional, educational, and office uses that the Federal Transit Administration identifies as sensitive to daytime vibration (FTA 2006).
  3. Notify neighbors of scheduled construction activities that would generate vibration.
  4. Select quiet construction equipment, particularly air compressors, whenever possible. Fit motorized equipment with proper mufflers in good working order.
  5. Residences adjacent to the project site shall be notified in advance by writing of the proposed construction schedule before construction activities commence.
  6. The project applicant shall designate a “noise disturbance coordinator” responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of any noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. A telephone number for the disturbance coordinator shall be posted at the construction site.

The City’s Standard COAs, which are consistent with policies found in the Noise Element of the General Plan (San Rafael 2021), would be applied to the project. For paving activities within 26 feet of offsite residences, the client would use a static roller in lieu of a vibratory roller to comply with the COAs. A static

roller would produce 0.05 in/sec PPV within 26 feet of residential structures and would effectively reduce construction vibration levels to below the FTA's vibration standards of 0.2 in/sec PPV threshold for structural damage to nearby residential structures. With required adherence to the COAs, impacts would be less than significant.

Operational Noise

HVAC Noise

According to the site plans provided by AO Architects (AO 2025), the primary on-site operational noise source from the project would be one window-mounted Packaged Terminal Air Conditioner (PTAC) HVAC unit, for the residential buildings within the project site. Specific mechanical specifications for the proposed PTAC units is not available at this stage of project design. Therefore, this analysis assumes the use of a typical PTAC air conditioner that has a sound pressure level (SPL) of 62.6 dBA at 3 feet (Specifications for the modeled PTAC equipment are included in Appendix C). To provide a reasonable worst-case analysis, one PTAC units operating over a 24 hour period was modeled to the adjacent sensitive receptor in order to calculate noise levels at the residential property line to the east and west. The PTAC unit modeled at the building façade of the proposed multi-family building would be approximately 60 feet from the nearest off-site sensitive residential property line to the east and west. This is a conservative analysis as this does not take into account that the PTAC units are primarily located within the unit.

Accounting for the 60-foot distance between the proposed PTAC unit to the residential property line to the east and west, noise generated by the project's PTAC HVAC equipment would attenuate to approximately 37 dBA at the adjacent residential property line to the east and west. Therefore, as stated in the City's Municipal Code Section 8.13.040 (SRMC 2023), noise generated by the project's HVAC equipment would not exceed the City's residential nighttime noise limit of 40 dBA at a receiving residential property line, and impacts would be less than significant. Additionally, the senior assisted living to the south and Mt. Olivet San Rafael Cemetery to the northeast would be located further away and noise levels would be lower.

Future Residents

In addition to mechanical equipment, the project would generate noise from people gathering at the project site. The main noise source associated with future residents would be speech from conversations. Typically, a conversation between two people using a normal voice (not raised) at a distance of three feet is 60 dBA (Engineering ToolBox 2005). No amplified sound is proposed at any gathering location, and speech from conversations would quickly dissipate and would not interfere with surrounding outdoor activities and noise-sensitive uses. Furthermore, pursuant to Assembly Bill 1307 (2023), the effect of noise generated by residential project occupants and their guests is not a significant effect on the environment. This impact would be less than significant.

Off-Site Traffic Noise

Using information provided by W-Trans (Appendix A to this report), the proposed project would generate up to 906 new daily vehicle trips that would increase noise levels on nearby roadways. The proposed project would not make substantial alterations to roadway alignments or substantially change the vehicle classifications mix on local roadways. Therefore, the primary factor affecting off-site noise levels would be increased traffic volumes. The project's increase in traffic noise was estimated by adding the project daily trip generation to the existing average daily traffic (ADT) volume on the surrounding roadways analyzed in the City of San Rafael General Plan 2040 (City of San Rafael 2021), as shown in Table 6.

Table 6 Off-site Project Traffic Noise Increases (dBA Ldn)

Roadway/Segment	Existing ADT[1]	Existing + Project ADT	Increase[2] (dBA L_{dn})
Northgate Drive, between Nova Albion Way and Los Ranchitos Road	4,460	5,366	0.8
Los Ranchitos Road, between Northgate Dr and Constance Drive	9,870	10,776	0.4

ADT = average daily trips

[1] Based on data provided in City of San Rafael General Plan 2040 (City of San Rafael 2021).

[2] Based on the formula 10 x LOG (future traffic volume/existing traffic volume)

The existing ADT on Northgate Drive, between Nova Albion Way and Los Ranchitos Road, is 4,460. As shown in Table 6, this addition of 906 daily vehicle trips would result in an increase in traffic noise that would be approximately 0.8 dBA L_{dn}. As stated in the City of San Rafael 2040 General Plan (City of San Rafael 2021), a significant impact would occur if project-related traffic increases the ambient noise environment of noise-sensitive locations by 3 dBA L_{dn} or more for residential neighborhoods. All other roadway segments would have a lower increase in traffic noise. As the project would result in a traffic noise increase of 0.8 dBA L_{dn}, the project's traffic noise increase would not exceed 3 dBA L_{dn} or more, and impacts would be less than significant.

Airport Noise

The San Rafael Airport is located approximately 1.22 miles to the northeast and the project site is not located within the 65 dBA CNEL noise contour of this airport (San Rafael 2021). There is no other public or private use airport within two miles of the project site. Therefore, there would be no impact.

Conclusion

Construction noise would generate noise levels of up to 89 dBA $L_{max,}$ with implementation of the COA's at the nearby residential property lines to the east and west, pursuant to General Plan Program N-1.11A. This would be below the construction noise significance threshold of 90 dBA L_{max}. In addition, construction would be limited to hours allowed by the City's Municipal Code Section 8.13.050(A). Impacts would be less than significant.

The project would introduce sources of operational noise to the site, including HVAC. The nearest mixed-use residential building to the south of the project would be exposed to a noise level of 37 dBA from HVAC equipment which would not exceed the nighttime exterior noise standard of 40 dBA L_{max} for residential uses. Therefore, impacts would be less than significant.

Traffic noise levels generated along Northgate Drive and Los Ranchitos Road would cause an increase of up to 0.8 dBA L_{dn}. This would be below the most stringent threshold of 3 dBA L_{dn} increase from traffic noise. Therefore, impacts would be less than significant.

Operation of the project would not include any substantial vibration sources. Groundborne vibration from construction activities, pursuant to General Plan Program N-1.11A, implementation of the COAs above would be required and would decrease to below 0.2 in/sec PPV threshold for structural damage to nearby residential structures. Therefore, impacts would be less than significant.

There project site is not located within the 65 dBA CNEL noise contour of the nearest airport and there would be no impact.

3.4.3 Air Quality

The federal and State Clean Air Acts mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for criteria pollutants and other pollutants. Some pollutants are emitted

directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),1 nitrogen oxides (NOX), particulate matter with diameters of ten microns or less (PM10) and 2.5 microns or less (PM2.5), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NOX. Secondary pollutants include oxidants, and sulfate and nitrate particulates (smog).

A significant adverse air quality impact may occur when a project conflicts with or obstructs implementation of the applicable air quality plan; results in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard; exposes sensitive receptors to substantial pollutant concentrations; or results in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Thresholds of Significance and Screening Criteria

The project site is located within the San Francisco Bay Area Air Basin (SFBAAB) and falls under the jurisdiction of the Bay Area Air District (Air District). This air quality analysis conforms to the methodologies recommended by Air District's *2022 CEQA Guidelines* (BAAQMD 2023). Table 7 shows the significance thresholds for construction and operational-related criteria air pollutant and precursor emissions being used for the purposes of this analysis. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. For the purposes of this analysis, the project would result in a significant impact if construction or operational emissions would exceed thresholds as shown in Table 7.

Table 7 Air Quality Thresholds of Significance

	Construction-Related Thresholds	Operation-Related Thresholds	
Pollutant/ Precursor	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tpy)	Average Daily Emissions (lbs/day)
ROG	54	10	54
NO_X	54	10	54
PM_{10}	82 (exhaust)	15	82
$PM_{2.5}$	54 (exhaust)	10	54

Notes: tpy = tons per year; lbs/day = pounds per day; NOX = oxides of nitrogen; PM2.5 = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM10 = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ROG = reactive organic gases; tpy = tons per year.

Source: BAAQMD 20231

According to Chapter 4 of Air District's *2022 CEQA Guidelines,* which includes the Air District's screening criteria, construction of a project would result in less than significant impacts related to criteria air pollutants if:

- The project size is at or below the applicable screening level size shown in *Guidelines* Table 4-1.
- All best management practices (see Table 5-2 in *Guidelines* Chapter 5, "Project-Level Air Quality Impacts" of the guidelines) are included in the project design and implemented during construction.

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this report.

- Construction-related activities would not overlap with operational activities.
- Construction-related activities would not include:
  - Demolition,
  - Simultaneous occurrence of two or more construction phases (e.g., paving and building construction would occur simultaneously),
  - Extensive site preparation (e.g., grading, cut and fill, or earth movement),
  - Extensive material transport (e.g., soil import and export requiring a considerable amount of haul truck activity), or
  - Stationary sources (e.g., backup generators) subject to Air District rules and regulations.

If a project fails to meet any of the screening criteria above, then the lead agency would need to perform a detailed assessment of the project's criteria air pollutant and precursor emissions. Given that construction of the proposed project would include demolition, the project would fail to meet the first criterion. Therefore, a detailed assessment of the project's construction emissions (Table 8) is provided and compared to Air District thresholds shown in Table 7.

Additionally, operation of a project would result in less than significant impacts related to criteria air pollutants if:

- The project size is at or below the applicable operational screening level size shown in Table 4-1 of the *Guidelines*.
- Operational activities would not include stationary engines (e.g., backup generators) and industrial sources subject to Air District rules and regulations.
- Operational activities would not overlap with construction-related activities.

The project would include 193 residential units, which would not exceed the screening level size of 638 dwelling units for apartments shown in Table 4-1 of the *Guidelines*. Furthermore, the project would not include stationery or industrial sources, and operational activities would not overlap with construction related activities. Therefore, the project would meet all three operational criteria. Nonetheless, a detailed assessment of the project's operational emissions is provided and compared to Air District thresholds shown in Table 7.

Consistency with Applicable Air Quality Plan

The California Clean Air Act requires that air districts create a Clean Air Plan that describes how the jurisdiction will meet air quality standards. The Air District's most recently adopted air quality plan is the 2017 Bay Area Clean Air Plan (2017 Plan) (BAAQMD 2017a). The 2017 Plan focuses on two paramount goals, both consistent with the mission of the Air District:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs
- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

Under Air District's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan
- Includes applicable control measures from the air quality plan
- Does not disrupt or hinder implementation of any air quality plan control measures

A project that would not support the 2017 Plan's goals would not be considered consistent with the 2017 Plan. On an individual project basis, consistency with Air District's quantitative thresholds is interpreted as demonstrating support with the 2017 Plan's goals. As shown in Table 8 and Table 9 below, the project would not result in exceedances of BAAQMD thresholds for criteria air pollutants and thus would not conflict with the 2017 Plan's goal to attain air quality standards.

The 2017 Plan includes goals and measures to promote building decarbonization, conservation of water, use of on-site renewable energy, and energy efficiency. The project would be supplied electricity by PG&E, which is required to procure 100 percent of its energy supply from renewable sources by 2045. The project would comply with applicable California Green Building Standards, including installation of energy-efficient equipment and lighting. Further, the project would not include natural gas usage. Therefore, the project would not conflict with or obstruct the implementation of an applicable air quality plan, and impacts would be less than significant.

Criteria Pollutant Emissions

Methodology

Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.35. CalEEMod uses project-specific information, including the project's land uses, square footages for different uses (e.g., residential, commercial, parking), and location, to model a project's construction and operational emissions. The analysis reflects the construction and operation of the project as described under Section 2.2, *Project Description*. The following subsections discuss emissions associated with construction and operation of the proposed project.

Construction Emissions

Construction activities associated with development of the project would temporarily generate emissions associated with diesel-powered construction equipment and fugitive dust. Construction emissions modeled include emissions generated by construction equipment used on the site and emissions generated by vehicle trips associated with demolition and construction, such as worker, hauling, and vendor trips. Table 8 summarizes the estimated average daily emissions of ROG, NO_X, CO, PM_{10} exhaust, $PM_{2.5}$ exhaust, and sulfur oxide (SO_x) during project construction. As shown in Table 8, project construction emissions for criteria pollutants would be below the Air District's average daily thresholds and therefore would be less than significant.

Table 8 Project Construction Emissions

	Average Daily Emissions (lbs/day)					
Construction Year	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10} (exhaust)**	**$PM_{2.5}$ (exhaust)**
2027	<1	3	11	<1	<1	<1
2028	1	4	13	<1	<1	<1
2029	9	1	2	<1	<1	<1
Maximum Average Daily Emissions	9	4	13	<1	<1	<1
Air District Thresholds (average daily emissions)	54	54	N/A	N/A	82	54
Threshold Exceeded?	**No**	**No**	**N/A**	**N/A**	**No**	**No**

N/A = not applicable (no BAAQMD threshold for CO or SO_X)

Source: See CalEEMod worksheets in Appendix D. Numbers may not add up due to rounding.

Operational Emissions

Operation of the project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment) and mobile sources (i.e., vehicle trips to and from the project site). Long-term emissions associated with project operation are shown in Table 9. Emissions would not exceed Air District daily or annual thresholds for any criteria pollutant.

Table 9 Project Operational Emissions

	Average Daily Emissions					
Sources	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Average Daily Emissions (lbs/day)						
Mobile	3	2	20	<1	5	1
Area	7	<1	7	<1	<1	<1
Energy	0	0	0	0	0	0
Maximum Average Daily Emissions	10	2	27	<1	5	1
Air District Thresholds (average daily emissions)	54	54	54	54	54	54
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Emissions (tons/year)						
Maximum Annual Emissions	2	<1	5	<1	1	<1
Air District Thresholds (maximum annual emissions)	10	10	N/A	N/A	15	10
Threshold Exceeded?	**No**	**No**	**N/A**	**N/A**	**No**	**No**

N/A = not applicable (no BAAQMD threshold for CO or SO_X)

Source: See CalEEMod worksheets in Appendix D. Numbers may not add up due to rounding.

Exposure of Sensitive Receptors

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Therefore, the majority of sensitive receptor locations are schools, hospitals, and residences. The closest sensitive receptors to the project site are the multi-family residences located adjacent to the property to the south of the site and approximately 55 feet to the east of the project site boundary, as well as the single family residences to the adjacent to the west of the site. Localized air quality impacts to sensitive receptors typically result from CO hotspots and TACs, which are discussed in the following subsections.

Carbon Monoxide Hotspots

According to the Bay Are Air District Chapter 4, *Screening for Criteria Air Pollutants and Precursors*, a project would have less than significant CO impacts if:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans;
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As discussed in the project-specific Transportation Analysis prepared by RK Engineering Group Inc. (see Appendix A), the project would not conflict with plans or policies for designated roads or highways or the regional transportation plan. Therefore, the project is presumed to be consistent with applicable congestion management programs established at the county and local level. There are no intersections in the project vicinity with volumes of more than 44,000 vehicles per hour, nor are there intersections with volumes of more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited; for example, the Transportation Analysis (see Appendix A) conducted traffic counts for nearby intersections. The intersection of Las Gallinas Avenue and Merrydale Road shows cumulative hourly trips of 1,396 during PM peak hour with inclusion of the project, which is substantially lower than the 44,000 vehicle per hour threshold and 24,000 vehicle per hour threshold for intersections with limited vertical and/or horizontal mixing. Additionally, the San Francisco Bay Area Air Basin has been designated attainment for both federal and State standards for CO since 1998 (BAAQMD 2017b). Impacts related to CO emissions would be less than significant.

Toxic Air Contaminants

The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, demolition, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998 (CARB 2024).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project using heavy construction equipment would occur over approximately 24 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., 24 months) is approximately seven percent of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2023).

The construction equipment used would have US EPA Tier 4 engines, which greatly reduces DPM emissions compared to older engines. With use of Tier 4 engines as proposed, DPM generated by project construction would not create conditions where the probability is greater than ten in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Operation

Sources of operational TACs include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The project does not include construction of new gas stations, dry cleaners, highways, roadways, or other sources that could be considered new permitted or non-permitted sources of TAC or $PM_{2.5}$ in proximity to sensitive receptors. In addition, mobile emissions generated from the project would be minimal and spread over a broad geographical area. Project operation would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Odors

The Air District's 2022 CEQA Air Quality Guidelines identify land uses that have the potential to generate substantial odor complaints. The uses listed in the Air Quality Guidelines include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants (BAAQMD 2023). Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills.

The project does not involve and would not locate new sensitive receptors in proximity to odor-emitting uses as identified in The Bay Area's 2022 CEQA Air Quality Guidelines. The proposed uses would not generate objectionable odors that would affect a substantial number of people. Furthermore, the project would be subject to Bay Area Air District Regulation 7, Odorous Substances, which requires abatement of any nuisance generating an odor complaint. The project would not substantially cause new sources of odors and would not significantly expose sensitive receptors to existing or new odors, and impacts would be less than significant.

Conclusion

The proposed project would not result in significant air quality impacts.

3.4.4 Water Quality

The project site is currently mostly developed with existing structures and surface parking, and there are no wetlands on or adjacent to the project site (USFWS 2025b).

The site is comprised mostly of impervious surfaces under existing conditions and, although the project would incrementally increase impervious surfaces, this condition would not substantially change with the proposed project. Water quality of runoff from the site would be incrementally improved due to the incremental decrease in surface parking, which is a common source of pollutants in stormwater from oil and grease that contains potentially harmful hydrocarbon compounds. In addition, the City of San Rafael's Urban Runoff Pollution Prevention ordinance (Code of Ordinances Chapter 9.30) includes provisions to comply with federal requirements for the control of urban pollutants in storm water runoff during construction and operation. The Code of Ordinances requires construction projects to implement best management practices (BMPs) during construction to prevent discharge of construction contaminants including erosion and sediment controls and pollution prevention practices, and to implement an Erosion and Sediment Control Plan if subject to a grading or building permit. Impacts would be less than significant.

Conclusion

Because the project would not substantially increase stormwater runoff and would be required to comply with City requirements to control and filter runoff, development of the proposed project would not degrade the quality of stormwater runoff from the site compared to existing conditions. Impacts would be less than significant, and the project would meet the requirements for water quality under criterion (d).

3.5 Criterion (e)

The site can be adequately served by all required utilities and public services.

The project site is located in an urban area served by existing public utilities and services; the site itself, which is currently developed with a commercial building and use, is currently served by such public utilities and services. Marin Water provides water service and the Las Gallinas Valley Sanitary District (LGVSD) provides wastewater service.

Regarding water service, as discussed in the Environmental Impact Report prepared for the adjacent Northgate Mall Redevelopment Project (City of San Rafael 2024), Marin Water's three main water treatment plants have a total capacity of 71 million gallons per day, which equates to approximately 79,530 acre-feet per year. This substantially exceeds the anticipated water demand for the Marin Water service area, and no new water facilities or expansion of existing facilities would be required.

Regarding wastewater service, LGVSD has confirmed that sewer capacity limitations exist in the project vicinity. LGVSD has required the project applicant to prepare a sewer flow analysis that analyzes the combined impact of future development anticipated by the City as well as the proposed project. The project applicant is responsible for any capacity upgrades of existing sanitary sewerage facilities. As this would also be a condition of approval for the project, the project would only be approved for occupancy with confirmation from the LGVSD that the site can adequately be served by wastewater facilities.

Conclusion

The proposed project involves infill development on a project site in an urban area that is already served by existing utilities and public services. As discussed under criterion (a), the project is consistent with the General Plan land use designation for the site. The site is served by all required utilities and public services, although some utility infrastructure may require upgrades that must be completed prior to occupancy of the project and provision of these services. The project would not increase the intensity of use such that existing utility and public service providers would not be able to serve the project site, with upgrades to sewer facilities as required if necessary. Therefore, the project would meet the requirements for Utilities and Service Systems under *criterion (e)*.

4 Exceptions to the Exemption

CEQA Guidelines Section 15300.2 outlines exceptions to the applicability of a Categorical Exemption, including cumulative impacts, significant effects due to unusual circumstances, scenic highways, hazardous waste sites, and historical resources. These exceptions are discussed below. As shown, none of the exceptions would apply.

4.1 Cumulative Impacts

CEQA Guidelines Section 15300.2 states that "all exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant." There are two relevant projects within 0.5-mile of the project site (City of San Rafael 2025b):

- The 4040 Civic Center Drive Residential Project, a proposed multi-family housing development with 187 residential units. This project site is approximately 0.4-mile northeast of the project site and also separated from the project site by U.S. 101. This project is currently under review by the City.
- The Northgate Mall Redevelopment Project, which would include a comprehensive redevelopment of the existing mall into mixed-use development of retail and up to 1,422 residences in buildings in the form of townhome units and apartment buildings ranging in height from two to seven stories. This project has been approved.

The Northgate Mall Redevelopment Project could be conservatively considered to be roughly "in the same place" as the project site.

As discussed in Section 3.3, Criterion (c) above, the project would not affect sensitive biological resources and therefore would not result in a cumulative impact related to biological resources. As discussed in sections 3.4, Criterion (d), subsections A and C above, VMT and air quality analyses already take into account cumulative impacts and these impacts were found to be less than significant. As discussed in Section 3.4, Criterion (d), subsection D and Section 3.5, Criterion (e), the proposed project would not contribute pollutants such that water quality would be impacted and would be served by available utilities and public services with required upgrades as identified by the City and utility providers. The project would not result in a cumulatively considerable contribution to potential cumulative impacts.

For historical resources, demolition of the building at 555 Northgate Drive would not result in an impact to historical resources; it therefore would not contribute to a cumulative impact. Impacts to the adjacent Terra Linda Valley neighborhood, which may be considered a historical resource, would be less than significant as detailed below in Section 4.5. No archaeological resources were identified that qualify for historical resources pursuant to CEQA and the City has adopted policies and regulations to protect cultural and historical resources in the case of an unanticipated discovery during construction. As such, the project would not contribute to a cumulative impact on historical resources.

The project would involve temporary noise and vibration during construction; however, these effects are localized and would cease upon cessation of construction activities. Construction noise generated by the proposed project, in combination with construction activities for other cumulative projects that may be constructed simultaneously, could substantially increase noise levels in the vicinity of future projects. These sources may combine with noise from other nearby cumulative projects to result in higher noise levels. Similar to the proposed project, cumulative development in the city would be required to comply with the construction hours outlined by Section 8.13.050(A) of the SRMC. Construction noise from the proposed project would be under the City's construction standard of 90 dBA L_{max}. As the proposed project's construction noise level would be below the City's construction noise standard, would implement the City's standard COAs and complies with the City's allowable construction hours, just as other cumulative projects would be required to manage their construction noise levels and adhere to the

City's standard COAs, the proposed project would not result in a cumulatively considerable contribution to cumulative construction noise. This exception does not apply to the proposed project.

4.2 Significant Effect due to Unusual Circumstances

CEQA Guidelines Section 15300.2 states that "a categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances."

As discussed under Section 2.1, *Project Location and Existing Conditions*, the project site is a gently sloping, paved and developed site in an urbanized area surrounded by other development. Neither the site, its surroundings, or the proposed project itself (a residential project on a developed site in an urban area) are unusual in terms of existing conditions, land uses or proposed features. The potential presence of cultural resources is not uncommon or unusual in urban neighborhoods in the Bay Area, and as discussed further below, impacts related to cultural resources would be less than significant with implementation of existing City regulations. The project site does not possess characteristics which would qualify as unusual circumstances under *CEQA Guidelines* Section 15300.2. There are no known unusual circumstances at the project site or related to project operations that would result in a reasonable possibility of significant effects on the environment. Therefore, this exception to a CE does not apply to the proposed project.

4.3 Scenic Highways

CEQA Guidelines Section 15300.2 states that a CE "shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway."

There are no designated State Scenic Highways in the vicinity of the project site. The closest scenic highways are portions of State Route 37 and U.S. 101, both approximately 5 miles north of the site. Due to distance and intervening topography, the project site is not visible from State Route 1. The project would not damage scenic resources within a highway officially designated or eligible for designation as a state scenic highway. This exception would not apply to the project.

4.4 Hazardous Waste Sites

CEQA Guidelines Section 15300.2 states that a categorical exemption "shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code."

The site is not a hazardous waste site and is not included on a list compiled pursuant to Section 65962.5 of the Government Code (DTSC 2025, SWRCB 2025). This exception is not applicable to the proposed project.

4.5 Historical Resources

CEQA Guidelines Section 15300.2(f) states that a categorical exemption "shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource."

Rincon Consultants prepared a Historical Resources Assessment for the project site in December 2025. The assessment included background and archival research, a California Historical Resources Information System (CHRIS) records search, a Sacred Lands File (SLF) search, field survey, and California Register of Historical Resources (CRHR) and City of San Rafael Landmark evaluations to identify

historical resources, as defined by CEQA Section 15064.5(a), within the project site. The Historical Resources Assessment is included in Appendix E.

Rincon determined that the existing historic-age building on the site, 555 Northgate Drive, was previously determined to be ineligible for the National Register of Historic Places (NRHP) in 2020, through Section 106 of the National Historic Preservation Act review, but was not evaluated for eligibility for listing in the CRHR or as a City of San Rafael Landmark (OHP 2020). As detailed in the Historical Resources Assessment (Appendix E), Rincon recommends 555 Northgate Drive as ineligible for listing in the CRHR due to lack of historical and architectural significance, and ineligible for listing as a City of San Rafael Landmark due to a lack of historical, cultural, architectural, engineering, and geographic importance. Therefore, the property is not a historical resource as defined by CEQA.

Background review determined that the project site is immediately adjacent (east) of the northeastern edge of the Terra Linda Valley neighborhood, a subdivision of approximately 100 houses developed by Joseph Eichler between 1959 and 1960. The Terra Linda Valley neighborhood is included on the San Rafael Historical/Architectural Survey, and as noted in the *Northgate Town Square Project, San Rafael, California / Final Built Environment Inventory and Evaluation Report* prepared by Dudek in 2022 as part of the Northgate Mall Redevelopment Project EIR, was presumed eligible as a historic district for the purposes of that project and considered a CEQA historical resource (Dudek 2022). While the district's immediate setting along its northeastern perimeter would be altered by the proposed 7-story building, the district would retain its existing location, layout, function as a residential neighborhood, and overall setting in an urban area, which has seen periodic development (including expansion of the nearby Northgate Shopping Center) since the district was built in 1959-1960. Thus, the district's integrity would remain sufficient to support its presumed eligibility.

No archeological resources, which could qualify as historical resources pursuant to CEQA, are known to be located within the project site, based upon background research and field survey. As discussed in the Historical Resources Assessment (Appendix E), the project site is not sensitive for archaeological resources based on findings of the CHRIS records search, SLF search, and geoarcheological review. Nonetheless, grading and site preparation for the proposed project has the potential to encounter unanticipated archaeological resources.

The City has adopted policies and regulations to protect cultural and historical resources. These include the following:

- **San Rafael General Plan 2040 Policy CDP-5.13: Protection of Archaeological Resources.** Protect significant archaeological resources by: a) Consulting the City's archaeological resource data base prior to issuing demolition or construction permits in known sensitive areas. b) Providing information and direction to property owners to make them aware of these resources and the procedures to be followed if they are discovered on-site. c) Identifying, when possible, archaeological resources and potential impacts on such resources. d) Implementing measures to preserve and protect archaeological resources, including fines and penalties for violations.
- **Resolution No. 10980.** Resolution of the San Rafael City Council Rescinding Resolution No. 10933 and Approving Revised Procedures and Regulations for Archaeological Resources Protection in the City of San Rafael. Among a number of relevant provisions in this resolution is the direction that "If it is determined that there is an archaeological resource present, the Community Development Department may require that approval of the permit be issued with conditions" to ensure protection of cultural resources.
- **San Rafael Code of Ordinances Chapter 2.19 – Archeological Resources Protection.** This section of the City's code includes this provision, among others: "…Implement measures that would preserve and protect valuable archeological resources, when there is a potential for encountering such resources."

Accordingly, the City, as a standard regulatory practice, includes conditions of approval (COAs) for projects on sites with the potential to contain cultural resources, as required by these City policies and regulations – in particular, its Archaeological Resources Protection ordinance. The COAs reflect the

requirements of Resolution No. 10980, Policy CDP-5.13 and City Code Chapter 2.19 that cultural resources, including paleontological resources and human remains, if inadvertently discovered, would require work to be halted until appropriate avoidance and/or protection measures can be undertaken to the extent feasible. The COAs would ensure this through measures including but not limited to preparation and implementation of a Data Recovery and Treatment Plan or equivalent prior to ground disturbance that delineates the extent of archaeological resources, including consultation with native American representatives; oversight of ground disturbance by a qualified archaeologist; recordation and proper treatment of any encountered cultural resources; and avoidance and preservation in place of inadvertently discovered resources wherever possible.

With adherence to existing City policies and regulations the project would not result in an adverse change to the significance of a historical resource and this exception is not applicable to the proposed project.

5 Summary

Based on this analysis, the proposed 555 Northgate Drive Affordable Housing Project meets the criteria for a Class 32 Categorical Exemption pursuant to Section 15332 of the State CEQA Guidelines and is exempt from CEQA pursuant to CEQA Guidelines Article 19.

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Appendix A

Transportation Analysis

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555 Northgate Drive Multifamily Residential Project Transportation Analysis

City of San Rafael, California
October 2, 2025

rkengineer.com

RK ENGINEERING GROUP INC.

555 Northgate Drive Multifamily Residential Project Transportation Analysis

City of San Rafael, California

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1.0 Introduction

1.1 Purpose of Report & Study Objectives

The purpose of this transportation analysis is to evaluate the 555 Northgate Drive Multifamily Residential Project (hereinafter referred to as "project") from a traffic and circulation standpoint, and to determine whether the project would result in any significant traffic impacts. This traffic study has been prepared in accordance with the *City of San Rafael Transportation Analysis Guidelines*, dated June 2021(City's Guidelines), and the California Environmental Quality Act (CEQA) requirements.

This study follows the scope of work previously reviewed and approved by the City of San Rafael, as provided in **Appendix A**.

1.2 Site Location & Project Description

The proposed project site is located at 555 Northgate Avenue, generally south of Northgate Drive between Nova Albion Way & Las Galinas Avenue/Los Ranchitos Road, in the City of San Rafael. The project site is occupied by an approximately 14,980 square foot (SF) general office building which is currently in operation.

The project proposes to raze the existing office building and construct a 7-story multifamily residential building, consisting of 5 stories of Type III-A residential units over a 2-story Type I-A parking podium. The development will include 200 units, all of which are proposed to be affordable.

Access to the project is currently provided and is proposed to continue to be provided via two (2) unsignalized driveways located along Northgate Drive. Currently, the easternmost driveway serves ingress-only traffic while the westernmost driveway currently serves egress-only traffic. The project proposes to widen each driveway to provide both ingress & egress traffic. The westernmost driveway (i.e., Intersection #2) is proposed to be right-in/right-out only while the easternmost driveway (i.e., Intersection #3) is proposed to be full-access.

The project is planned to open in 2028.

Exhibit 1-1 shows the location map of the proposed project. **Exhibit 1-2** shows the proposed site plan.

1.3 Traffic Study Area & Analysis Scenarios

As detailed in the approved scope of work, this analysis has been prepared as a Local Transportation Analysis (LTA) plus an Intersection Operations Analysis (IOA). Per the City's Guidelines, the study area for this level of analysis must, at a minimum, include the adjacent roadway system providing direct access to the project site, as well as pedestrian, bicycle, and transit facilities in the immediate vicinity.



Legend

= Project Site Boundary

Exhibit 1-1

Aerial Location Map



Exhibit 1-2

Project Site Plan

Accordingly, the study area encompasses the project driveways and nearby intersections where project-related traffic is expected to affect operations.

The City's guidelines further specify that additional intersections should be evaluated under any of the following conditions: (1) the intersection currently operates at LOS D or worse; (2) the intersection is located in close proximity to a project driveway; or (3) the Project adds ten or more peak-hour trips per lane to any movement. In consultation with City staff, and consistent with the approved scope of work, the following intersections were identified for inclusion in the study area:

1. Nova Albion Way (NS) at Northgate Drive (EW)
2. Project Access Driveway 1 (NS) at Northgate Drive (EW)
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)
4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)
5. Las Gallinas Avenue (NS) at Merrydale Road (EW)

Exhibit 1-3 illustrates the traffic analysis study area.

The analysis evaluates traffic conditions of the aforementioned study intersections for the following scenarios during the weekday (7:00 AM to 9:00 AM) and weekday PM (4:00 PM to 6:00 PM) peak periods.

Existing Conditions

1. Existing Without Project Conditions
2. Existing With Project Conditions

Near-Term Conditions

3. Existing Plus Approved Development Without Project Conditions
4. Existing Plus Approved Development With Project Conditions

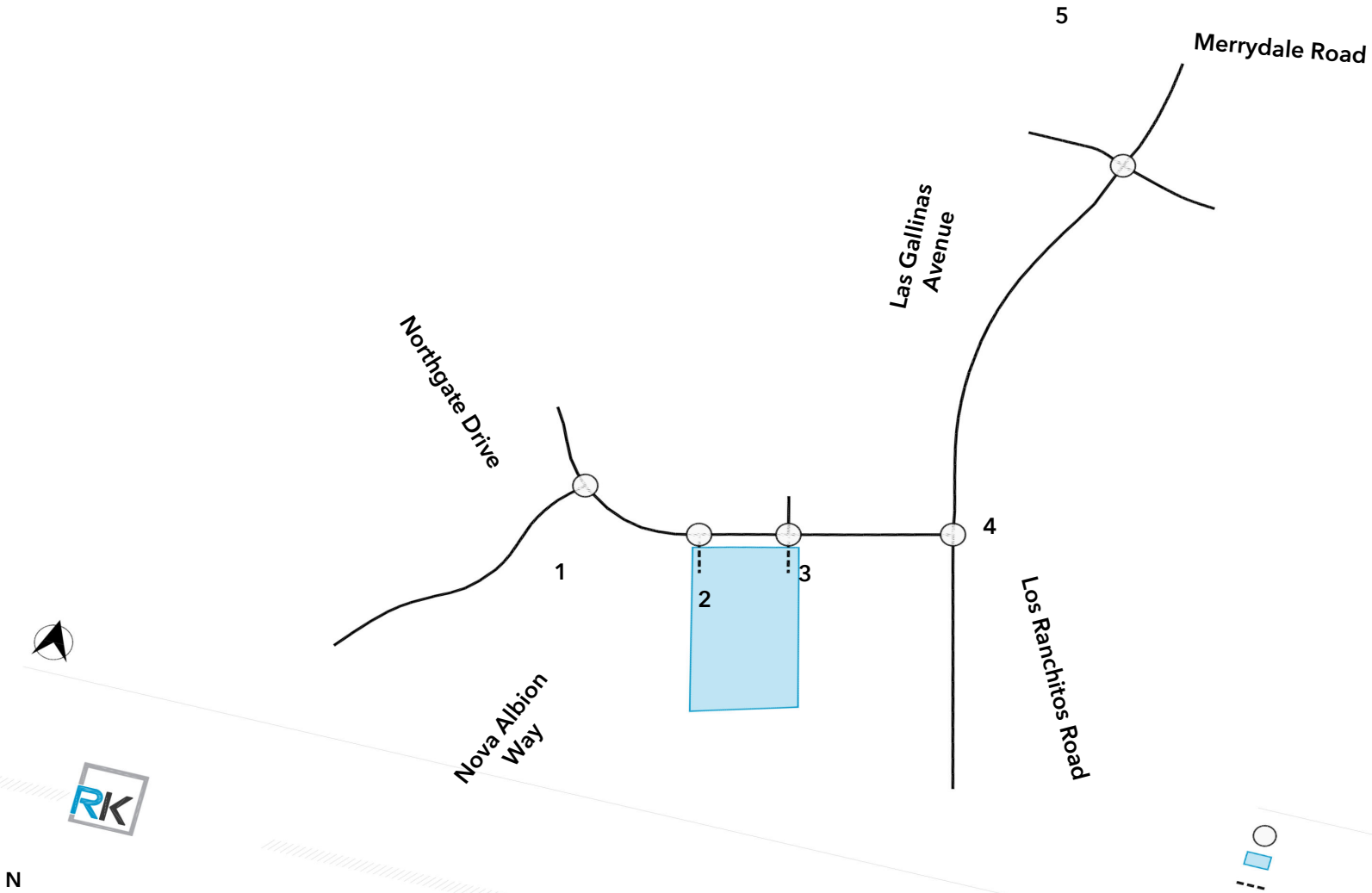


Exhibit 1-3
Study Area

2.0 Analysis Methodologies & Performance Criteria

This section of the report summarizes the methodologies used to perform the traffic analyses in this report and discusses the agency-established applicable performance criteria and thresholds for requiring Level of Service (LOS) improvements for the study facilities.

2.1 Study Intersection Peak Hour Level of Service (LOS) Analysis Methodology

In accordance with the City's Guidelines, the Highway Capacity Manual Seventh Edition (HCM 7) is utilized as the technical guide in the evaluation of traffic operations.

The HCM defines level of service as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS (Level of Service) conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

- **LOS A** (Free Flow / Insignificant Delays) describes traffic operations in which progression is exceptionally favorable or the cycle length is extremely short. Generally, LOS A operations for signalized intersections tend to result in most vehicles arriving during the green phase and traveling through the intersection without stopping.

- **LOS B** (Stable Operation / Minimal Delays) describes traffic operations in which progression slightly diminishes but is still considered highly favorable and the cycle length is short. Vehicles stop more often causing a marginal increase in average delay.

- **LOS C** (Stable Operation / Acceptable Delays) describes traffic operations in which progression is favorable and the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Many vehicles still pass through the intersection, but a significant number of vehicles are stopping. Average delay is fair.

- **LOS D** (Approaching Unstable / Tolerable Delays) describes traffic operations in which progression is ineffective and/or cycle length is long. Considerable amount of vehicles stop and individual cycle failures are noticeable. Average delay is adequate.

- **LOS E** (Unstable Operation / Significant Delays) describes traffic operations in which progression is unfavorable and the cycle length is exceedingly long. Individual cycle failures are frequent. Average delay is high.

- **LOS F** (Forced Flow / Excessive Delays) describes traffic operations in which progression is extremely poor and the cycle.

2.1.1 HCM (7th Edition) Methodology

Level of service is typically dependent on the quality of traffic flow at the intersection along a roadway. The Highway Capacity Manual 7th Edition (HCM 7) expresses the level of service at an intersection in terms of delay time for various intersection approaches. The HCM 7 uses different procedures depending on the type of intersection control. The levels of service determined in this study are calculated using the HCM 7 methodology.

For signalized intersections, average control delay per vehicle is used to determine the LOS. For all-way stop-controlled intersections, average control delay per vehicle is also used to determine the LOS.

For intersections with stop control on the minor approach only, the calculation of LOS is dependent on the occurrence of gaps in the free-flow traffic movement of the major street, and the LOS is determined based on the worst stop-controlled approach from the minor street or an individual movement from the major street, whichever is worse.

Table 2-1 shows the level of service criteria based on the HCM 7 methodology.

Table 2-1 | HCM Intersection LOS & Delay Ranges

LOS	Average Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	0.00 - 10.00	0.00 - 10.00
B	10.01 - 20.00	10.01 - 15.00
C	20.01 - 35.00	15.01 - 25.00
D	35.01 - 55.00	25.01 - 35.00
E	55.01 - 80.00	35.01 - 50.00
F	>80.00	>50.00

2.1.2 Analysis Parameters

For this study, the HCM level of service grades will be determined utilizing the HCM 7 methodology and Synchro 12 traffic analysis software. All analysis parameters utilized in this analysis are in accordance with *Table 3: Traffic Signal Parameters* of the City's Guidelines. Existing peak hour factors have been calculated based upon the manual turning movement counts collected at the study area intersections.

2.2 City of San Rafael LOS Performance Criteria

Per Policy M-2.5 of the City of San Rafael General Plan, Level of Service (LOS) D is established as the citywide minimum acceptable standard for intersection and roadway operations.

2.3 City of San Rafael Thresholds for Requiring LOS Improvements

Intersectional improvements should be identified, where feasible, under the following conditions referenced from *Table 5: Mobility Deficiency Criteria* of the City's Guidelines:

- If the addition of project traffic causes an intersection to fall below LOS D, as defined in General Plan Policy M-2.5.
- If an intersection is already operating below LOS D under No Project conditions, a deficiency is identified if the project causes an increase in average delay of five seconds or more.

3.0 Circulation System & Existing Conditions

This section provides a discussion of existing study area conditions and traffic volumes.

3.1 Existing Traffic Controls & Intersection Geometrics

Exhibit 3-1 identifies the existing roadway conditions for the study area roadways. The number of through traffic lanes for existing roadways and the existing intersection controls are identified. The type of traffic control and number of lanes at an intersection are key inputs for the calculation of level of service.

3.2 Existing Traffic Volumes

Existing conditions intersection level of service calculations are based upon manual AM and PM peak hour turning movement counts taken in August of 2025 during typical weekday conditions and when local schools were in session. The weekday AM and PM peak hour traffic volumes were determined by counting the two-hour peak period from 7:00 AM to 9:00 AM, and from 4:00 PM to 6:00 PM, respectively, and using the highest hour within each two-hour peak period.

Traffic counts were converted to Passenger Car Equivalents (PCE) based on vehicle classifications. The following PCE conversion factors were utilized:

- 2-Axle Trucks – 1.5 PCE
- 3-Axle Trucks – 2.0 PCE
- 4+ Axle Trucks – 3.0 PCE

Existing traffic volumes are provided in **Exhibit 3-2.**

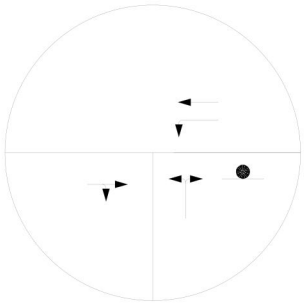
In addition to vehicular volumes, pedestrian and bicyclist volumes were also manually collected during the AM and PM peak periods. **Exhibit 3-3** illustrates the existing peak period pedestrian volumes, while **Exhibit 3-4** illustrates the existing peak period bicycle volumes.

The intersection turning movement traffic count worksheets are included in **Appendix B**.

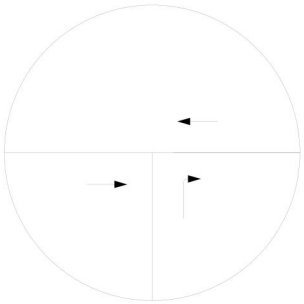
3.3 City of San Rafael General Plan Circulation Element

Figure 10-1: Existing Street System of the City of San Rafael General Plan 2040, adopted August 2, 2021, is presented in **Exhibit 3-5**.

The General Plan classifications for the roadway segments of the study intersections that appear as a major route or is part of a highway system that serves as principal network for through traffic are summarized in **Table 3-1**.

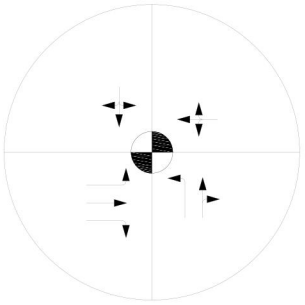


1. Nova Albion Way (NS) at Northgate Drive (EW)

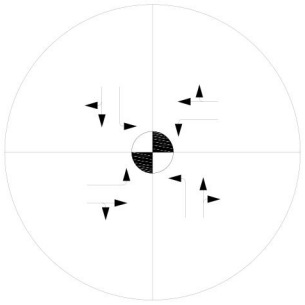


2. Project Access Driveway (NS) at Northgate Drive (EW)

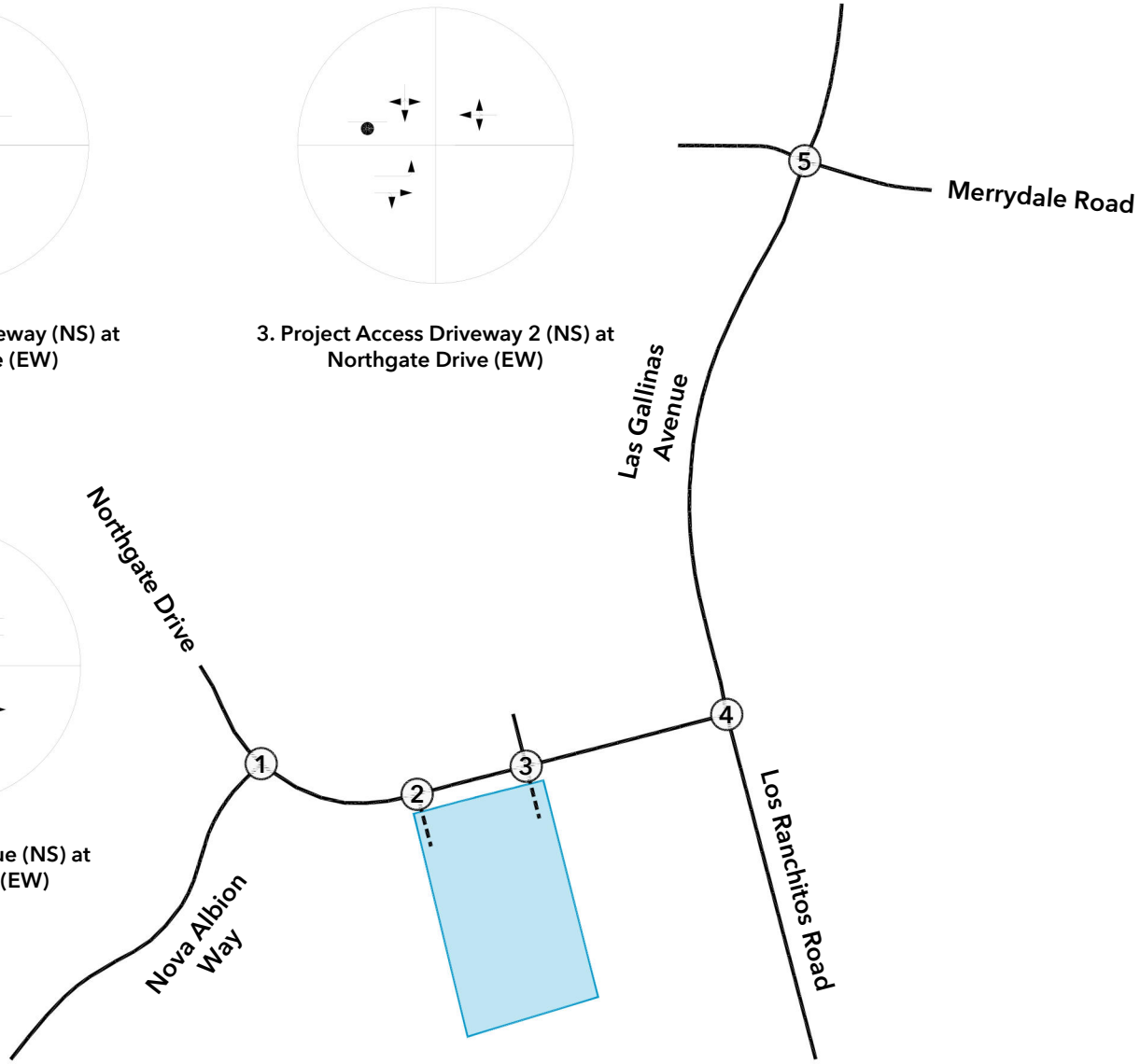
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



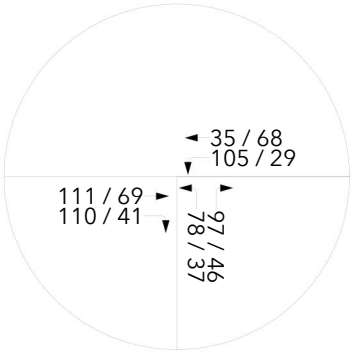
Legend

- (1) = Study Intersection
- = Project Site Boundary
- = Project Access Roadway
- = Traffic Signal
- = Stop Sign

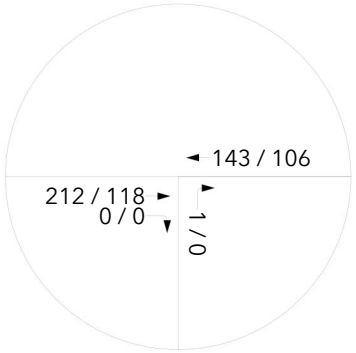
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Exhibit 3-1

Existing Lane Geometrics and Traffic Controls

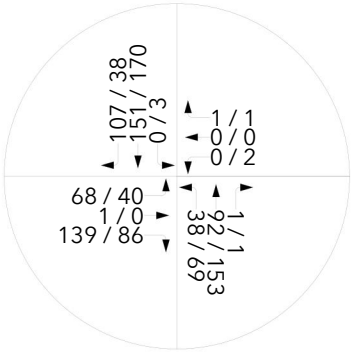


1. Nova Albion Way (NS) at Northgate Drive (EW)

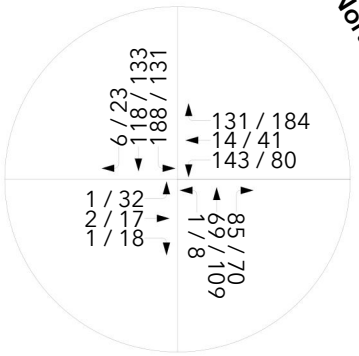


2. Project Access Driveway (NS) at Northgate Drive (EW)

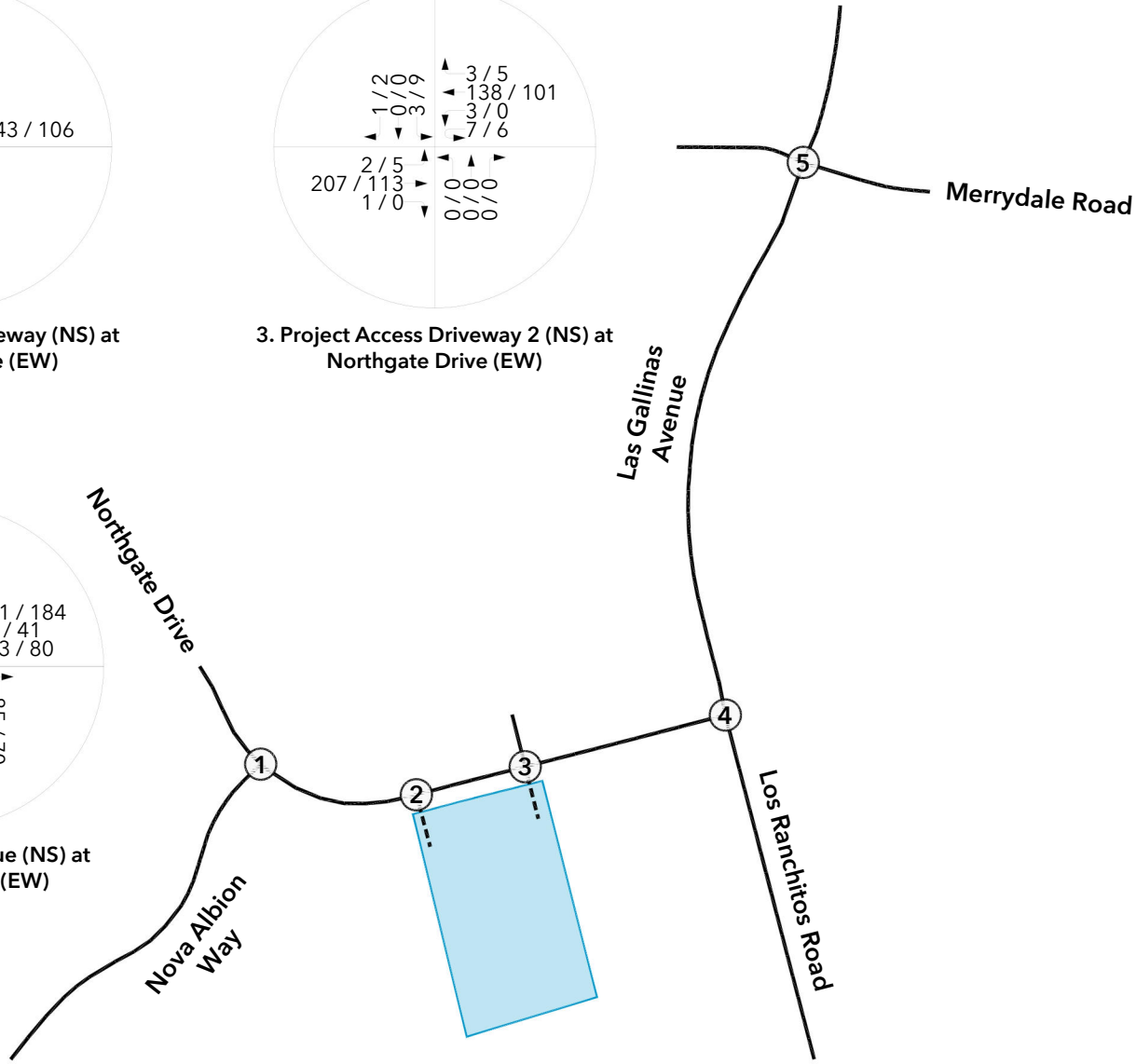
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



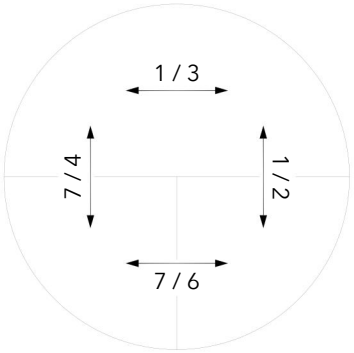
Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Hour Volumes

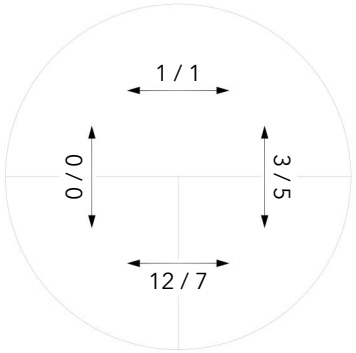
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Exhibit 3-2

Existing Without Project Conditions Traffic Volumes (PCE-Adjusted)

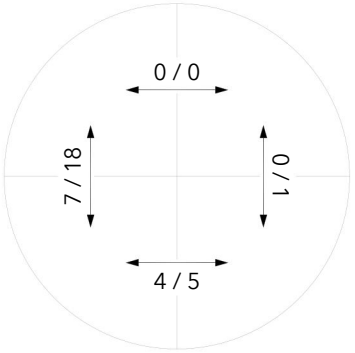


1. Nova Albion Way (NS) at Northgate Drive (EW)

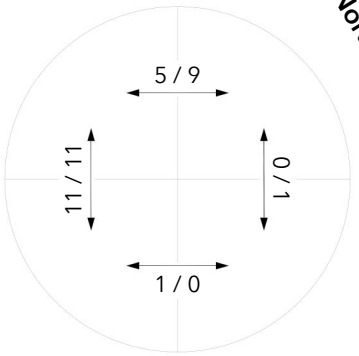


2. Project Access Driveway (NS) at Northgate Drive (EW)

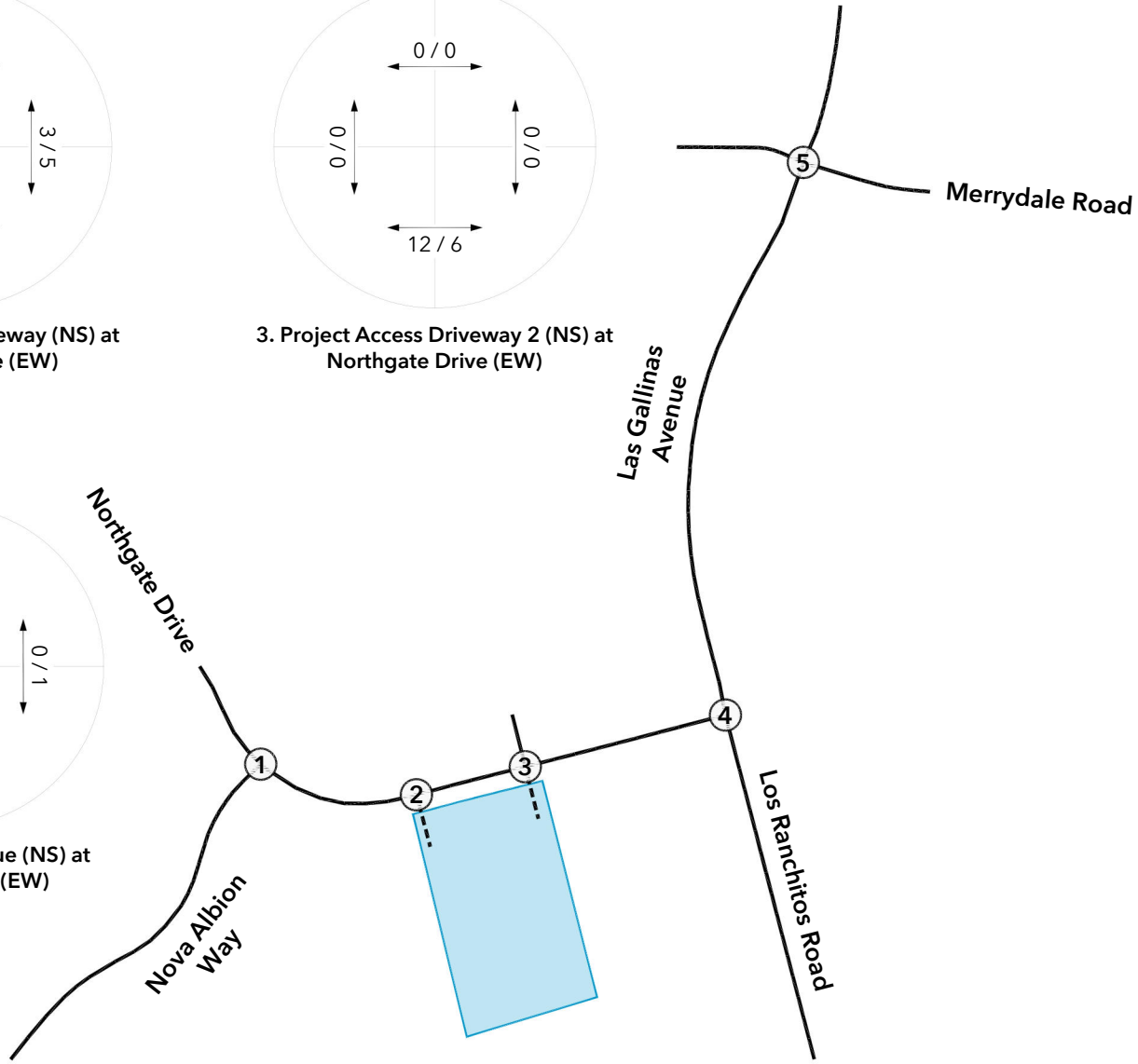
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



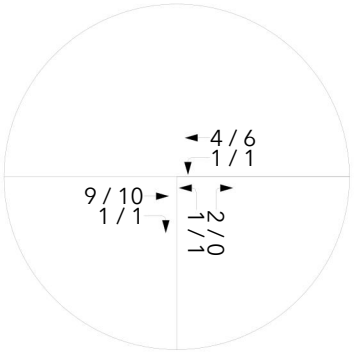
Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Period Volumes

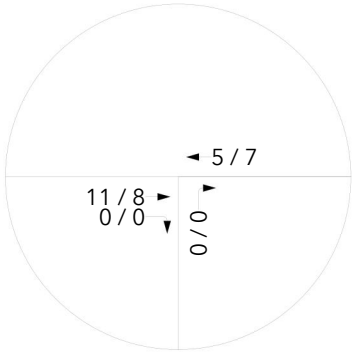
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Exhibit 3-3

Existing Pedestrian Peak Period Volumes

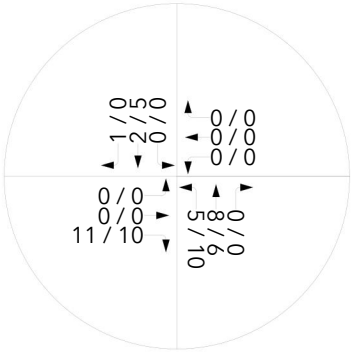


1. Nova Albion Way (NS) at Northgate Drive (EW)

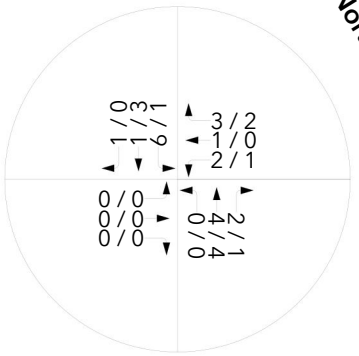


2. Project Access Driveway (NS) at Northgate Drive (EW)

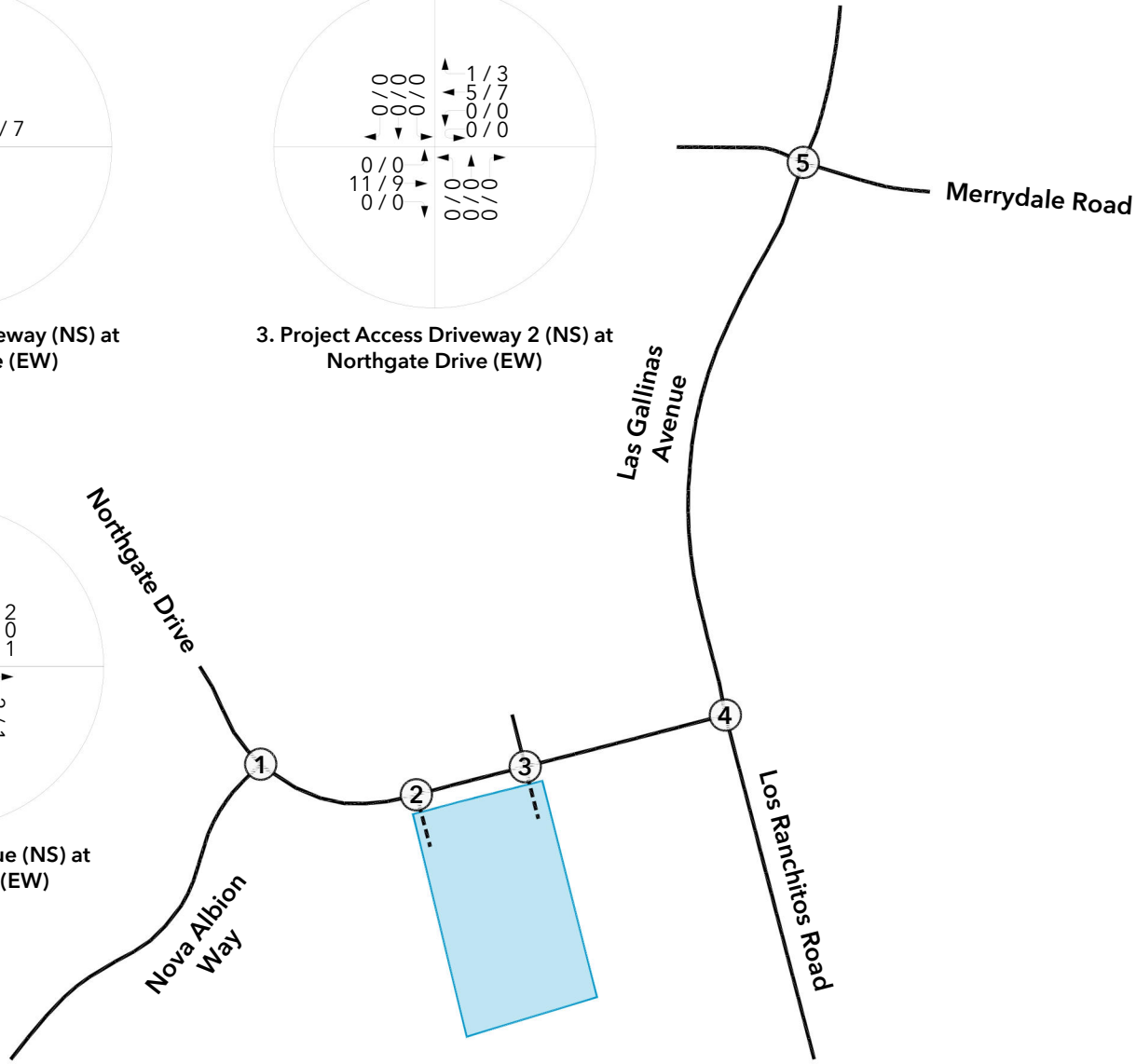
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Period Volumes

N

Exhibit 3-4

Existing Bicycle Peak Period Volumes



Exhibit 3-5

City of San Rafael Existing Street System

Table 3-1 | General Plan Roadway Classifications

Roadway	General Plan Classification[1]
Las Gallinas Avenue	Minor Arterial
Los Ranchitos Road	Minor Arterial
Merrydale Road (East of Civic Center Drive)	Local Road
Merrydale Road (West of Civic Center Drive)	Minor Arterial
Northgate Drive	Collector
Nova Albion Way	Local Road

[1] General Plan classifications referenced from Figure 10-1: Existing Street System of the *City of San Rafael General Plan 2040*.

4.0 Future Traffic Volumes

This section provides a discussion on methodologies utilized to derive future traffic volumes for the study area.

4.1 Project Traffic Conditions

4.1.1 Project Trip Generation

Trip generation is typically estimated based on the trip generation rates from the latest Institute of Transportation Engineers (ITE) Trip Generation Manual. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses. At the time this analysis was being prepared, ITE released the 12th Edition of the Trip Generation Manual (2025). This updated edition reflects revised data and methodology. Accordingly, this study applies the 12th Edition rates rather than the 11th Edition rates referenced in the approved scope of work.

As previously mentioned, the project proposes to raze the existing office building and construct a 7-story multifamily residential building, consisting of 5 stories of Type III-A residential units over a 2-story Type I-A parking podium. The development will include 200 units, all of which are proposed to be affordable.

4.1.2 Existing Trip Generation

To account for trips generated by the existing office use on the project site, 24-hour driveway counts were conducted on Thursday, August 28, 2025 at both project access driveways. These observed driveway counts represent the existing trip generation of the site and inherently account for any current vacancies. Counts were recorded in 15-minute intervals to capture daily and peak hour trips.

From the 24-hour data, daily trip generation as well as peak hour trip generation was identified for the two analysis periods evaluated in this study:

- **AM Peak Period (7:00 AM to 9:00 AM)**
    - 9 AM peak hour trips during the 7:00 AM to 8:00 AM interval.
- **PM Peak Period (4:00AM to 6:00 PM)**
    - 1 PM peak hour trip during the 4:30PM to 5:30 PM interval.
- **Daily Trip Generation**
    - 56 daily trips.

Table 4-1 summarizes the existing site's daily and peak hour trip generation. The 24-hour driveway count data is included in **Appendix C**.

Table 4-1 | Existing Trip Generation[1]

Land Use	Quantity	Units[2]	Weekday Conditions						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
Existing Office Building	14.980	TSF	6	3	9	0	1	1	56

1 Existing trip generation of the existing office building site has been based on 24-hour driveway counts collected in August 2025, during typical conditions. AM and PM peak hour trip generation was determined by selecting the highest one-hour interval within the 7:00 AM–9:00 AM and 4:00 PM–6:00 PM peak periods, respectively

2 TSF = Thousand Square Feet.

4.1.3 Proposed Project Trip Generation

ITE Land Use Code 223: Affordable Housing trip rates are most appropriate to represent the proposed project (i.e., 200 units of affordable housing). **Table 4-2** presents the ITE trip generation rates and trip generation forecast for the proposed project.

Table 4-2 | Project Trip Generation[1,3]

Land Use (ITE Code)	Quantity	Units[2]	Weekday Conditions						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
ITE Trip Generation Rates									
Affordable Housing (223)	- -	DU	29%	71%	0.36	59%	41%	0.46	4.81
Existing Trip Generation									
Existing Office Building [A][3]	14.980	TSF	6	3	9	0	1	1	56
Proposed Project Trip Generation Forecast									
555 Northgate Drive Multifamily Residential Project	200	DU	21	51	72	54	38	92	962
Gross Project Trip Generation [B]			**21**	**51**	**72**	**54**	**38**	**92**	**962**
Net Project Trip Generation [B] - [A]			**15**	**48**	**63**	**54**	**37**	**91**	**906**

1 Source: *ITE Trip Generation Manual (12th Edition, 2025).*

2 DU = Dwelling Units.

3 Existing trip generation (See Table 4-1).

As shown in Table 4-2 (Line-Item B), the proposed project is forecast to generate approximately 962 daily trips, including approximately 72 AM peak hour trips and 92 PM peak hour trips. As shown at the bottom of Table 4-2, after comparing the trips generated by both the existing/entitled and proposed land uses, the project is forecast to generate approximately **906 greater net daily trips, 63 greater net AM peak hour trips, and 91 greater net PM peak hour trips.**

Based on the City's Guidelines, the level of transportation analysis required for a project is generally determined by its expected daily vehicle trip generation. However, exceptions may apply depending on the project's location, such as proximity to a school or specific characteristics, such as a high volume of truck traffic.

Based on the project's net trip generation (i.e., 906 daily trips, 63 AM peak hour trips, and 91 PM peak hour trips), the proposed project qualifies as a Tier 2B project. This tier applies to developments generating between 251 and 1,000 daily trips and fewer than 100 peak hour trips.

4.1.4 Project Trip Distribution & Assignment

Trip distribution represents the directional orientation of traffic to and from the project site. Trip distribution is heavily influenced by the geographical location of the site, the location of residential, employment and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses, highways within the community, and existing traffic volumes.

The assignment of traffic from the project site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, existing and proposed arterial highways, and local street systems, which would be in place by the time of initial occupancy of the site.

Exhibit 4-1 illustrates the proposed project's trip distribution pattern.

4.1.5 Modal Split

Modal split denotes the proportion of traffic generated by a project that would use any of the transportation modes, namely buses, cars, bicycles, motorcycles, trains, carpools, etc. The traffic-reducing potential of public transit and other modes is significant. However, the traffic projections in this study are conservative in that public transit and alternative transportation may be able to reduce the traffic volumes, but no modal split reduction is applied to the projections. With the implementation of transit service and provision of alternative transportation ideas and incentives, the automobile traffic demand can be reduced significantly.

4.1.6 Project Peak Hour Traffic Volumes

The assignment of project traffic to the adjoining roadway system is based upon the project's trip generation, trip distribution, and arterial highway and local street systems that would be in place by the time of initial occupancy of the site.

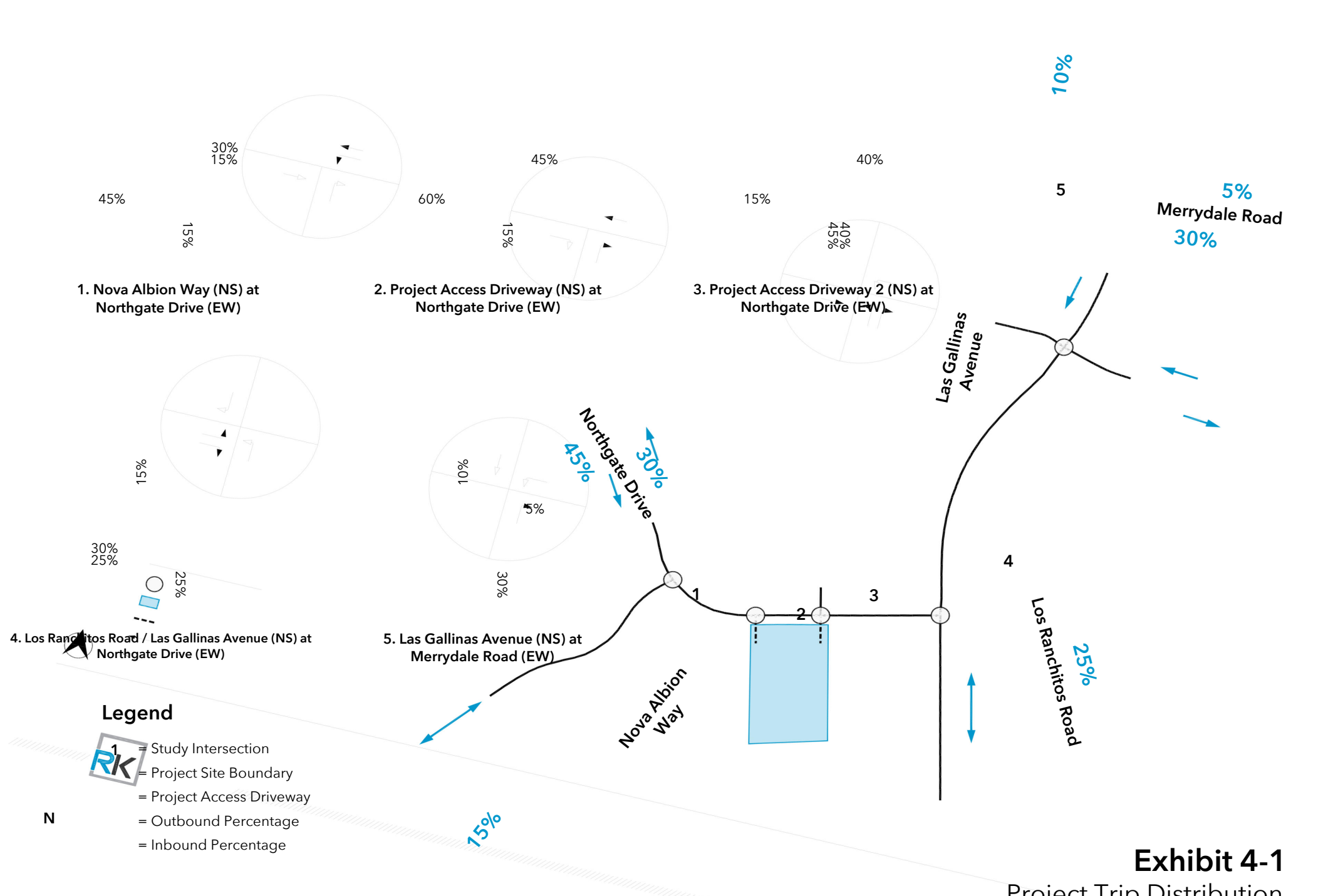


Exhibit 4-1
Project Trip Distribution

Exhibit 4-2 illustrates the project traffic volumes during the weekday AM and PM peak hours.

4.2 Existing With Project Conditions

Existing With Project Conditions traffic volumes were developed by adding the project traffic volumes shown in Exhibit 4-2 to the existing traffic volumes previously illustrated in Exhibit 3-2. This scenario reflects baseline conditions plus project trips, without consideration of background growth or cumulative projects.

Existing Plus Approved Development With Project Conditions traffic volumes are shown in **Exhibit 4-3**.

4.3 Background Traffic for Near-Term (2028) Conditions

4.3.1 Method of Projection

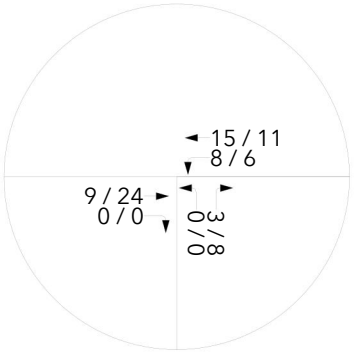
To assess Near-Term (2028) traffic conditions, project traffic is combined with existing traffic and area-wide growth. As directed by City staff, a 2% annual growth rate has been applied to 2025 existing volumes over a three-year period, resulting in a 6% total increase to represent ambient growth through 2028.

4.3.2 Cumulative Projects Traffic Volumes

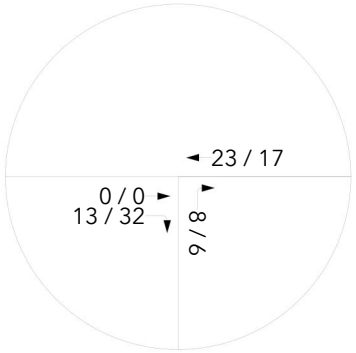
Based on communication with City staff, the nearby Northgate Town Square Project was identified as the only cumulative development to be included in this analysis. This project is located directly north of the proposed project site.

RK reviewed the *Traffic Operations Study for the Northgate Town Square Project*, prepared by W-Trans and dated January 14, 2023. The Northgate Town Square Project is a phased redevelopment of the existing retail space at the Northgate Mall to provide multifamily housing. The first phase, referred to as the 2025 Master Plan, includes up to 977 multifamily residential units and retention of approximately 498,661 square feet of retail space. The second phase, the 2040 Vision Plan, would convert additional retail space to residential use, for a total buildout of up to 1,422 residential units and 225,100 square feet of retail space.

Considering the proposed project's near-term analysis year of 2028, the 2025 Master Plan land use program has been incorporated into this study. Based on a review of the traffic study prepared for Northgate Town Square, the redevelopment of existing retail uses with multifamily housing is expected to reduce overall traffic volumes in the study area. To provide a conservative analysis, this study assumes that traffic volumes at the mall's existing access points analyzed in this study (i.e., study intersections 3 and 5) are set to zero, and the trip generation for the 2025 Master Plan is applied directly. The trip generation is referenced from Table 1 – 2025 Master Plan Trip Generation Summary from the W-Trans Traffic Operations Study (January 14, 2023).

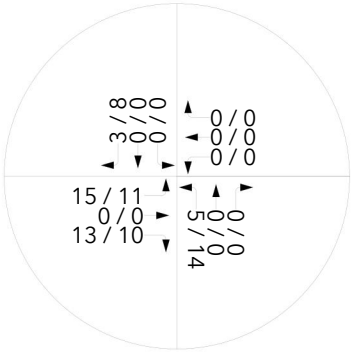


1. Nova Albion Way (NS) at Northgate Drive (EW)

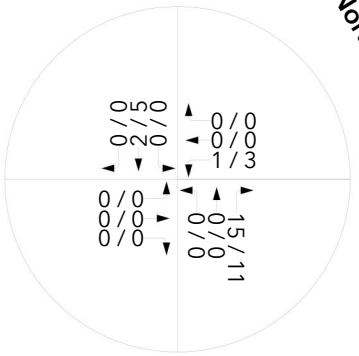


2. Project Access Driveway (NS) at Northgate Drive (EW)

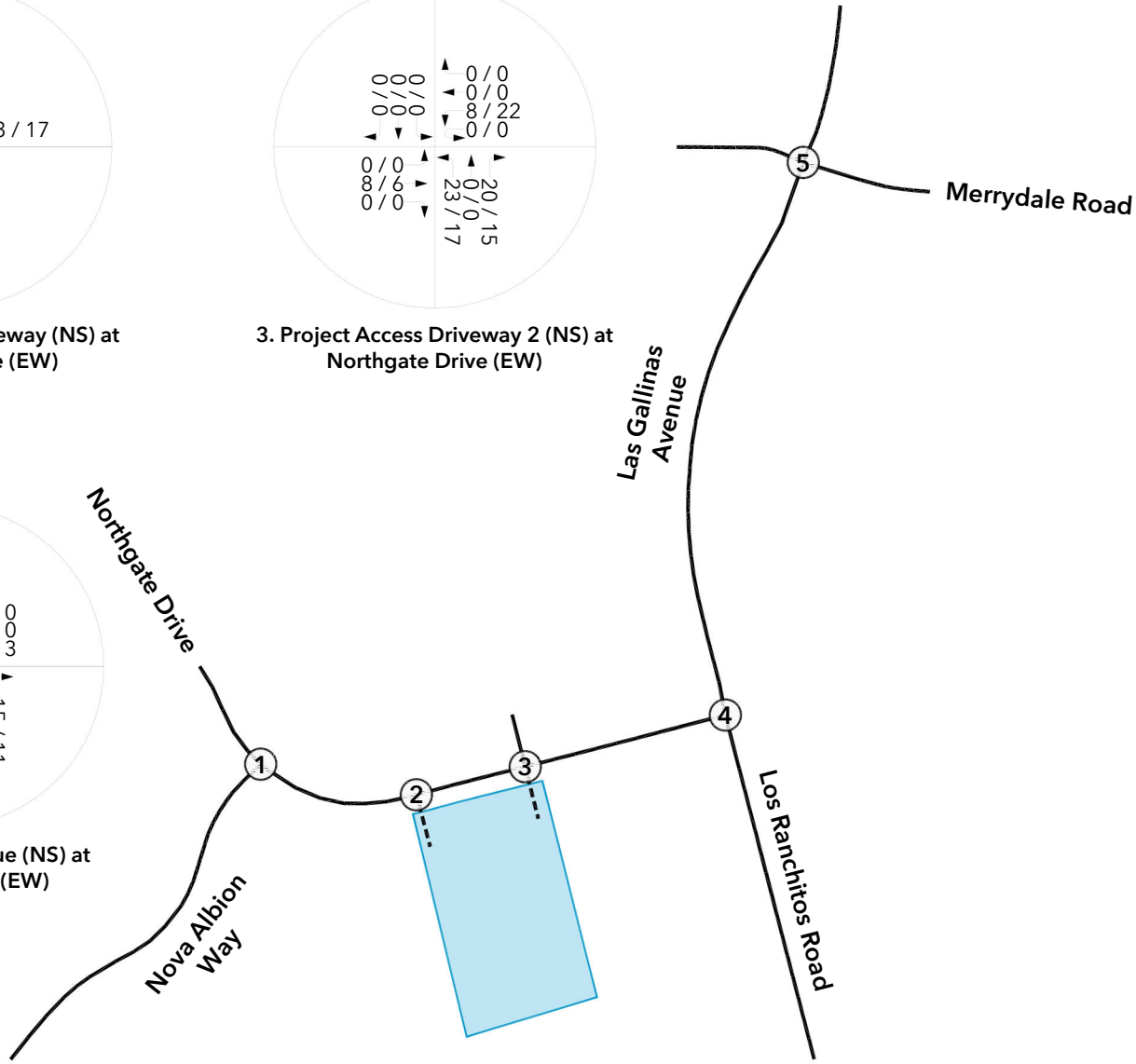
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



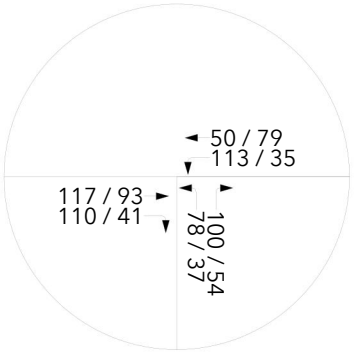
Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Hour Volumes

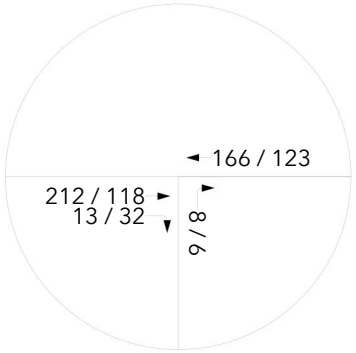
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Exhibit 4-2

Project Traffic Volumes

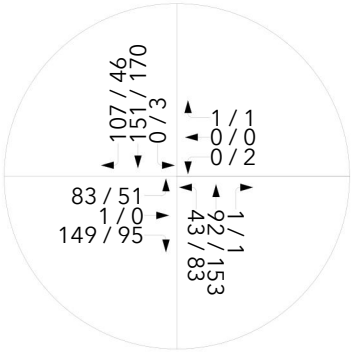


1. Nova Albion Way (NS) at Northgate Drive (EW)

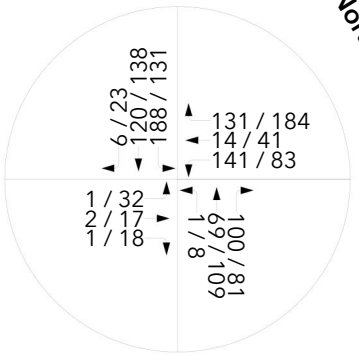


2. Project Access Driveway (NS) at Northgate Drive (EW)

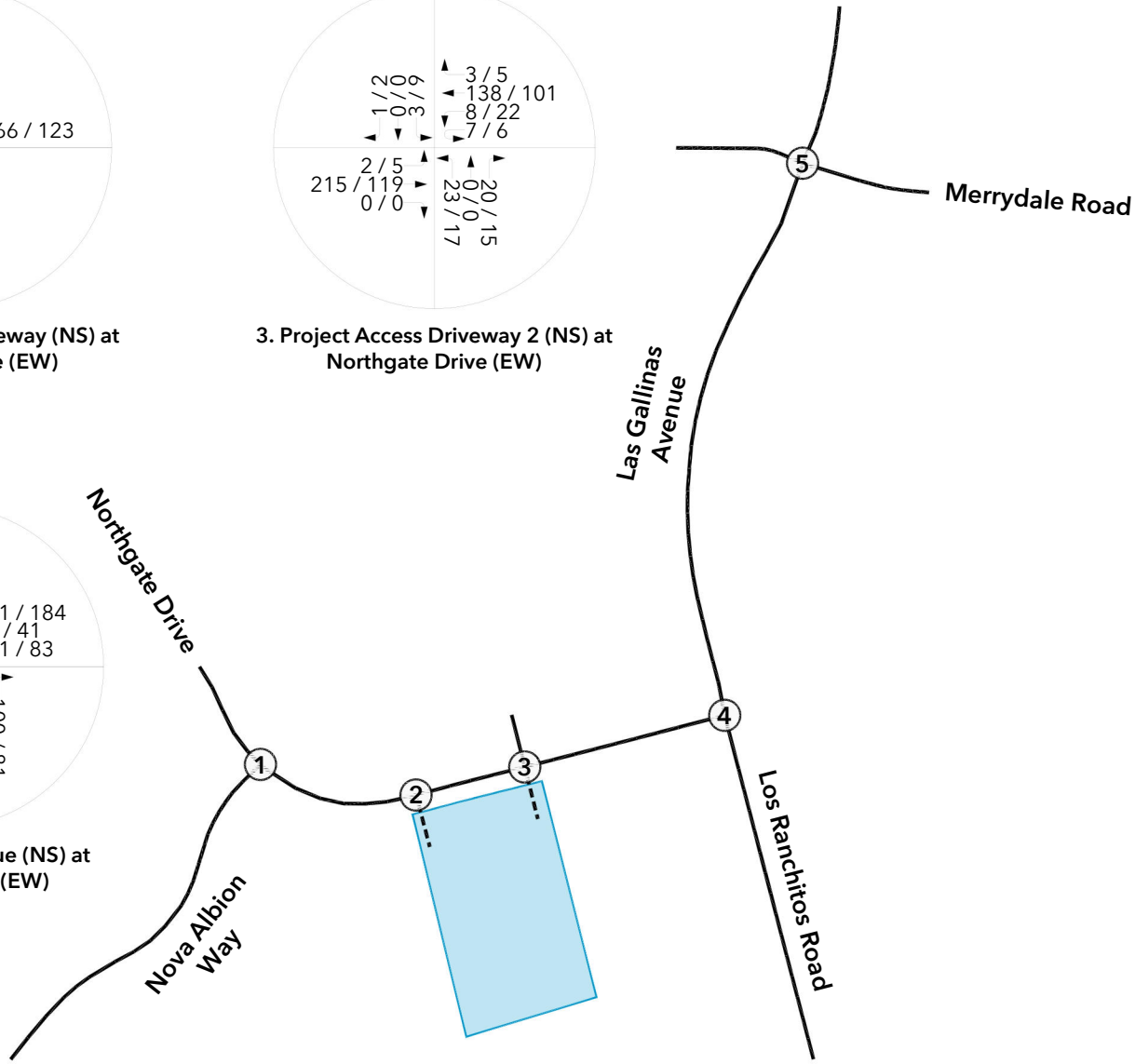
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Hour Volumes

N

Exhibit 4-3

Existing With Project Conditions Traffic Volumes

The cumulative project daily and peak hour trip generation is summarized in **Table 4-3**. A location map of the cumulative project is presented in **Exhibit 4-4**, and the corresponding cumulative traffic volumes are illustrated in **Exhibit 4-5**.

Table 4-3 | Cumulative Project Trip Generation

ID No.	Jurisdiction	Project Name / Case Number	Weekday						
			AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
TAZ 1									
SR 1	**San Rafael**	Northgate Town Square[2]	321	414	735	880	854	1,734	20,739
		TAZ 1 Total	321	414	735	880	854	1,734	20,739

[1] Cumulative project information provided by City of San Rafael staff.

[2] Source: *Traffic Operations Study for the Northgate Town Square Project*, prepared by W-Trans, dated January 14, 2023. Given that this study evaluates near-term (2028) conditions, the trip generation associated with the Master Plan Phase of the Northgate Town Square Project was utilized.

4.3.3 Existing Plus Approved Development Without Project Conditions

Existing Plus Approved Development Without Project Conditions traffic volumes consist of three (3) years of linear annual growth on top of existing (2025) traffic volumes at two percent (2%) per year (i.e., 6% total growth), plus traffic generated by the cumulative projects.

Existing Plus Approved Development Without Project Conditions traffic volumes are shown on **Exhibit 4-6**.

4.3.4 Existing Plus Approved Development With Project Conditions

Existing Plus Approved Development With Project Conditions traffic volumes consist of three (3) years of linear annual growth on top of existing (2025) traffic volumes at two percent (2%) per year (i.e., 6% total growth), plus traffic generated by the cumulative projects and the proposed project.

Existing Plus Approved Development With Project Conditions traffic volumes are shown on **Exhibit 4-7**.

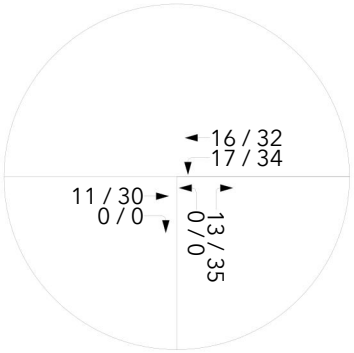


Legend

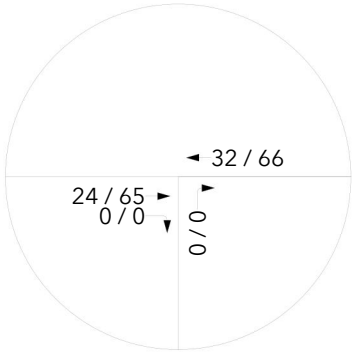
= City of San Rafael Cumulative Project

Exhibit 4-4

Cumulative Projects Location Map

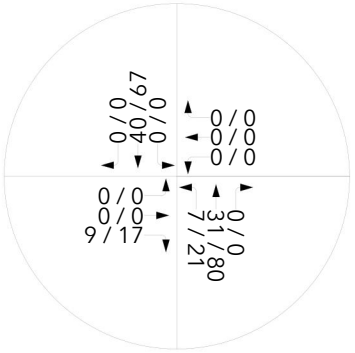


1. Nova Albion Way (NS) at Northgate Drive (EW)

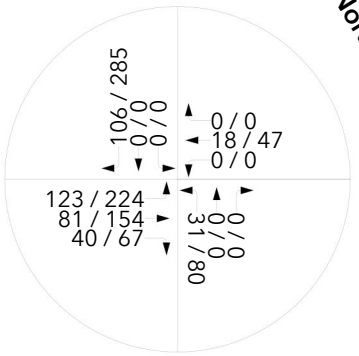


2. Project Access Driveway (NS) at Northgate Drive (EW)

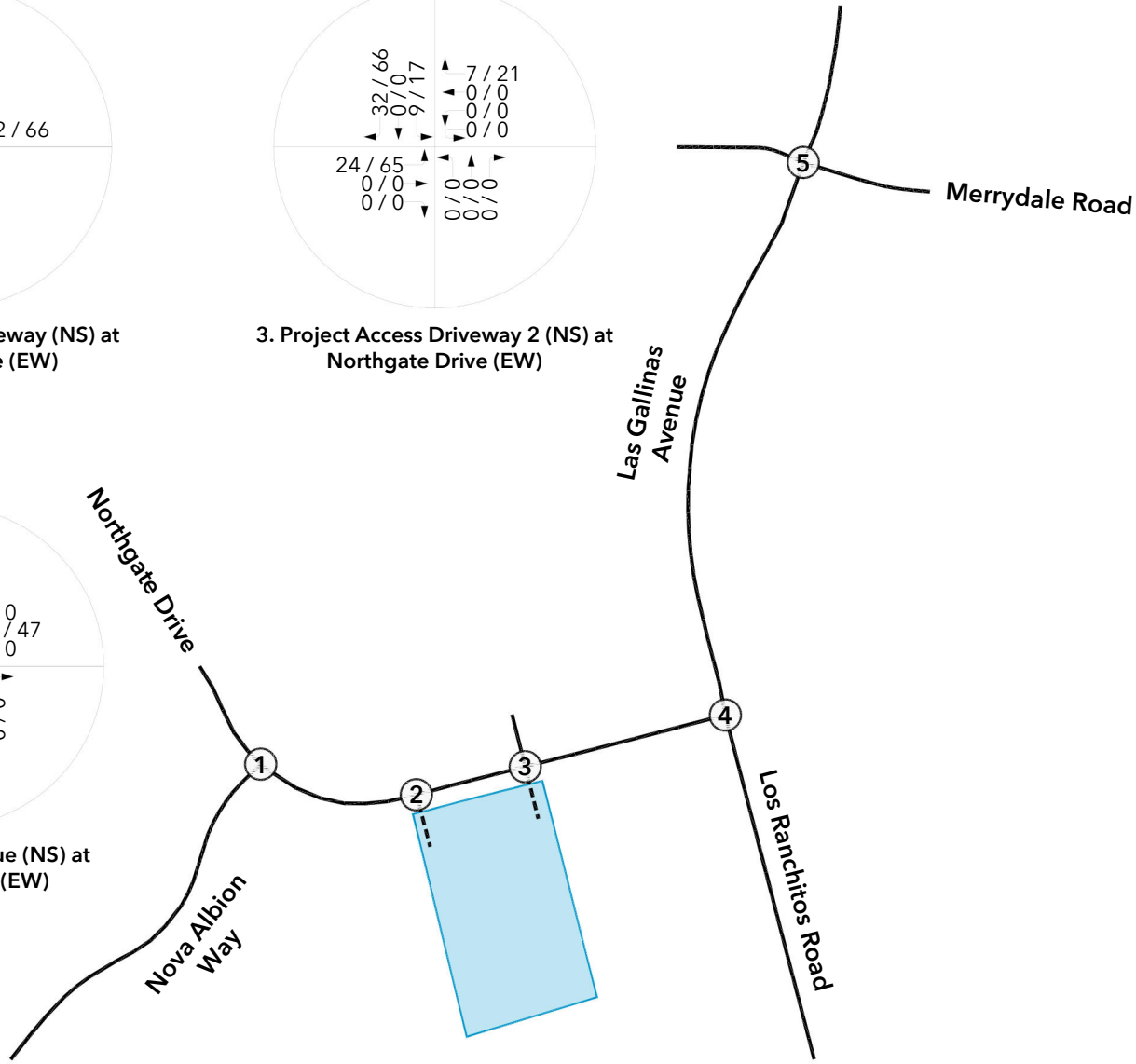
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



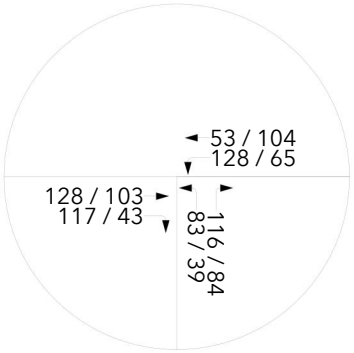
Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Hour Volumes

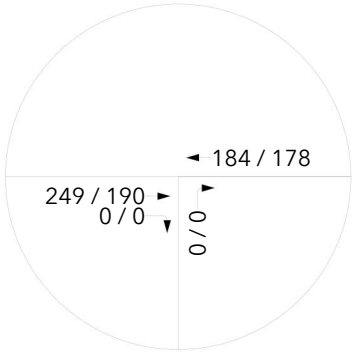
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Exhibit 4-5

Cumulative Projects Traffic Volumes

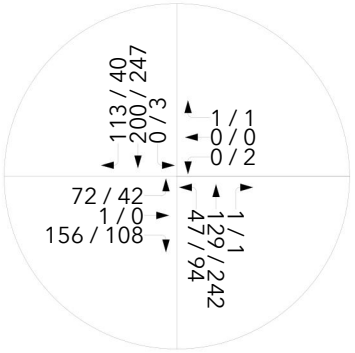


1. Nova Albion Way (NS) at Northgate Drive (EW)

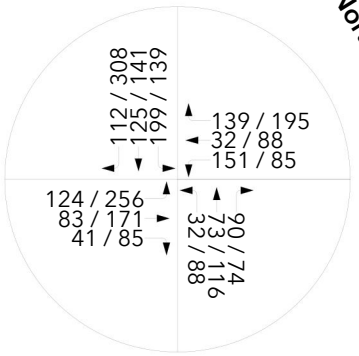


2. Project Access Driveway (NS) at Northgate Drive (EW)

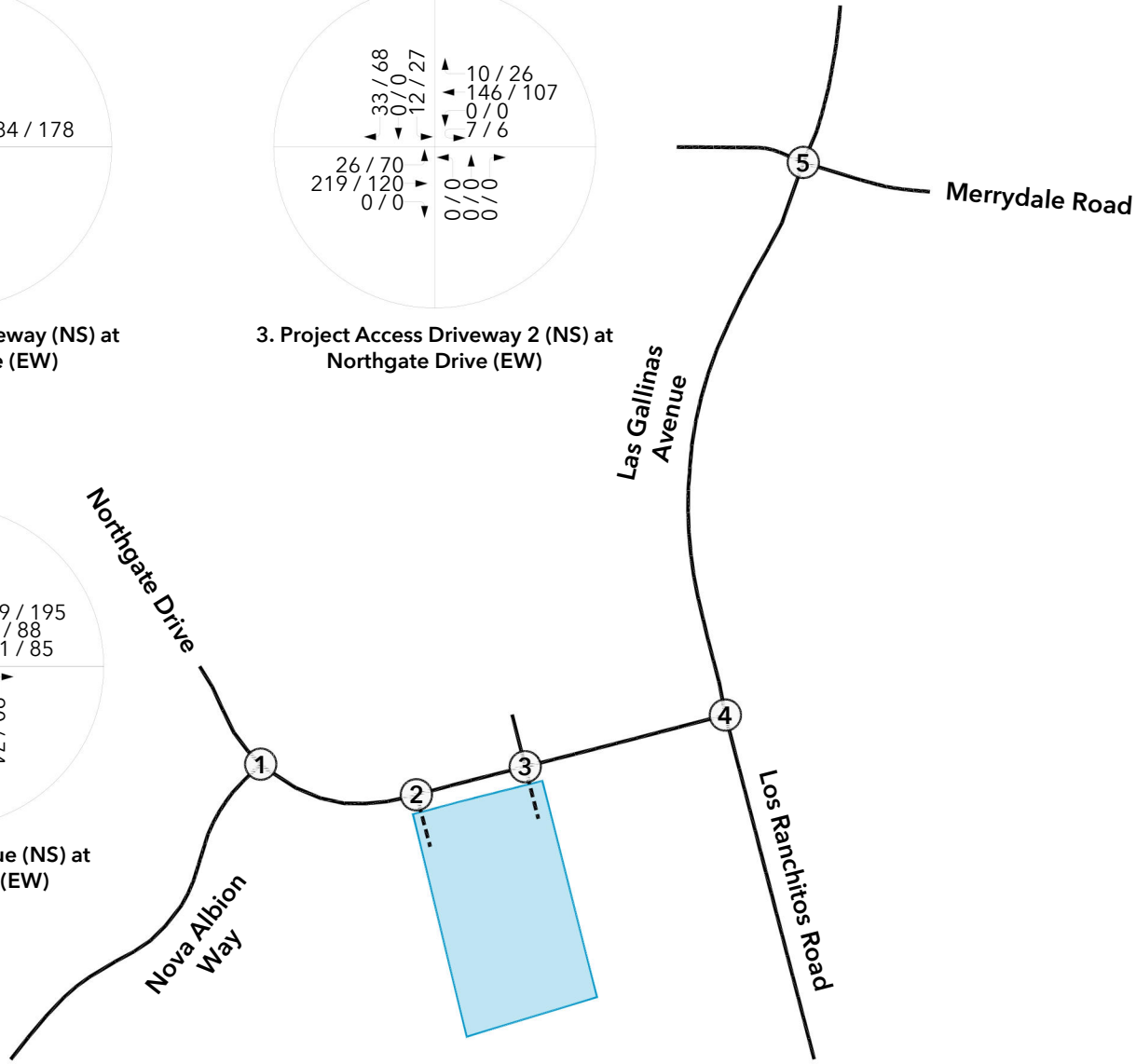
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



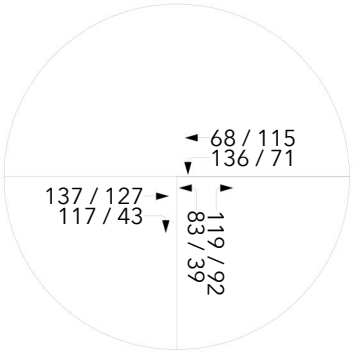
Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Hour Volumes

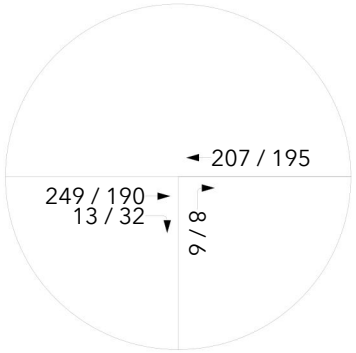
N

Exhibit 4-6

Existing Plus Approved Development Without Project Conditions Traffic Volumes

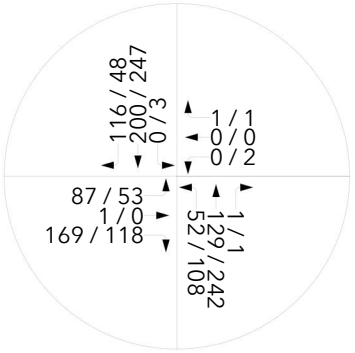


1. Nova Albion Way (NS) at Northgate Drive (EW)

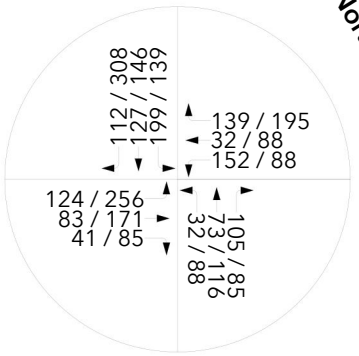


2. Project Access Driveway (NS) at Northgate Drive (EW)

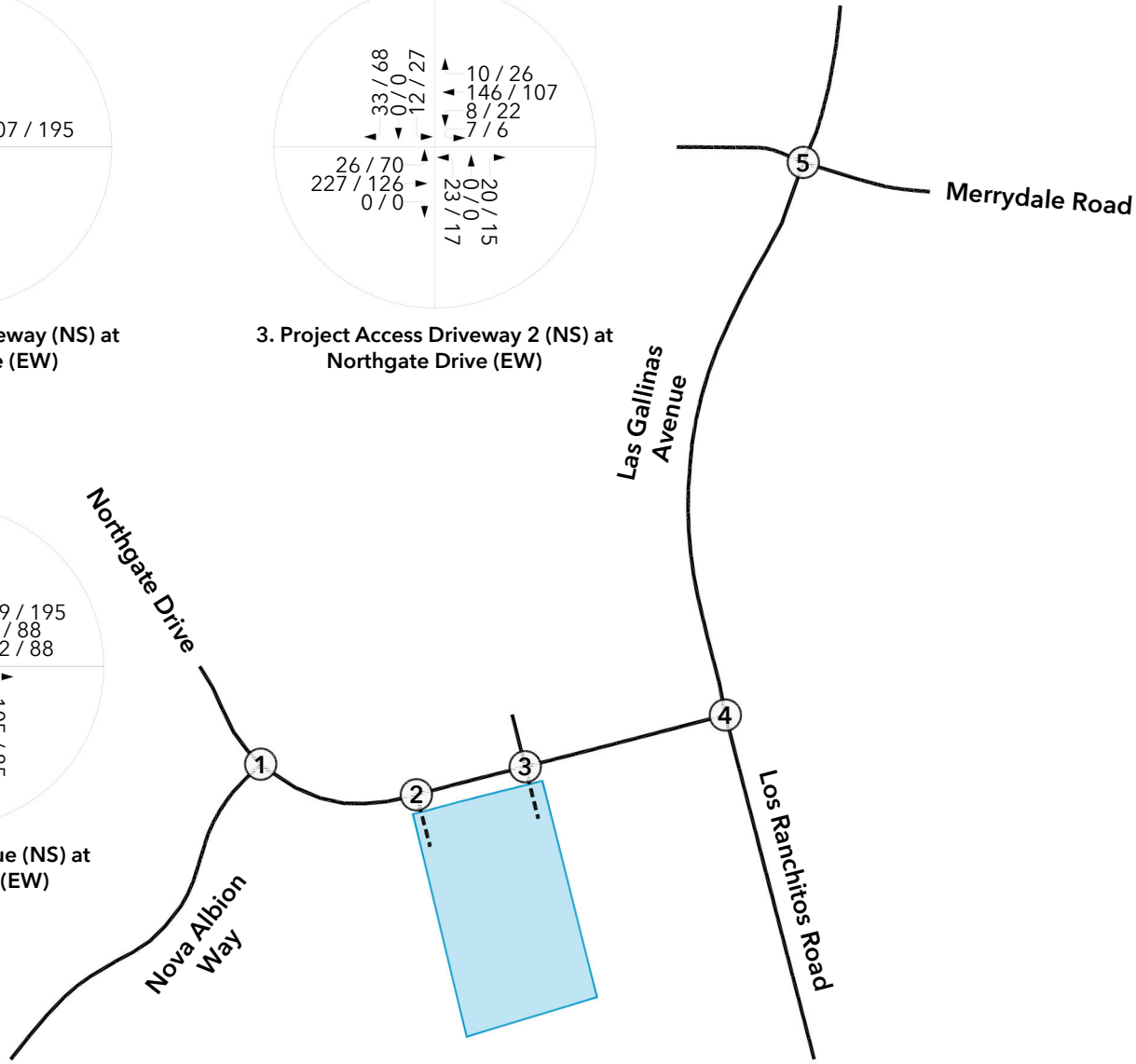
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



Legend

- (1) = Study Intersection
- = Project Site Boundary
- --- = Project Access Driveway
- X / X = AM / PM Peak Hour Volumes

N

Exhibit 4-7

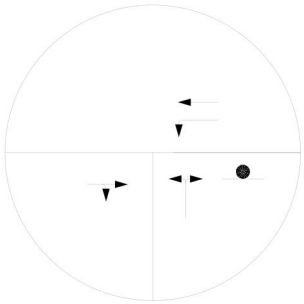
Existing Plus Approved Development With Project Conditions Traffic Volumes

4.4 Project-Specific Access

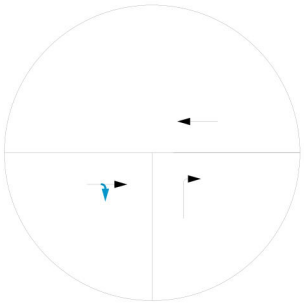
As previously noted in Section 1.2, access to the project site is currently provided via two (2) unsignalized driveways along Northgate Drive. Currently, the easternmost driveway serves ingress-only traffic, while the westernmost driveway serves egress-only traffic.

Under the proposed project, these driveways will be modified Specifically, both driveways will be widened to allow for two-way operations. The westernmost driveway (Intersection #2) will be restricted to right-in/right-out movements, while the easternmost driveway (Intersection #3) will provide full-access ingress and egress.

These modifications are illustrated in **Exhibit 4-8**, which depicts the planned driveway configurations and intersection controls.

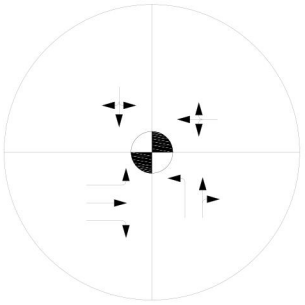


1. Nova Albion Way (NS) at Northgate Drive (EW)

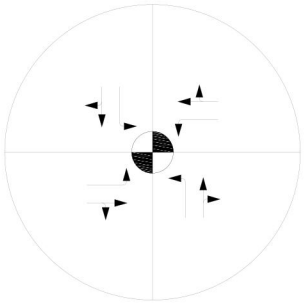


2. Project Access Driveway (NS) at Northgate Drive (EW)

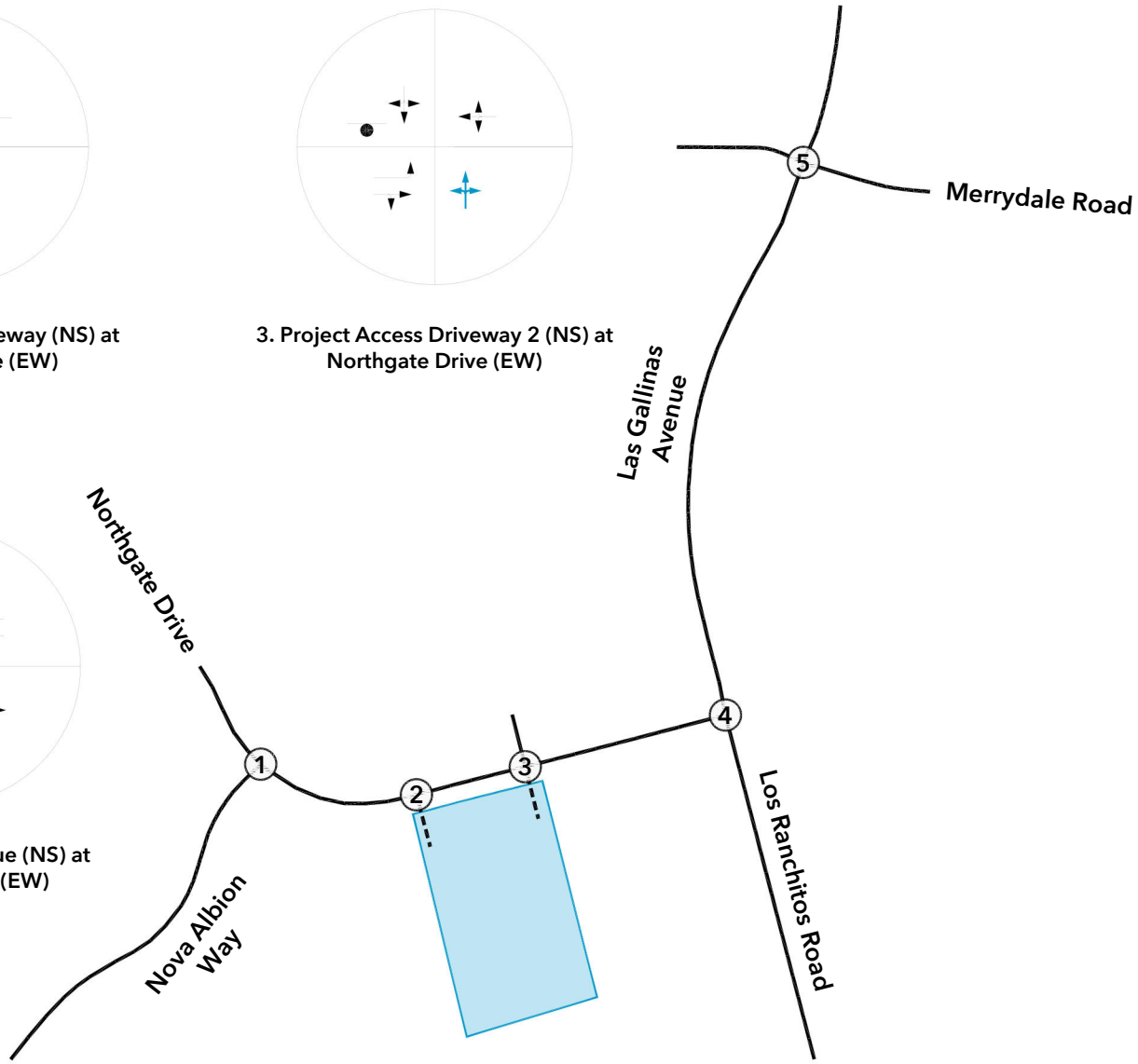
3. Project Access Driveway 2 (NS) at Northgate Drive (EW)



4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)



5. Las Gallinas Avenue (NS) at Merrydale Road (EW)



Legend

- (1) = Study Intersection
- = Project Site Boundary
- = Project Access Roadway
- = Traffic Signal
- = Stop Sign
- = Project Access Modification

N

Exhibit 4-8

Future Year Traffic Controls & Intersection Geometrics

5.0 Study Intersection Peak Hour Level of Service Analysis

This section of the report provides a discussion on the study intersection peak hour LOS analysis and findings. As discussed in Section 2.3, improvements shall be identified for any of the key study intersections deemed to be impacted with the proposed project.

5.1 Existing Without Project Conditions Level of Service

Existing Without Project Conditions LOS calculations for the study intersections are shown in **Table 5-1** and are based on the existing lane geometry shown on Exhibit 3-1 and the existing AM and PM peak hour traffic volumes shown on Exhibit 3-2.

As shown in Table 5-1, all existing study intersections currently operate at an acceptable LOS during the AM and PM peak hours under Existing Without Project Conditions.

Detailed LOS analysis worksheets for Existing Without Project Conditions are contained in **Appendix D**.

5.2 Existing With Project Conditions Level of Service

Existing With Project Conditions LOS calculations for the study intersections are also shown in Table 5-1 and are based on the future lane geometry shown on Exhibit 4-8 and the Existing With Project Conditions traffic volumes shown on Exhibit 4-3.

As shown in Table 5-1, all study intersections are forecast to continue operating at an acceptable LOS during the AM and PM peak hours under Existing With Project Conditions.

Detailed LOS analysis worksheets for Existing With Project Conditions are contained in **Appendix E**.

Table 5-1 | Study Intersection LOS Summary – Existing Conditions Level of Service

	Study Intersection	Traffic Control [1]	Methodology	Acceptable LOS	Without Project Conditions				With Project Conditions					
					Delay (sec/veh)[3,4]		Level of Service		Delay (sec/veh)[3,4]		Level of Service		Requires LOS Improvements?	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	Nova Albion Way (NS) at Northgate Drive (EW)	CSS	HCM 7	D	15.6	9.9	C	A	16.6	10.2	C	B	No	No
2.	Project Access Driveway 1 (NS) at Northgate Drive (EW)	CSS	HCM 7	D	9.9	0.0	A	A	10.0	9.0	B	A	No	No
3.	Project Access Driveway 2 (NS) at Northgate Drive (EW)	CSS	HCM 7	D	11.6	9.8	B	A	12.8	10.6	B	B	No	No
4.	Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)	TS	HCM 7	D	11.6	9.2	B	A	12.1	9.7	B	A	No	No
5.	Las Gallinas Avenue (NS) at Merrydale Road (EW)	TS	HCM 7	D	19.5	18.5	B	B	19.8	18.7	B	B	No	No

[1] TS = Traffic Signal; and
CSS = Cross-Street Stop.

[2] The minimum acceptable level of service.

[3] Deficient operation shown in **Bold**.

[4] HCM Analysis Software: Synchro 12.

5.3 Existing Plus Approved Development Without Project Conditions Level of Service

Existing Plus Approved Development Without Project Conditions LOS calculations for the study intersections are shown in **Table 5-2** and are based on the existing lane geometry shown on Exhibit 3-1 and the Existing Plus Approved Development Without Project Conditions traffic volumes shown on Exhibit 4-6.

As shown in Table 5-2, all study intersections are forecast to continue operating at an acceptable LOS during the AM and PM peak hours under Existing Plus Approved Development Without Project Conditions.

Detailed LOS analysis worksheets for Existing Plus Approved Development Without Project Conditions are contained in **Appendix F**.

5.4 Existing Plus Approved Development With Project Conditions Level of Service

Existing Plus Approved Development With Project Conditions LOS calculations for the study intersections are also shown in Table 5-2 and are based on the future lane geometry shown on Exhibit 4-8 and the Existing Plus Approved Development With Project Conditions traffic volumes shown on Exhibit 4-7.

As shown in Table 5-2, all study intersections are forecast to continue operating at an acceptable LOS during the AM and PM peak hours under Existing Plus Approved Development With Project Conditions.

Detailed LOS analysis worksheets for Existing Plus Approved Development With Project Conditions are contained in **Appendix G**.

Table 5-2 | Study Intersection LOS Summary – Existing Plus Approved Development Conditions Level of Service

	Study Intersection	Traffic Control[1]	Methodology	Acceptable LOS	Without Project Conditions				With Project Conditions					
					Delay (sec/veh)[3,4]		Level of Service		Delay (sec/veh)[3,4]		Level of Service		Requires LOS Improvements?	
					AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1.	Nova Albion Way (NS) at Northgate Drive (EW)	CSS	HCM 7	D	19.4	10.9	C	B	21.5	11.3	C	B	No	No
2.	Project Access Driveway 1 (NS) at Northgate Drive (EW)	CSS	HCM 7	D	0.0	0.0	A	A	10.4	9.5	B	A	No	No
3.	Project Access Driveway 2 (NS) at Northgate Drive (EW)	CSS	HCM 7	D	11.1	10.3	B	B	14.4	11.6	B	B	No	No
4.	Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)	TS	HCM 7	D	12.6	9.8	B	A	13.1	10.3	B	B	No	No
5.	Las Gallinas Avenue (NS) at Merrydale Road (EW)	TS	HCM 7	D	23.2	37.1	C	D	23.6	37.5	C	D	No	No

1 TS = Traffic Signal; and
CSS = Cross-Street Stop.

2 The minimum acceptable level of service.

3 Deficient operation shown in **Bold**.

4 HCM Analysis Software: Synchro 12.

6.0 Intersection Queue Analysis

A queuing analysis has been conducted to evaluate the lengths of turn-pocket queues at the study area intersections. This analysis focuses on the turning movements to which the proposed project is expected to contribute traffic. The purpose is to assess the potential for queue spillback from these turn pockets and the resulting effects on adjacent through lanes and nearby intersections.

The analysis was performed using the HCM 7 95th-percentile queue evaluation methodology. Reported queue lengths correspond specifically to the identified project-affected turning movements at each study intersection.

- **Intersection 1:** Nova Albion Way (NS) at Northgate Drive (EW)
  - Westbound Left-Turn
- **Intersection 2:** Project Access Driveway 1 (NS) at Northgate Drive (EW)
  - Northbound Right-Turn
- **Intersection 3:** Project Access Driveway 2 (NS) at Northgate Drive (EW)
  - Shared Northbound Left/Through/Right-Turn
  - Shared Westbound Left/Through/Right-Turn
- **Intersection 4:** Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)
  - Northbound Left-Turn
  - Eastbound Left-Turn
  - Eastbound Right-Turn
- **Intersection 5:** Las Gallinas Avenue (NS) at Merrydale Road (EW)
  - Westbound Left-Turn

6.1 Existing Without Project Conditions Queue Analysis

The queue analysis under Existing Without Project Conditions has been performed for the turning movements previously identified. **Table 6-1** shows the results of the queue analysis under Existing Without Project Conditions.

As shown in Table 6-1, the 95th percentile queues are satisfied for all turning movements.

6.2 Existing With Project Conditions Queue Analysis

The queue analysis under Existing With Project Conditions has been performed for the turning movements previously identified. Table 6-1 also shows the results of the queue analysis under Existing With Project Conditions.

As shown in Table 6-1, the 95th percentile queues are satisfied for all turning movements.

6.3 Existing Plus Approved Development Without Project Conditions Queue Analysis

The queue analysis under Existing Plus Approved Development Without Project Conditions has been performed for the turning movements previously identified. **Table 6-2** shows the results of the queue analysis under Existing Plus Approved Development Without Project Conditions.

As shown in Table 6-2, the 95th percentile queues are satisfied for all turning movements.

6.4 Existing Plus Approved Development With Project Conditions Queue Analysis

The queue analysis under Existing Plus Approved Development With Project Conditions has been performed for the turning movements previously identified. Table 6-2 also shows the results of the queue analysis under Existing Plus Approved Development With Project Conditions.

As shown in Table 6-2, the 95th percentile queues are satisfied for all turning movements.

Table 6-1 | Study Intersection Queuing Analysis Summary - Existing Conditions

Intersection		Movement	Existing Storage Length (Feet)[2]	Without Project				With Project			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM	AM	PM	AM	PM
1.	Nova Albion Way (NS) at Northgate Drive (EW)	Westbound Left-Turn	55	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
2.	Project Access Driveway 1 (NS) at Northgate Drive (EW)	Northbound Right-Turn[3]	50	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
3.	Project Access Driveway 2 (NS) at Northgate Drive (EW)	Shared Northbound Left/Through/Right-Turn[3]	50	- -	- -	- -	- -	25[4]	25[4]	Yes	Yes
		Shared Westbound Left/Through/Right-Turn	295	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
4.	Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)	Northbound Left-Turn	105	34	45	Yes	Yes	39	53	Yes	Yes
		Eastbound Left-Turn	105	49	31	Yes	Yes	58	38	Yes	Yes
		Eastbound Right-Turn	85	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
5.	Las Gallinas Avenue (NS) at Merrydale Road (EW)	Westbound Left-Turn	230	114	72	Yes	Yes	115	74	Yes	Yes

[1] HCM Analysis Software: Synchro 12.

[2] Storage length for turning movements with dedicated turn lanes is measured as the length of the turn lanes. Storage length for through movements and turning movements without dedicated turn lanes is measured as the distance to the next intersection.

[3] Storage length for outbound movements at project access driveways is assumed to be 50 feet.

[4] Although the calculated queue length is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis.

Table 6-2 | Study Intersection Queuing Analysis Summary - Existing Plus Approved Development Conditions

	Intersection	Movement	Existing Storage Length (Feet)[2]	Without Project				With Project			
				HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?		HCM 95th Percentile Queue Length (Feet)		Adequate Storage Provided?	
				AM	PM	AM	PM	AM	PM	AM	PM
1.	Nova Albion Way (NS) at Northgate Drive (EW)	Westbound Left-Turn	55	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
2.	Project Access Driveway 1 (NS) at Northgate Drive (EW)	Northbound Right-Turn[3]	50	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
3.	Project Access Driveway 2 (NS) at Northgate Drive (EW)	Shared Northbound Left/Through/Right-Turn[3]	50	- -	- -	- -	- -	26	25[4]	Yes	Yes
		Shared Westbound Left/Through/Right-Turn	295	25[4]	25[4]	Yes	Yes	25[4]	25[4]	Yes	Yes
4.	Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)	Northbound Left-Turn	105	45	64	Yes	Yes	50	75	Yes	Yes
		Eastbound Left-Turn	105	58	37	Yes	Yes	70	46	Yes	Yes
		Eastbound Right-Turn	85	25	25[4]	Yes	Yes	25	25[4]	Yes	Yes
5.	Las Gallinas Avenue (NS) at Merrydale Road (EW)	Westbound Left-Turn	230	136	122	Yes	Yes	139	126	Yes	Yes

1 HCM Analysis Software: Synchro 12.

2 Storage length for turning movements with dedicated turn lanes is measured as the length of the turn lanes. Storage length for through movements and turning movements without dedicated turn lanes is measured as the distance to the next intersection.

3 Storage length for outbound movements at project access driveways is assumed to be 50 feet.

4 Although the calculated queue length is less, a minimum vehicle length of 25 feet is assumed for the purposes of this analysis.

7.0 Vehicle Miles Traveled (VMT) Analysis

The *City of San Rafael Transportation Analysis Guidelines*, dated June 2021 provides recommendations in the form of thresholds of significance and methodologies for identifying VMT related impacts. The proposed project is subject to a VMT analysis and will adhere to the recommendations and practices described in the City's guidelines.

According to the City's guidelines (Section: CEQA VMT Screening Thresholds), projects that consist of 100% affordable housing in infill locations are eligible for VMT screening. These projects are presumed to generate lower VMT due to their location, density, and alignment with regional land use and transportation goals.

As the proposed project meets these criteria, it is exempt from a detailed VMT analysis and is expected to have a less-than-significant impact under CEQA.

8.0 Multimodal Site Access and Circulation

This section provides a qualitative review of site access and circulation elements associated with the proposed project. The analysis has been prepared in accordance with the criteria outlined in Attachment C of the City's Guidelines and the approved scope of work. Specifically, it evaluates on-site circulation, pedestrian facilities, and bicycle facilities to identify whether the proposed project may result in potential impacts to multimodal access and circulation. In addition, as requested by City staff during the scoping process, this section includes an evaluation of the need for a westbound left-turn pocket at the Project Access Driveway 2 at Northgate Drive Study Intersection.

8.1 On-Site Circulation

Both project access driveways are planned to be widened to allow for two-way operations. The westernmost driveway (Intersection #2) will be restricted to right-in/right-out movements, while the easternmost driveway (Intersection #3) will provide full-access ingress and egress. Both driveways, along with the internal drive aisles, are designed to be approximately 26 feet in width, which is sufficient to accommodate two-way circulation throughout the site.

Solid waste collection will be supported by two trash staging areas: one located along the southwestern portion of the site and another near the northeastern portion adjacent to the proposed leasing office. Trash collection vehicles are expected to access the site primarily from the eastern driveway. With 26-foot-wide drive aisles, waste management trucks are anticipated to circulate and maneuver within the site without conflicts in either direction.

In addition, the site plan includes a designated 35-foot length loading and move-in area to facilitate residential move-in and move-out operations. This area is designed to accommodate a moving truck while minimizing potential impacts on internal circulation.

8.2 Pedestrian Facilities

According to the San Rafael General Plan, the city is served by a well-developed network of sidewalks and walkways, with most areas having sidewalks on at least one side of the street and commercial areas typically providing sidewalks on both sides. This condition is reflected in the study area, where sidewalks and marked pedestrian crossings are present along the project's frontage on Northgate Drive.

The project site is also within close proximity to the Northgate Mall and the planned Northgate Town Square, which enhances pedestrian connectivity and provides direct access to nearby commercial land uses.

The proposed project is not expected to create adverse impacts on the existing pedestrian network.

8.3 Bicycle Facilities

Figure 10-5 of the City of San Rafael General Plan identifies the existing and planned bicycle facilities within the City of San Rafael. Figure 10-5: Existing and Proposed Bicycle Facilities is shown in **Exhibit 8-1**. The following facilities are located in the vicinity of the project study area, as summarized in Table 8-1:

Table 8-1 | Existing and Proposed Bicycle Facilities Within Project Proximity

Roadway	Bicycle Facilities	
	Existing	Proposed
Los Gallinas Avene (North of Northgate Drive)	Class II	Class II
Los Ranchitos Road (South of Norhtgate Drive)	Class III	Class III
Merrydale Road	Class II	Class II
Northgate Drive	Class II	Class II

The project is not expected to generate adverse impacts to the existing or planned bicycle facilities in the study area. Rather, it is expected to integrate with the established bicycle network and continue to support multimodal connectivity in the surrounding community.

8.4 Project Access Westbound Left-Turn Pocket Evaluation

As requested by City staff during the scoping phase of this study, an evaluation was conducted for a potential westbound left-turn pocket at the Project Access Driveway 2 intersection (i.e., Study Intersection #3). Concerns regarding this movement were related to the potential for rear-end collisions, as the westbound approach currently operates as a shared left-turn/through/right-turn lane.

No specific City of San Rafael standards were identified regarding left-turn lane requirements; however, RK conducted an evaluation of the need for a westbound left-turn pocket based on Level of Service (LOS) results, queuing analysis, the forecasted project traffic volumes, and general safety considerations/accident history review.

Based on the project trip generation and distribution, approximately 8 project trips during the AM peak hour and 22 project trips during the PM peak hour are expected to make a westbound left-turn entering the project site at this driveway. Under the Existing Plus Approved Development With Project Conditions scenario (previously shown in Table 5-2), LOS results indicate that both the intersection and the westbound approach specifically would continue to operate acceptably.



Exhibit 8-1

City of San Rafael Existing and Proposed Bicycle Facilities

From a queuing perspective, analysis across all study scenarios shows that the westbound left-turn movement does not generate a queue exceeding the length of one (1) vehicle.

RK also obtained accident data for the City of San Rafael using the online California Crash Reporting System (CCRS) dataset. RK reviewed the previous 5 years worth of collision history throughout the City of San Rafael. Based on this review, there is no significant collision history along Northgate Drive within the vicinity of the project access points. Furthermore, Northgate Drive is a slow-moving roadway (i.e., posted speed limit of 25 MPH) and is generally straight with limited grade change. Based on the Highway Design Manual, a roadway with a design speed of 25 MPH requires a stopping sight distance of 150 feet. Stopping Sight Distance is the total distance a driver needs to perceive an object, react, and safely bring their vehicle to a complete stop before colliding with it. It's measured from the driver's eye level (typically 3.5 feet) to an object on the road (often 0.5 or 2 feet high) and accounts for the time it takes the driver to see the hazard, decide to act, and apply the brakes, plus the distance the vehicle travels while braking. Based on RK's review, there is adequate stopping sight distance along Northgate Avenue for oncoming westbound vehicles to see a vehicle stopped (waiting to make a westbound left-turn entering the project driveway), react, and safely bring their vehicle to a complete stop before colliding with it.

Given these findings, a dedicated westbound left-turn lane at the project driveway is not warranted. The existing shared approach lane is sufficient to accommodate the projected left-turn volumes without creating operational or safety concerns.

Appendix A
Approved Scope of Work

Attachment B: TA Assessment Form

SECTION 1: PROJECT AND APPLICANT INFORMATION (*TO BE COMPLETED BY APPLICANT*)

PROJECT TITLE	PROJECT LOCATION	APPLICATION NO.
555 Northgate Drive Multifamily Residential Project	555 Northgate Avenue, City of San Rafael	PLAN24-149
APPLICANT Affordable Housing Preservation Investors, Inc.	APPLICANT CONTACT Nancy Liu	APPLICANT PHONE (747) 228-0832

SECTION 2: APPLICATION TYPE AND PROJECT DESCRIPTION (TO BE COMPLETED BY APPLICANT)

TYPE OF APPLICATION	(check)		(check)
ZONING		AMENDMENT TO DEVELOPMENT APPROVAL	
TENTATIVE MAP		NEW DEVELOPMENT / CONSTRUCTION	X
USE PERMIT		OTHER:	

PROJECT DESCRIPTION (please attach a site plan):
The project proposes to raze the existing office building and construct a 7-story multifamily residential building containing 200 units. 100% of these units are proposed to be affordable.

PROPOSED LAND USE	(check)	Answer the corresponding question regarding the proposed project:	**Yes**	**No**
RESIDENTIAL	✔	Is the proposed residential project greater than 10 single family or 15 multi-family dwelling units?	✔	
		Is the proposed residential project 100 percent restricted affordable housing in an infill location?	✔	
COMMERCIAL		Is the proposed commercial project building larger than 1,500 sq. ft.?		
		Is the proposed commercial project a neighborhood-serving retail project less than 50,000 sq. ft. in an underserved local market?		
		Does the proposed commercial project have a fast-food restaurant?		
		Does the project have a drive-through window?		
OFFICE		Is the proposed office project building larger than 10,000 sq. ft.?		
INDUSTRIAL		Is the proposed industrial project building larger than 15,000 sq. ft.?		
PUBLIC FACILITY		Is the proposed project a locally serving government, civic, cultural, health and infrastructure use that supports community needs?		
OTHER: (please describe)				

TRAFFIC GENERATION (AVERAGE WEEKDAY)

ITE Land Use Code	Size	Unit Name (e.g. sq ft, units)
Affordable Housing (223)	200	Dwelling Units (Proposed)
General Office Building (710)	14,980	Square Feet (To be Removed)

Total Vehicle trips	962 (Gross)	Vehicle trips per day		
Peak Hour Trips	100 (Gross)	A.M. Peak Hour	92 (Gross)	P.M. Peak Hour
* New vehicle trips		Vehicle trips per hour		Vehicle trips per hour
* Pass-by vehicle trips		Vehicle trips per hour		Vehicle trips per hour
* Total vehicle trips		Vehicle trips per hour		Vehicle trips per hour
Total trips IN	29 (AM)	Vehicle trips per hour	54 (PM)	Vehicle trips per hour
Total trips OUT	71 (PM)	Vehicle trips per hour	38 (PM)	Vehicle trips per hour

Submitted by

Signature of Applicant

7/23/2025
Date

REMAINING SECTIONS TO BE COMPLETED BY CITY

SECTION 3: TRANSPORTATION IMPACT EVALUATION

Transportation / Circulation **Could the proposed project:**	**NO**	**MAYBE**	**YES**
Cause a substantial increase in traffic (100 peak hour trips) in relation to the existing traffic load and capacity of the street system?			
Cause any public or private street intersection to function below level of service specified in the City of San Rafael General Plan?			
Pose a potential vehicle safety hazard (i.e. change in the mix, volume or speed of traffic that would create an inconsistency with the existing design of the transportation network.)			
Pose a potential traffic hazard to pedestrians or bicyclists?			
Disrupt or interfere with truck, passenger vehicle, transit, bicycle or pedestrian access to surrounding uses?			

SECTION 4: DETERMINATION

On the basis of this initial assessment for significance:

I have determined that a Transportation Impact Analysis on the proposed project____WILL NOT BE required.

I have determined that a Transportation Impact Analysis on the proposed project____WILL BE required as part of an environmental document.

_____ _____

Public Works Department

555 NORTHGATE DRIVE MULTIFAMILY RESIDENTIAL PROJECT
TRANSPORTATION ANALYSIS
SCOPING AGREEMENT

JULY 23, 2025

The following document provides information on the proposed project, summarizes the analysis scope, parameters, and assumptions for review and approval, and includes a request for information on items related to the study. The proposed scope of work is consistent with the criteria and parameters described in the *City of San Rafael Transportation Analysis Guidelines (City Guidelines)*, dated June 2021.

A. Project Description:

The 555 Northgate Drive Multifamily Residential Project (hereinafter referred to as "project") is located at 555 Northgate Avenue, generally south of Northgate Drive between Nova Albion Way & Las Galinas Avenue/Los Ranchitos Road, in the City of San Rafael. The project site is occupied by an approximately 14,980 square foot (SF) general office building which is still currently operational.

The project proposes to raze the existing office building and construct a 7-story multifamily residential building, consisting of 5 stories of Type III-A residential units over a 2-story Type I-A parking podium. The development will include 200 units, all of which are proposed to be affordable.

Access to the project is currently provided and is proposed to continue to be provided via two (2) unsignalized driveways located along Northgate Drive. Currently, the easternmost driveway serves ingress-only traffic while the westernmost driveway currently serves egress-only traffic. The project proposes to widen each driveway to provide both ingress & egress traffic. The westernmost driveway (i.e., Intersection #2) is proposed to be right-in/right-out only while the easternmost driveway (i.e., Intersection #3) is proposed to be full-access. The traffic analysis will evaluate whether a left-turn pocket into the site at Intersection #3 is warranted based on safety considerations.

The project is planned to open in 2028 and will be evaluated in one (1) single phase.

Exhibit A shows the aerial location map of the proposed project. **Exhibit B** presents the project site plan.

B. Project Trip Generation:

Trip generation represents the amount of traffic that is attracted and produced by a development.

Trip generation is estimated based on the trip generation rates from the latest Institute of Transportation Engineers (ITE) Trip Generation Manual. The latest and most recent version (11th Edition, 2021) of the ITE Manual has been utilized for this scoping agreement. This publication provides a comprehensive evaluation of trip generation rates for a variety of land uses.

As previously mentioned, the project proposes to raze the existing office building and construct a 7-story multifamily residential building, consisting of 5 stories of Type III-A residential units over a 2-story Type I-A parking podium. The development will include 200 units, all of which are proposed to be affordable.

Existing Land Use Trip Generation

To account for trips generated by the existing/entitled land use (general office), RK will collect 24-hour driveway counts at the two (2) existing driveways on one typical weekday. These observations will be scheduled to coincide with the collection of the other existing traffic count data for this traffic analysis (see Section G). The purpose of these counts is to accurately determine the existing trip generation for the site, which will inherently account for any existing vacancies.

Proposed Project Trip Generation

ITE Land Use Code 223: Affordable Housing trip rates are most appropriate to represent the proposed project (i.e., 200 units of affordable housing). **Table 1** presents the ITE trip generation rates and trip generation forecast for the proposed project.

Table 1 | Project Trip Generation Rates & Forecast[1]

Land Use (ITE Code)	Quantity	Units[2]	Weekday Conditions						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
ITE Trip Generation Rates									
Affordable Housing (223)	- -	DU	29%	71%	0.50	59%	41%	0.46	4.81
Existing Trip Generation									
Existing Office Building [A][3]	14.980	TSF	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Proposed Project Trip Generation Forecast									
555 Northgate Drive Multifamily Residential Project	200	DU	29	71	100	54	38	92	962
Gross Project Trip Generation [B]			**29**	**71**	**100**	**54**	**38**	**92**	**962**
Net Project Trip Generation [B] - [A]			**TBD**	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**	**TBD**

1. Source: ITE Trip Generation Manual (11th Edition, 2021).
2. DU = Dwelling Units.
3. Existing trip generation will be estimated based on 24-hour driveway counts at the two (2) existing driveways on one typical weekday.

As shown in Table 1, prior to the application of existing trip generation credits, the proposed project is forecast to generate approximately 962 daily trips, including approximately 100 AM peak hour trips and 92 PM peak hour trips. The net trip generation will be calculated following the completion of the 24-hour driveway counts.

Based on the City's Guidelines, the level of transportation analysis required for a project is generally determined by its expected daily vehicle trip generation. However, exceptions may apply depending on the project's location—such as proximity to a school—or specific characteristics, such as a high volume of truck traffic.

Based on the project's gross trip generation (i.e., 962 daily trips, 100 AM peak hour trips, and 92 PM peak hour trips), the proposed project qualifies as a Tier 2B projects. This tier applies to developments generating between 251 and 1,000 daily trips and fewer than 100 peak hour trips. In accordance with the City's guidelines, the project will require preparation of a Local Transportation Analysis (LTA) along with an Intersection Operations Analysis (IOA). A cumulative operational forecast is not anticipated to be necessary.

C. Study Intersections:
The analysis will evaluate the following study intersections:

1. Nova Albion Way (NS) at Northgate Drive (EW)
2. Project Access Driveway 1 (NS) at Northgate Drive (EW)
3. Project Access Driveway 1 / Commercial Driveway (NS) at Northgate Drive (EW)
4. Los Ranchitos Road / Las Gallinas Avenue (NS) at Northgate Drive (EW)
5. Las Gallinas Avenue (NS) at Merrydale Road (EW)

Exhibit C illustrates the project's study area.

D. Project Trip Distribution:
Exhibit D shows the trip distribution patterns for the proposed project.

E. Analysis Scenarios:
The analysis will evaluate traffic conditions for the following scenarios during the weekday AM peak hours (7:00 AM to 9:00 AM) and weekday PM peak hours (4:00 PM to 6:00 PM):

Existing Conditions

1. Existing Without Project Conditions
2. Existing (2025) With Project Conditions

Near-Term Conditions

3. Existing Plus Approved Development Without Project Conditions
4. Existing Plus Approved Development With Project Conditions

F. Traffic Analysis Parameters:
The analysis will utilize the following parameters:

- Traffic Signal Parameters as outlined in Table 3 of the *City of San Rafael Transportation Analysis Guidelines*, dated June 2021.
- **Synchro software** and the latest edition of the Highway Capacity Manual (HCM 7) methodology; and
- Optimized signal timing.

G. Existing Traffic Counts:
At the time this scope of work is being prepared, local schools are out of session for summer break. Traffic counts will be collected once schools resume in August to reflect typical conditions. The counts will be collected by vehicle classification and will include pedestrians and bicyclists.

- Weekday AM peak period counts will be collected during one typical weekday from 7:00 AM to 9:00 AM.
- Weekday PM peak period counts will be collected during one typical weekday from 4:00 PM to 6:00 PM.

H. Near-Term Conditions Traffic Volumes:
Near-Term Conditions traffic volumes will be derived by applying a linear annual growth rate of two percent (2%) per year to existing traffic volumes plus the addition of traffic associated with specific cumulative projects in the vicinity of the project as provided by the City of San Rafael.

I. Performance Criteria:
Per Policy M-2.5 of the City of San Rafael General Plan, Level of Service (LOS) D is established as the citywide minimum acceptable standard for intersection and roadway operations.

J. Thresholds of Improvement Requirement:
Intersectional improvements should be identified—where feasible—under the following conditions referenced from Table 5 of the City's Guidelines:

- If the addition of project traffic causes an intersection to fall below LOS D, as defined in General Plan Policy M-2.5.
- If an intersection is already operating below LOS D under No Project conditions, a deficiency is identified if the project causes an increase in average delay of five seconds or more.

K. Multimodal Site Access and Circulation:

As part of the transportation analysis, a detailed review of site access and circulation will be conducted in accordance with the criteria outlined in Attachment C of the City's Guidelines. For this analysis, the following items will be evaluated:

- On-Site Circulation
    - Evaluate site access locations, turning radii, trash truck loading areas, and emergency vehicle access.
- Pedestrian Facilities
    - Identify existing and planned pedestrian infrastructure affected by the project.
    - Assess impacts to pedestrian circulation.
- Bicycle Facilities
    - Identify existing and planned bicycle facilities (as defined in the City's Bicycle and Pedestrian Master Plan) that may be affected by the project.
- Queuing Analysis
    - RK will perform a queueing analysis utilizing the HCM 95th percentile queue evaluation methodology for all signalized study intersections. The study will evaluate any potential spillover from turn pockets into through lanes or into adjacent intersections.

L. Vehicles Miles Traveled Analysis:

The City Guidelines provide recommendations, thresholds of significance, and methodologies for identifying VMT (Vehicle Miles Traveled) related impacts. The proposed project is subject to a VMT analysis and will adhere to the recommendations and practices described in the City VMT guidelines.

According to the City's guidelines (Section: CEQA VMT Screening Thresholds), projects that consist of 100% affordable housing in infill locations are eligible for VMT screening. These projects are presumed to generate lower VMT due to their location, density, and alignment with regional land use and transportation goals.

As the proposed project meets these criteria, it is exempt from a detailed VMT analysis and is expected to have a less-than-significant impact under CEQA.

M. Request for Information:

Please provide information on the following for use in the traffic study:

- Information on cumulative projects that need to be included in the traffic analysis (location, land use type(s), and land use quantities);
- Information on future roadway and circulation system modifications/improvements that are planned within the study area and would potentially affect the analysis.

If you have any questions, or would like further review, please call us at (949) 474-0809.

Sincerely,

RK ENGINEERING GROUP, INC



Justin Tucker, P.E., T.E.
Principal

Attachments

Approved by:

_____

City of San Rafael

_____

Date

Attachments

Exhibits



Legend

= Project Site Boundary

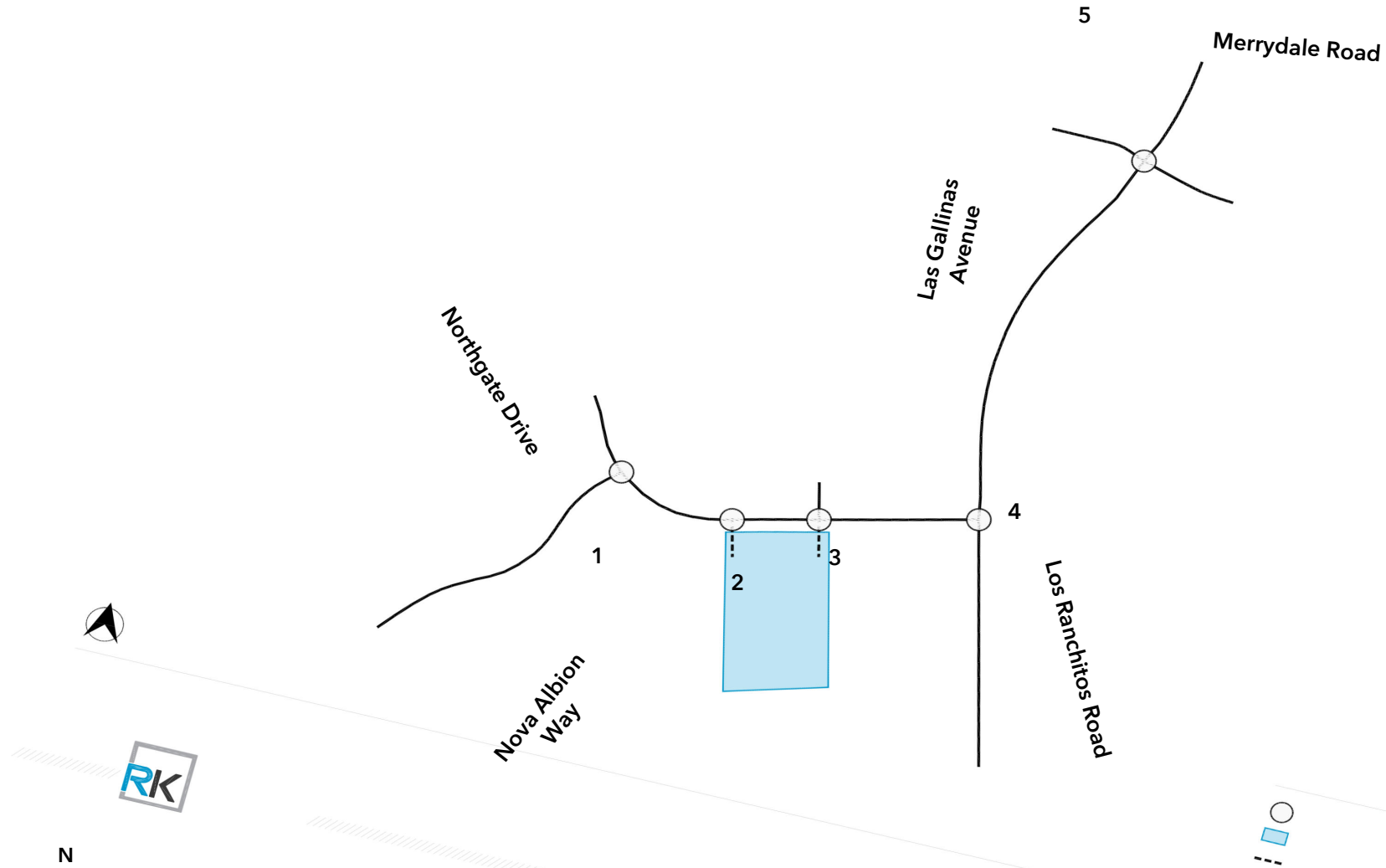
Exhibit A

Aerial Location Map



Exhibit B

Project Site Plan



Legend

1 = Study Intersection

= Project Site Boundary

= Project Access Driveway

Exhibit C

Study Area

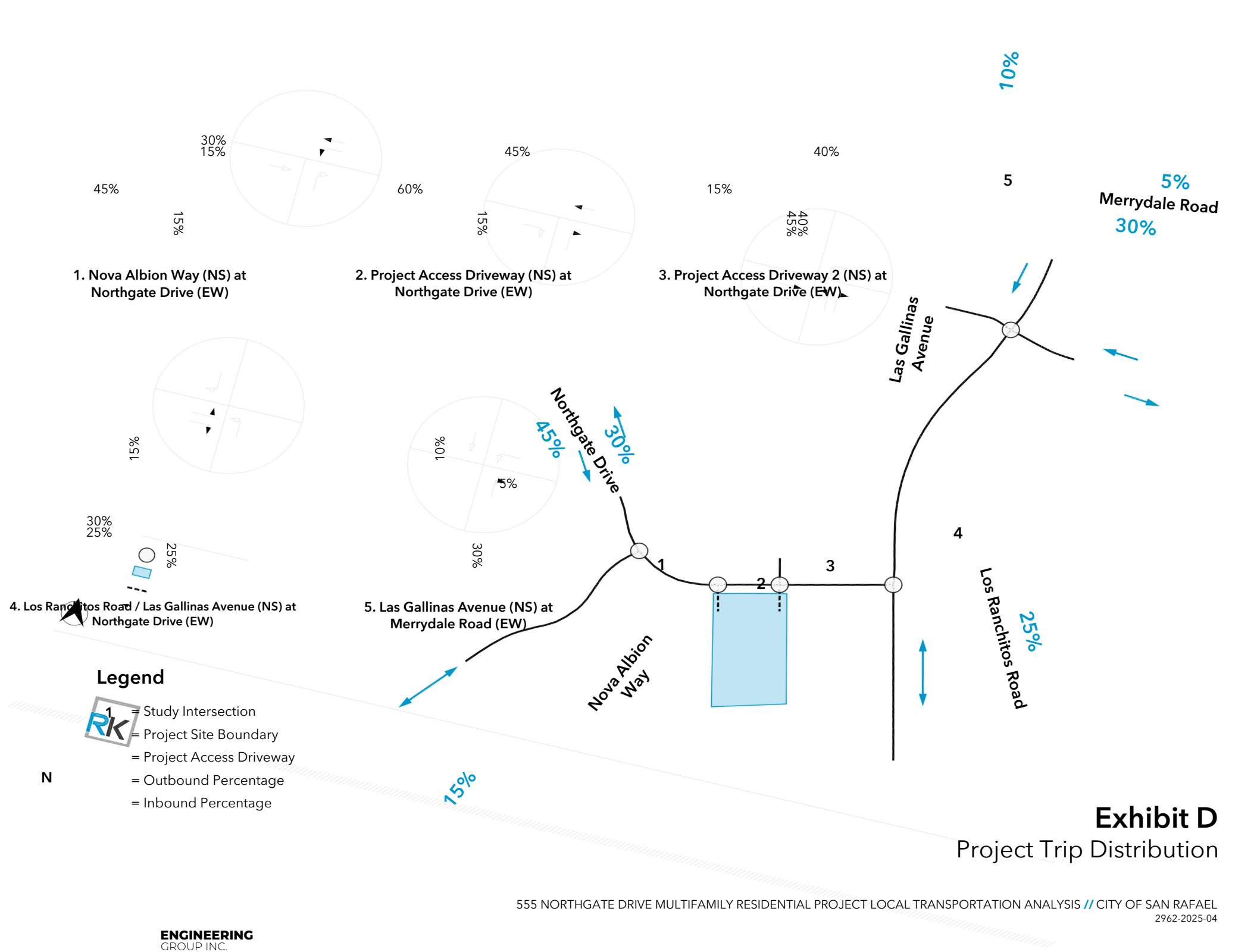


Exhibit D

Project Trip Distribution

Appendix B
Intersection Turning Movement Traffic Count Worksheets

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

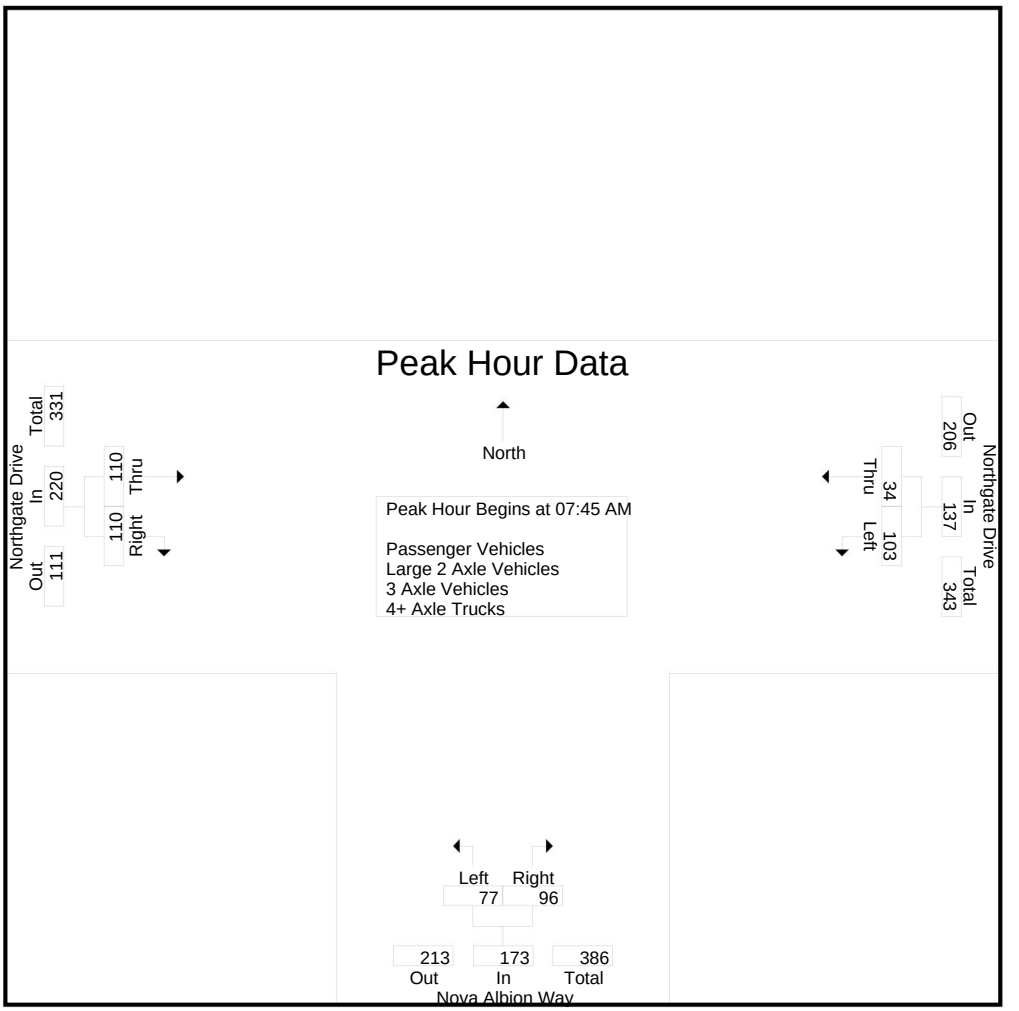
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	7	10	4	3	7	10	2	12	29
07:15 AM	2	3	5	3	9	12	10	7	17	34
07:30 AM	11	4	15	4	4	8	21	8	29	52
07:45 AM	11	6	17	7	13	20	24	20	44	81
Total	27	20	47	18	29	47	65	37	102	196
08:00 AM	39	9	48	29	31	60	20	56	76	184
08:15 AM	44	9	53	28	40	68	36	24	60	181
08:30 AM	9	10	19	13	12	25	30	10	40	84
08:45 AM	9	7	16	8	9	17	30	12	42	75
Total	101	35	136	78	92	170	116	102	218	524
Grand Total	128	55	183	96	121	217	181	139	320	720
Apprch %	69.9	30.1		44.2	55.8		56.6	43.4		
Total %	17.8	7.6	25.4	13.3	16.8	30.1	25.1	19.3	44.4	
Passenger Vehicles	123	53	176	93	120	213	176	139	315	704
% Passenger Vehicles	96.1	96.4	96.2	96.9	99.2	98.2	97.2	100	98.4	97.8
Large 2 Axle Vehicles	4	1	5	3	1	4	4	0	4	13
% Large 2 Axle Vehicles	3.1	1.8	2.7	3.1	0.8	1.8	2.2	0	1.2	1.8
3 Axle Vehicles	1	1	2	0	0	0	1	0	1	3
% 3 Axle Vehicles	0.8	1.8	1.1	0	0	0	0.6	0	0.3	0.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	11	6	17	7	13	20	24	20	44	81
08:00 AM	39	9	48	**29**	31	60	20	**56**	**76**	**184**
08:15 AM	**44**	9	**53**	28	**40**	**68**	**36**	24	60	181
08:30 AM	9	**10**	19	13	12	25	30	10	40	84
Total Volume	103	34	137	77	96	173	110	110	220	530
% App. Total	75.2	24.8		44.5	55.5		50	50		
PHF	.585	.850	.646	.664	.600	.636	.764	.491	.724	.720

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	11	6	17	7	13	20	24	20	44
+15 mins.	39	9	48	**29**	31	60	20	**56**	**76**
+30 mins.	**44**	9	**53**	28	**40**	**68**	**36**	24	60
+45 mins.	9	**10**	19	13	12	25	30	10	40
Total Volume	103	34	137	77	96	173	110	110	220
% App. Total	75.2	24.8		44.5	55.5		50	50	
PHF	.585	.850	.646	.664	.600	.636	.764	.491	.724

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

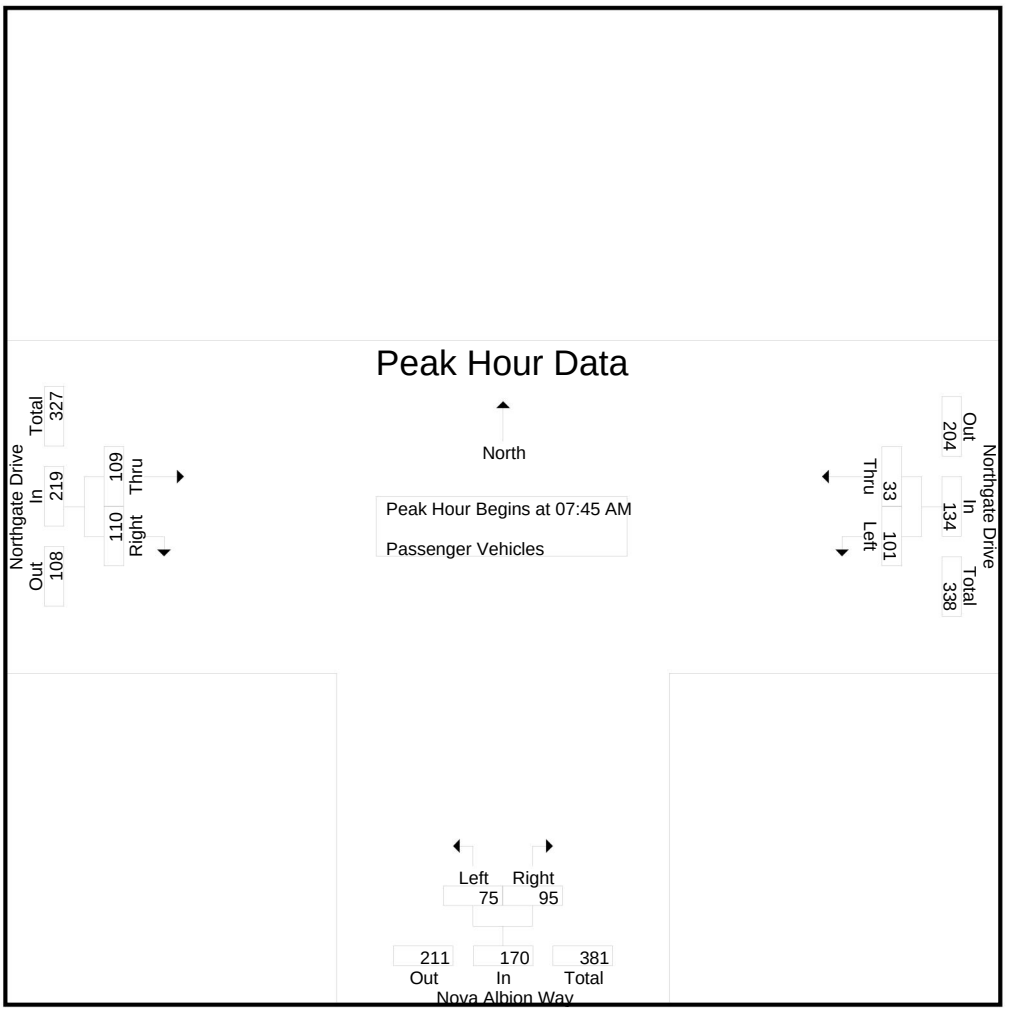
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	3	7	10	4	3	7	10	2	12	29
07:15 AM	2	3	5	2	9	11	9	7	16	32
07:30 AM	8	3	11	4	4	8	20	8	28	47
07:45 AM	11	6	17	6	13	19	23	20	43	79
Total	24	19	43	16	29	45	62	37	99	187
08:00 AM	38	9	47	29	31	60	20	56	76	183
08:15 AM	43	9	52	28	40	68	36	24	60	180
08:30 AM	9	9	18	12	11	23	30	10	40	81
08:45 AM	9	7	16	8	9	17	28	12	40	73
Total	99	34	133	77	91	168	114	102	216	517
Grand Total	123	53	176	93	120	213	176	139	315	704
Apprch %	69.9	30.1		43.7	56.3		55.9	44.1		
Total %	17.5	7.5	25	13.2	17	30.3	25	19.7	44.7	

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	11	6	17	6	13	19	23	20	43	79
08:00 AM	38	**9**	47	**29**	31	60	20	**56**	**76**	**183**
08:15 AM	**43**	9	**52**	28	**40**	**68**	**36**	24	60	180
08:30 AM	9	9	18	12	11	23	30	10	40	81
Total Volume	101	33	134	75	95	170	109	110	219	523
% App. Total	75.4	24.6		44.1	55.9		49.8	50.2		
PHF	.587	.917	.644	.647	.594	.625	.757	.491	.720	.714

Counts Unlimited, Inc.
PO Box 1178
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City of San Rafael
N/S: Nova Albion Way
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File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	11	6	17	6	13	19	23	20	43
+15 mins.	38	**9**	47	**29**	31	60	20	**56**	**76**
+30 mins.	**43**	9	**52**	28	**40**	**68**	**36**	24	60
+45 mins.	9	9	18	12	11	23	30	10	40
Total Volume	101	33	134	75	95	170	109	110	219
% App. Total	75.4	24.6		44.1	55.9		49.8	50.2	
PHF	.587	.917	.644	.647	.594	.625	.757	.491	.720

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File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

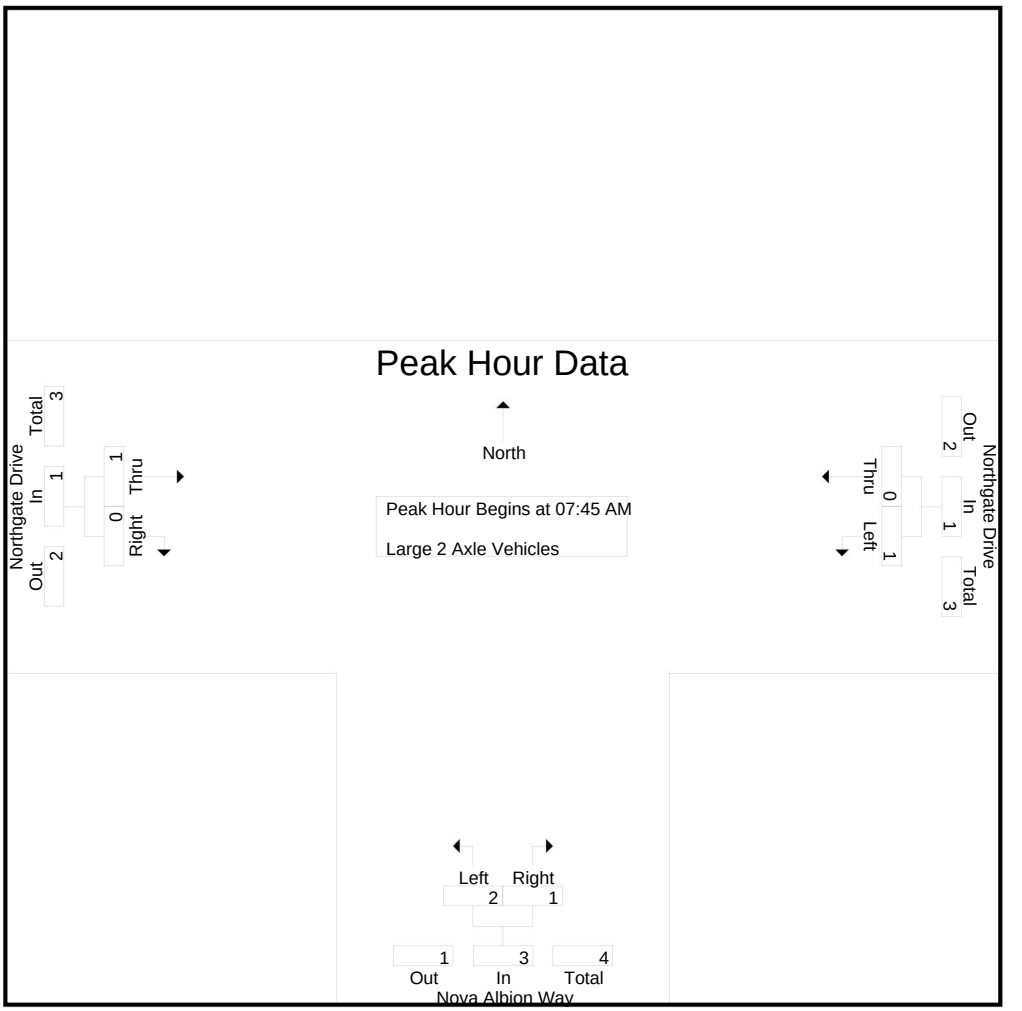
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	3	1	4	0	0	0	1	0	1	5
07:45 AM	0	0	0	1	0	1	1	0	1	2
Total	3	1	4	2	0	2	2	0	2	8
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	1	1	2	0	0	0	2
08:45 AM	0	0	0	0	0	0	2	0	2	2
Total	1	0	1	1	1	2	2	0	2	5
Grand Total	4	1	5	3	1	4	4	0	4	13
Apprch %	80	20		75	25		100	0		
Total %	30.8	7.7	38.5	23.1	7.7	30.8	30.8	0	30.8	

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	**1**	0	1	**1**	0	**1**	**2**
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	**1**	0	**1**	0	0	0	0	0	0	1
08:30 AM	0	0	0	1	**1**	**2**	0	0	0	2
Total Volume	1	0	1	2	1	3	1	0	1	5
% App. Total	100	0		66.7	33.3		100	0		
PHF	.250	.000	.250	.500	.250	.375	.250	.000	.250	.625

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	**1**	0	1	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	1	**1**	**2**	0	0	0
Total Volume	1	0	1	2	1	3	1	0	1
% App. Total	100	0		66.7	33.3		100	0	
PHF	.250	.000	.250	.500	.250	.375	.250	.000	.250

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

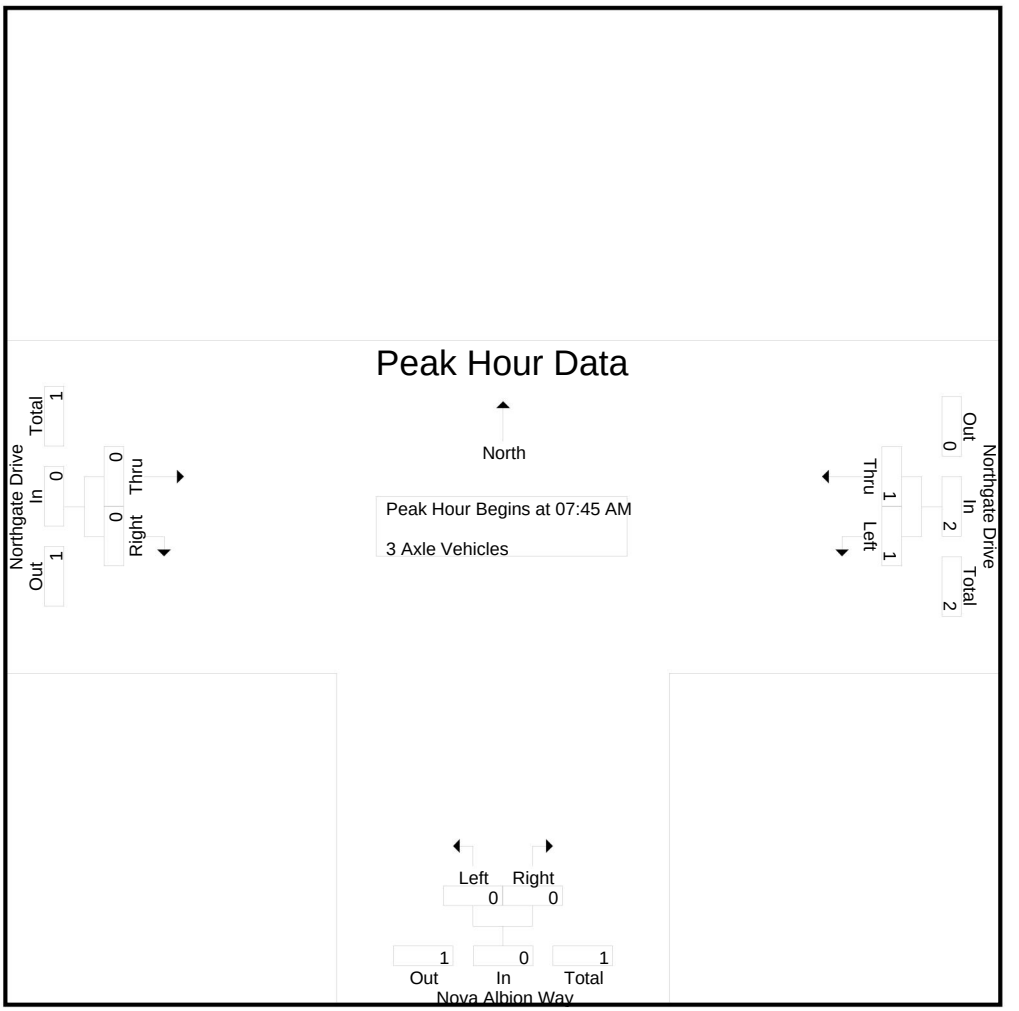
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	1	2	0	0	0	0	0	0	2
Grand Total	1	1	2	0	0	0	1	0	1	3
Apprch %	50	50		0	0		100	0		
Total %	33.3	33.3	66.7	0	0	0	33.3	0	33.3	

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	**1**	0	**1**	0	0	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	**1**	1	0	0	0	0	0	0	1
Total Volume	1	1	2	0	0	0	0	0	0	2
% App. Total	50	50		0	0		0	0		
PHF	.250	.250	.500	.000	.000	.000	.000	.000	.000	.500

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	**1**	1	0	0	0	0	0	0
Total Volume	1	1	2	0	0	0	0	0	0
% App. Total	50	50		0	0		0	0	
PHF	.250	.250	.500	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

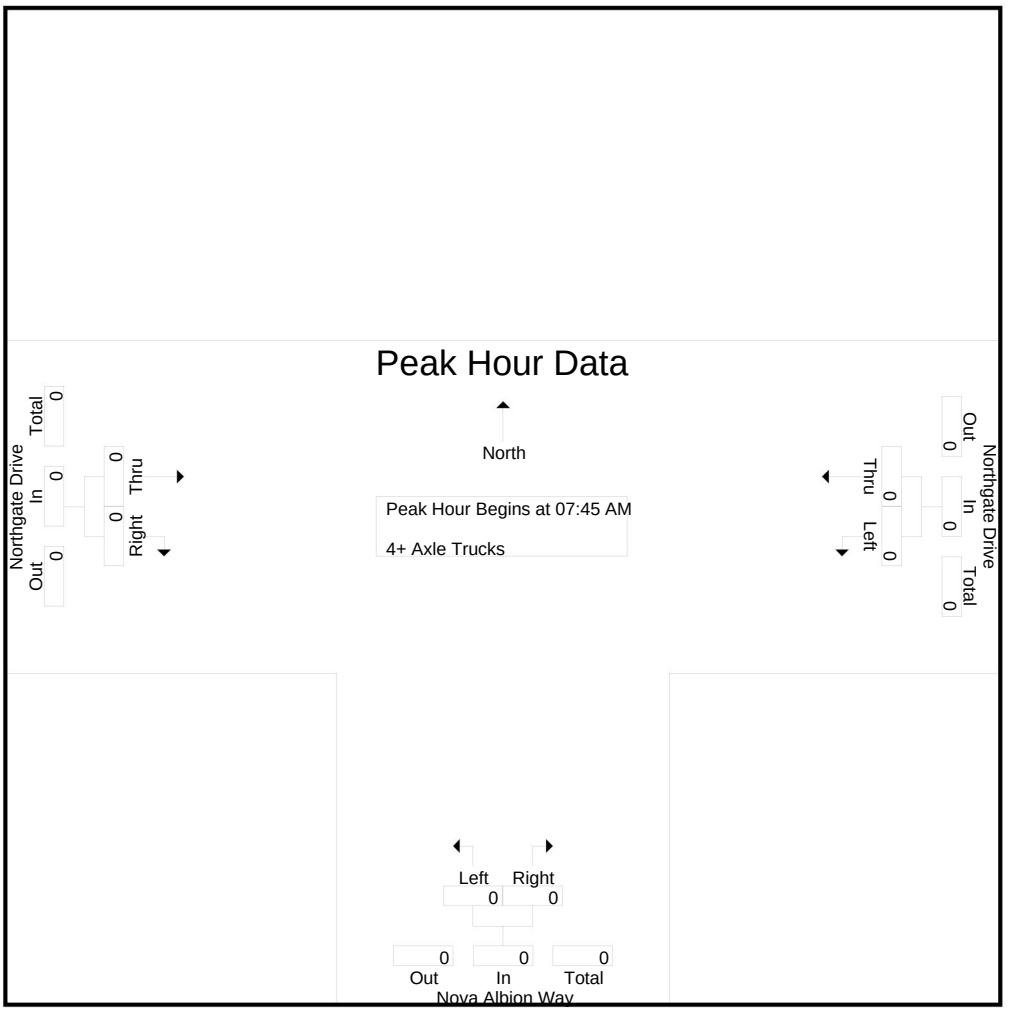
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
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Weather: Clear

File Name : 01_SRF_NA_Ng AM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

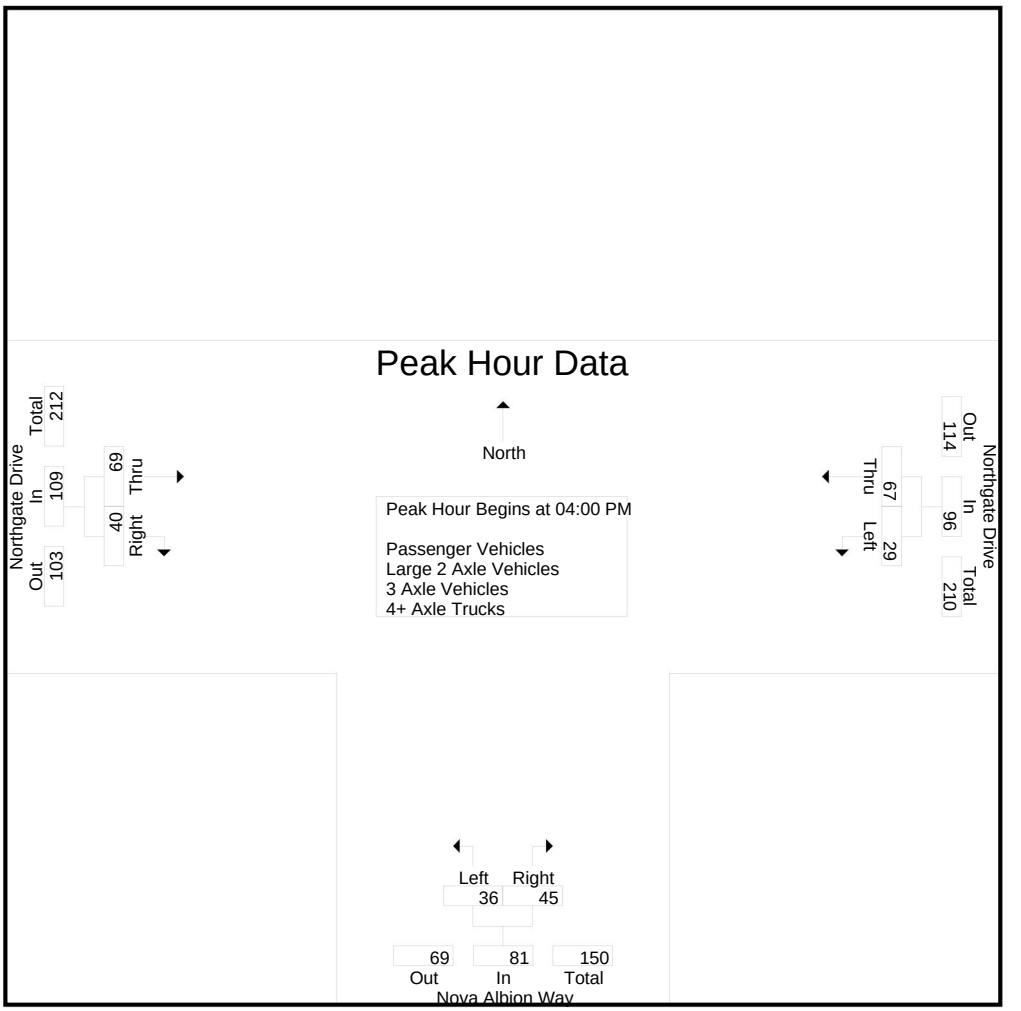
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	4	16	20	21	12	33	19	12	31	84
04:15 PM	12	17	29	6	14	20	10	14	24	73
04:30 PM	6	16	22	5	8	13	22	6	28	63
04:45 PM	7	18	25	4	11	15	18	8	26	66
Total	29	67	96	36	45	81	69	40	109	286
05:00 PM	15	16	31	7	10	17	23	6	29	77
05:15 PM	6	11	17	6	9	15	21	13	34	66
05:30 PM	12	9	21	8	11	19	21	11	32	72
05:45 PM	7	14	21	6	6	12	21	10	31	64
Total	40	50	90	27	36	63	86	40	126	279
Grand Total	69	117	186	63	81	144	155	80	235	565
Apprch %	37.1	62.9		43.8	56.2		66	34		
Total %	12.2	20.7	32.9	11.2	14.3	25.5	27.4	14.2	41.6	
Passenger Vehicles	69	116	185	60	80	140	155	78	233	558
% Passenger Vehicles	100	99.1	99.5	95.2	98.8	97.2	100	97.5	99.1	98.8
Large 2 Axle Vehicles	0	1	1	3	0	3	0	2	2	6
% Large 2 Axle Vehicles	0	0.9	0.5	4.8	0	2.1	0	2.5	0.9	1.1
3 Axle Vehicles	0	0	0	0	1	1	0	0	0	1
% 3 Axle Vehicles	0	0	0	0	1.2	0.7	0	0	0	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	4	16	20	**21**	12	**33**	19	12	**31**	**84**
04:15 PM	**12**	17	**29**	6	**14**	20	10	**14**	24	73
04:30 PM	6	16	22	5	8	13	**22**	6	28	63
04:45 PM	7	**18**	25	4	11	15	18	8	26	66
Total Volume	29	67	96	36	45	81	69	40	109	286
% App. Total	30.2	69.8		44.4	55.6		63.3	36.7		
PHF	.604	.931	.828	.429	.804	.614	.784	.714	.879	.851

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Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	12	17	29	**21**	12	**33**	**23**	6	29
+15 mins.	6	16	22	6	**14**	20	21	**13**	**34**
+30 mins.	7	**18**	25	5	8	13	21	11	32
+45 mins.	**15**	16	**31**	4	11	15	21	10	31
Total Volume	40	67	107	36	45	81	86	40	126
% App. Total	37.4	62.6		44.4	55.6		68.3	31.7	
PHF	.667	.931	.863	.429	.804	.614	.935	.769	.926

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City of San Rafael
N/S: Nova Albion Way
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Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

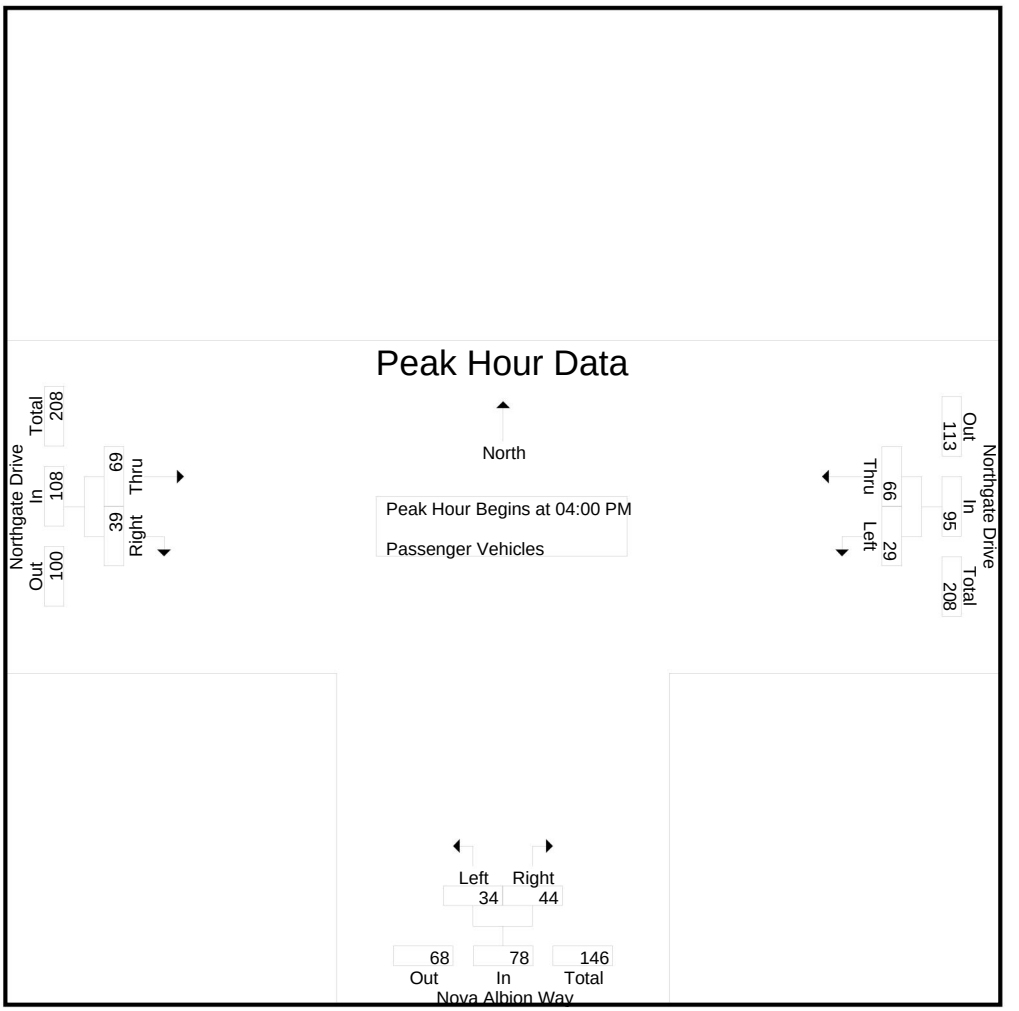
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	4	15	19	19	11	30	19	12	31	80
04:15 PM	12	17	29	6	14	20	10	14	24	73
04:30 PM	6	16	22	5	8	13	22	6	28	63
04:45 PM	7	18	25	4	11	15	18	7	25	65
Total	29	66	95	34	44	78	69	39	108	281
05:00 PM	15	16	31	7	10	17	23	6	29	77
05:15 PM	6	11	17	5	9	14	21	12	33	64
05:30 PM	12	9	21	8	11	19	21	11	32	72
05:45 PM	7	14	21	6	6	12	21	10	31	64
Total	40	50	90	26	36	62	86	39	125	277
Grand Total	69	116	185	60	80	140	155	78	233	558
Apprch %	37.3	62.7		42.9	57.1		66.5	33.5		
Total %	12.4	20.8	33.2	10.8	14.3	25.1	27.8	14	41.8	

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	4	15	19	**19**	11	**30**	19	12	**31**	**80**
04:15 PM	**12**	17	**29**	6	**14**	20	10	**14**	24	73
04:30 PM	6	16	22	5	8	13	**22**	6	28	63
04:45 PM	7	**18**	25	4	11	15	18	7	25	65
Total Volume	29	66	95	34	44	78	69	39	108	281
% App. Total	30.5	69.5		43.6	56.4		63.9	36.1		
PHF	.604	.917	.819	.447	.786	.650	.784	.696	.871	.878

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City of San Rafael
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Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	4	15	19	**19**	11	**30**	19	12	**31**
+15 mins.	**12**	17	**29**	6	**14**	20	10	**14**	24
+30 mins.	6	16	22	5	8	13	**22**	6	28
+45 mins.	7	**18**	25	4	11	15	18	7	25
Total Volume	29	66	95	34	44	78	69	39	108
% App. Total	30.5	69.5		43.6	56.4		63.9	36.1	
PHF	.604	.917	.819	.447	.786	.650	.784	.696	.871

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

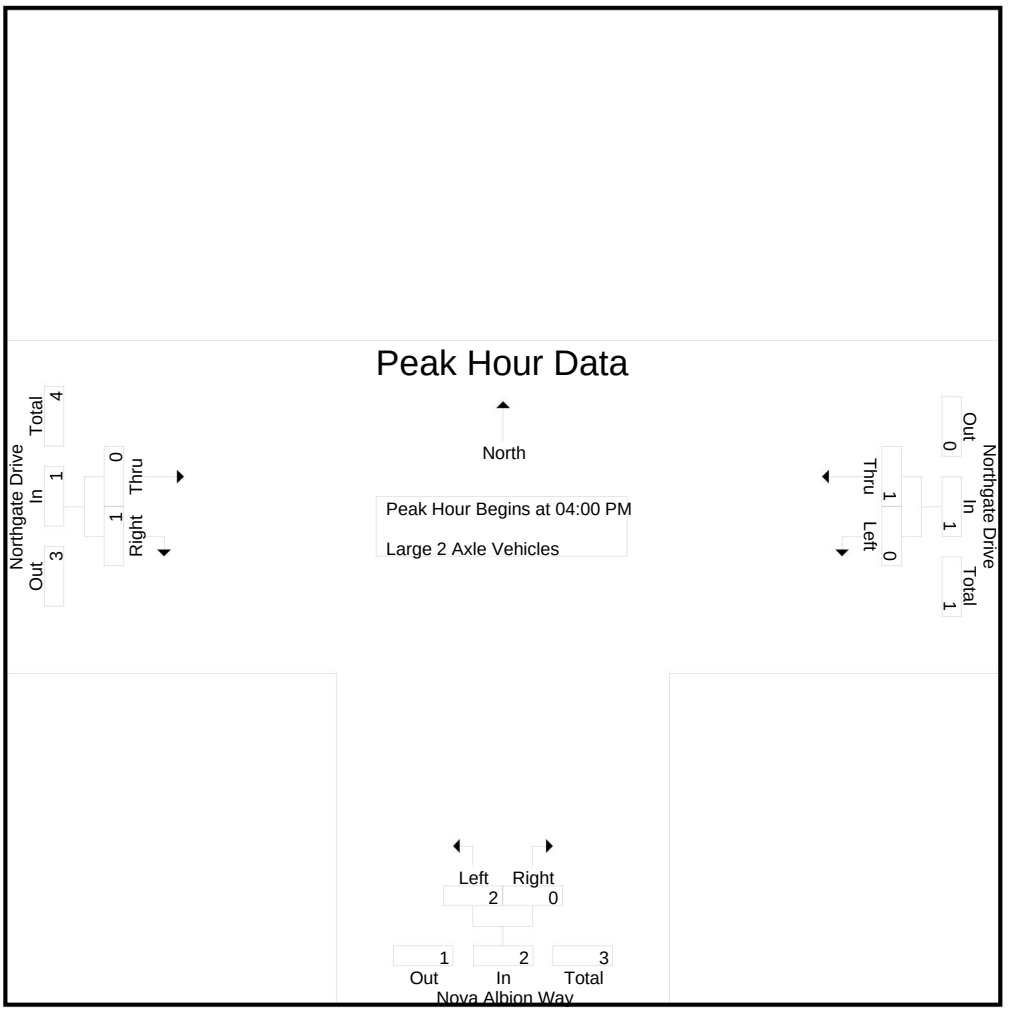
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	2	0	2	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	1	1	1
Total	0	1	1	2	0	2	0	1	1	4
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	1	0	1	0	1	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	1	1	2
Grand Total	0	1	1	3	0	3	0	2	2	6
Apprch %	0	100		100	0		0	100		
Total %	0	16.7	16.7	50	0	50	0	33.3	33.3	

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	**1**	**1**	**2**	0	**2**	0	0	0	**3**
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	**1**	**1**	1
Total Volume	0	1	1	2	0	2	0	1	1	4
% App. Total	0	100		100	0		0	100		
PHF	.000	.250	.250	.250	.000	.250	.000	.250	.250	.333

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File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	**1**	**1**	**2**	0	**2**	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	**1**	**1**
Total Volume	0	1	1	2	0	2	0	1	1
% App. Total	0	100		100	0		0	100	
PHF	.000	.250	.250	.250	.000	.250	.000	.250	.250

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N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Groups Printed- 3 Axle Vehicles

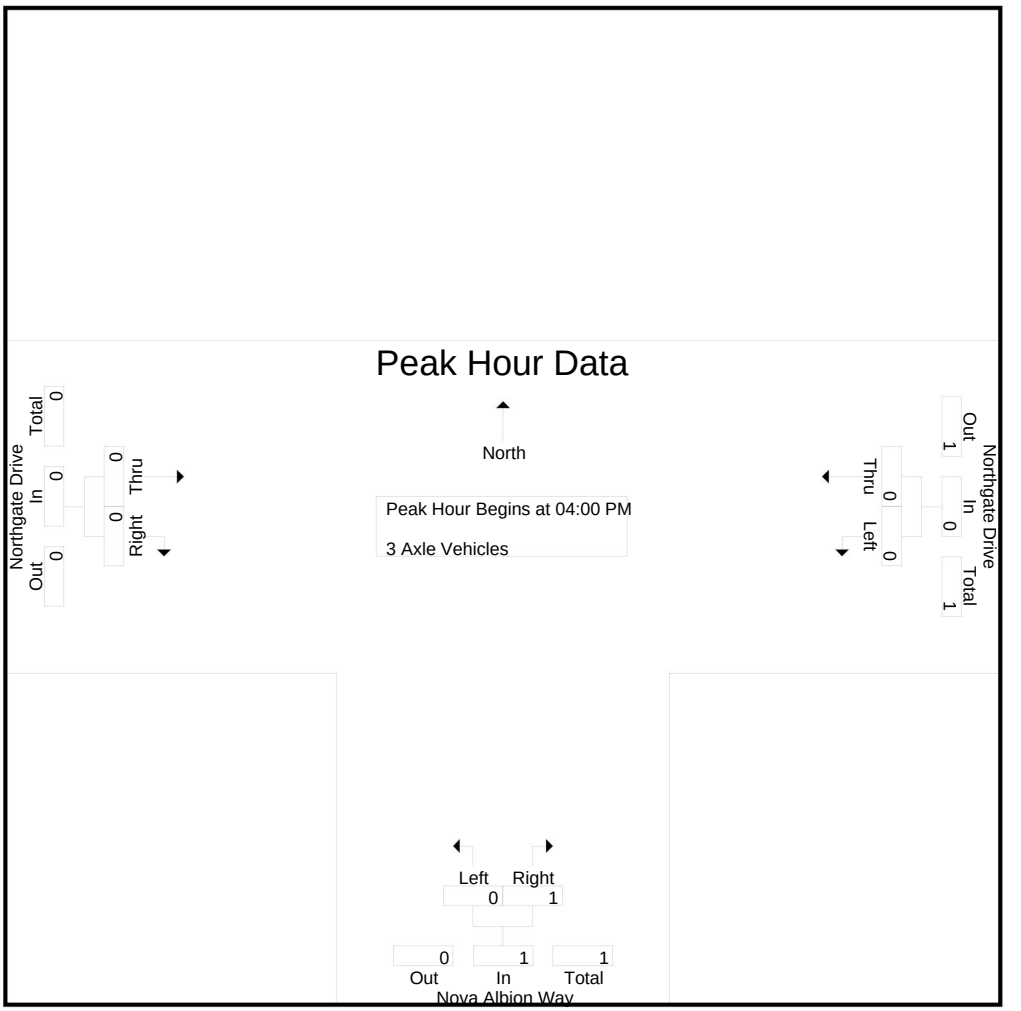
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	1	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	1	0	0	0	1
Apprch %	0	0		0	100		0	0		
Total %	0	0	0	0	100	100	0	0	0	

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	**1**	**1**	0	0	0	**1**
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0	1
% App. Total	0	0		0	100		0	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	**1**	**1**	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	1	0	0	0
% App. Total	0	0		0	100		0	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.000

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

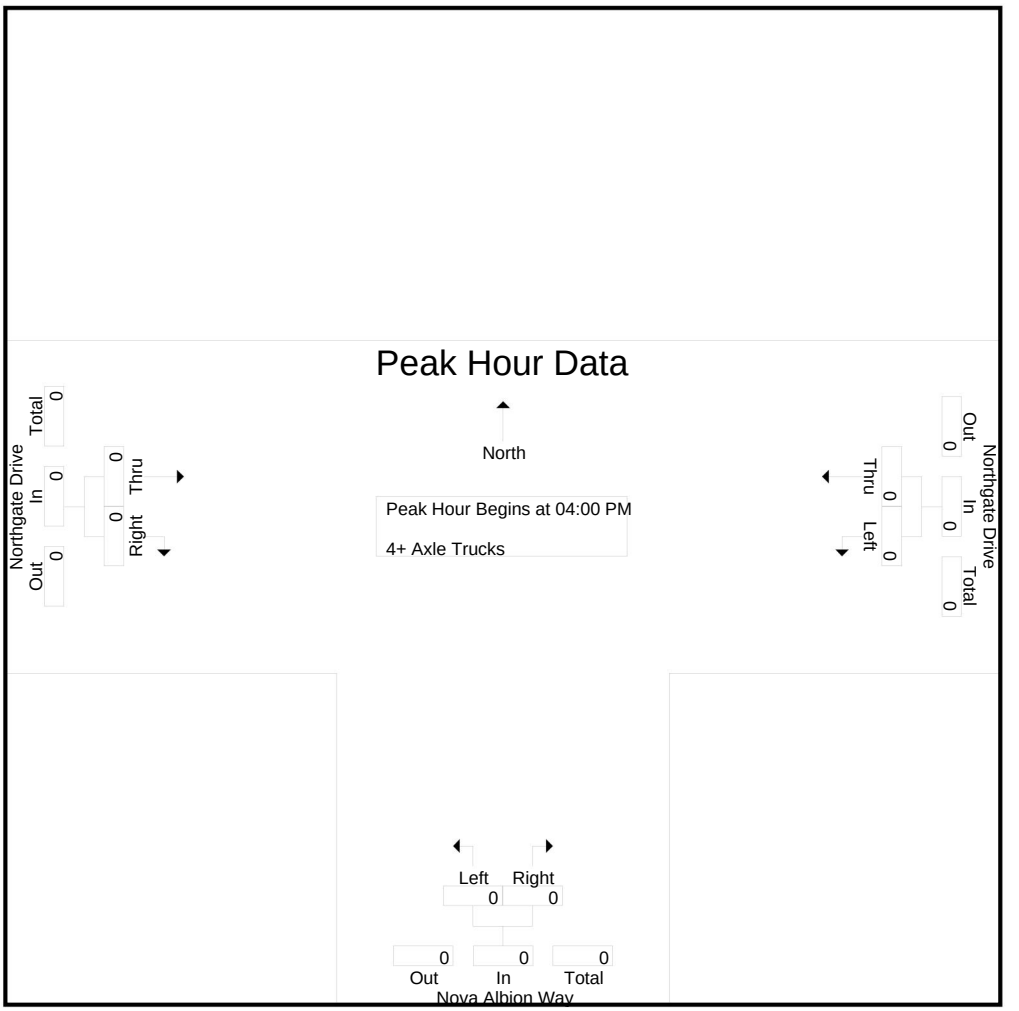
	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Northgate Drive Westbound			Nova Albion Way Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive
Weather: Clear

File Name : 01_SRF_NA_Ng PM
Site Code : 10525763
Start Date : 8/28/2025



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

PEDESTRIANS

	North Leg Nova Albion Way Pedestrians	East Leg Northgate Drive Pedestrians	South Leg Nova Albion Way Pedestrians	West Leg Northgate Drive Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	1	0	1
7:45 AM	0	0	1	2	3
8:00 AM	0	0	1	1	2
8:15 AM	0	0	1	1	2
8:30 AM	0	0	1	1	2
8:45 AM	1	1	2	1	5
TOTAL VOLUMES:	1	1	7	7	16

	North Leg Nova Albion Way Pedestrians	East Leg Northgate Drive Pedestrians	South Leg Nova Albion Way Pedestrians	West Leg Northgate Drive Pedestrians	
4:00 PM	0	0	2	2	4
4:15 PM	0	0	0	0	0
4:30 PM	1	1	0	0	2
4:45 PM	0	1	0	0	1
5:00 PM	0	0	1	1	2
5:15 PM	1	0	0	0	1
5:30 PM	0	0	3	0	3
5:45 PM	1	0	0	1	2
TOTAL VOLUMES:	3	2	6	4	15

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Location: San Rafael
N/S: Nova Albion Way
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

BICYCLES

	Southbound Nova Albion Way			Westbound Northgate Drive			Northbound Nova Albion Way			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:45 AM	0	2	0	0	0	0	0	0	0	0	1	0	3
8:00 AM	0	0	0	1	3	0	1	0	1	0	0	0	6
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:45 AM	0	0	0	0	0	0	0	0	1	0	2	0	3
TOTAL VOLUMES:	0	3	0	1	4	0	1	0	2	0	9	1	21

	Southbound Nova Albion Way			Westbound Northgate Drive			Northbound Nova Albion Way			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	2	0	1	0	0	0	3	0	6
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	1	2	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	5	1	7
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	1	6	0	1	0	0	0	10	1	19

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

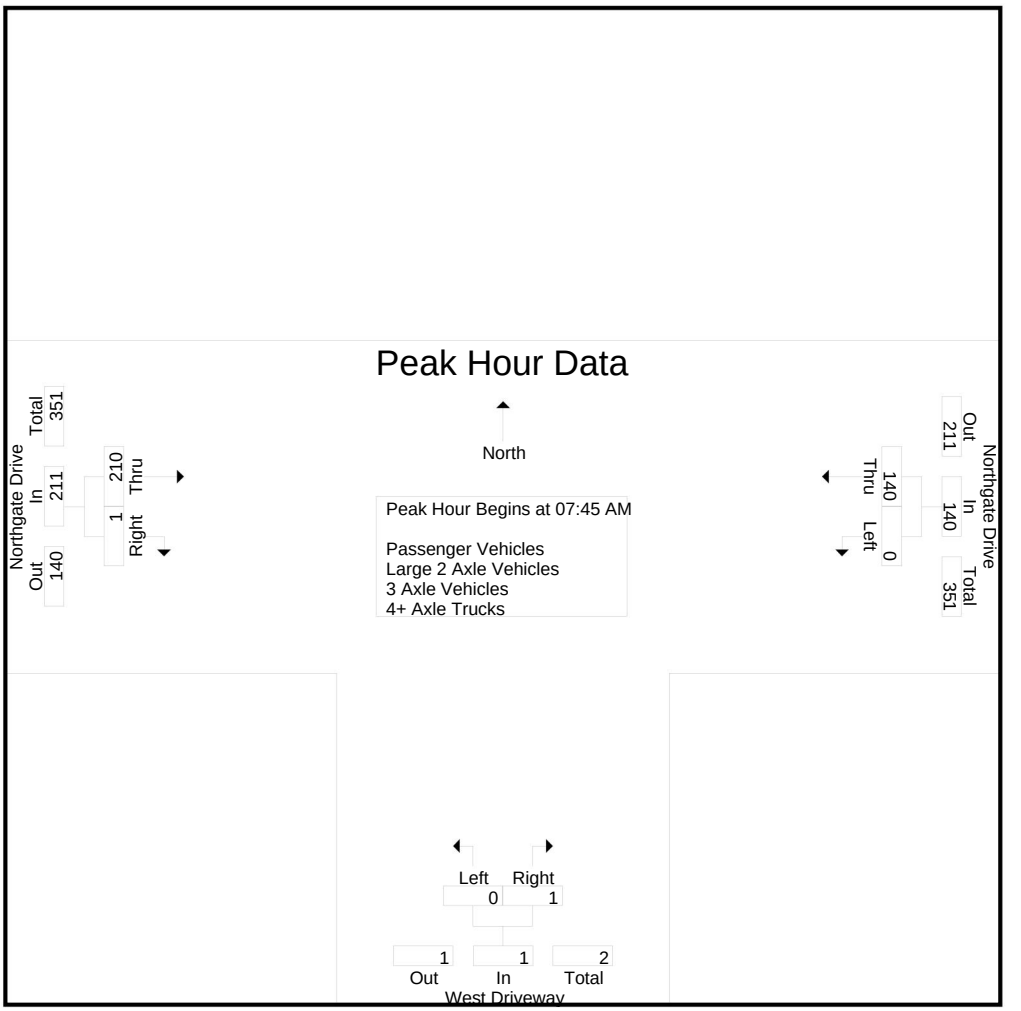
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	10	10	0	0	0	12	0	12	22
07:15 AM	0	5	5	0	2	2	21	0	21	28
07:30 AM	0	19	19	0	0	0	24	0	24	43
07:45 AM	0	18	18	0	0	0	40	1	41	59
Total	0	52	52	0	2	2	97	1	98	152
08:00 AM	0	49	49	0	0	0	51	0	51	100
08:15 AM	0	53	53	0	1	1	74	0	74	128
08:30 AM	0	20	20	0	0	0	45	0	45	65
08:45 AM	0	16	16	0	0	0	39	0	39	55
Total	0	138	138	0	1	1	209	0	209	348
Grand Total	0	190	190	0	3	3	306	1	307	500
Apprch %	0	100		0	100		99.7	0.3		
Total %	0	38	38	0	0.6	0.6	61.2	0.2	61.4	
Passenger Vehicles	0	183	183	0	3	3	300	1	301	487
% Passenger Vehicles	0	96.3	96.3	0	100	100	98	100	98	97.4
Large 2 Axle Vehicles	0	5	5	0	0	0	5	0	5	10
% Large 2 Axle Vehicles	0	2.6	2.6	0	0	0	1.6	0	1.6	2
3 Axle Vehicles	0	2	2	0	0	0	1	0	1	3
% 3 Axle Vehicles	0	1.1	1.1	0	0	0	0.3	0	0.3	0.6
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	18	18	0	0	0	40	**1**	41	59
08:00 AM	0	49	49	0	0	0	51	0	51	100
08:15 AM	0	**53**	**53**	0	**1**	**1**	**74**	0	**74**	**128**
08:30 AM	0	20	20	0	0	0	45	0	45	65
Total Volume	0	140	140	0	1	1	210	1	211	352
% App. Total	0	100		0	100		99.5	0.5		
PHF	.000	.660	.660	.000	.250	.250	.709	.250	.713	.688

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:00 AM			07:45 AM		
+0 mins.	0	18	18	0	0	0	40	**1**	41
+15 mins.	0	49	49	0	**2**	**2**	51	0	51
+30 mins.	0	**53**	**53**	0	0	0	**74**	0	**74**
+45 mins.	0	20	20	0	0	0	45	0	45
Total Volume	0	140	140	0	2	2	210	1	211
% App. Total	0	100		0	100		99.5	0.5	
PHF	.000	.660	.660	.000	.250	.250	.709	.250	.713

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

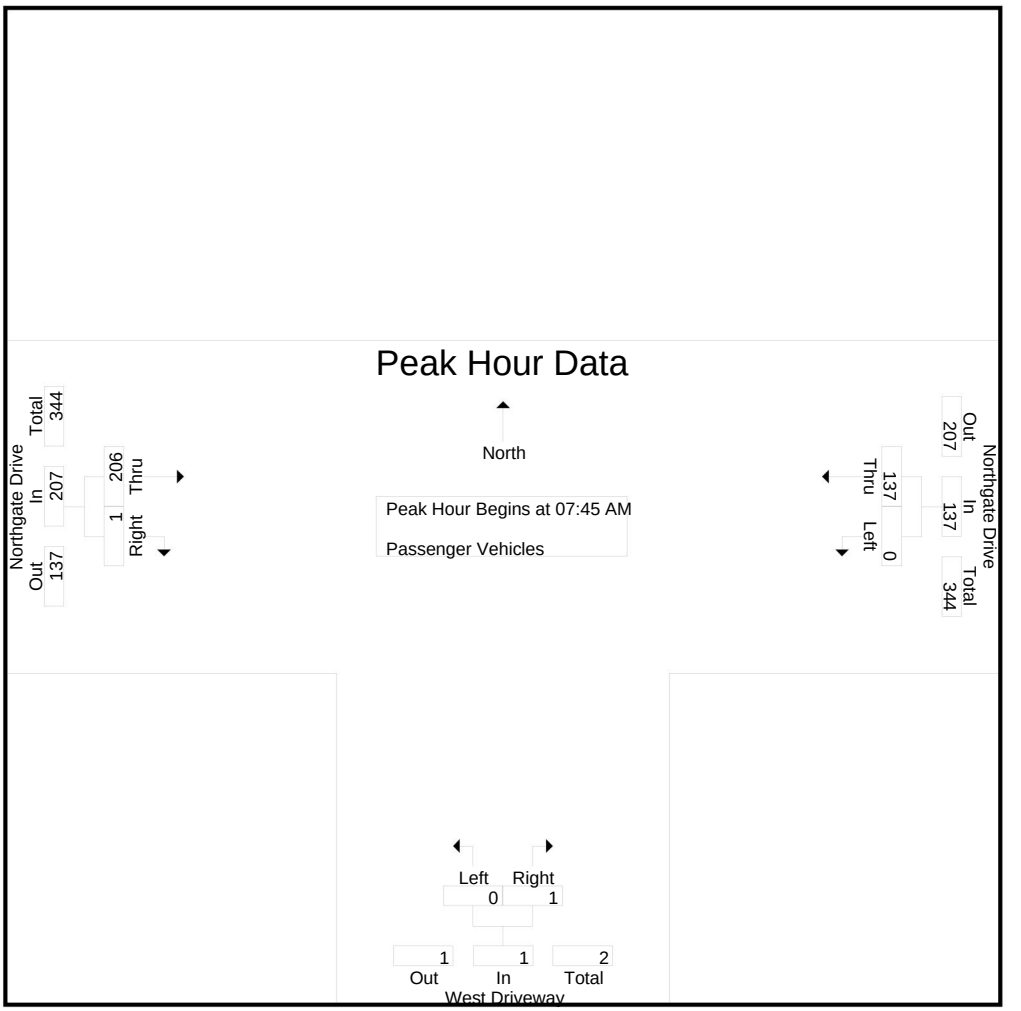
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	10	10	0	0	0	12	0	12	22
07:15 AM	0	5	5	0	2	2	20	0	20	27
07:30 AM	0	15	15	0	0	0	24	0	24	39
07:45 AM	0	18	18	0	0	0	37	1	38	56
Total	0	48	48	0	2	2	93	1	94	144
08:00 AM	0	48	48	0	0	0	51	0	51	99
08:15 AM	0	52	52	0	1	1	74	0	74	127
08:30 AM	0	19	19	0	0	0	44	0	44	63
08:45 AM	0	16	16	0	0	0	38	0	38	54
Total	0	135	135	0	1	1	207	0	207	343
Grand Total	0	183	183	0	3	3	300	1	301	487
Apprch %	0	100		0	100		99.7	0.3		
Total %	0	37.6	37.6	0	0.6	0.6	61.6	0.2	61.8	

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	18	18	0	0	0	37	**1**	38	56
08:00 AM	0	48	48	0	0	0	51	0	51	99
08:15 AM	0	**52**	**52**	0	**1**	**1**	**74**	0	**74**	**127**
08:30 AM	0	19	19	0	0	0	44	0	44	63
Total Volume	0	137	137	0	1	1	206	1	207	345
% App. Total	0	100		0	100		99.5	0.5		
PHF	.000	.659	.659	.000	.250	.250	.696	.250	.699	.679

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	18	18	0	0	0	37	**1**	38
+15 mins.	0	48	48	0	0	0	51	0	51
+30 mins.	0	**52**	**52**	0	**1**	**1**	**74**	0	**74**
+45 mins.	0	19	19	0	0	0	44	0	44
Total Volume	0	137	137	0	1	1	206	1	207
% App. Total	0	100		0	100		99.5	0.5	
PHF	.000	.659	.659	.000	.250	.250	.696	.250	.699

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

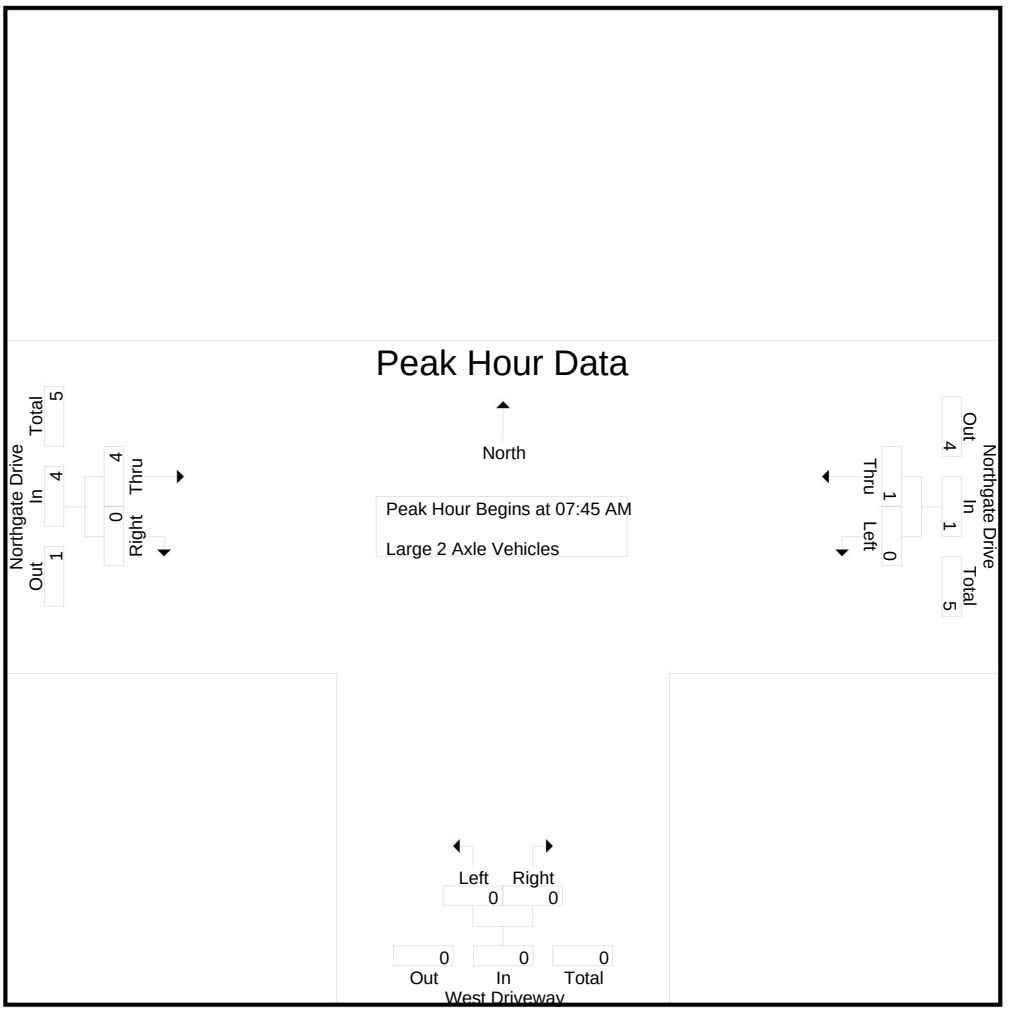
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	4	4	0	0	0	0	0	0	4
07:45 AM	0	0	0	0	0	0	3	0	3	3
Total	0	4	4	0	0	0	3	0	3	7
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	0	0	1	0	1	1
Total	0	1	1	0	0	0	2	0	2	3
Grand Total	0	5	5	0	0	0	5	0	5	10
Apprch %	0	100		0	0		100	0		
Total %	0	50	50	0	0	0	50	0	50	

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	**3**	0	**3**	**3**
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	**1**	**1**	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	1	1	0	0	0	4	0	4	5
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.333	.000	.333	.417

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	**3**	0	**3**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	1	1	0	0	0	4	0	4
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.333	.000	.333

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

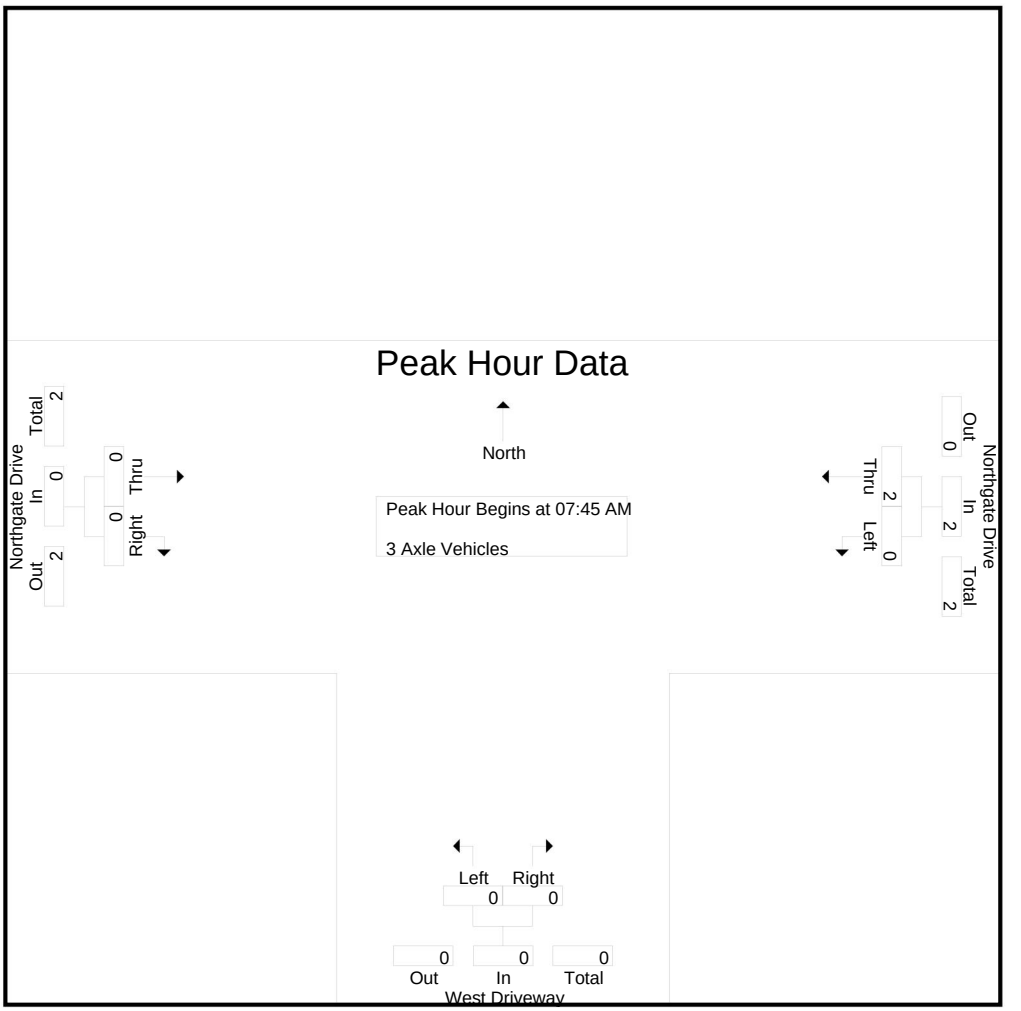
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	0	0	0	0	0	2
Grand Total	0	2	2	0	0	0	1	0	1	3
Apprch %	0	100		0	0		100	0		
Total %	0	66.7	66.7	0	0	0	33.3	0	33.3	

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	**1**	**1**	0	0	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	2	2	0	0	0	0	0	0	2
% App. Total	0	100		0	0		0	0		
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000	.500

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

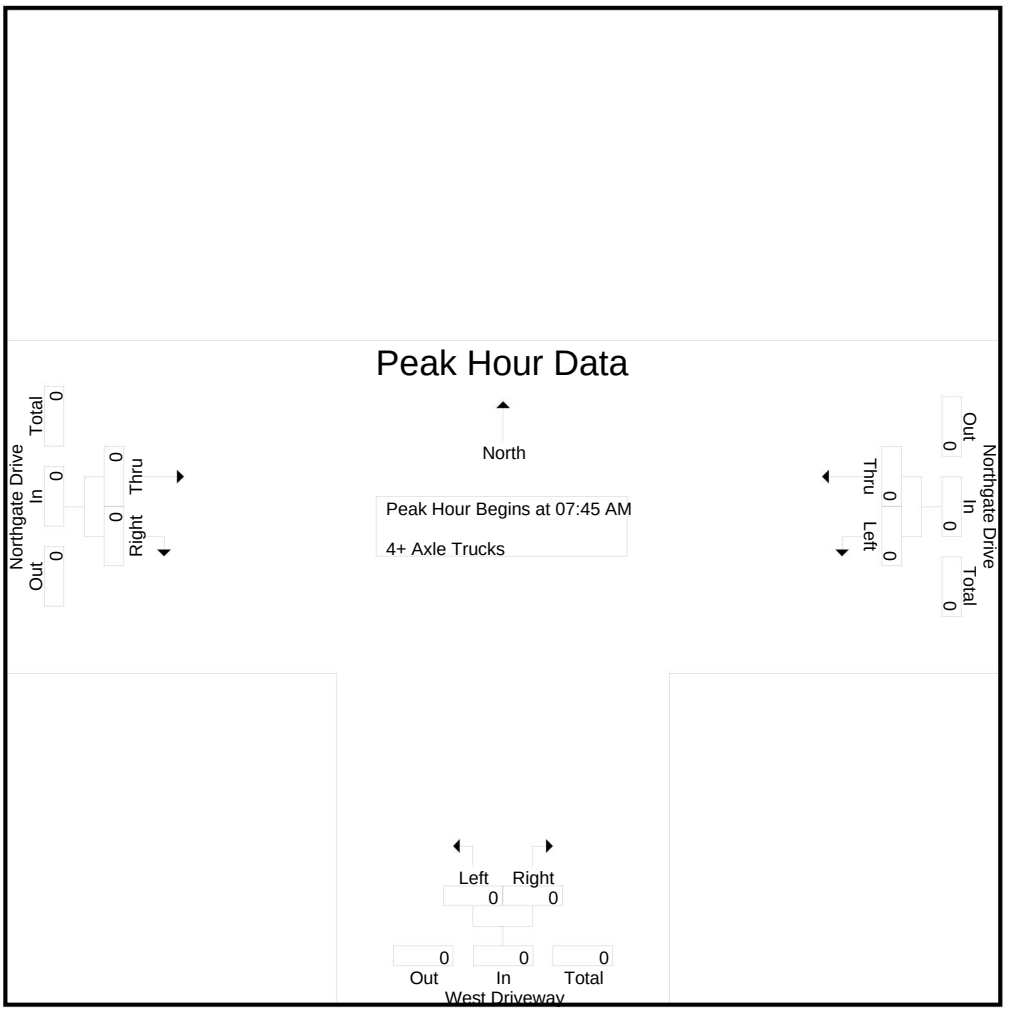
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

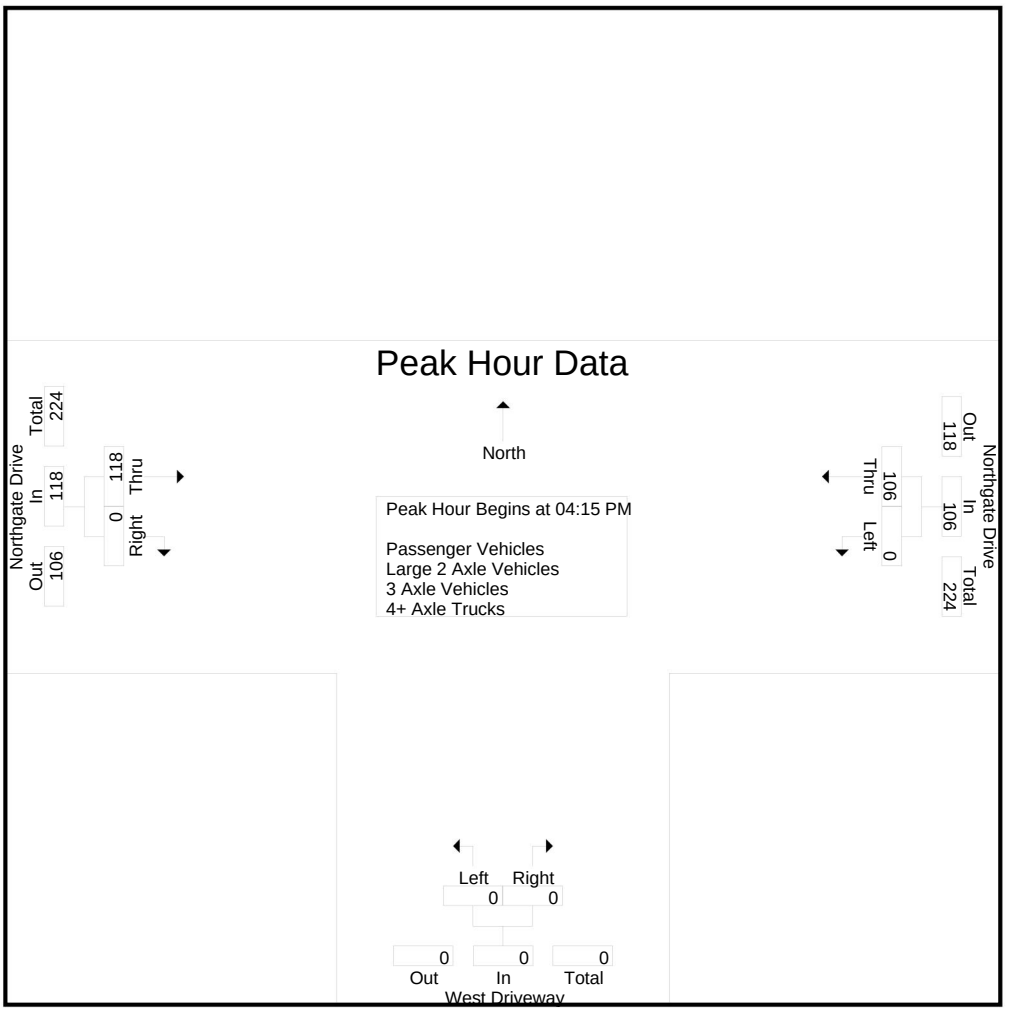
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	20	20	0	0	0	31	0	31	51
04:15 PM	0	29	29	0	0	0	24	0	24	53
04:30 PM	0	24	24	0	0	0	30	0	30	54
04:45 PM	0	23	23	0	0	0	31	0	31	54
Total	0	96	96	0	0	0	116	0	116	212
05:00 PM	0	30	30	0	0	0	33	0	33	63
05:15 PM	0	16	16	0	1	1	30	0	30	47
05:30 PM	0	21	21	0	0	0	32	0	32	53
05:45 PM	0	21	21	0	0	0	28	0	28	49
Total	0	88	88	0	1	1	123	0	123	212
Grand Total	0	184	184	0	1	1	239	0	239	424
Apprch %	0	100		0	100		100	0		
Total %	0	43.4	43.4	0	0.2	0.2	56.4	0	56.4	
Passenger Vehicles	0	183	183	0	0	0	238	0	238	421
% Passenger Vehicles	0	99.5	99.5	0	0	0	99.6	0	99.6	99.3
Large 2 Axle Vehicles	0	1	1	0	1	1	0	0	0	2
% Large 2 Axle Vehicles	0	0.5	0.5	0	100	100	0	0	0	0.5
3 Axle Vehicles	0	0	0	0	0	0	1	0	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0.4	0	0.4	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	29	29	0	0	0	24	0	24	53
04:30 PM	0	24	24	0	0	0	30	0	30	54
04:45 PM	0	23	23	0	0	0	31	0	31	54
05:00 PM	0	**30**	**30**	0	0	0	**33**	0	**33**	**63**
Total Volume	0	106	106	0	0	0	118	0	118	224
% App. Total	0	100		0	0		100	0		
PHF	.000	.883	.883	.000	.000	.000	.894	.000	.894	.889

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:30 PM			04:45 PM		
+0 mins.	0	29	29	0	0	0	31	0	31
+15 mins.	0	24	24	0	0	0	**33**	0	**33**
+30 mins.	0	23	23	0	0	0	30	0	30
+45 mins.	0	**30**	**30**	0	**1**	**1**	32	0	32
Total Volume	0	106	106	0	1	1	126	0	126
% App. Total	0	100		0	100		100	0	
PHF	.000	.883	.883	.000	.250	.250	.955	.000	.955

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

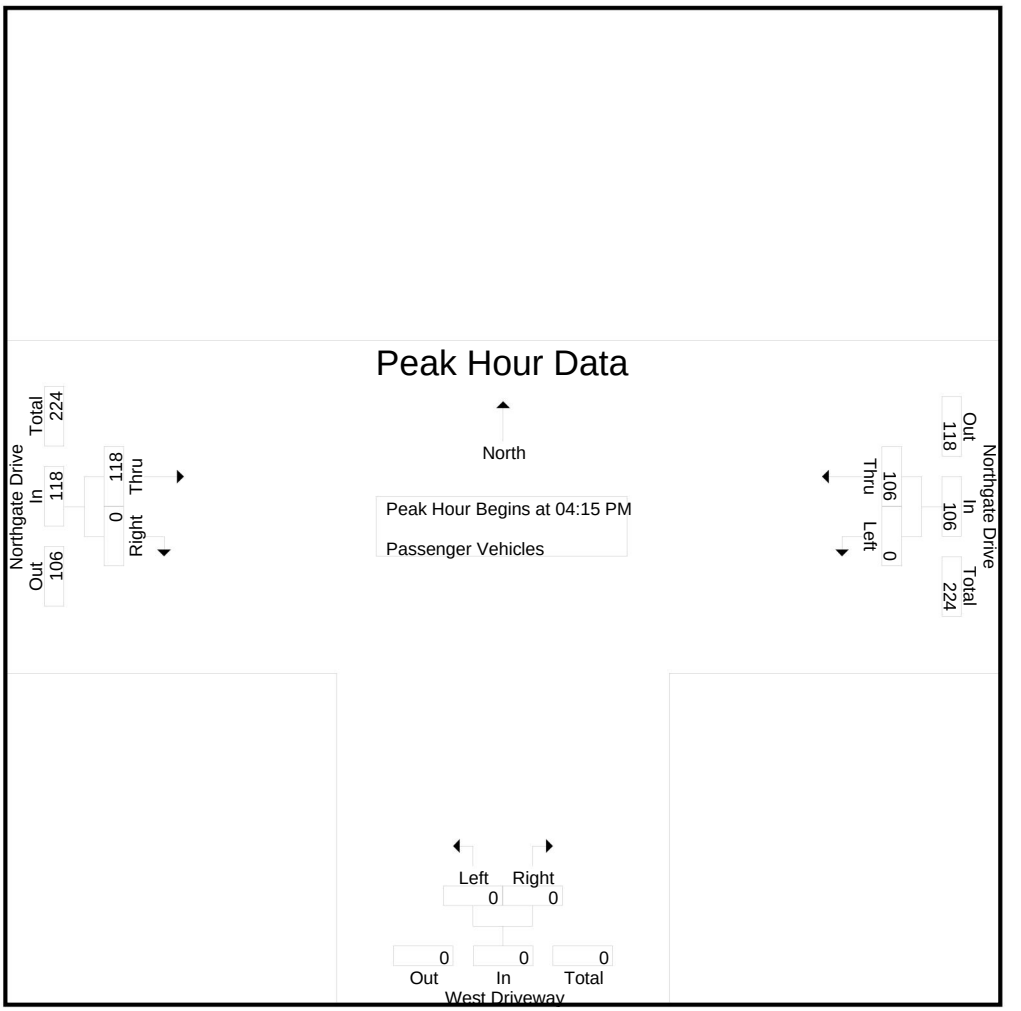
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	19	19	0	0	0	30	0	30	49
04:15 PM	0	29	29	0	0	0	24	0	24	53
04:30 PM	0	24	24	0	0	0	30	0	30	54
04:45 PM	0	23	23	0	0	0	31	0	31	54
Total	0	95	95	0	0	0	115	0	115	210
05:00 PM	0	30	30	0	0	0	33	0	33	63
05:15 PM	0	16	16	0	0	0	30	0	30	46
05:30 PM	0	21	21	0	0	0	32	0	32	53
05:45 PM	0	21	21	0	0	0	28	0	28	49
Total	0	88	88	0	0	0	123	0	123	211
Grand Total	0	183	183	0	0	0	238	0	238	421
Apprch %	0	100		0	0		100	0		
Total %	0	43.5	43.5	0	0	0	56.5	0	56.5	

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	29	29	0	0	0	24	0	24	53
04:30 PM	0	24	24	0	0	0	30	0	30	54
04:45 PM	0	23	23	0	0	0	31	0	31	54
05:00 PM	0	**30**	**30**	0	0	0	**33**	0	**33**	**63**
Total Volume	0	106	106	0	0	0	118	0	118	224
% App. Total	0	100		0	0		100	0		
PHF	.000	.883	.883	.000	.000	.000	.894	.000	.894	.889

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	29	29	0	0	0	24	0	24
+15 mins.	0	24	24	0	0	0	30	0	30
+30 mins.	0	23	23	0	0	0	31	0	31
+45 mins.	0	**30**	**30**	0	0	0	**33**	0	**33**
Total Volume	0	106	106	0	0	0	118	0	118
% App. Total	0	100		0	0		100	0	
PHF	.000	.883	.883	.000	.000	.000	.894	.000	.894

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

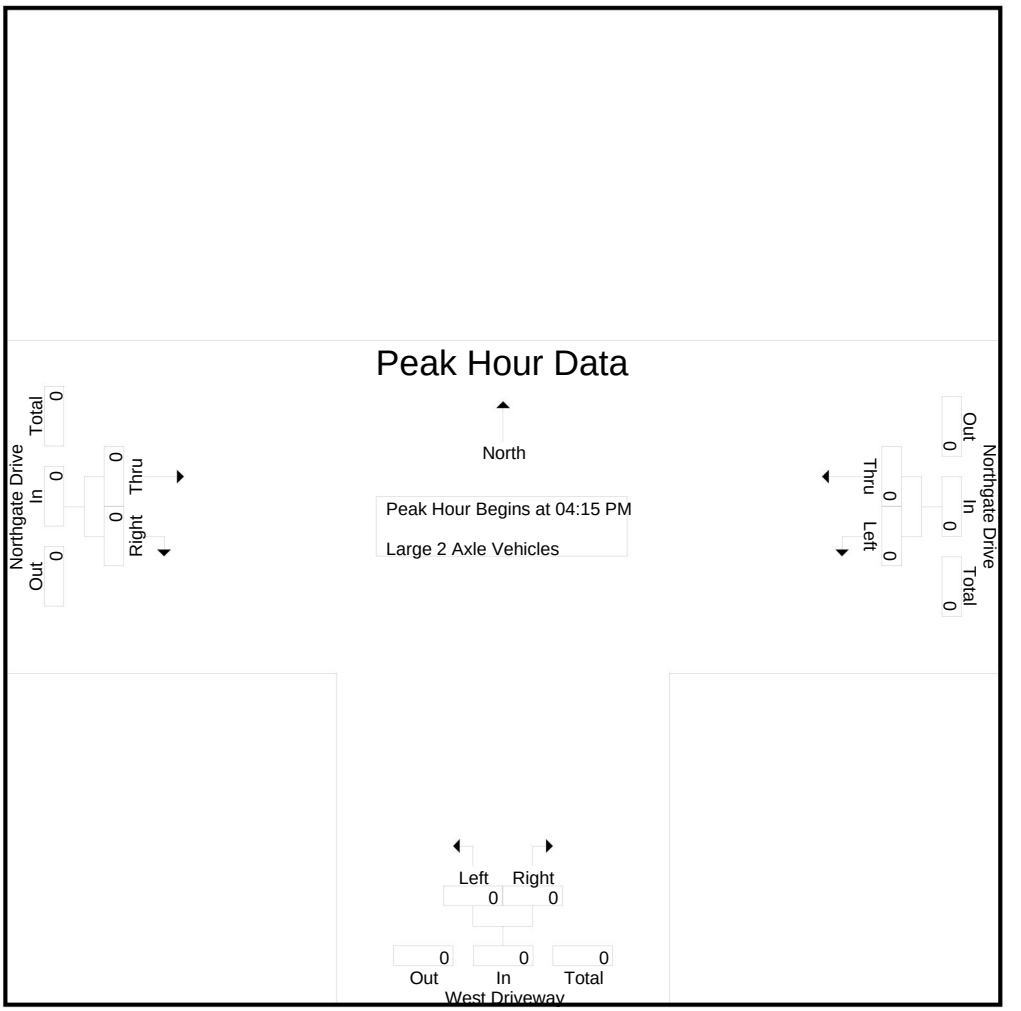
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	0	0	1
Grand Total	0	1	1	0	1	1	0	0	0	2
Apprch %	0	100		0	100		0	0		
Total %	0	50	50	0	50	50	0	0	0	

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Groups Printed- 3 Axle Vehicles

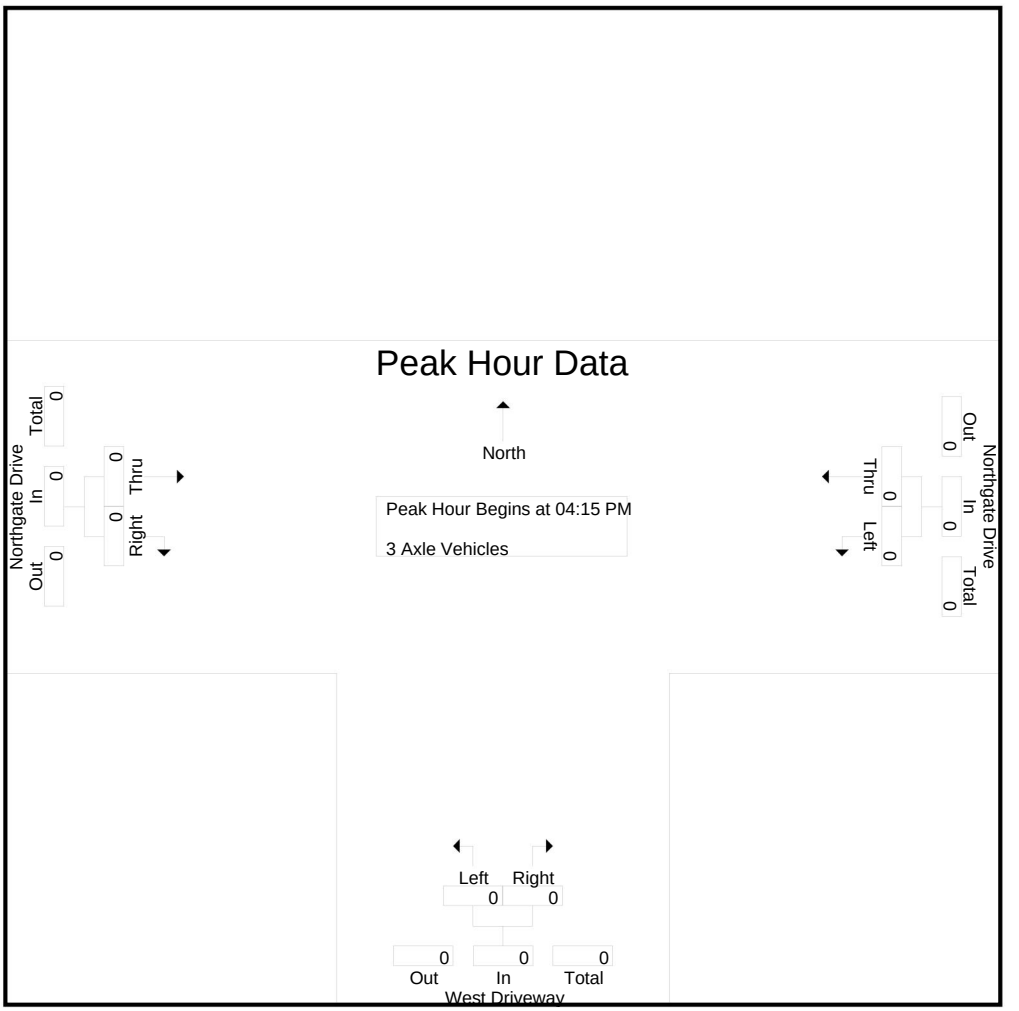
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0		0	0		100	0		
Total %	0	0	0	0	0	0	100	0	100	

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
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Weather: Clear

File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

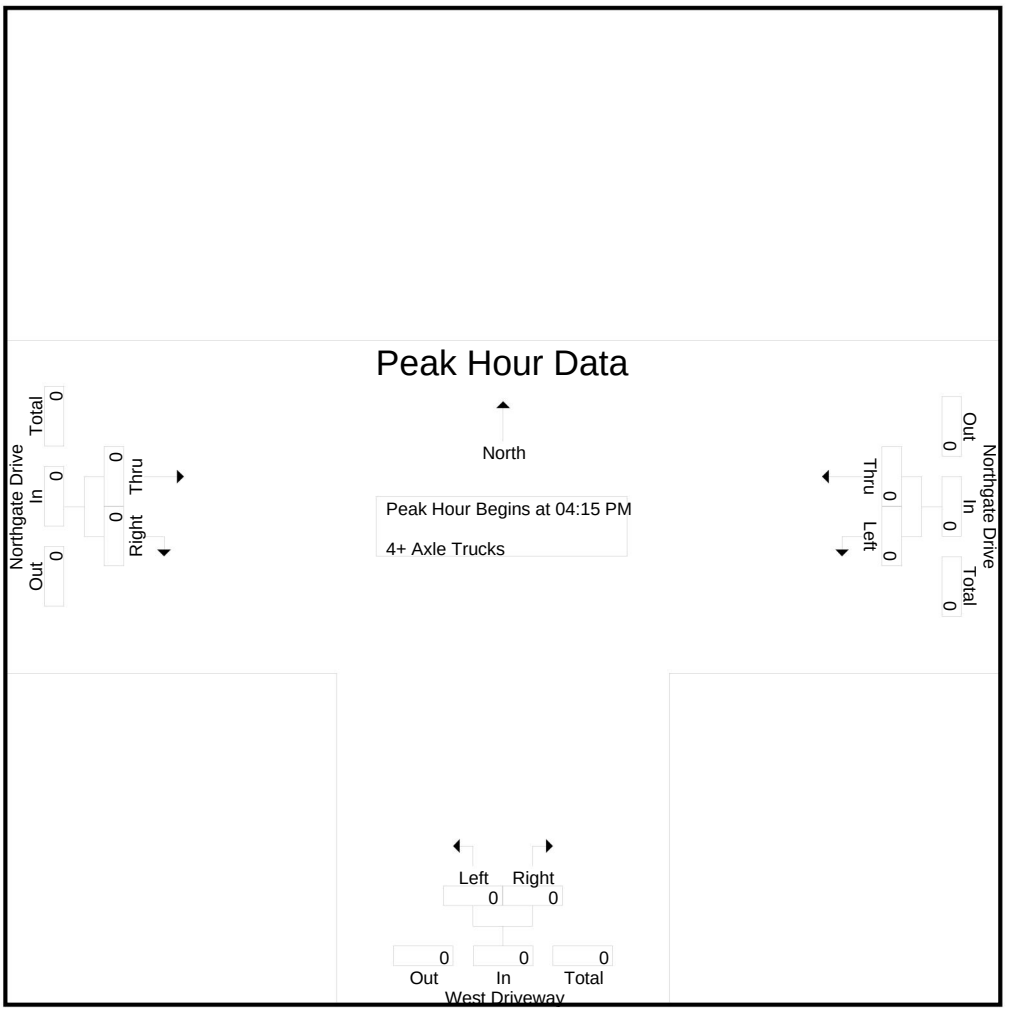
	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Northgate Drive Westbound			West Driveway Northbound			Northgate Drive Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: West Driveway
E/W: Northgate Drive
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File Name : 02_SRF_W DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: San Rafael
N/S: West Driveway
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

PEDESTRIANS

	North Leg Dead End Pedestrians	East Leg Northgate Drive Pedestrians	South Leg West Driveway Pedestrians	West Leg Northgate Drive Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	2	0	2
7:45 AM	0	0	2	0	2
8:00 AM	0	1	0	0	1
8:15 AM	1	1	4	0	6
8:30 AM	0	1	2	0	3
8:45 AM	0	0	2	0	2
TOTAL VOLUMES:	1	3	12	0	16

	North Leg Dead End Pedestrians	East Leg Northgate Drive Pedestrians	South Leg West Driveway Pedestrians	West Leg Northgate Drive Pedestrians	
4:00 PM	0	1	2	0	3
4:15 PM	0	0	0	0	0
4:30 PM	0	1	1	0	2
4:45 PM	0	0	0	0	0
5:00 PM	0	3	0	0	3
5:15 PM	1	0	0	0	1
5:30 PM	0	0	4	0	4
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	5	7	0	13

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PO Box 1178
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951-268-6268

Location: San Rafael
N/S: West Driveway
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

BICYCLES

	Southbound Dead End			Westbound Northgate Drive			Northbound West Driveway			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	4	0	0	0	0	0	1	0	5
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:45 AM	0	0	0	0	0	1	0	0	0	0	3	0	4
TOTAL VOLUMES:	0	0	0	0	5	1	0	0	0	0	11	0	17

	Southbound Dead End			Westbound Northgate Drive			Northbound West Driveway			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	2	0	0	0	0	0	3	0	5
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	3	0	0	0	0	4	0	8
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	7	3	0	0	0	0	8	0	18

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

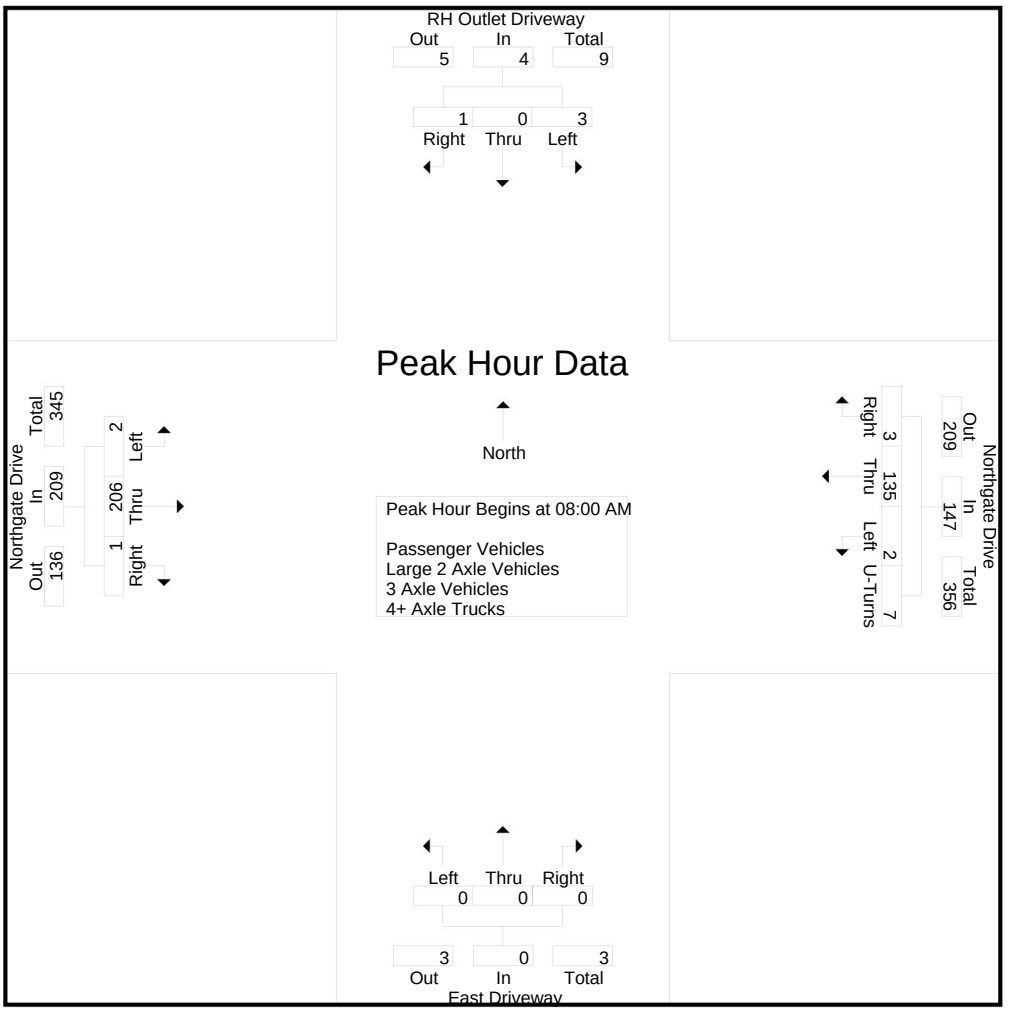
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	10	0	2	14	0	0	0	0	0	12	0	12	26
07:15 AM	1	0	0	1	0	5	0	0	5	0	0	1	1	0	21	1	22	29
07:30 AM	0	0	1	1	0	14	0	0	14	0	0	0	0	0	24	0	24	39
07:45 AM	0	0	0	0	0	18	0	0	18	0	0	0	0	0	35	2	37	55
Total	1	0	1	2	2	47	0	2	51	0	0	1	1	0	92	3	95	149
08:00 AM	0	0	1	1	2	47	1	0	50	0	0	0	0	1	50	0	51	102
08:15 AM	2	0	0	2	0	52	0	2	54	0	0	0	0	0	76	0	76	132
08:30 AM	1	0	0	1	0	20	0	3	23	0	0	0	0	0	43	1	44	68
08:45 AM	0	0	0	0	0	16	2	2	20	0	0	0	0	1	37	0	38	58
Total	3	0	1	4	2	135	3	7	147	0	0	0	0	2	206	1	209	360
Grand Total	4	0	2	6	4	182	3	9	198	0	0	1	1	2	298	4	304	509
Apprch %	66.7	0	33.3		2	91.9	1.5	4.5		0	0	100		0.7	98	1.3		
Total %	0.8	0	0.4	1.2	0.8	35.8	0.6	1.8	38.9	0	0	0.2	0.2	0.4	58.5	0.8	59.7	
Passenger Vehicles	4	0	2	6	3	176	3	9	191	0	0	0	0	2	295	1	298	495
% Passenger Vehicles	100	0	100	100	75	96.7	100	100	96.5	0	0	0	0	100	99	25	98	97.2
Large 2 Axle Vehicles	0	0	0	0	1	4	0	0	5	0	0	0	0	0	3	2	5	10
% Large 2 Axle Vehicles	0	0	0	0	25	2.2	0	0	2.5	0	0	0	0	0	1	50	1.6	2
3 Axle Vehicles	0	0	0	0	0	2	0	0	2	0	0	1	1	0	0	1	1	4
% 3 Axle Vehicles	0	0	0	0	0	1.1	0	0	1	0	0	100	100	0	0	25	0.3	0.8
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	0	0	**1**	1	**2**	47	1	0	50	0	0	0	0	**1**	50	0	51	102
08:15 AM	**2**	0	0	**2**	0	**52**	0	2	**54**	0	0	0	0	0	**76**	0	**76**	**132**
08:30 AM	1	0	0	1	0	20	0	**3**	23	0	0	0	0	0	43	**1**	44	68
08:45 AM	0	0	0	0	0	16	**2**	2	20	0	0	0	0	1	37	0	38	58
Total Volume	3	0	1	4	2	135	3	7	147	0	0	0	0	2	206	1	209	360
% App. Total	75	0	25		1.4	91.8	2	4.8		0	0	0		1	98.6	0.5		
PHF	.375	.000	.250	.500	.250	.649	.375	.583	.681	.000	.000	.000	.000	.500	.678	.250	.688	.682

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM					07:00 AM				08:00 AM			
+0 mins.	0	0	**1**	1	**2**	47	1	0	50	0	0	0	0	**1**	50	0	51
+15 mins.	0	0	0	0	0	**52**	0	2	**54**	0	0	**1**	**1**	0	**76**	0	**76**
+30 mins.	0	0	1	1	0	20	0	**3**	23	0	0	0	0	0	43	**1**	44
+45 mins.	**2**	0	0	**2**	0	16	**2**	2	20	0	0	0	0	1	37	0	38
Total Volume	2	0	2	4	2	135	3	7	147	0	0	1	1	2	206	1	209
% App. Total	50	0	50		1.4	91.8	2	4.8		0	0	100		1	98.6	0.5	
PHF	.250	.000	.500	.500	.250	.649	.375	.583	.681	.000	.000	.250	.250	.500	.678	.250	.688

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

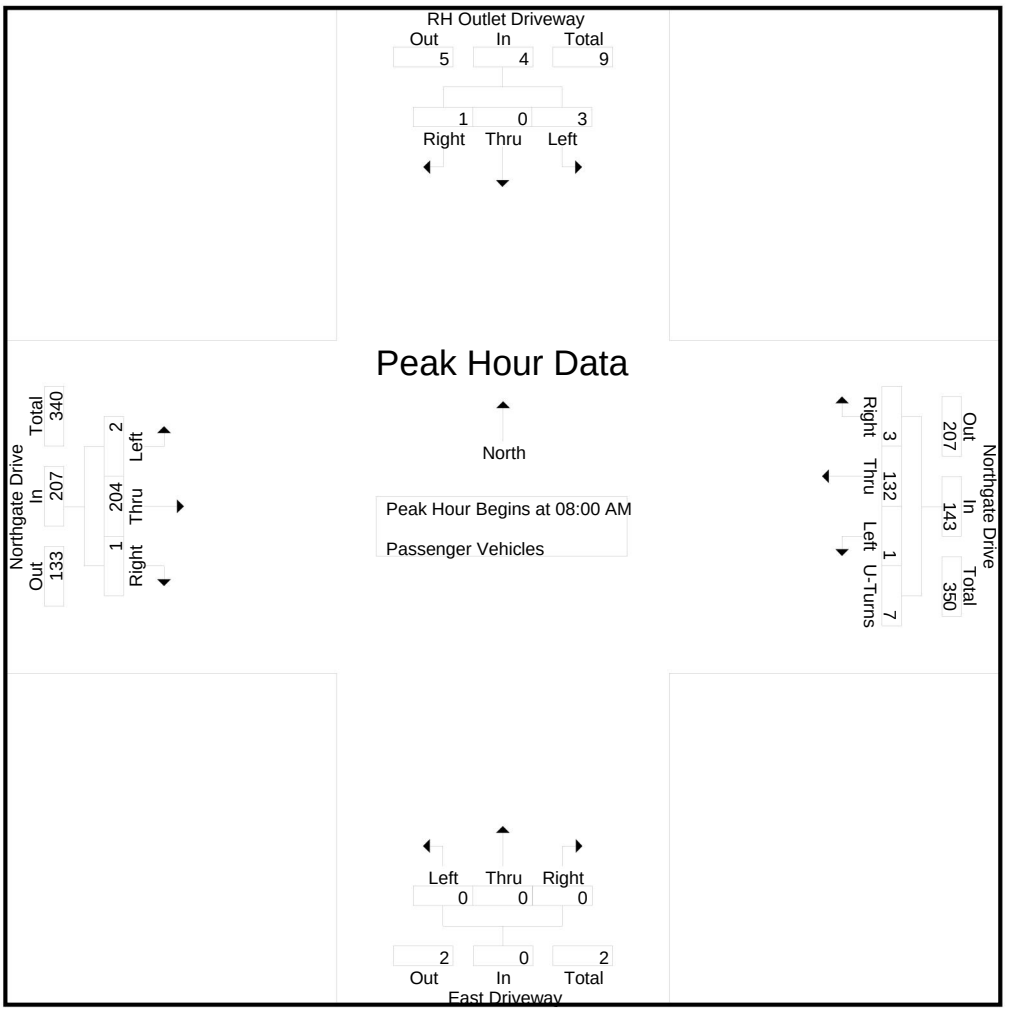
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	10	0	2	14	0	0	0	0	0	12	0	12	26
07:15 AM	1	0	0	1	0	5	0	0	5	0	0	0	0	0	21	0	21	27
07:30 AM	0	0	1	1	0	11	0	0	11	0	0	0	0	0	24	0	24	36
07:45 AM	0	0	0	0	0	18	0	0	18	0	0	0	0	0	34	0	34	52
Total	1	0	1	2	2	44	0	2	48	0	0	0	0	0	91	0	91	141
08:00 AM	0	0	1	1	2	46	1	0	49	0	0	0	0	1	50	0	51	101
08:15 AM	2	0	0	2	0	51	0	2	53	0	0	0	0	0	76	0	76	131
08:30 AM	1	0	0	1	0	19	0	3	22	0	0	0	0	0	42	1	43	66
08:45 AM	0	0	0	0	-1	16	2	2	19	0	0	0	0	1	36	0	37	56
Total	3	0	1	4	1	132	3	7	143	0	0	0	0	2	204	1	207	354
Grand Total	4	0	2	6	3	176	3	9	191	0	0	0	0	2	295	1	298	495
Apprch %	66.7	0	33.3		1.6	92.1	1.6	4.7		0	0	0		0.7	99	0.3		
Total %	0.8	0	0.4	1.2	0.6	35.6	0.6	1.8	38.6	0	0	0	0	0.4	59.6	0.2	60.2	

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	0	0	**1**	1	**2**	46	1	0	49	0	0	0	0	**1**	50	0	51	101
08:15 AM	**2**	0	0	**2**	0	**51**	0	2	**53**	0	0	0	0	0	**76**	0	**76**	**131**
08:30 AM	1	0	0	1	0	19	0	**3**	22	0	0	0	0	0	42	**1**	43	66
08:45 AM	0	0	0	0	**1**	16	**2**	2	19	0	0	0	0	1	36	0	37	56
Total Volume	3	0	1	4	1	132	3	7	143	0	0	0	0	2	204	1	207	354
% App. Total	75	0	25		0.7	92.3	2.1	4.9		0	0	0		1	98.6	0.5		
PHF	.375	.000	.250	.500	.125	.647	.375	.583	.675	.000	.000	.000	.000	.500	.671	.250	.681	.676

Counts Unlimited, Inc.
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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM					08:00 AM				08:00 AM			
+0 mins.	0	0	**1**	1	**2**	46	1	0	49	0	0	0	0	**1**	50	0	51
+15 mins.	**2**	0	0	**2**	0	**51**	0	2	**53**	0	0	0	0	0	**76**	0	**76**
+30 mins.	1	0	0	1	0	19	0	**3**	22	0	0	0	0	0	42	**1**	43
+45 mins.	0	0	0	0	**1**	16	**2**	2	19	0	0	0	0	1	36	0	37
Total Volume	3	0	1	4	1	132	3	7	143	0	0	0	0	2	204	1	207
% App. Total	75	0	25		0.7	92.3	2.1	4.9		0	0	0		1	98.6	0.5	
PHF	.375	.000	.250	.500	.125	.647	.375	.583	.675	.000	.000	.000	.000	.500	.671	.250	.681

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

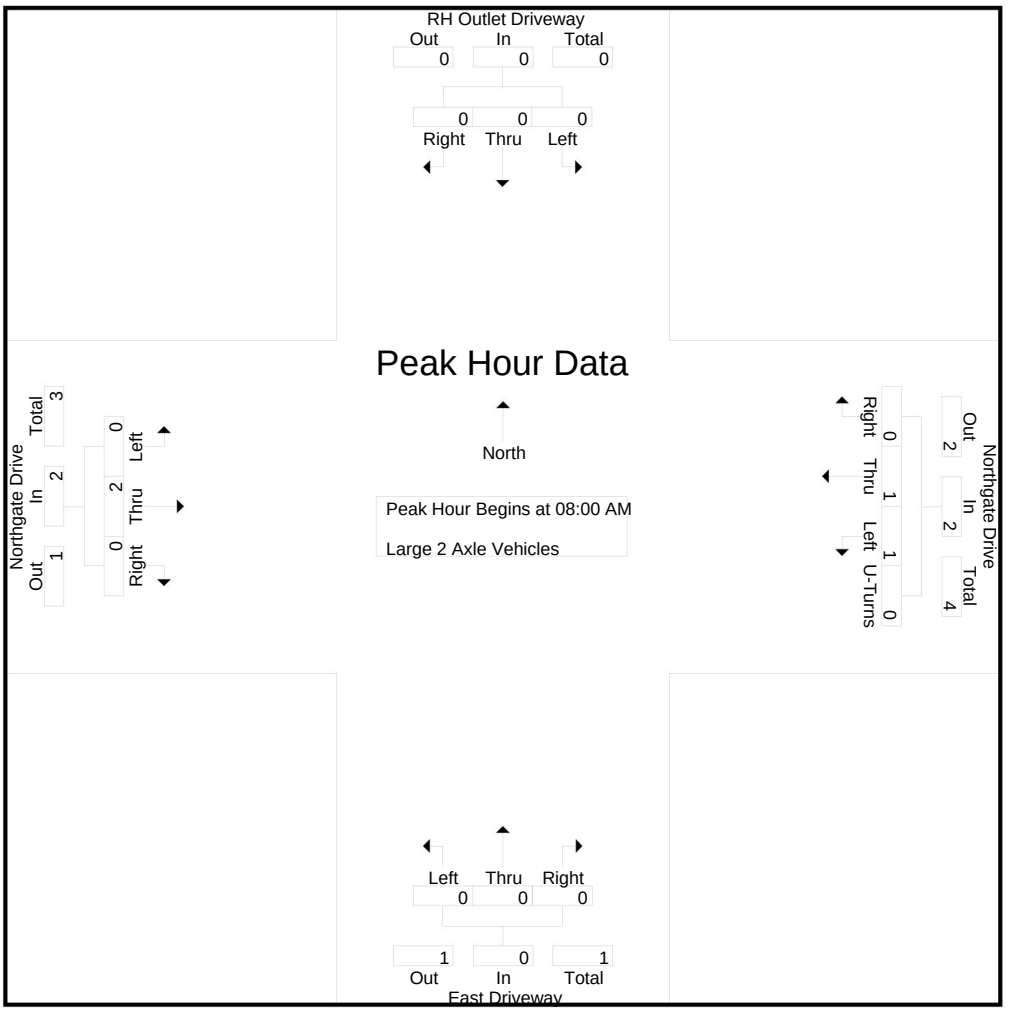
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3
Total	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	2	3	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	2
Total	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2	0	2	4
Grand Total	0	0	0	0	1	4	0	0	5	0	0	0	0	0	3	2	5	10
Apprch %	0	0	0		20	80	0	0		0	0	0		0	60	40		
Total %	0	0	0	0	10	40	0	0	50	0	0	0	0	0	30	20	50	

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
08:45 AM	0	0	0	0	**1**	0	0	0	1	0	0	0	0	0	1	0	1	**2**
Total Volume	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2	0	2	4
% App. Total	0	0	0		50	50	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.500

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM					08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+45 mins.	0	0	0	0	**1**	0	0	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2	0	2
% App. Total	0	0	0		50	50	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.250	.250	.000	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

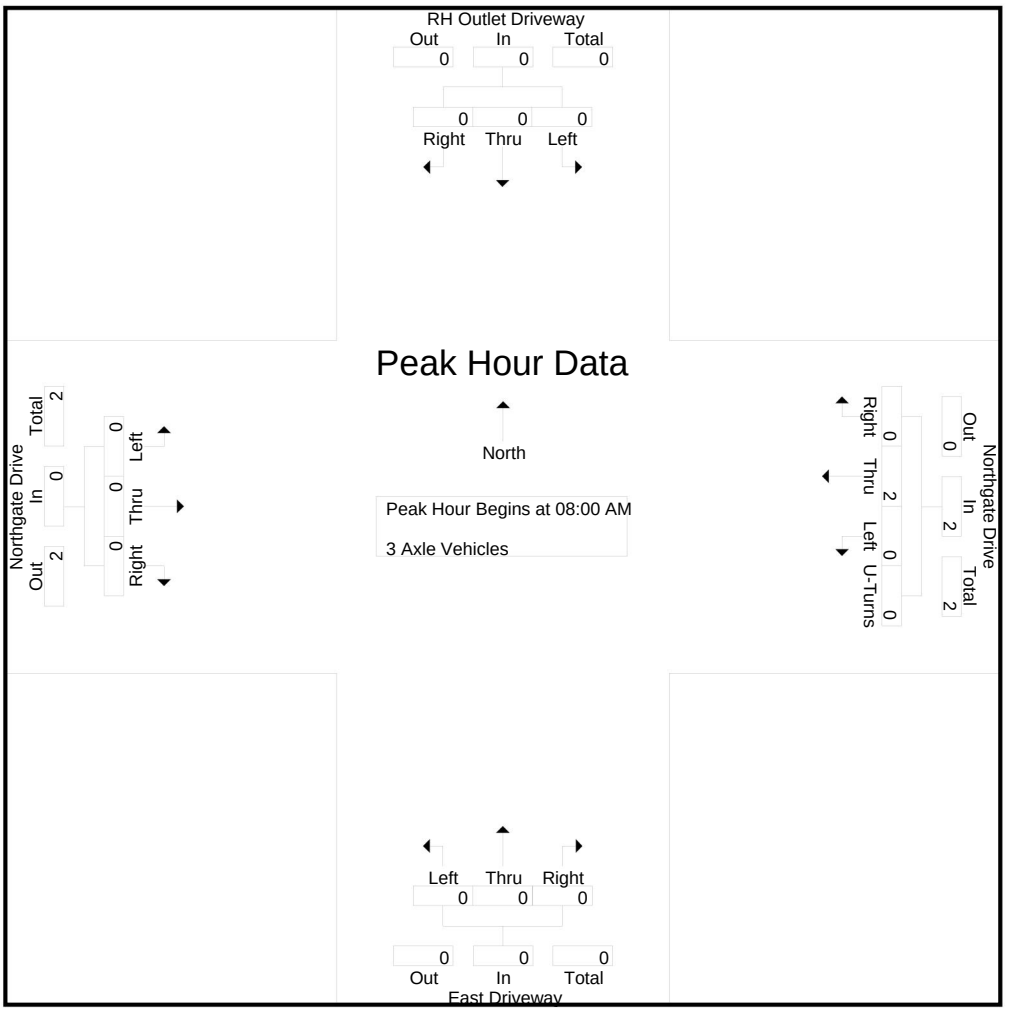
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	2
08:00 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	2	0	0	2	0	0	1	1	0	0	1	1	4
Apprch %	0	0	0		0	100	0	0		0	0	100		0	0	100		
Total %	0	0	0	0	0	50	0	0	50	0	0	25	25	0	0	25	25	

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	100	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.500

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM					08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

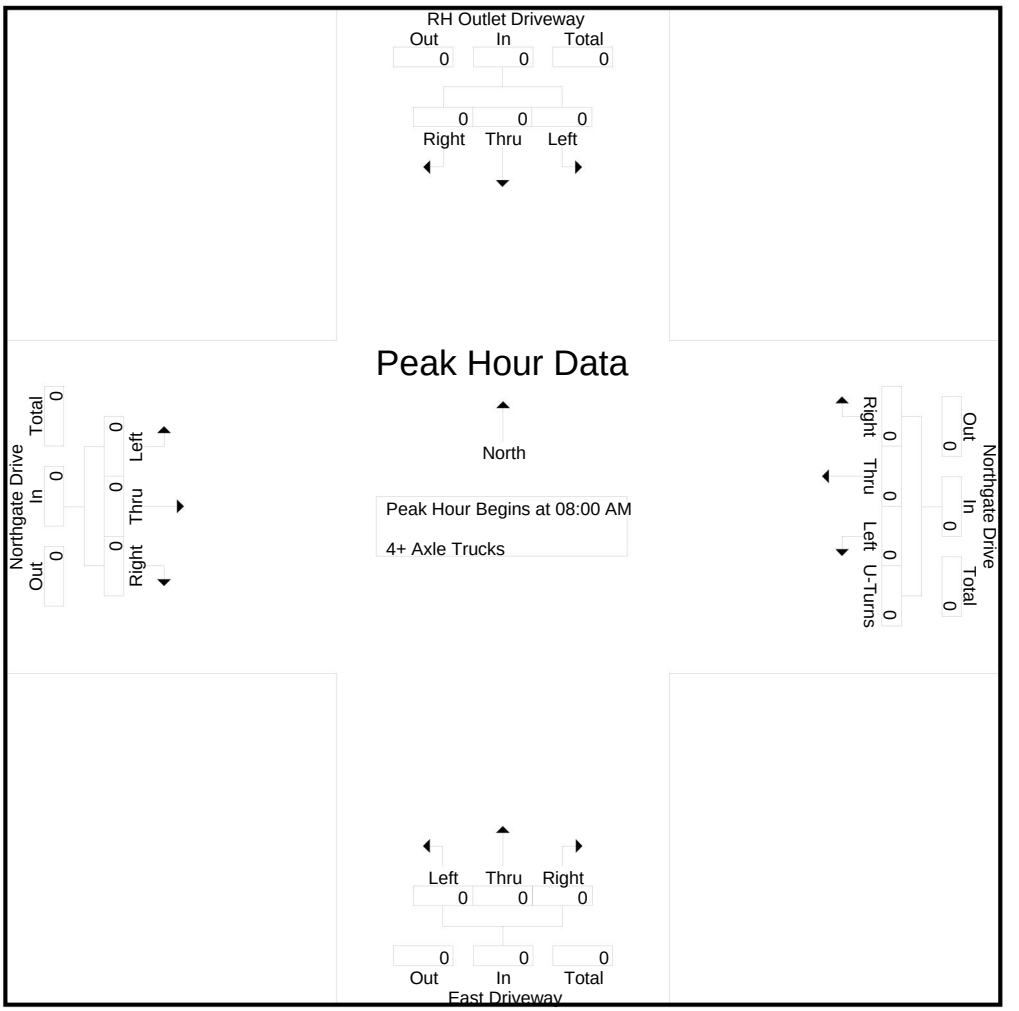
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0	0		0	0	0		0	0	0		
Total %																		

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
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Weather: Clear

File Name : 03_SRF_E DW_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM					08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

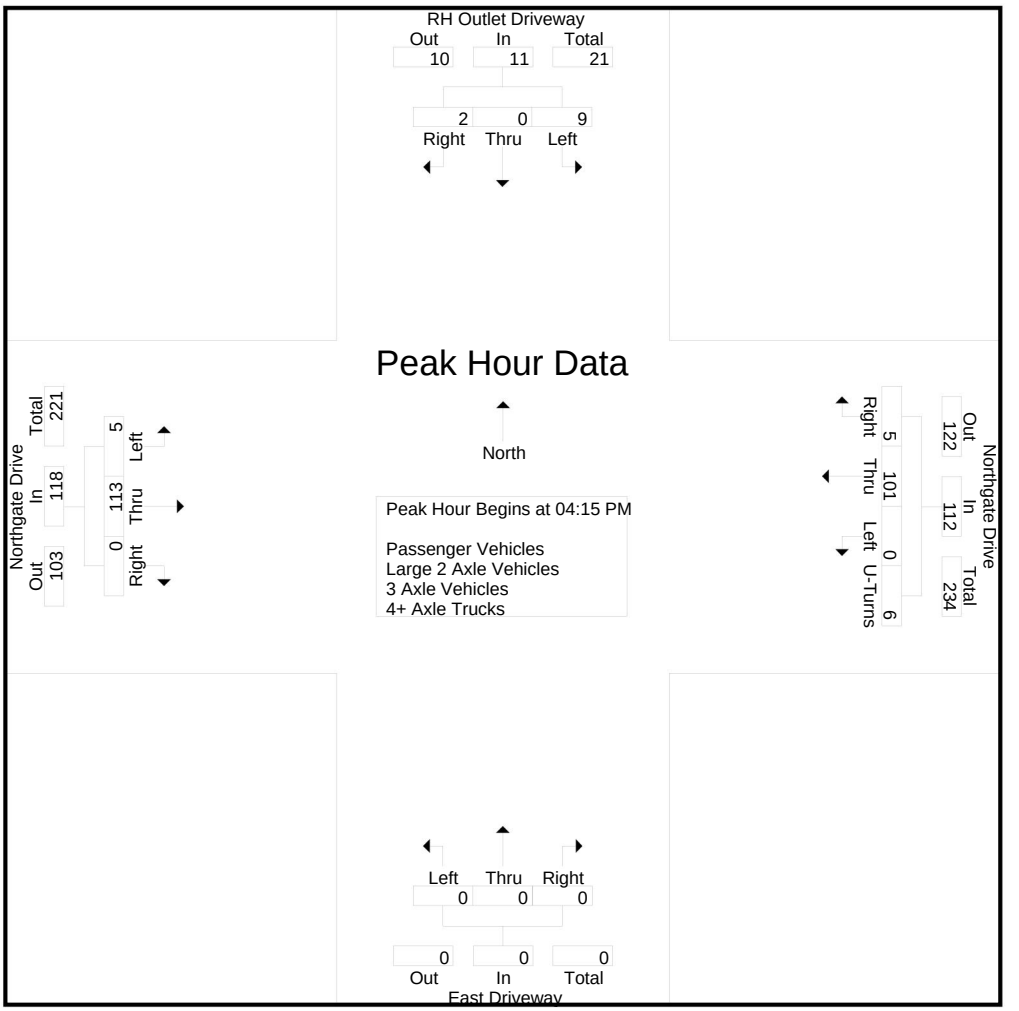
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	21	2	1	24	0	0	0	0	0	31	0	31	55
04:15 PM	4	0	0	4	0	26	0	3	29	0	0	0	0	4	20	0	24	57
04:30 PM	2	0	0	2	0	24	1	1	26	0	0	0	0	0	30	0	30	58
04:45 PM	3	0	2	5	0	22	1	2	25	0	0	0	0	0	31	0	31	61
Total	9	0	2	11	0	93	4	7	104	0	0	0	0	4	112	0	116	231
05:00 PM	0	0	0	0	0	29	3	0	32	0	0	0	0	1	32	0	33	65
05:15 PM	1	0	0	1	0	17	2	0	19	0	0	0	0	2	29	0	31	51
05:30 PM	0	0	3	3	0	18	0	3	21	0	0	0	0	2	30	0	32	56
05:45 PM	0	0	2	2	0	19	0	0	19	0	0	0	0	0	28	0	28	49
Total	1	0	5	6	0	83	5	3	91	0	0	0	0	5	119	0	124	221
Grand Total	10	0	7	17	0	176	9	10	195	0	0	0	0	9	231	0	240	452
Apprch %	58.8	0	41.2		0	90.3	4.6	5.1		0	0	0		3.8	96.2	0		
Total %	2.2	0	1.5	3.8	0	38.9	2	2.2	43.1	0	0	0	0	2	51.1	0	53.1	
Passenger Vehicles	10	0	7	17	0	175	9	10	194	0	0	0	0	9	229	0	238	449
% Passenger Vehicles	100	0	100	100	0	99.4	100	100	99.5	0	0	0	0	100	99.1	0	99.2	99.3
Large 2 Axle Vehicles	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
% Large 2 Axle Vehicles	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0.4	0	0.4	0.4
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0.4	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	**4**	0	0	4	0	26	0	**3**	29	0	0	0	0	**4**	20	0	24	57
04:30 PM	2	0	0	2	0	24	1	1	26	0	0	0	0	0	30	0	30	58
04:45 PM	3	0	**2**	**5**	0	22	1	2	25	0	0	0	0	0	31	0	31	61
05:00 PM	0	0	0	0	0	**29**	**3**	0	**32**	0	0	0	0	1	**32**	0	**33**	**65**
Total Volume	9	0	2	11	0	101	5	6	112	0	0	0	0	5	113	0	118	241
% App. Total	81.8	0	18.2		0	90.2	4.5	5.4		0	0	0		4.2	95.8	0		
PHF	.563	.000	.250	.550	.000	.871	.417	.500	.875	.000	.000	.000	.000	.313	.883	.000	.894	.927

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM					04:00 PM				04:45 PM			
+0 mins.	0	0	0	0	0	26	0	**3**	29	0	0	0	0	0	31	0	31
+15 mins.	**4**	0	0	4	0	24	1	1	26	0	0	0	0	1	**32**	0	**33**
+30 mins.	2	0	0	2	0	22	1	2	25	0	0	0	0	**2**	29	0	31
+45 mins.	3	0	**2**	**5**	0	**29**	**3**	0	**32**	0	0	0	0	2	30	0	32
Total Volume	9	0	2	11	0	101	5	6	112	0	0	0	0	5	122	0	127
% App. Total	81.8	0	18.2		0	90.2	4.5	5.4		0	0	0		3.9	96.1	0	
PHF	.563	.000	.250	.550	.000	.871	.417	.500	.875	.000	.000	.000	.000	.625	.953	.000	.962

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

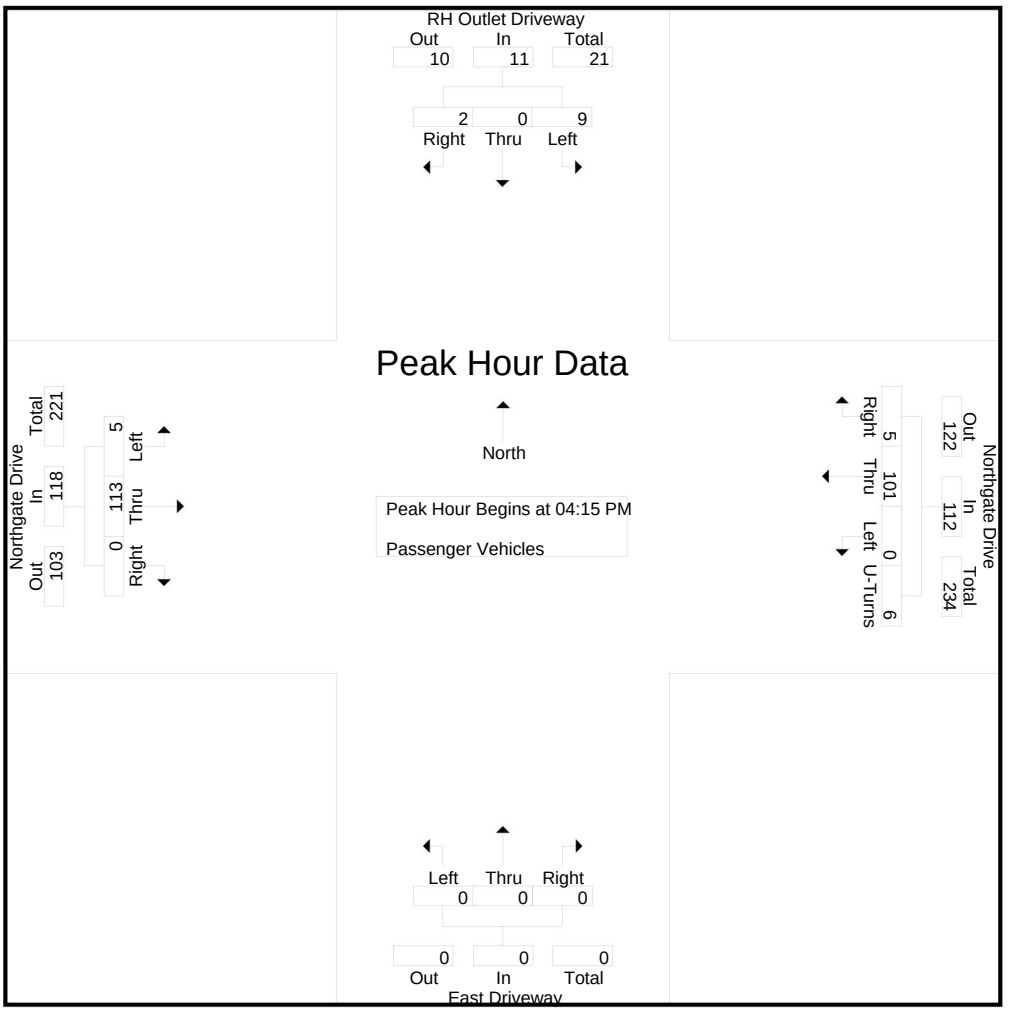
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	20	2	1	23	0	0	0	0	0	30	0	30	53
04:15 PM	4	0	0	4	0	26	0	3	29	0	0	0	0	4	20	0	24	57
04:30 PM	2	0	0	2	0	24	1	1	26	0	0	0	0	0	30	0	30	58
04:45 PM	3	0	2	5	0	22	1	2	25	0	0	0	0	0	31	0	31	61
Total	9	0	2	11	0	92	4	7	103	0	0	0	0	4	111	0	115	229
05:00 PM	0	0	0	0	0	29	3	0	32	0	0	0	0	1	32	0	33	65
05:15 PM	1	0	0	1	0	17	2	0	19	0	0	0	0	2	28	0	30	50
05:30 PM	0	0	3	3	0	18	0	3	21	0	0	0	0	2	30	0	32	56
05:45 PM	0	0	2	2	0	19	0	0	19	0	0	0	0	0	28	0	28	49
Total	1	0	5	6	0	83	5	3	91	0	0	0	0	5	118	0	123	220
Grand Total	10	0	7	17	0	175	9	10	194	0	0	0	0	9	229	0	238	449
Apprch %	58.8	0	41.2		0	90.2	4.6	5.2		0	0	0		3.8	96.2	0		
Total %	2.2	0	1.6	3.8	0	39	2	2.2	43.2	0	0	0	0	2	51	0	53	

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	**4**	0	0	4	0	26	0	**3**	29	0	0	0	0	**4**	20	0	24	57
04:30 PM	2	0	0	2	0	24	1	1	26	0	0	0	0	0	30	0	30	58
04:45 PM	3	0	**2**	**5**	0	22	1	2	25	0	0	0	0	0	31	0	31	61
05:00 PM	0	0	0	0	0	**29**	**3**	0	**32**	0	0	0	0	1	**32**	0	**33**	**65**
Total Volume	9	0	2	11	0	101	5	6	112	0	0	0	0	5	113	0	118	241
% App. Total	81.8	0	18.2		0	90.2	4.5	5.4		0	0	0		4.2	95.8	0		
PHF	.563	.000	.250	.550	.000	.871	.417	.500	.875	.000	.000	.000	.000	.313	.883	.000	.894	.927

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM					04:15 PM				04:15 PM			
+0 mins.	**4**	0	0	4	0	26	0	**3**	29	0	0	0	0	**4**	20	0	24
+15 mins.	2	0	0	2	0	24	1	1	26	0	0	0	0	0	30	0	30
+30 mins.	3	0	**2**	**5**	0	22	1	2	25	0	0	0	0	0	31	0	31
+45 mins.	0	0	0	0	0	**29**	**3**	0	**32**	0	0	0	0	1	**32**	0	**33**
Total Volume	9	0	2	11	0	101	5	6	112	0	0	0	0	5	113	0	118
% App. Total	81.8	0	18.2		0	90.2	4.5	5.4		0	0	0		4.2	95.8	0	
PHF	.563	.000	.250	.550	.000	.871	.417	.500	.875	.000	.000	.000	.000	.313	.883	.000	.894

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City of San Rafael
N/S: East Driveway
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Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

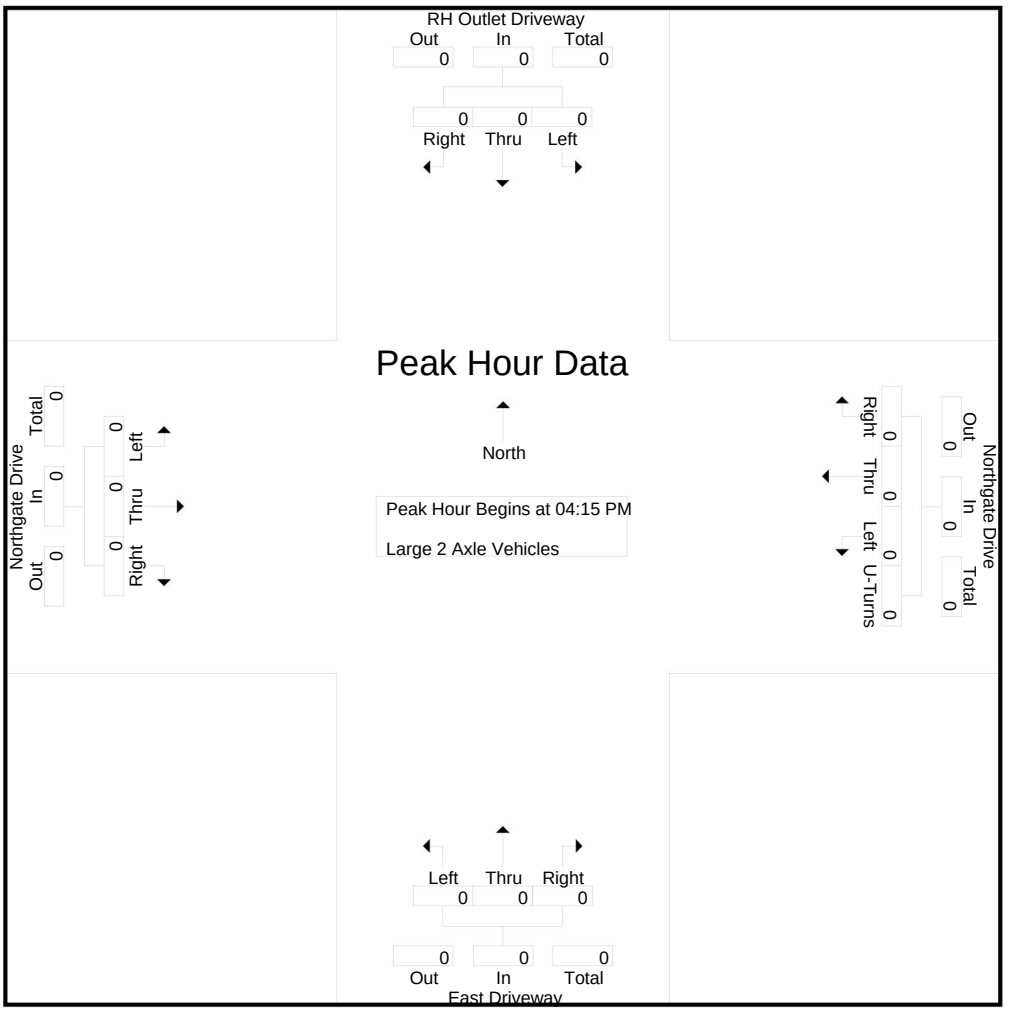
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
Apprch %	0	0	0		0	100	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	50	0	0	50	0	0	0	0	0	50	0	50	

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM					04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

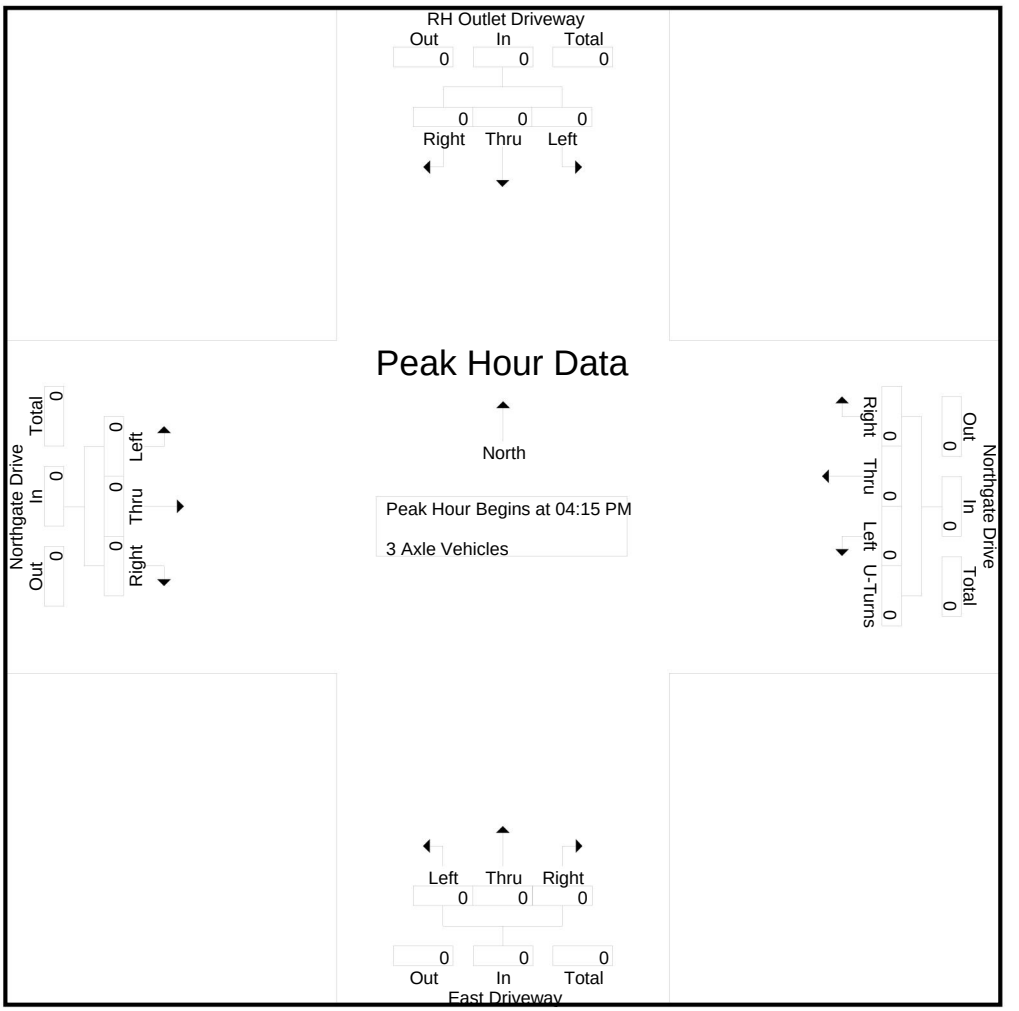
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0	0		0	0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited, Inc.
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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM					04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

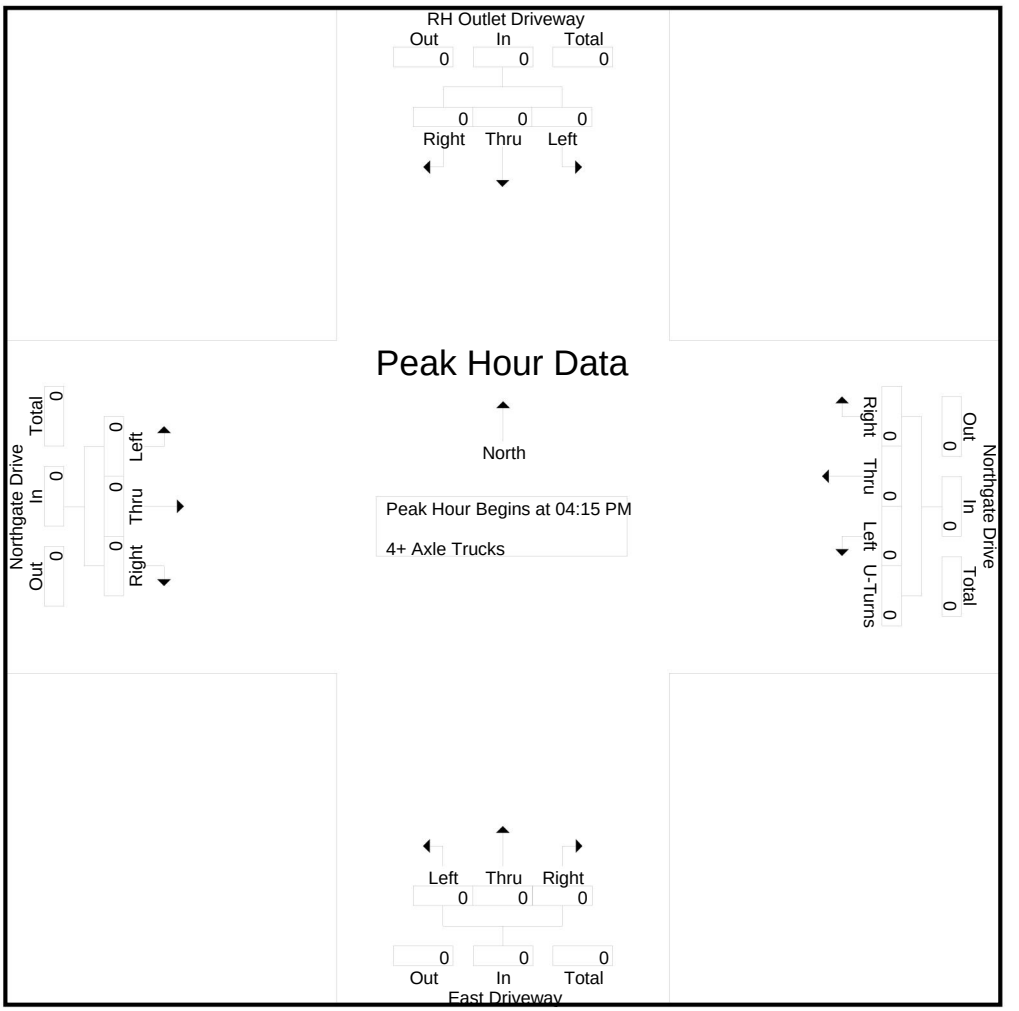
	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0	0		0	0	0		0	0	0		
Total %																		

	RH Outlet Driveway Southbound				Northgate Drive Westbound					East Driveway Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:15 PM																		
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: East Driveway
E/W: Northgate Drive
Weather: Clear

File Name : 03_SRF_E DW_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM					04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: San Rafael
N/S: East Driveway
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

PEDESTRIANS

	North Leg RH Outlet Driveway	East Leg Northgate Drive	South Leg East Driveway	West Leg Northgate Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	2	0	2
7:45 AM	0	0	1	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	3	0	3
8:30 AM	0	0	4	0	4
8:45 AM	0	0	2	0	2
TOTAL VOLUMES:	0	0	12	0	12

	North Leg RH Outlet Driveway	East Leg Northgate Drive	South Leg East Driveway	West Leg Northgate Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	1	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	5	0	5
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	6	0	6

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Location: San Rafael
N/S: East Driveway
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

BICYCLES

	Southbound RH Outlet Driveway			Westbound Northgate Drive			Northbound East Driveway			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:00 AM	0	0	0	0	4	0	0	0	0	0	1	0	5
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3
TOTAL VOLUMES:	0	0	0	0	5	0	0	0	0	0	11	0	16

	Southbound RH Outlet Driveway			Westbound Northgate Drive			Northbound East Driveway			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	2	0	0	0	0	0	3	0	5
4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	1	0	0	0	0	0	4	0	5
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES:	0	0	0	0	7	0	0	0	0	0	9	0	16

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

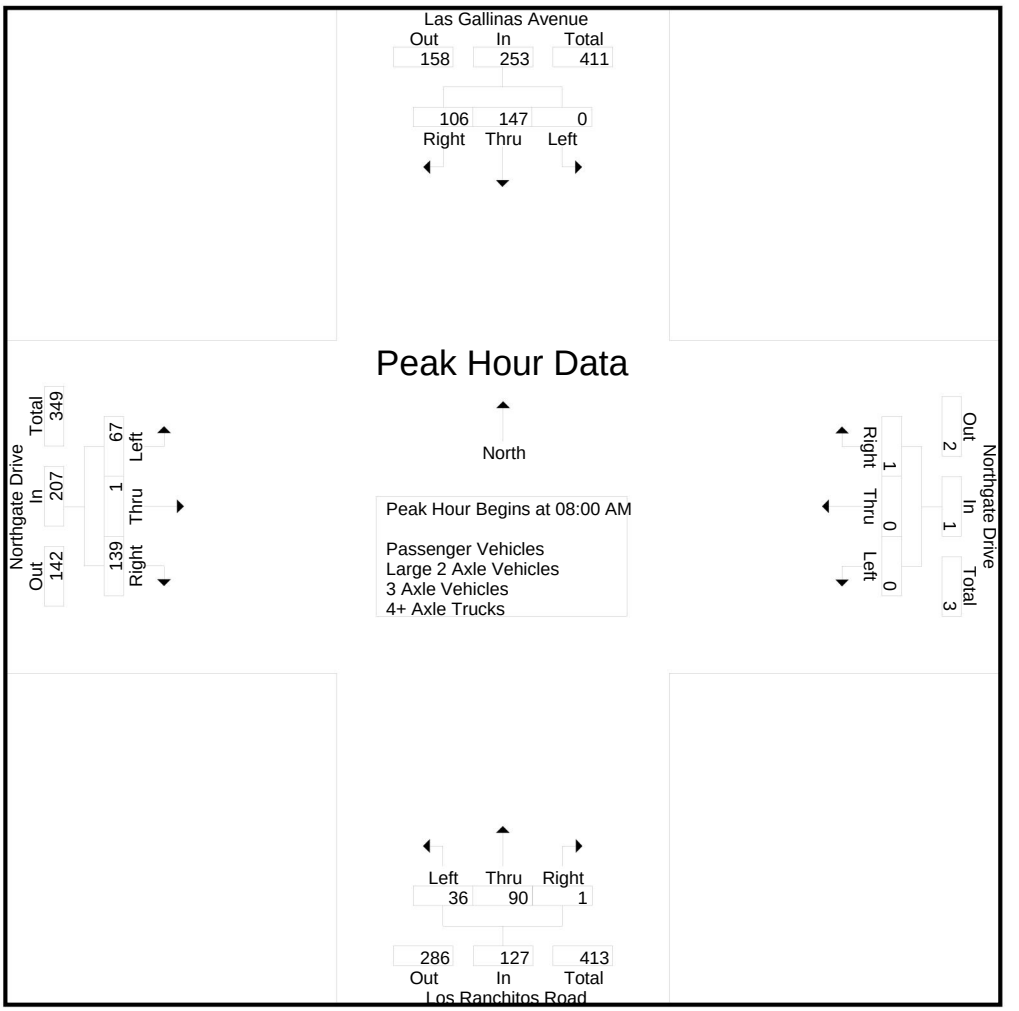
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	16	4	20	0	0	0	0	9	7	0	16	2	0	11	13	49
07:15 AM	1	25	5	31	0	0	0	0	1	18	0	19	8	0	15	23	73
07:30 AM	0	29	8	37	0	0	0	0	5	16	0	21	7	0	18	25	83
07:45 AM	0	17	14	31	0	0	0	0	7	33	0	40	11	0	22	33	104
Total	1	87	31	119	0	0	0	0	22	74	0	96	28	0	66	94	309
08:00 AM	0	30	39	69	0	0	0	0	10	20	0	30	23	1	24	48	147
08:15 AM	0	45	42	87	0	0	1	1	9	22	1	32	27	0	52	79	199
08:30 AM	0	39	15	54	0	0	0	0	7	21	0	28	9	0	36	45	127
08:45 AM	0	33	10	43	0	0	0	0	10	27	0	37	8	0	27	35	115
Total	0	147	106	253	0	0	1	1	36	90	1	127	67	1	139	207	588
Grand Total	1	234	137	372	0	0	1	1	58	164	1	223	95	1	205	301	897
Apprch %	0.3	62.9	36.8		0	0	100		26	73.5	0.4		31.6	0.3	68.1		
Total %	0.1	26.1	15.3	41.5	0	0	0.1	0.1	6.5	18.3	0.1	24.9	10.6	0.1	22.9	33.6	
Passenger Vehicles	1	226	133	360	0	0	1	1	55	158	1	214	94	1	203	298	873
% Passenger Vehicles	100	96.6	97.1	96.8	0	0	100	100	94.8	96.3	100	96	98.9	100	99	99	97.3
Large 2 Axle Vehicles	0	6	4	10	0	0	0	0	1	6	0	7	1	0	1	2	19
% Large 2 Axle Vehicles	0	2.6	2.9	2.7	0	0	0	0	1.7	3.7	0	3.1	1.1	0	0.5	0.7	2.1
3 Axle Vehicles	0	2	0	2	0	0	0	0	2	0	0	2	0	0	1	1	5
% 3 Axle Vehicles	0	0.9	0	0.5	0	0	0	0	3.4	0	0	0.9	0	0	0.5	0.3	0.6
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	30	39	69	0	0	0	0	**10**	20	0	30	23	**1**	24	48	147
08:15 AM	0	**45**	**42**	**87**	0	0	**1**	**1**	9	22	**1**	32	**27**	0	**52**	**79**	**199**
08:30 AM	0	39	15	54	0	0	0	0	7	21	0	28	9	0	36	45	127
08:45 AM	0	33	10	43	0	0	0	0	10	**27**	0	**37**	8	0	27	35	115
Total Volume	0	147	106	253	0	0	1	1	36	90	1	127	67	1	139	207	588
% App. Total	0	58.1	41.9		0	0	100		28.3	70.9	0.8		32.4	0.5	67.1		
PHF	.000	.817	.631	.727	.000	.000	.250	.250	.900	.833	.250	.858	.620	.250	.668	.655	.739

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
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File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:45 AM				08:00 AM			
+0 mins.	0	30	39	69	0	0	0	0	7	**33**	0	**40**	23	**1**	24	48
+15 mins.	0	**45**	**42**	**87**	0	0	0	0	**10**	20	0	30	**27**	0	**52**	**79**
+30 mins.	0	39	15	54	0	0	0	0	9	22	**1**	32	9	0	36	45
+45 mins.	0	33	10	43	0	0	**1**	**1**	7	21	0	28	8	0	27	35
Total Volume	0	147	106	253	0	0	1	1	33	96	1	130	67	1	139	207
% App. Total	0	58.1	41.9		0	0	100		25.4	73.8	0.8		32.4	0.5	67.1	
PHF	.000	.817	.631	.727	.000	.000	.250	.250	.825	.727	.250	.813	.620	.250	.668	.655

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

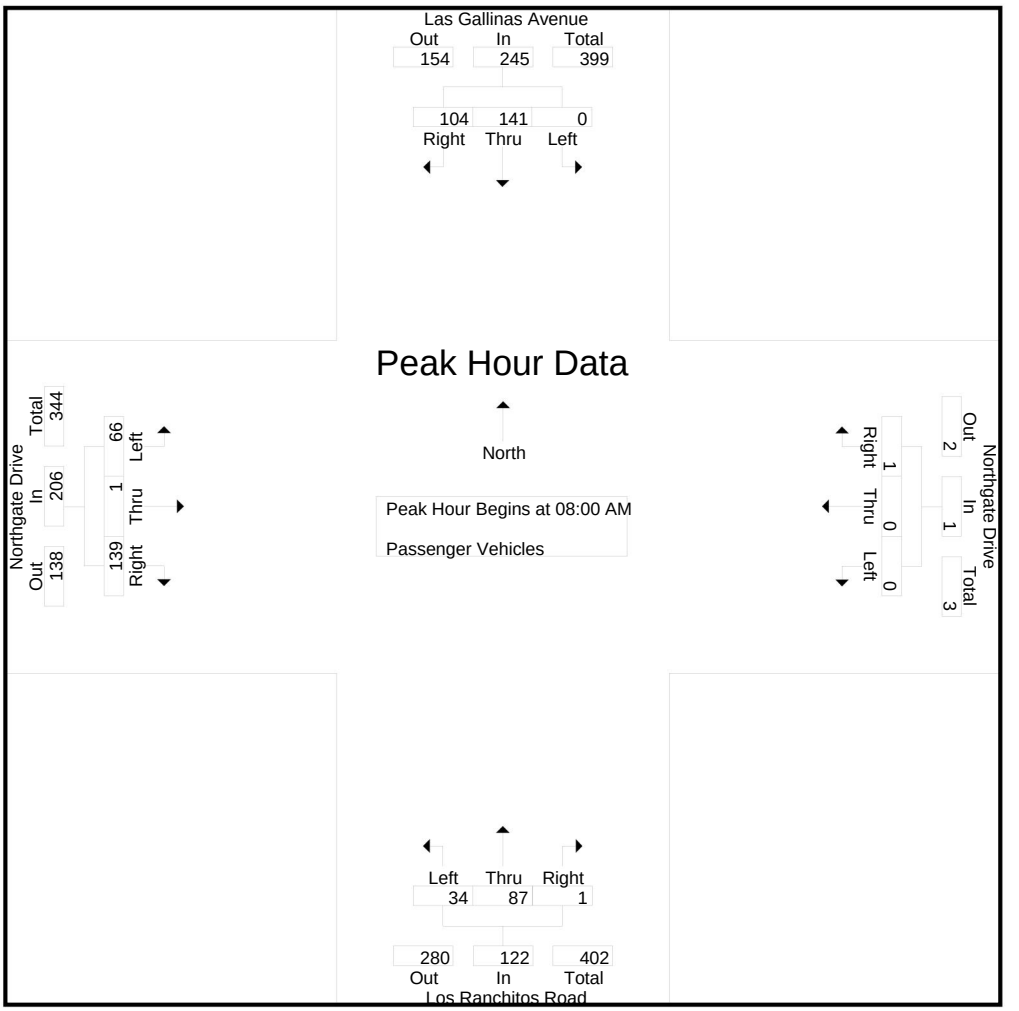
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	15	4	19	0	0	0	0	9	6	0	15	2	0	11	13	47
07:15 AM	1	24	5	30	0	0	0	0	1	17	0	18	8	0	14	22	70
07:30 AM	0	29	6	35	0	0	0	0	4	16	0	20	7	0	18	25	80
07:45 AM	0	17	14	31	0	0	0	0	7	32	0	39	11	0	21	32	102
Total	1	85	29	115	0	0	0	0	21	71	0	92	28	0	64	92	299
08:00 AM	0	27	39	66	0	0	0	0	9	19	0	28	23	1	24	48	142
08:15 AM	0	42	41	83	0	0	1	1	9	22	1	32	27	0	52	79	195
08:30 AM	0	39	15	54	0	0	0	0	6	20	0	26	8	0	36	44	124
08:45 AM	0	33	9	42	0	0	0	0	10	26	0	36	8	0	27	35	113
Total	0	141	104	245	0	0	1	1	34	87	1	122	66	1	139	206	574
Grand Total	1	226	133	360	0	0	1	1	55	158	1	214	94	1	203	298	873
Apprch %	0.3	62.8	36.9		0	0	100		25.7	73.8	0.5		31.5	0.3	68.1		
Total %	0.1	25.9	15.2	41.2	0	0	0.1	0.1	6.3	18.1	0.1	24.5	10.8	0.1	23.3	34.1	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	27	39	66	0	0	0	0	9	19	0	28	23	**1**	24	48	142
08:15 AM	0	**42**	**41**	**83**	0	0	**1**	**1**	9	22	**1**	32	**27**	0	**52**	**79**	**195**
08:30 AM	0	39	15	54	0	0	0	0	6	20	0	26	8	0	36	44	124
08:45 AM	0	33	9	42	0	0	0	0	**10**	**26**	0	**36**	8	0	27	35	113
Total Volume	0	141	104	245	0	0	1	1	34	87	1	122	66	1	139	206	574
% App. Total	0	57.6	42.4		0	0	100		27.9	71.3	0.8		32	0.5	67.5		
PHF	.000	.839	.634	.738	.000	.000	.250	.250	.850	.837	.250	.847	.611	.250	.668	.652	.736

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	27	39	66	0	0	0	0	9	19	0	28	23	**1**	24	48
+15 mins.	0	**42**	**41**	**83**	0	0	**1**	**1**	9	22	**1**	32	**27**	0	**52**	**79**
+30 mins.	0	39	15	54	0	0	0	0	6	20	0	26	8	0	36	44
+45 mins.	0	33	9	42	0	0	0	0	**10**	**26**	0	**36**	8	0	27	35
Total Volume	0	141	104	245	0	0	1	1	34	87	1	122	66	1	139	206
% App. Total	0	57.6	42.4		0	0	100		27.9	71.3	0.8		32	0.5	67.5	
PHF	.000	.839	.634	.738	.000	.000	.250	.250	.850	.837	.250	.847	.611	.250	.668	.652

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

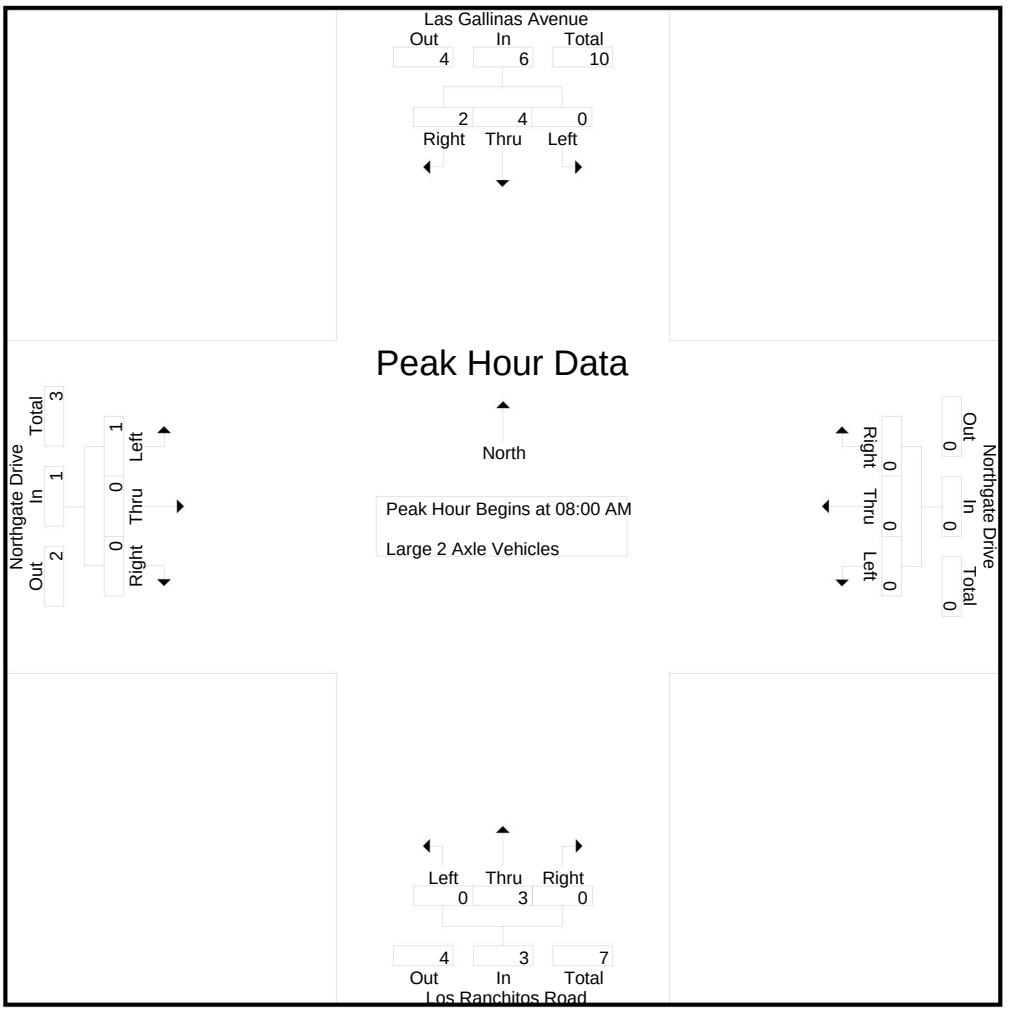
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:30 AM	0	0	2	2	0	0	0	0	1	0	0	1	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
Total	0	2	2	4	0	0	0	0	1	3	0	4	0	0	1	1	9
08:00 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:15 AM	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2
08:45 AM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	4	2	6	0	0	0	0	0	3	0	3	1	0	0	1	10
Grand Total	0	6	4	10	0	0	0	0	1	6	0	7	1	0	1	2	19
Apprch %	0	60	40		0	0	0		14.3	85.7	0		50	0	50		
Total %	0	31.6	21.1	52.6	0	0	0	0	5.3	31.6	0	36.8	5.3	0	5.3	10.5	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**2**	0	2	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**3**
08:15 AM	0	2	**1**	**3**	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	**1**	0	0	**1**	2
08:45 AM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	4	2	6	0	0	0	0	0	3	0	3	1	0	0	1	10
% App. Total	0	66.7	33.3		0	0	0		0	100	0		100	0	0		
PHF	.000	.500	.500	.500	.000	.000	.000	.000	.000	.750	.000	.750	.250	.000	.000	.250	.833

Counts Unlimited, Inc.
PO Box 1178
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(951) 268-6268

City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	**2**	0	2	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	2	**1**	**3**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	**1**	0	0	**1**
+45 mins.	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	4	2	6	0	0	0	0	0	3	0	3	1	0	0	1
% App. Total	0	66.7	33.3		0	0	0		0	100	0		100	0	0	
PHF	.000	.500	.500	.500	.000	.000	.000	.000	.000	.750	.000	.750	.250	.000	.000	.250

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

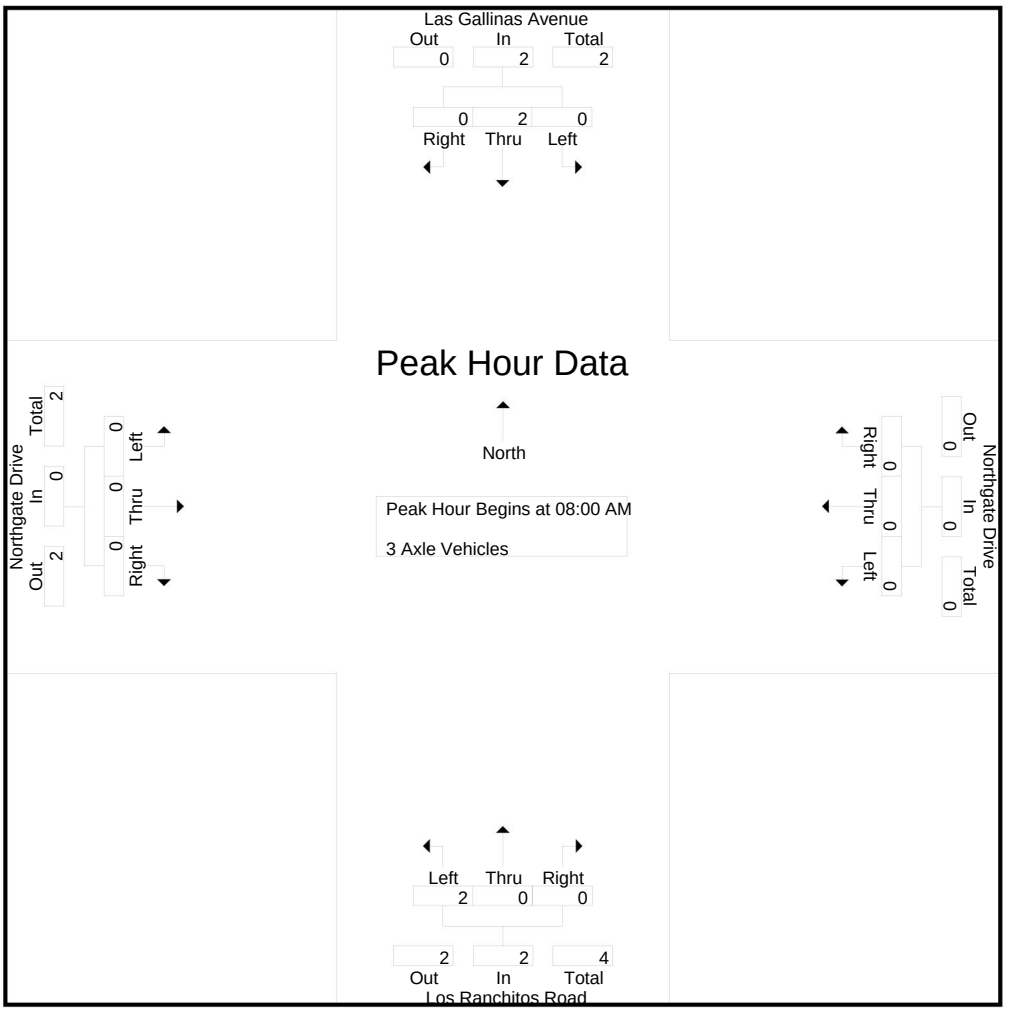
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:00 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	2	0	0	2	0	0	0	0	4
Grand Total	0	2	0	2	0	0	0	0	2	0	0	2	0	0	1	1	5
Apprch %	0	100	0		0	0	0		100	0	0		0	0	100		
Total %	0	40	0	40	0	0	0	0	40	0	0	40	0	0	20	20	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**1**	0	**1**	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**2**
08:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	2	0	0	2	0	0	0	0	4
% App. Total	0	100	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.500

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	2	0	0	2	0	0	0	0
% App. Total	0	100	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

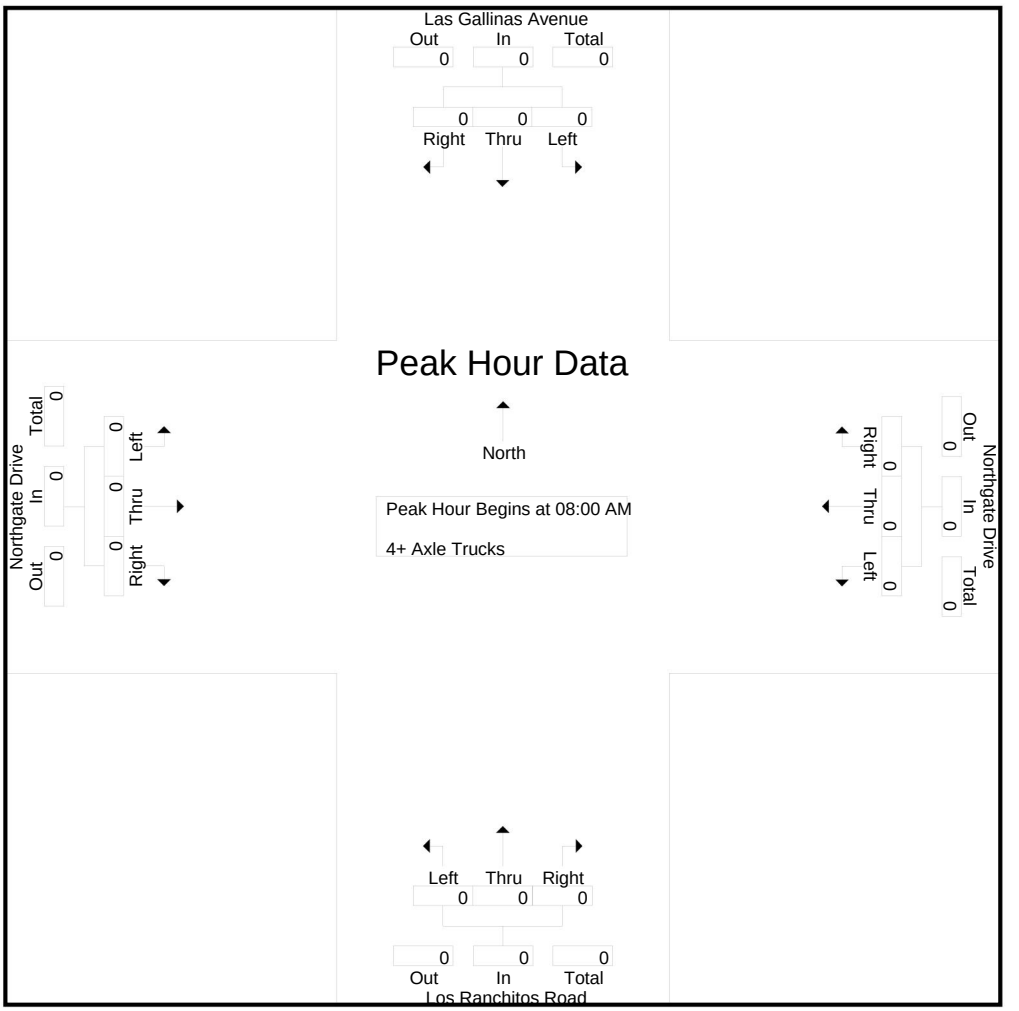
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

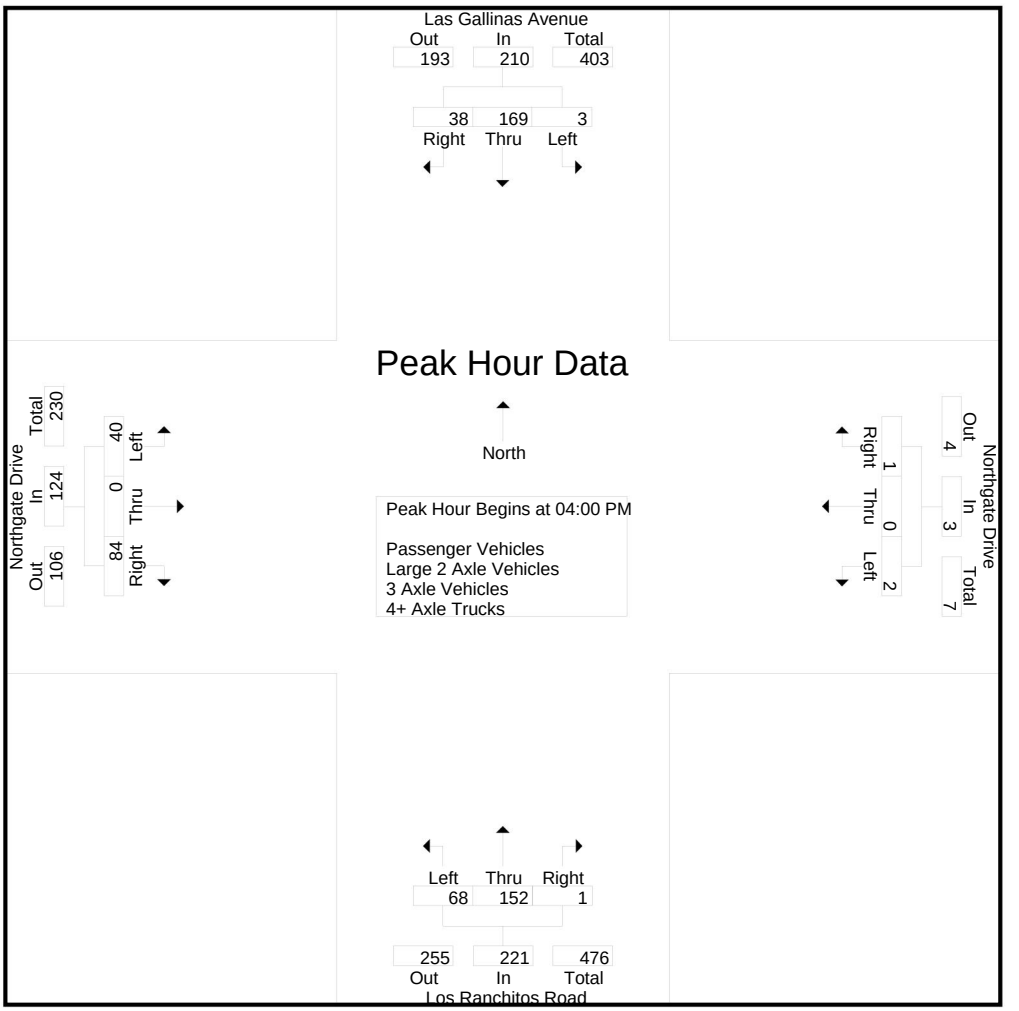
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	50	7	58	0	0	0	0	18	41	0	59	11	0	24	35	152
04:15 PM	1	38	11	50	1	0	0	1	18	45	0	63	10	0	13	23	137
04:30 PM	0	40	11	51	0	0	0	0	15	36	1	52	6	0	28	34	137
04:45 PM	1	41	9	51	1	0	1	2	17	30	0	47	13	0	19	32	132
Total	3	169	38	210	2	0	1	3	68	152	1	221	40	0	84	124	558
05:00 PM	0	36	15	51	0	0	2	2	17	27	0	44	12	0	25	37	134
05:15 PM	0	29	7	36	0	0	0	0	12	27	0	39	5	0	28	33	108
05:30 PM	0	29	7	36	0	1	0	1	11	26	0	37	6	0	26	32	106
05:45 PM	0	19	7	26	0	0	0	0	13	30	0	43	9	0	20	29	98
Total	0	113	36	149	0	1	2	3	53	110	0	163	32	0	99	131	446
Grand Total	3	282	74	359	2	1	3	6	121	262	1	384	72	0	183	255	1004
Apprch %	0.8	78.6	20.6		33.3	16.7	50		31.5	68.2	0.3		28.2	0	71.8		
Total %	0.3	28.1	7.4	35.8	0.2	0.1	0.3	0.6	12.1	26.1	0.1	38.2	7.2	0	18.2	25.4	
Passenger Vehicles	3	279	74	356	2	1	3	6	120	259	1	380	71	0	181	252	994
% Passenger Vehicles	100	98.9	100	99.2	100	100	100	100	99.2	98.9	100	99	98.6	0	98.9	98.8	99
Large 2 Axle Vehicles	0	3	0	3	0	0	0	0	1	3	0	4	1	0	1	2	9
% Large 2 Axle Vehicles	0	1.1	0	0.8	0	0	0	0	0.8	1.1	0	1	1.4	0	0.5	0.8	0.9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.4	0.1
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**1**	**50**	7	**58**	0	0	0	0	**18**	41	0	59	11	0	24	**35**	**152**
04:15 PM	1	38	**11**	50	**1**	0	0	1	18	**45**	0	**63**	10	0	13	23	137
04:30 PM	0	40	11	51	0	0	0	0	15	36	**1**	52	6	0	**28**	34	137
04:45 PM	1	41	9	51	1	0	**1**	**2**	17	30	0	47	**13**	0	19	32	132
Total Volume	3	169	38	210	2	0	1	3	68	152	1	221	40	0	84	124	558
% App. Total	1.4	80.5	18.1		66.7	0	33.3		30.8	68.8	0.5		32.3	0	67.7		
PHF	.750	.845	.864	.905	.500	.000	.250	.375	.944	.844	.250	.877	.769	.000	.750	.886	.918

Counts Unlimited, Inc.
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(951) 268-6268

City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:00 PM				04:30 PM			
+0 mins.	**1**	**50**	7	**58**	**1**	0	0	1	**18**	41	0	59	6	0	**28**	34
+15 mins.	1	38	**11**	50	0	0	0	0	18	**45**	0	**63**	**13**	0	19	32
+30 mins.	0	40	11	51	1	0	1	**2**	15	36	**1**	52	12	0	25	**37**
+45 mins.	1	41	9	51	0	0	**2**	2	17	30	0	47	5	0	28	33
Total Volume	3	169	38	210	2	0	3	5	68	152	1	221	36	0	100	136
% App. Total	1.4	80.5	18.1		40	0	60		30.8	68.8	0.5		26.5	0	73.5	
PHF	.750	.845	.864	.905	.500	.000	.375	.625	.944	.844	.250	.877	.692	.000	.893	.919

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles

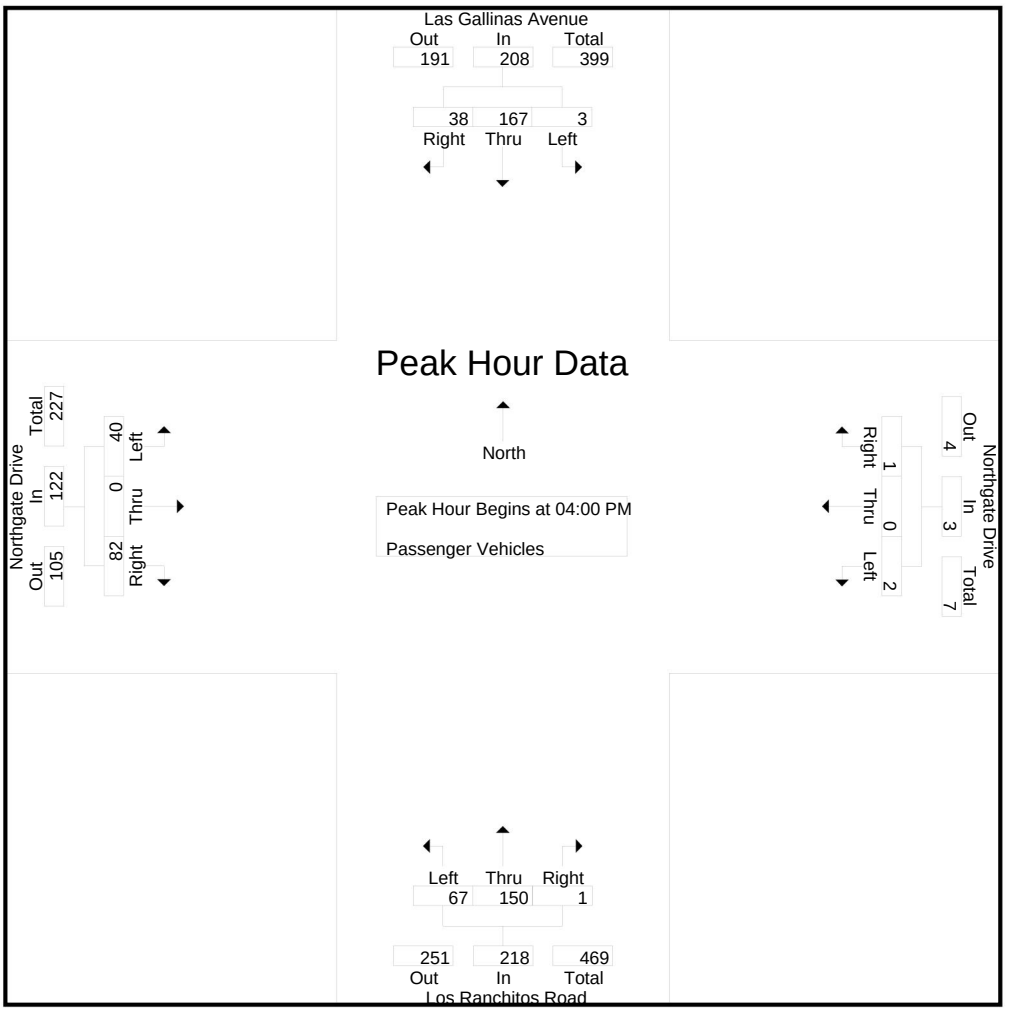
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	48	7	56	0	0	0	0	17	40	0	57	11	0	22	33	146
04:15 PM	1	38	11	50	1	0	0	1	18	45	0	63	10	0	13	23	137
04:30 PM	0	40	11	51	0	0	0	0	15	36	1	52	6	0	28	34	137
04:45 PM	1	41	9	51	1	0	1	2	17	29	0	46	13	0	19	32	131
Total	3	167	38	208	2	0	1	3	67	150	1	218	40	0	82	122	551
05:00 PM	0	36	15	51	0	0	2	2	17	27	0	44	12	0	25	37	134
05:15 PM	0	28	7	35	0	0	0	0	12	27	0	39	4	0	28	32	106
05:30 PM	0	29	7	36	0	1	0	1	11	26	0	37	6	0	26	32	106
05:45 PM	0	19	7	26	0	0	0	0	13	29	0	42	9	0	20	29	97
Total	0	112	36	148	0	1	2	3	53	109	0	162	31	0	99	130	443
Grand Total	3	279	74	356	2	1	3	6	120	259	1	380	71	0	181	252	994
Apprch %	0.8	78.4	20.8		33.3	16.7	50		31.6	68.2	0.3		28.2	0	71.8		
Total %	0.3	28.1	7.4	35.8	0.2	0.1	0.3	0.6	12.1	26.1	0.1	38.2	7.1	0	18.2	25.4	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**1**	**48**	7	**56**	0	0	0	0	17	40	0	57	11	0	22	33	**146**
04:15 PM	1	38	**11**	50	**1**	0	0	1	**18**	**45**	0	**63**	10	0	13	23	137
04:30 PM	0	40	11	51	0	0	0	0	15	36	**1**	52	6	0	**28**	**34**	137
04:45 PM	1	41	9	51	1	0	**1**	**2**	17	29	0	46	**13**	0	19	32	131
Total Volume	3	167	38	208	2	0	1	3	67	150	1	218	40	0	82	122	551
% App. Total	1.4	80.3	18.3		66.7	0	33.3		30.7	68.8	0.5		32.8	0	67.2		
PHF	.750	.870	.864	.929	.500	.000	.250	.375	.931	.833	.250	.865	.769	.000	.732	.897	.943

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**1**	**48**	7	**56**	0	0	0	0	17	40	0	57	11	0	22	33
+15 mins.	1	38	**11**	50	**1**	0	0	1	**18**	**45**	0	**63**	10	0	13	23
+30 mins.	0	40	11	51	0	0	0	0	15	36	**1**	52	6	0	**28**	**34**
+45 mins.	1	41	9	51	1	0	**1**	**2**	17	29	0	46	**13**	0	19	32
Total Volume	3	167	38	208	2	0	1	3	67	150	1	218	40	0	82	122
% App. Total	1.4	80.3	18.3		66.7	0	33.3		30.7	68.8	0.5		32.8	0	67.2	
PHF	.750	.870	.864	.929	.500	.000	.250	.375	.931	.833	.250	.865	.769	.000	.732	.897

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

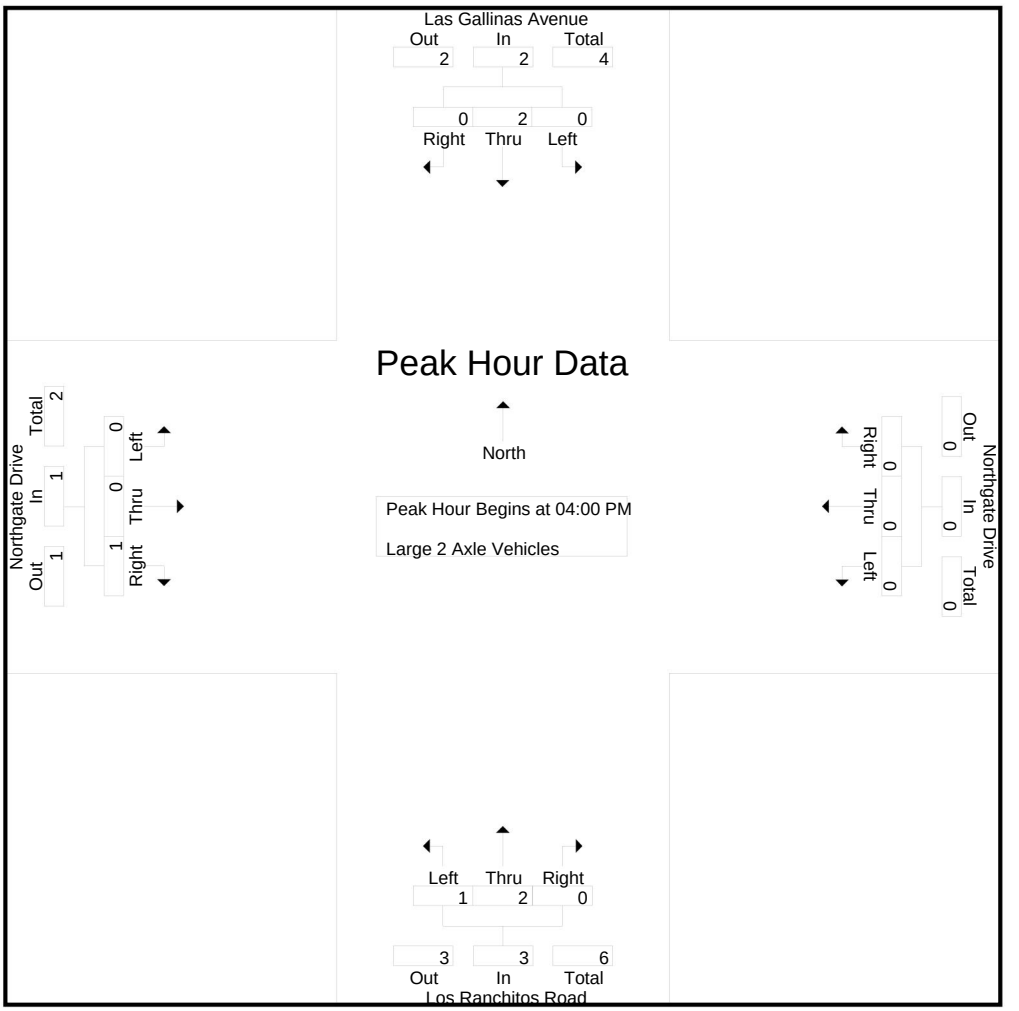
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	0	0	0	0	1	1	0	2	0	0	1	1	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	2	0	2	0	0	0	0	1	2	0	3	0	0	1	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
Grand Total	0	3	0	3	0	0	0	0	1	3	0	4	1	0	1	2	9
Apprch %	0	100	0		0	0	0		25	75	0		50	0	50		
Total %	0	33.3	0	33.3	0	0	0	0	11.1	33.3	0	44.4	11.1	0	11.1	22.2	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**2**	0	**2**	0	0	0	0	**1**	**1**	0	**2**	0	0	**1**	**1**	**5**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	2	0	2	0	0	0	0	1	2	0	3	0	0	1	1	6
% App. Total	0	100	0		0	0	0		33.3	66.7	0		0	0	100		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.500	.000	.375	.000	.000	.250	.250	.300

Counts Unlimited, Inc.
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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	**2**	0	**2**	0	0	0	0	**1**	**1**	0	**2**	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	1	2	0	3	0	0	1	1
% App. Total	0	100	0		0	0	0		33.3	66.7	0		0	0	100	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.500	.000	.375	.000	.000	.250	.250

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

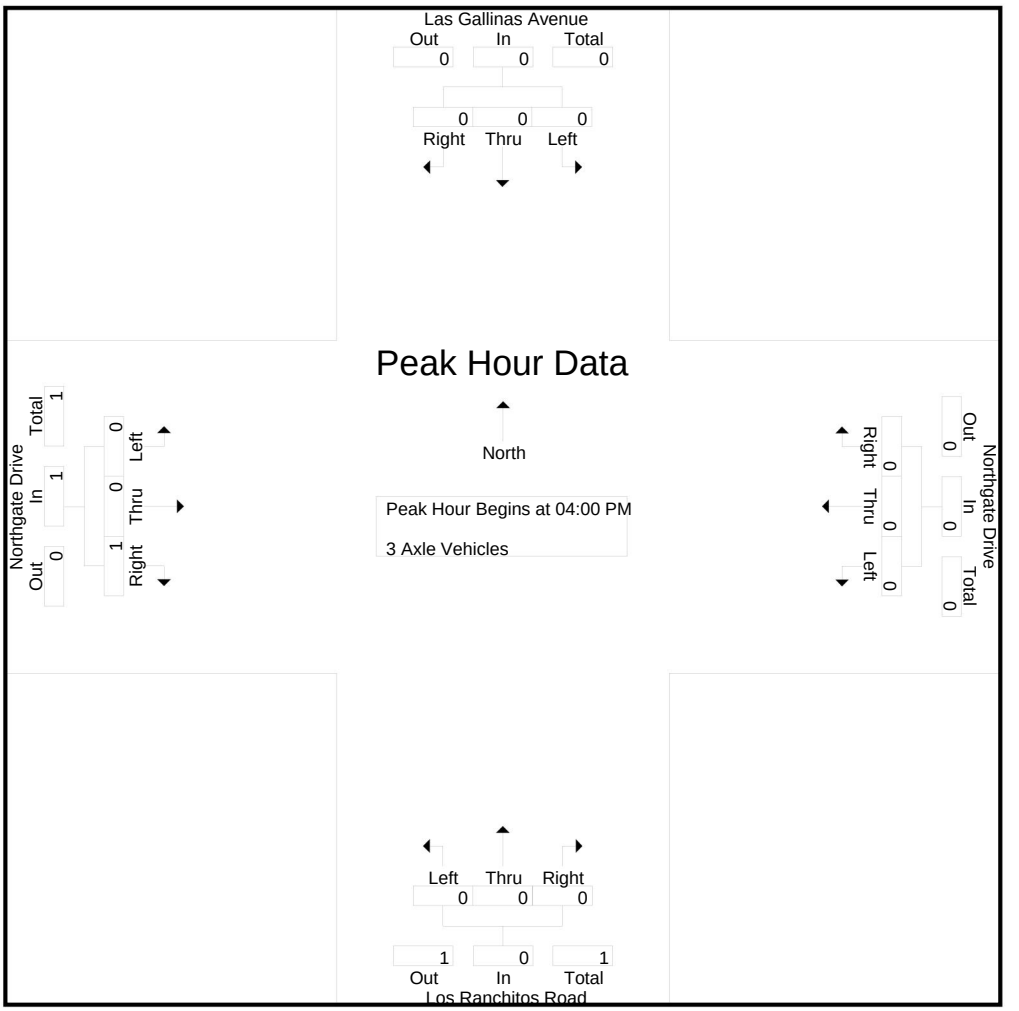
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0	0		0	0	0		0	0	0		0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**1**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

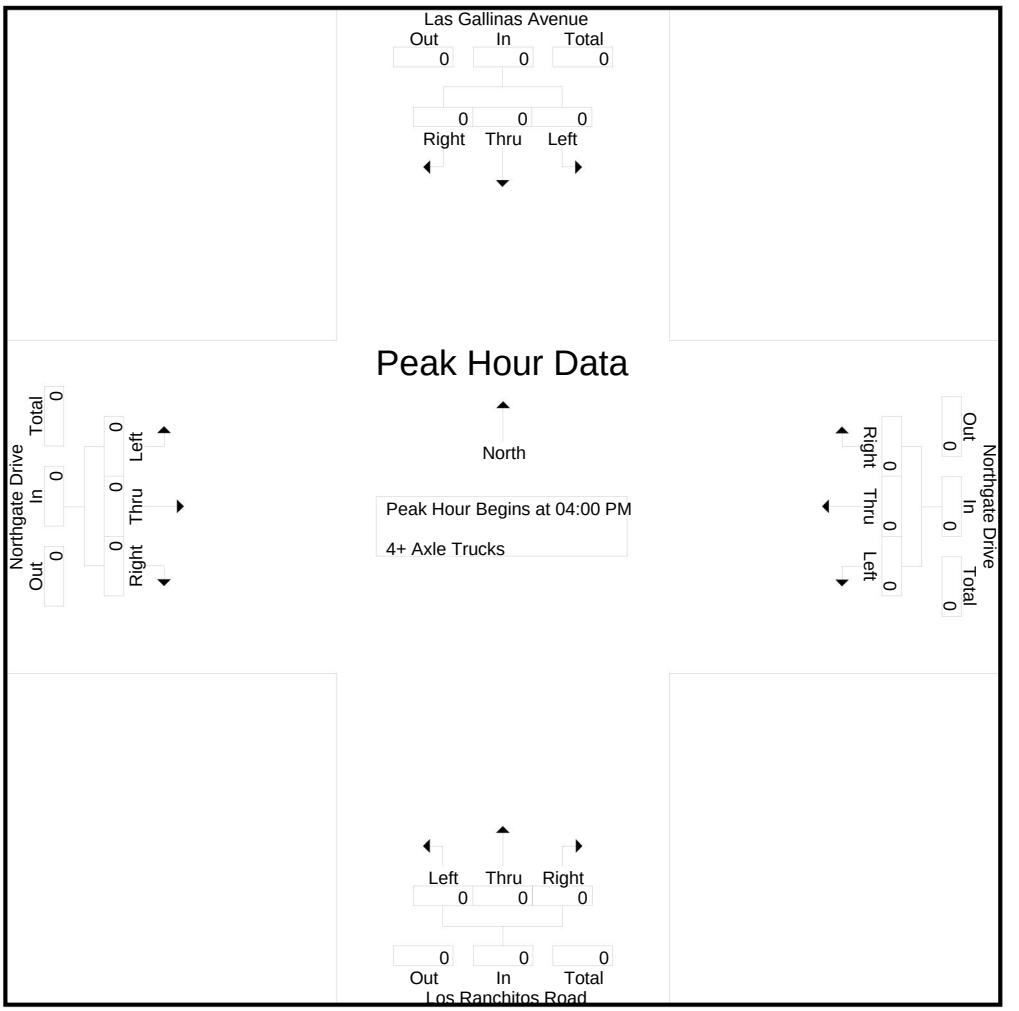
	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Las Gallinas Avenue Southbound				Northgate Drive Westbound				Los Ranchitos Road Northbound				Northgate Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Road
E/W: Northgate Drive
Weather: Clear

File Name : 04_SRF_LasG_Ng PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Rd
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

PEDESTRIANS

	North Leg Las Gallinas Avenue	East Leg Northgate Drive	South Leg Los Ranchitos Road	West Leg Northgate Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	0	0	0	1	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1
8:00 AM	0	0	1	1	2
8:15 AM	0	0	2	1	3
8:30 AM	0	0	0	3	3
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	4	7	11

	North Leg Las Gallinas Avenue	East Leg Northgate Drive	South Leg Los Ranchitos Road	West Leg Northgate Drive	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	1	2	1	4
4:15 PM	0	0	0	4	4
4:30 PM	0	0	1	1	2
4:45 PM	0	0	1	5	6
5:00 PM	0	0	0	1	1
5:15 PM	0	0	1	1	2
5:30 PM	0	0	0	4	4
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	0	1	5	18	24

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951-268-6268

Location: San Rafael
N/S: Las Gallinas Ave/Los Ranchitos Rd
E/W: Northgate Drive

Date: 8/28/2025
Day: Thursday

BICYCLES

	Southbound Las Gallinas Avenue			Westbound Northgate Drive			Northbound Los Ranchitos Road			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	2
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	1	2
8:00 AM	0	0	1	0	0	0	3	1	0	0	0	1	6
8:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	2
8:30 AM	0	1	0	0	0	0	0	2	0	0	0	2	5
8:45 AM	0	1	0	0	0	0	1	1	0	0	0	3	6
TOTAL VOLUMES:	0	2	1	0	0	0	5	8	0	0	0	11	27

	Southbound Las Gallinas Avenue			Westbound Northgate Drive			Northbound Los Ranchitos Road			Eastbound Northgate Drive			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	2	2	0	0	0	3	7
4:45 PM	0	2	0	0	0	0	1	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	3	0	0	0	0	0	3
5:15 PM	0	1	0	0	0	0	0	1	0	0	0	0	2
5:30 PM	0	2	0	0	0	0	4	1	0	0	0	4	11
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	4
TOTAL VOLUMES:	0	5	0	0	0	0	10	6	0	0	0	10	31

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PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

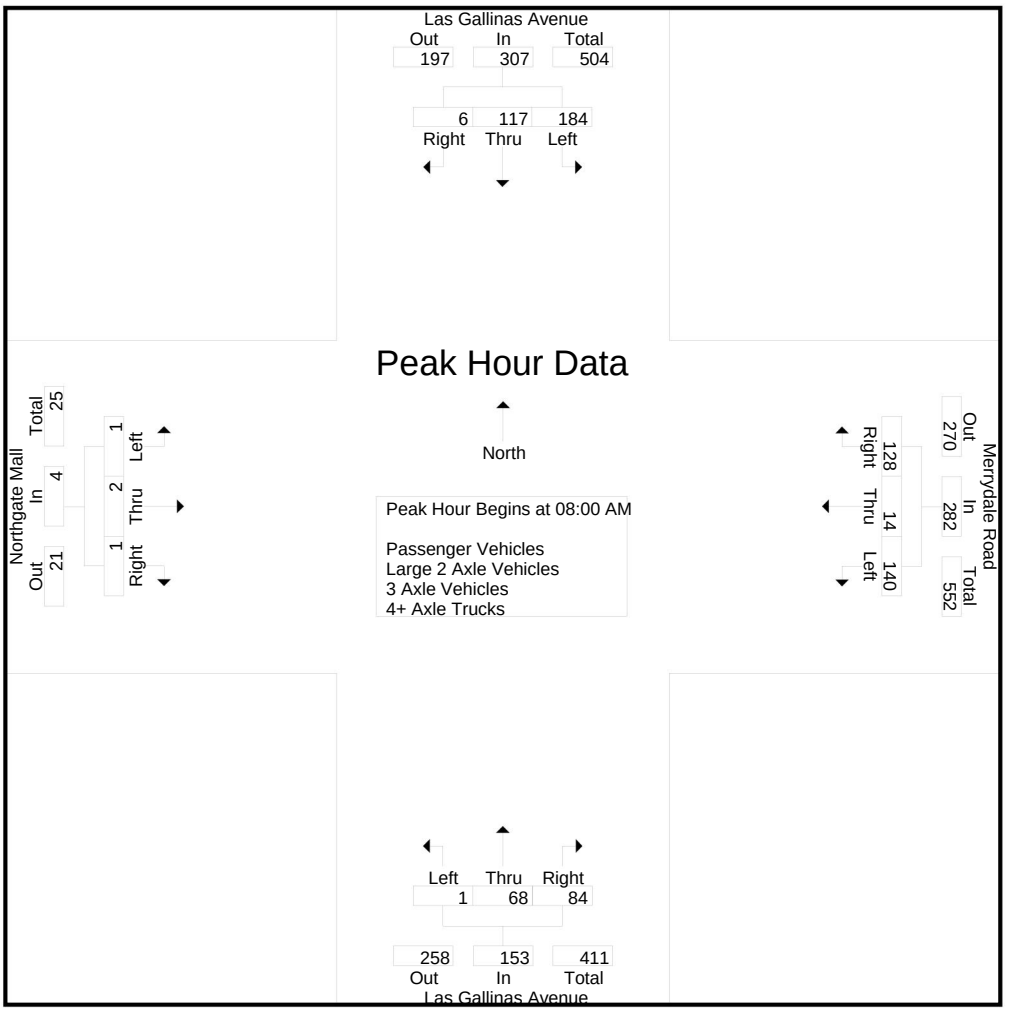
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	25	18	1	44	7	2	19	28	0	5	3	8	1	0	0	1	81
07:15 AM	17	21	0	38	9	5	18	32	0	12	16	28	0	0	0	0	98
07:30 AM	22	24	0	46	15	1	8	24	0	12	8	20	0	0	0	0	90
07:45 AM	29	22	0	51	19	3	21	43	2	26	18	46	0	0	0	0	140
Total	93	85	1	179	50	11	66	127	2	55	45	102	1	0	0	1	409
08:00 AM	40	22	0	62	52	2	23	77	1	14	25	40	1	0	0	1	180
08:15 AM	45	37	1	83	49	5	36	90	0	22	27	49	0	0	0	0	222
08:30 AM	60	31	4	95	24	2	33	59	0	17	18	35	0	1	1	2	191
08:45 AM	39	27	1	67	15	5	36	56	0	15	14	29	0	1	0	1	153
Total	184	117	6	307	140	14	128	282	1	68	84	153	1	2	1	4	746
Grand Total	277	202	7	486	190	25	194	409	3	123	129	255	2	2	1	5	1155
Apprch %	57	41.6	1.4		46.5	6.1	47.4		1.2	48.2	50.6		40	40	20		
Total %	24	17.5	0.6	42.1	16.5	2.2	16.8	35.4	0.3	10.6	11.2	22.1	0.2	0.2	0.1	0.4	
Passenger Vehicles	263	197	7	467	183	24	183	390	3	119	126	248	2	2	1	5	1110
% Passenger Vehicles	94.9	97.5	100	96.1	96.3	96	94.3	95.4	100	96.7	97.7	97.3	100	100	100	100	96.1
Large 2 Axle Vehicles	13	5	0	18	6	1	11	18	0	4	3	7	0	0	0	0	43
% Large 2 Axle Vehicles	4.7	2.5	0	3.7	3.2	4	5.7	4.4	0	3.3	2.3	2.7	0	0	0	0	3.7
3 Axle Vehicles	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
% 3 Axle Vehicles	0.4	0	0	0.2	0.5	0	0	0.2	0	0	0	0	0	0	0	0	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	40	22	0	62	**52**	2	23	77	**1**	14	25	40	**1**	0	0	1	180
08:15 AM	45	**37**	1	83	49	**5**	**36**	**90**	0	**22**	**27**	**49**	0	0	0	0	**222**
08:30 AM	**60**	31	**4**	**95**	24	2	33	59	0	17	18	35	0	**1**	**1**	**2**	191
08:45 AM	39	27	1	67	15	5	36	56	0	15	14	29	0	1	0	1	153
Total Volume	184	117	6	307	140	14	128	282	1	68	84	153	1	2	1	4	746
% App. Total	59.9	38.1	2		49.6	5	45.4		0.7	44.4	54.9		25	50	25		
PHF	.767	.791	.375	.808	.673	.700	.889	.783	.250	.773	.778	.781	.250	.500	.250	.500	.840

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File Name : 05_SRF_LasG_Md AM
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:45 AM				08:00 AM			
+0 mins.	40	22	0	62	**52**	2	23	77	**2**	**26**	18	46	**1**	0	0	1
+15 mins.	45	**37**	1	83	49	**5**	**36**	**90**	1	14	25	40	0	0	0	0
+30 mins.	**60**	31	**4**	**95**	24	2	33	59	0	22	**27**	**49**	0	**1**	**1**	**2**
+45 mins.	39	27	1	67	15	5	36	56	0	17	18	35	0	1	0	1
Total Volume	184	117	6	307	140	14	128	282	3	79	88	170	1	2	1	4
% App. Total	59.9	38.1	2		49.6	5	45.4		1.8	46.5	51.8		25	50	25	
PHF	.767	.791	.375	.808	.673	.700	.889	.783	.375	.760	.815	.867	.250	.500	.250	.500

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File Name : 05_SRF_LasG_Md AM
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Groups Printed- Passenger Vehicles

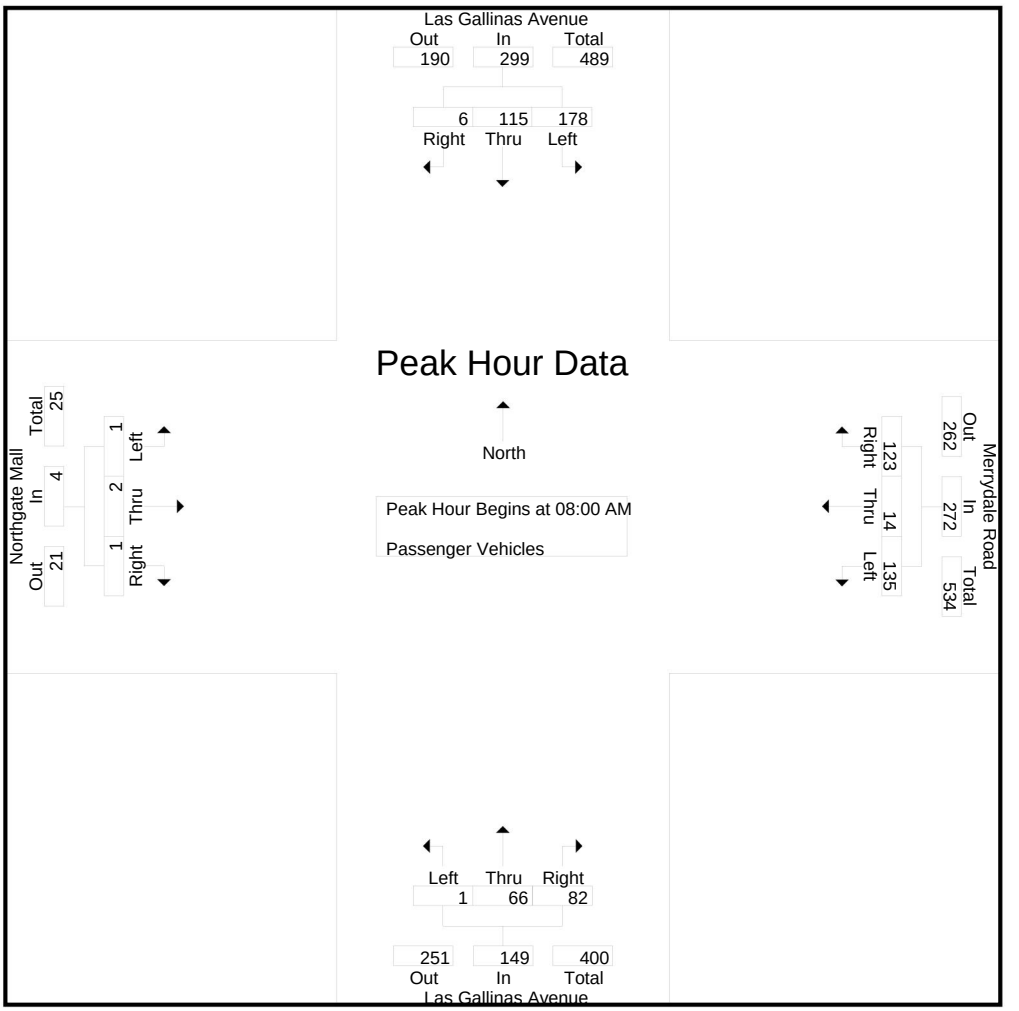
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	23	17	1	41	7	2	18	27	0	5	3	8	1	0	0	1	77
07:15 AM	15	20	0	35	9	4	16	29	0	11	15	26	0	0	0	0	90
07:30 AM	20	24	0	44	13	1	8	22	0	12	8	20	0	0	0	0	86
07:45 AM	27	21	0	48	19	3	18	40	2	25	18	45	0	0	0	0	133
Total	85	82	1	168	48	10	60	118	2	53	44	99	1	0	0	1	386
08:00 AM	38	21	0	59	51	2	23	76	1	14	24	39	1	0	0	1	175
08:15 AM	44	36	1	81	46	5	33	84	0	22	27	49	0	0	0	0	214
08:30 AM	59	31	4	94	24	2	32	58	0	16	17	33	0	1	1	2	187
08:45 AM	37	27	1	65	14	5	35	54	0	14	14	28	0	1	0	1	148
Total	178	115	6	299	135	14	123	272	1	66	82	149	1	2	1	4	724
Grand Total	263	197	7	467	183	24	183	390	3	119	126	248	2	2	1	5	1110
Apprch %	56.3	42.2	1.5		46.9	6.2	46.9		1.2	48	50.8		40	40	20		
Total %	23.7	17.7	0.6	42.1	16.5	2.2	16.5	35.1	0.3	10.7	11.4	22.3	0.2	0.2	0.1	0.5	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	38	21	0	59	**51**	2	23	76	**1**	14	24	39	**1**	0	0	1	175
08:15 AM	44	**36**	1	81	46	**5**	33	**84**	0	**22**	**27**	**49**	0	0	0	0	**214**
08:30 AM	**59**	31	**4**	**94**	24	2	32	58	0	16	17	33	0	**1**	**1**	**2**	187
08:45 AM	37	27	1	65	14	5	**35**	54	0	14	14	28	0	1	0	1	148
Total Volume	178	115	6	299	135	14	123	272	1	66	82	149	1	2	1	4	724
% App. Total	59.5	38.5	2		49.6	5.1	45.2		0.7	44.3	55		25	50	25		
PHF	.754	.799	.375	.795	.662	.700	.879	.810	.250	.750	.759	.760	.250	.500	.250	.500	.846

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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	38	21	0	59	**51**	2	23	76	**1**	14	24	39	**1**	0	0	1
+15 mins.	44	**36**	1	81	46	**5**	33	**84**	0	**22**	**27**	**49**	0	0	0	0
+30 mins.	**59**	31	**4**	**94**	24	2	32	58	0	16	17	33	0	**1**	**1**	**2**
+45 mins.	37	27	1	65	14	5	**35**	54	0	14	14	28	0	1	0	1
Total Volume	178	115	6	299	135	14	123	272	1	66	82	149	1	2	1	4
% App. Total	59.5	38.5	2		49.6	5.1	45.2		0.7	44.3	55		25	50	25	
PHF	.754	.799	.375	.795	.662	.700	.879	.810	.250	.750	.759	.760	.250	.500	.250	.500

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File Name : 05_SRF_LasG_Md AM
Site Code : 10525763
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

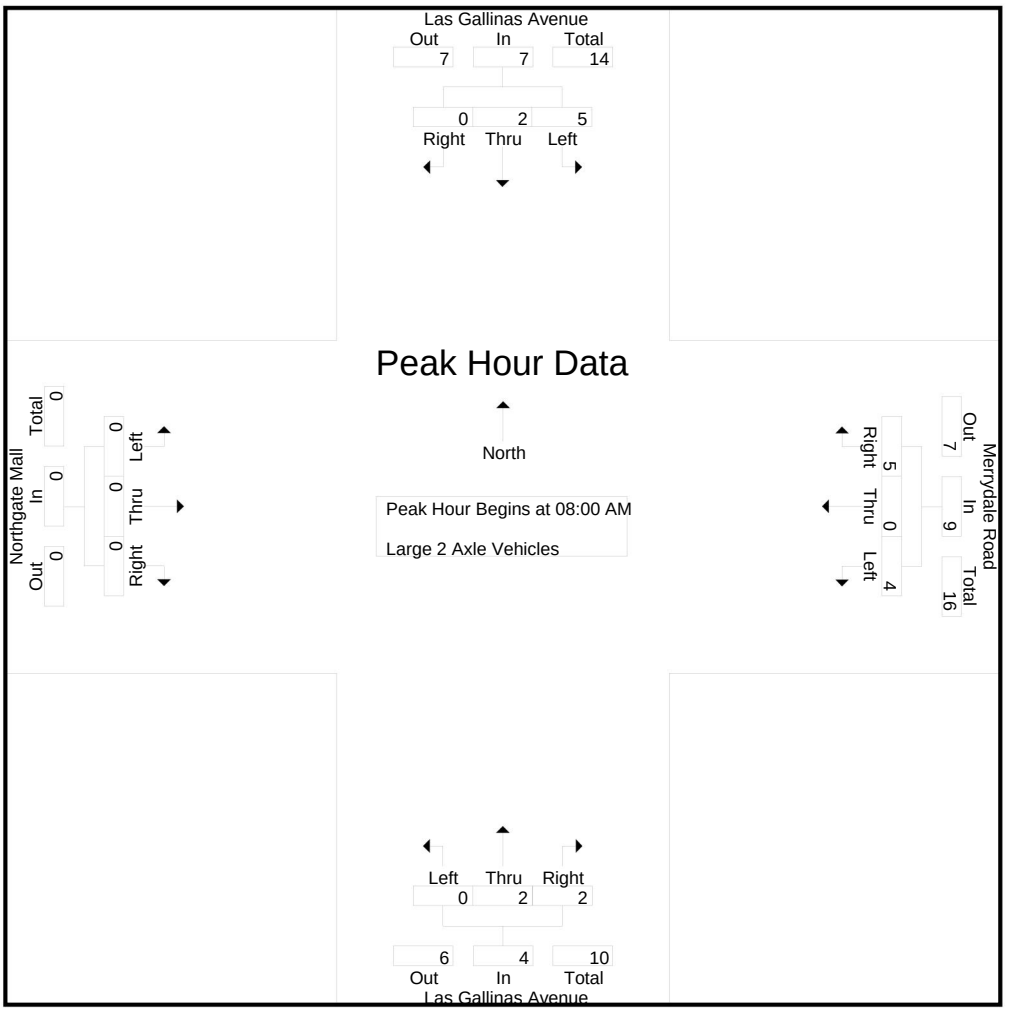
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	1	0	3	0	0	1	1	0	0	0	0	0	0	0	0	4
07:15 AM	2	1	0	3	0	1	2	3	0	1	1	2	0	0	0	0	8
07:30 AM	2	0	0	2	2	0	0	2	0	0	0	0	0	0	0	0	4
07:45 AM	2	1	0	3	0	0	3	3	0	1	0	1	0	0	0	0	7
Total	8	3	0	11	2	1	6	9	0	2	1	3	0	0	0	0	23
08:00 AM	2	1	0	3	1	0	0	1	0	0	1	1	0	0	0	0	5
08:15 AM	0	1	0	1	2	0	3	5	0	0	0	0	0	0	0	0	6
08:30 AM	1	0	0	1	0	0	1	1	0	1	1	2	0	0	0	0	4
08:45 AM	2	0	0	2	1	0	1	2	0	1	0	1	0	0	0	0	5
Total	5	2	0	7	4	0	5	9	0	2	2	4	0	0	0	0	20
Grand Total	13	5	0	18	6	1	11	18	0	4	3	7	0	0	0	0	43
Apprch %	72.2	27.8	0		33.3	5.6	61.1		0	57.1	42.9		0	0	0		
Total %	30.2	11.6	0	41.9	14	2.3	25.6	41.9	0	9.3	7	16.3	0	0	0	0	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**2**	**1**	0	**3**	1	0	0	1	0	0	**1**	1	0	0	0	0	5
08:15 AM	0	1	0	1	**2**	0	**3**	**5**	0	0	0	0	0	0	0	0	**6**
08:30 AM	1	0	0	1	0	0	1	1	0	**1**	1	**2**	0	0	0	0	4
08:45 AM	2	0	0	2	1	0	1	2	0	1	0	1	0	0	0	0	5
Total Volume	5	2	0	7	4	0	5	9	0	2	2	4	0	0	0	0	20
% App. Total	71.4	28.6	0		44.4	0	55.6		0	50	50		0	0	0		
PHF	.625	.500	.000	.583	.500	.000	.417	.450	.000	.500	.500	.500	.000	.000	.000	.000	.833

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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	**2**	**1**	0	**3**	1	0	0	1	0	0	**1**	1	0	0	0	0
+15 mins.	0	1	0	1	**2**	0	**3**	**5**	0	0	0	0	0	0	0	0
+30 mins.	1	0	0	1	0	0	1	1	0	**1**	1	**2**	0	0	0	0
+45 mins.	2	0	0	2	1	0	1	2	0	1	0	1	0	0	0	0
Total Volume	5	2	0	7	4	0	5	9	0	2	2	4	0	0	0	0
% App. Total	71.4	28.6	0		44.4	0	55.6		0	50	50		0	0	0	
PHF	.625	.500	.000	.583	.500	.000	.417	.450	.000	.500	.500	.500	.000	.000	.000	.000

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File Name : 05_SRF_LasG_Md AM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

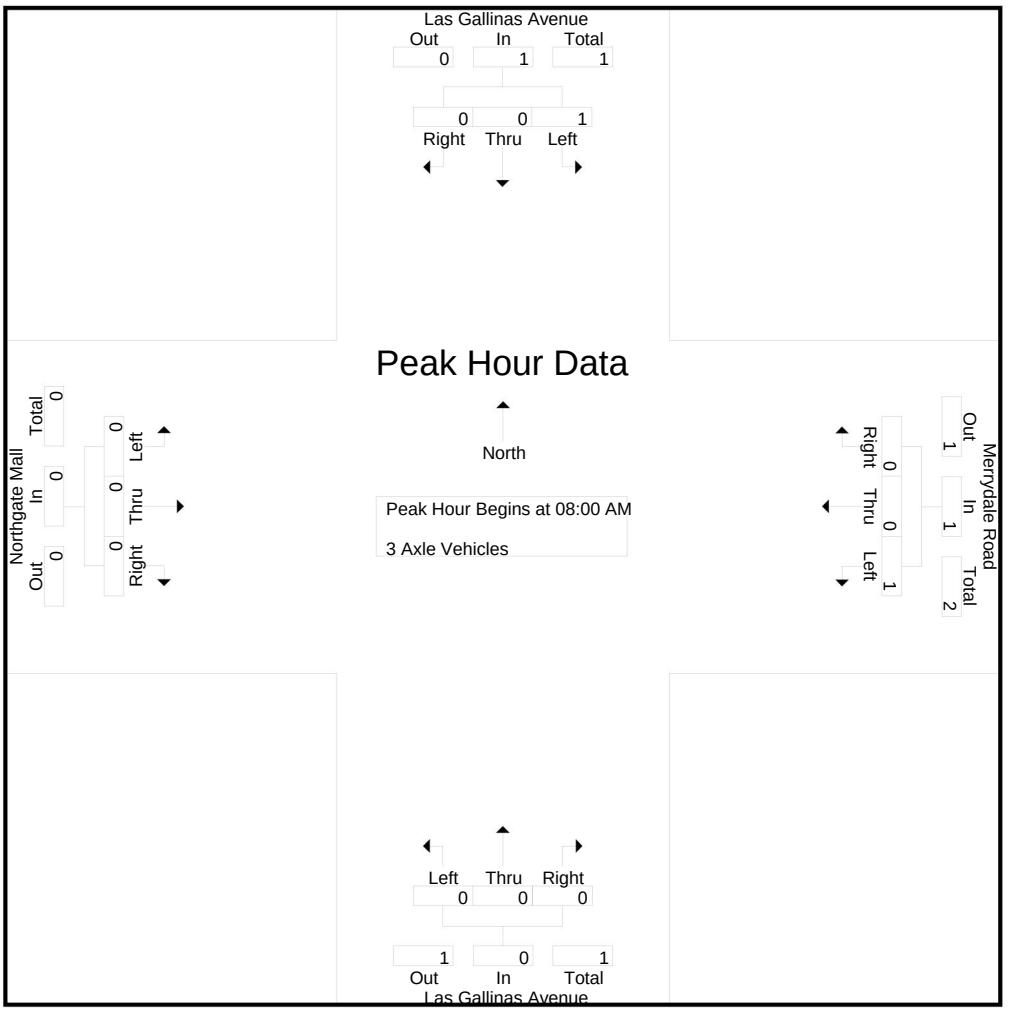
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
Grand Total	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
Apprch %	100	0	0		100	0	0		0	0	0		0	0	0		
Total %	50	0	0	50	50	0	0	50	0	0	0	0	0	0	0	0	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	**1**	0	0	**1**	**1**	0	0	**1**	0	0	0	0	0	0	0	0	**2**
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	2
% App. Total	100	0	0		100	0	0		0	0	0		0	0	0		
PHF	.250	.000	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	0	**1**	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0
% App. Total	100	0	0		100	0	0		0	0	0		0	0	0	
PHF	.250	.000	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

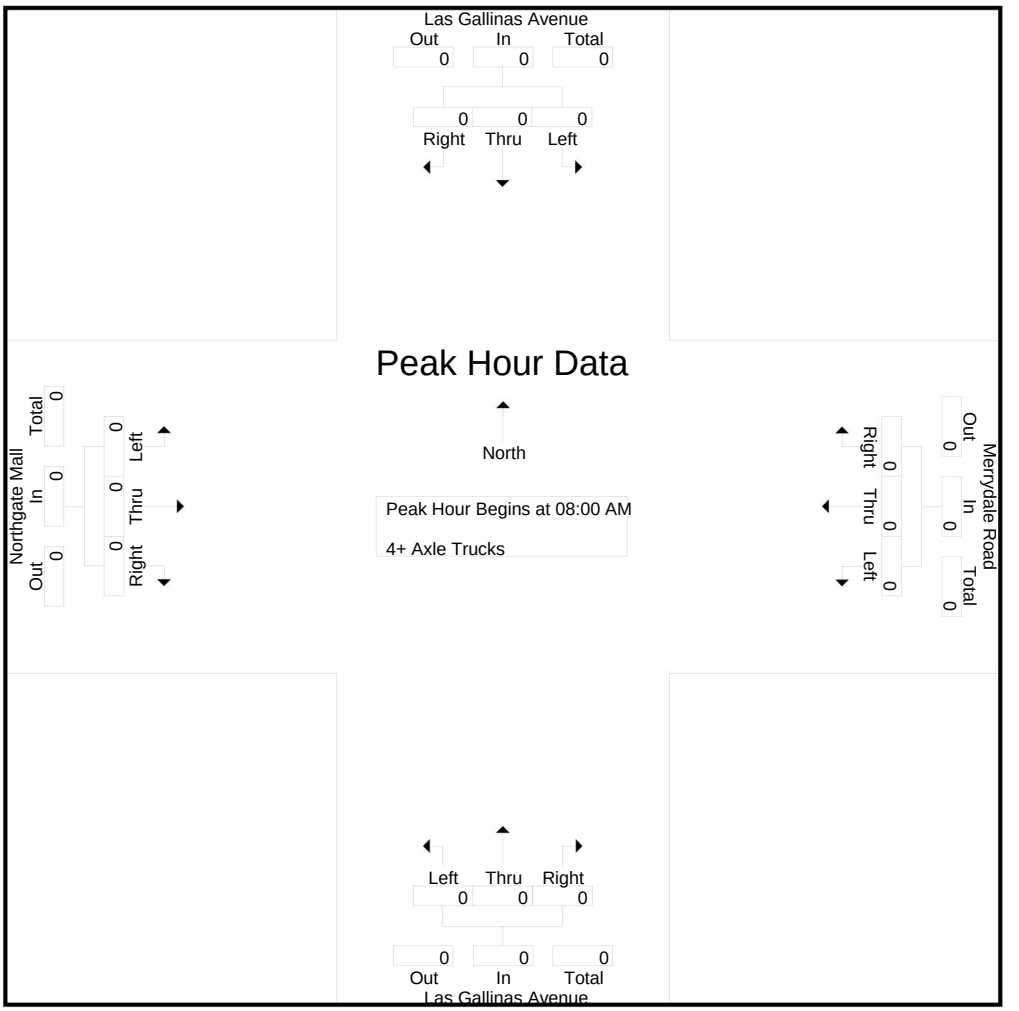
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md AM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

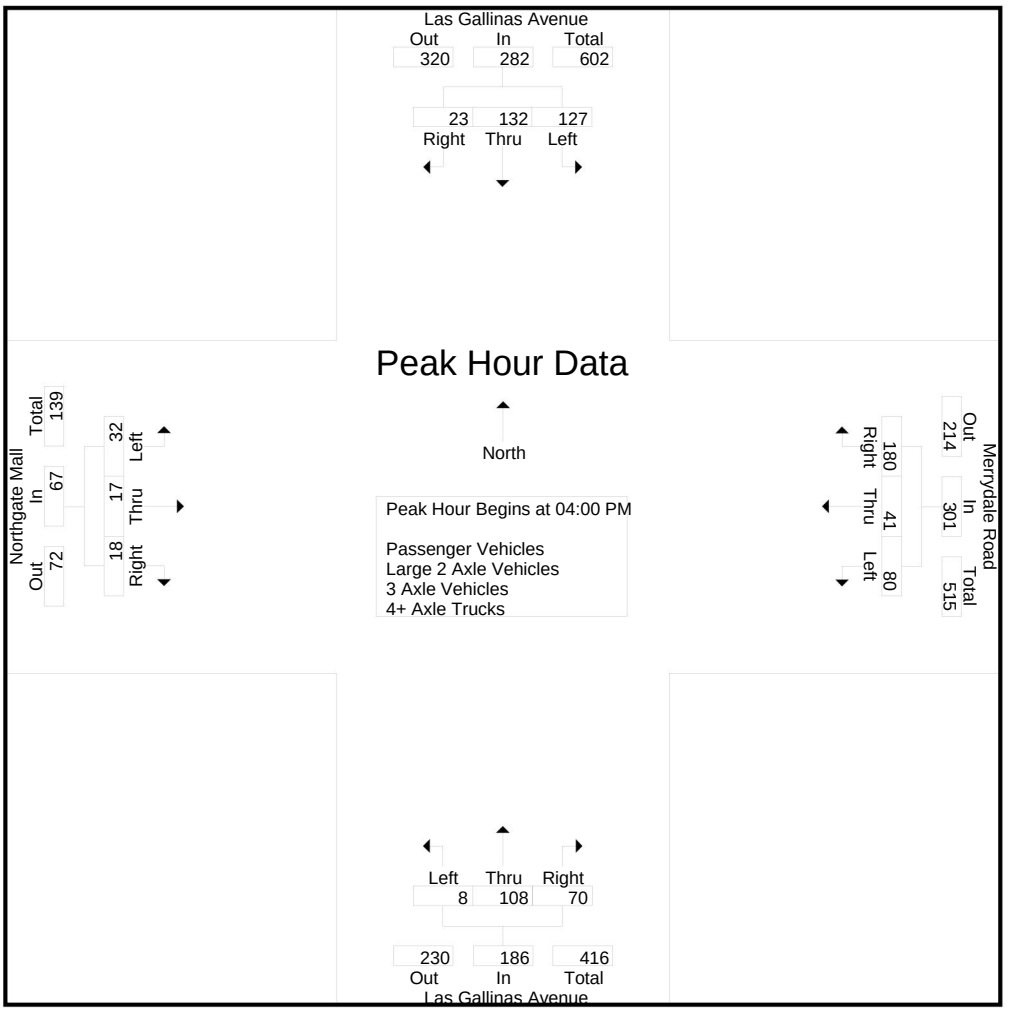
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	32	36	5	73	19	10	49	78	3	25	19	47	11	3	4	18	216
04:15 PM	33	37	4	74	15	8	55	78	2	29	21	52	9	4	4	17	221
04:30 PM	33	25	9	67	25	12	41	78	1	26	17	44	6	7	7	20	209
04:45 PM	29	34	5	68	21	11	35	67	2	28	13	43	6	3	3	12	190
Total	127	132	23	282	80	41	180	301	8	108	70	186	32	17	18	67	836
05:00 PM	27	25	4	56	25	8	42	75	2	19	14	35	9	9	6	24	190
05:15 PM	20	19	7	46	12	14	41	67	1	22	10	33	7	8	3	18	164
05:30 PM	20	24	4	48	14	10	45	69	2	21	9	32	12	4	0	16	165
05:45 PM	21	13	3	37	12	9	24	45	1	25	11	37	8	8	6	22	141
Total	88	81	18	187	63	41	152	256	6	87	44	137	36	29	15	80	660
Grand Total	215	213	41	469	143	82	332	557	14	195	114	323	68	46	33	147	1496
Apprch %	45.8	45.4	8.7		25.7	14.7	59.6		4.3	60.4	35.3		46.3	31.3	22.4		
Total %	14.4	14.2	2.7	31.4	9.6	5.5	22.2	37.2	0.9	13	7.6	21.6	4.5	3.1	2.2	9.8	
Passenger Vehicles	202	211	41	454	143	82	318	543	14	191	114	319	68	46	33	147	1463
% Passenger Vehicles	94	99.1	100	96.8	100	100	95.8	97.5	100	97.9	100	98.8	100	100	100	100	97.8
Large 2 Axle Vehicles	13	2	0	15	0	0	14	14	0	4	0	4	0	0	0	0	33
% Large 2 Axle Vehicles	6	0.9	0	3.2	0	0	4.2	2.5	0	2.1	0	1.2	0	0	0	0	2.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	32	36	5	73	19	10	49	**78**	**3**	25	19	47	**11**	3	4	18	216
04:15 PM	**33**	**37**	4	**74**	15	8	**55**	78	2	**29**	**21**	**52**	9	4	4	17	**221**
04:30 PM	33	25	**9**	67	**25**	**12**	41	78	1	26	17	44	6	**7**	**7**	**20**	209
04:45 PM	29	34	5	68	21	11	35	67	2	28	13	43	6	3	3	12	190
Total Volume	127	132	23	282	80	41	180	301	8	108	70	186	32	17	18	67	836
% App. Total	45	46.8	8.2		26.6	13.6	59.8		4.3	58.1	37.6		47.8	25.4	26.9		
PHF	.962	.892	.639	.953	.800	.854	.818	.965	.667	.931	.833	.894	.727	.607	.643	.838	.946

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				05:00 PM			
+0 mins.	32	36	5	73	19	10	49	**78**	**3**	25	19	47	9	**9**	**6**	**24**
+15 mins.	**33**	**37**	4	**74**	15	8	**55**	78	2	**29**	**21**	**52**	7	8	3	18
+30 mins.	33	25	**9**	67	**25**	**12**	41	78	1	26	17	44	**12**	4	0	16
+45 mins.	29	34	5	68	21	11	35	67	2	28	13	43	8	8	6	22
Total Volume	127	132	23	282	80	41	180	301	8	108	70	186	36	29	15	80
% App. Total	45	46.8	8.2		26.6	13.6	59.8		4.3	58.1	37.6		45	36.2	18.8	
PHF	.962	.892	.639	.953	.800	.854	.818	.965	.667	.931	.833	.894	.750	.806	.625	.833

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
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Groups Printed- Passenger Vehicles

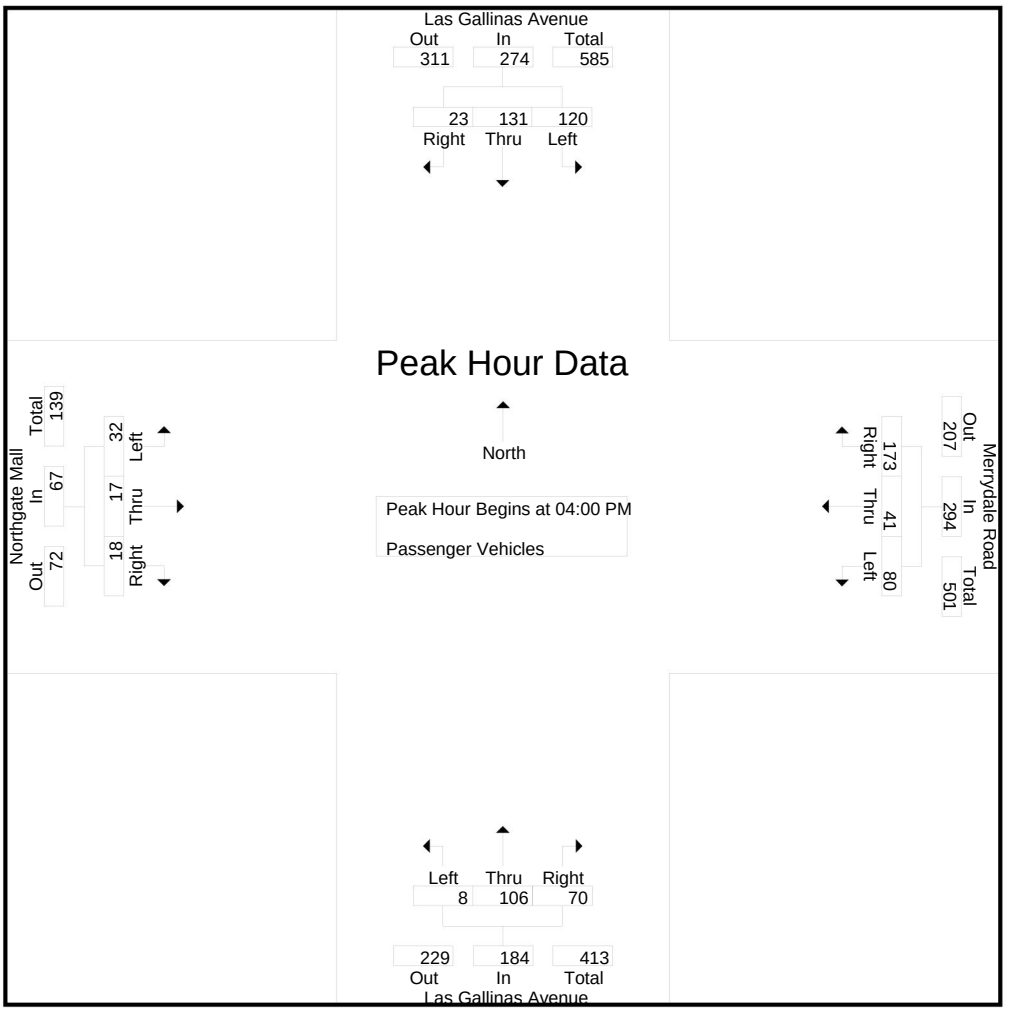
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	29	35	5	69	19	10	47	76	3	24	19	46	11	3	4	18	209
04:15 PM	33	37	4	74	15	8	53	76	2	29	21	52	9	4	4	17	219
04:30 PM	31	25	9	65	25	12	39	76	1	26	17	44	6	7	7	20	205
04:45 PM	27	34	5	66	21	11	34	66	2	27	13	42	6	3	3	12	186
Total	120	131	23	274	80	41	173	294	8	106	70	184	32	17	18	67	819
05:00 PM	25	25	4	54	25	8	40	73	2	19	14	35	9	9	6	24	186
05:15 PM	19	18	7	44	12	14	39	65	1	21	10	32	7	8	3	18	159
05:30 PM	18	24	4	46	14	10	43	67	2	21	9	32	12	4	0	16	161
05:45 PM	20	13	3	36	12	9	23	44	1	24	11	36	8	8	6	22	138
Total	82	80	18	180	63	41	145	249	6	85	44	135	36	29	15	80	644
Grand Total	202	211	41	454	143	82	318	543	14	191	114	319	68	46	33	147	1463
Apprch %	44.5	46.5	9		26.3	15.1	58.6		4.4	59.9	35.7		46.3	31.3	22.4		
Total %	13.8	14.4	2.8	31	9.8	5.6	21.7	37.1	1	13.1	7.8	21.8	4.6	3.1	2.3	10	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	29	35	5	69	19	10	47	**76**	**3**	24	19	46	**11**	3	4	18	209
04:15 PM	**33**	**37**	4	**74**	15	8	**53**	76	2	**29**	**21**	**52**	9	4	4	17	**219**
04:30 PM	31	25	**9**	65	**25**	**12**	39	76	1	26	17	44	6	**7**	**7**	**20**	205
04:45 PM	27	34	5	66	21	11	34	66	2	27	13	42	6	3	3	12	186
Total Volume	120	131	23	274	80	41	173	294	8	106	70	184	32	17	18	67	819
% App. Total	43.8	47.8	8.4		27.2	13.9	58.8		4.3	57.6	38		47.8	25.4	26.9		
PHF	.909	.885	.639	.926	.800	.854	.816	.967	.667	.914	.833	.885	.727	.607	.643	.838	.935

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City of San Rafael
N/S: Las Gallinas Avenue
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Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	29	35	5	69	19	10	47	**76**	**3**	24	19	46	**11**	3	4	18
+15 mins.	**33**	**37**	4	**74**	15	8	**53**	76	2	**29**	**21**	**52**	9	4	4	17
+30 mins.	31	25	**9**	65	**25**	**12**	39	76	1	26	17	44	6	**7**	**7**	**20**
+45 mins.	27	34	5	66	21	11	34	66	2	27	13	42	6	3	3	12
Total Volume	120	131	23	274	80	41	173	294	8	106	70	184	32	17	18	67
% App. Total	43.8	47.8	8.4		27.2	13.9	58.8		4.3	57.6	38		47.8	25.4	26.9	
PHF	.909	.885	.639	.926	.800	.854	.816	.967	.667	.914	.833	.885	.727	.607	.643	.838

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City of San Rafael
N/S: Las Gallinas Avenue
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Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- Large 2 Axle Vehicles

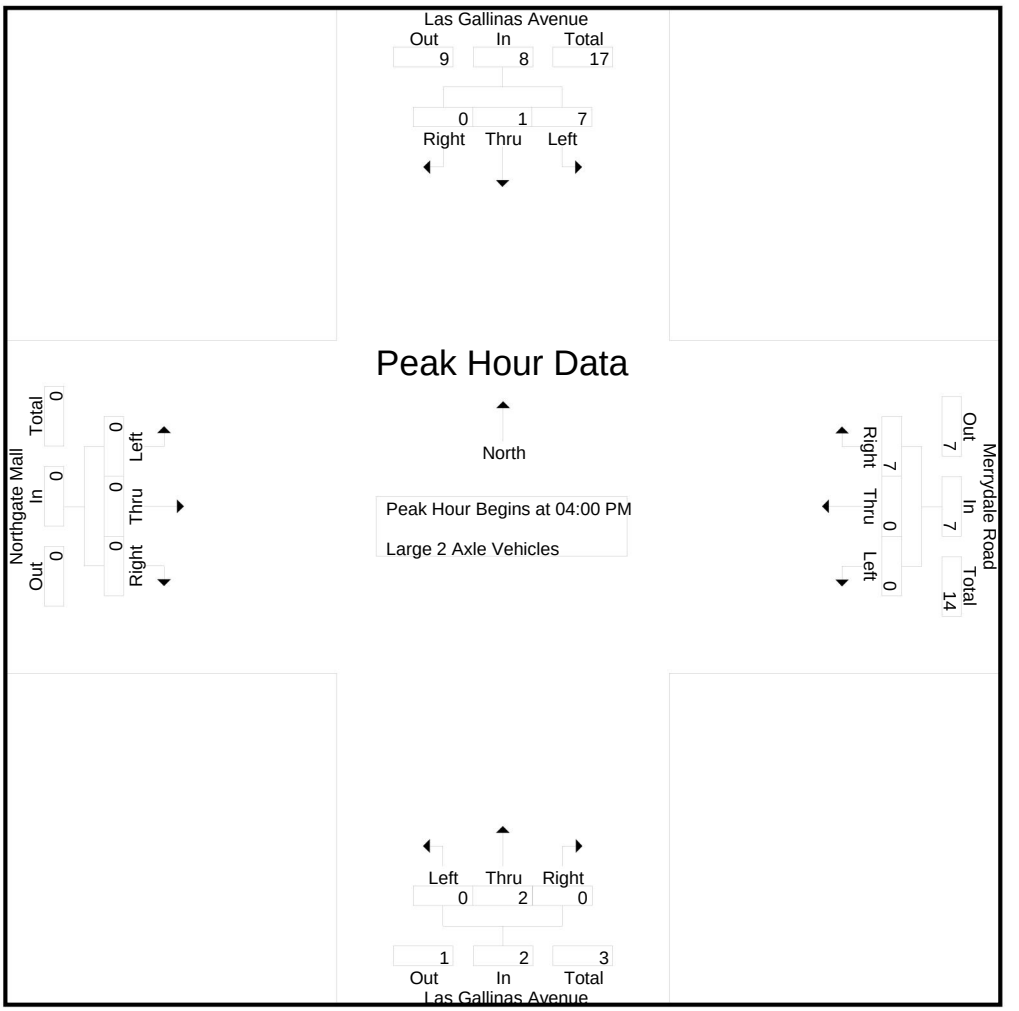
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	1	0	4	0	0	2	2	0	1	0	1	0	0	0	0	7
04:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
04:30 PM	2	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	4
04:45 PM	2	0	0	2	0	0	1	1	0	1	0	1	0	0	0	0	4
Total	7	1	0	8	0	0	7	7	0	2	0	2	0	0	0	0	17
05:00 PM	2	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	4
05:15 PM	1	1	0	2	0	0	2	2	0	1	0	1	0	0	0	0	5
05:30 PM	2	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	4
05:45 PM	1	0	0	1	0	0	1	1	0	1	0	1	0	0	0	0	3
Total	6	1	0	7	0	0	7	7	0	2	0	2	0	0	0	0	16
Grand Total	13	2	0	15	0	0	14	14	0	4	0	4	0	0	0	0	33
Apprch %	86.7	13.3	0		0	0	100		0	100	0		0	0	0		
Total %	39.4	6.1	0	45.5	0	0	42.4	42.4	0	12.1	0	12.1	0	0	0	0	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**3**	**1**	0	**4**	0	0	**2**	**2**	0	**1**	0	**1**	0	0	0	0	**7**
04:15 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
04:30 PM	2	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	4
04:45 PM	2	0	0	2	0	0	1	1	0	1	0	1	0	0	0	0	4
Total Volume	7	1	0	8	0	0	7	7	0	2	0	2	0	0	0	0	17
% App. Total	87.5	12.5	0		0	0	100		0	100	0		0	0	0		
PHF	.583	.250	.000	.500	.000	.000	.875	.875	.000	.500	.000	.500	.000	.000	.000	.000	.607

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City of San Rafael
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File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
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Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**3**	**1**	0	**4**	0	0	**2**	**2**	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
+30 mins.	2	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0
+45 mins.	2	0	0	2	0	0	1	1	0	1	0	1	0	0	0	0
Total Volume	7	1	0	8	0	0	7	7	0	2	0	2	0	0	0	0
% App. Total	87.5	12.5	0		0	0	100		0	100	0		0	0	0	
PHF	.583	.250	.000	.500	.000	.000	.875	.875	.000	.500	.000	.500	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 3 Axle Vehicles

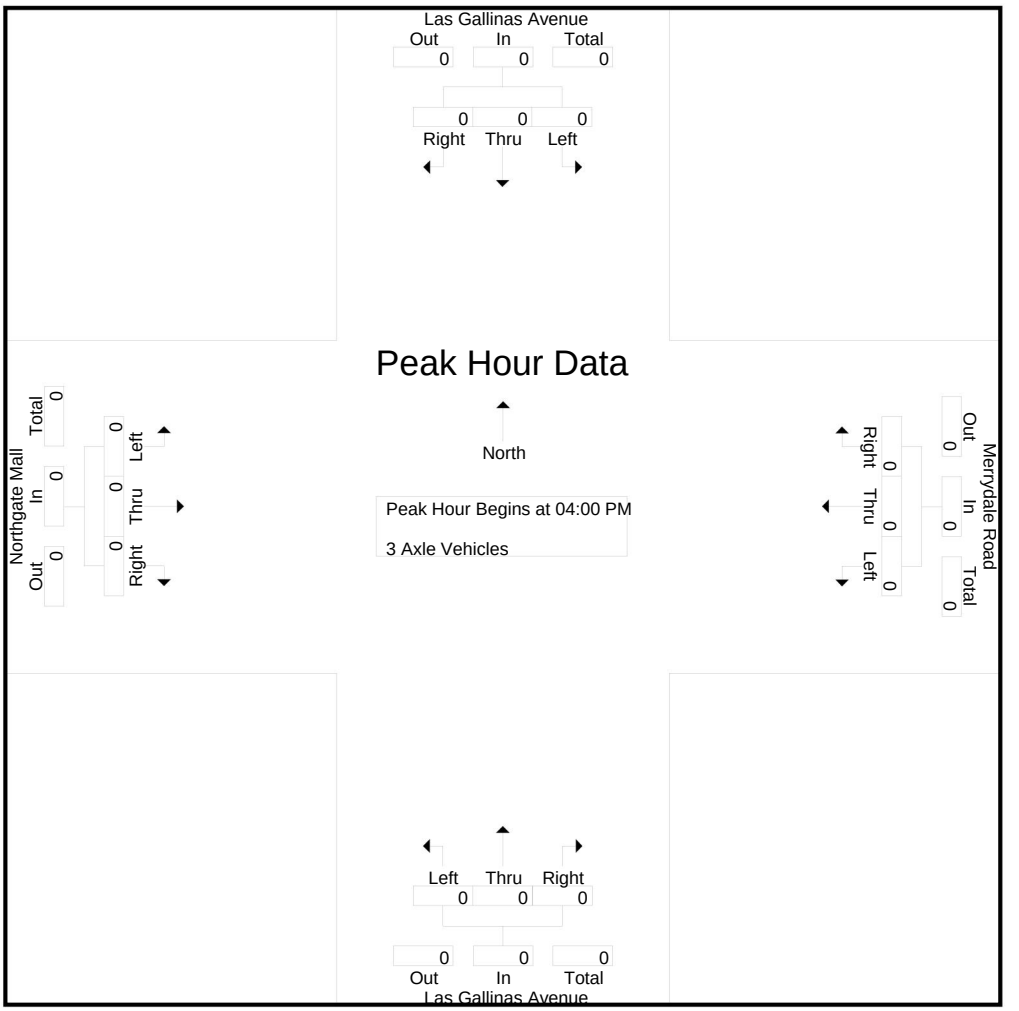
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 1

Groups Printed- 4+ Axle Trucks

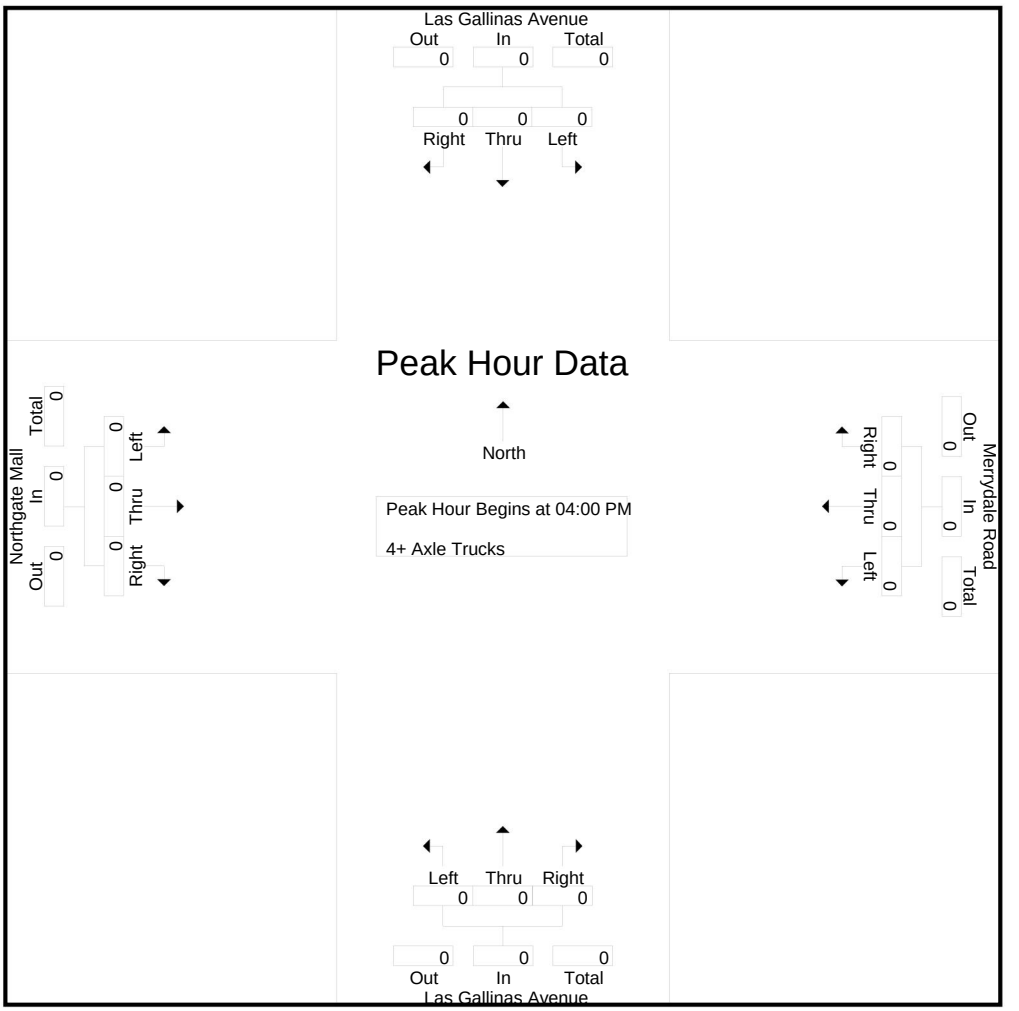
	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Las Gallinas Avenue Southbound				Merrydale Road Westbound				Las Gallinas Avenue Northbound				Northgate Mall Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road
Weather: Clear

File Name : 05_SRF_LasG_Md PM
Site Code : 10525763
Start Date : 8/28/2025
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road

Date: 8/28/2025
Day: Thursday

PEDESTRIANS

	North Leg Las Gallinas Avenue	East Leg Merrydale Road	South Leg Las Gallinas Avenue	West Leg Northgate Mall	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	1	1
7:15 AM	1	0	0	1	2
7:30 AM	0	0	0	1	1
7:45 AM	0	0	1	0	1
8:00 AM	2	0	0	1	3
8:15 AM	2	0	0	4	6
8:30 AM	0	0	0	1	1
8:45 AM	0	0	0	2	2
TOTAL VOLUMES:	5	0	1	11	17

	North Leg Las Gallinas Avenue	East Leg Merrydale Road	South Leg Las Gallinas Avenue	West Leg Northgate Mall	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	3	0	0	0	3
4:30 PM	3	0	0	0	3
4:45 PM	1	0	0	3	4
5:00 PM	2	1	0	2	5
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	4	4
TOTAL VOLUMES:	9	1	0	11	21

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Location: San Rafael
N/S: Las Gallinas Avenue
E/W: Merrydale Road

Date: 8/28/2025
Day: Thursday

BICYCLES

	Southbound Las Gallinas Avenue			Westbound Merrydale Road			Northbound Las Gallinas Avenue			Eastbound Northgate Mall			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	2
7:45 AM	1	0	0	1	1	1	0	1	0	0	0	0	5
8:00 AM	1	0	1	1	0	0	0	0	0	0	0	0	3
8:15 AM	2	0	0	0	0	0	0	2	0	0	0	0	4
8:30 AM	0	1	0	0	0	1	0	0	2	0	0	0	4
8:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	6	1	1	2	1	3	0	4	2	0	0	0	20

	Southbound Las Gallinas Avenue			Westbound Merrydale Road			Northbound Las Gallinas Avenue			Eastbound Northgate Mall			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
5:30 PM	1	0	0	1	0	1	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	2	1	0	0	0	3
TOTAL VOLUMES:	1	3	0	1	0	2	0	4	1	0	0	0	12

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Appendix C
24-Hour Driveway Traffic Count Worksheets

24 Hour Driveway Counts

LOCATION: West Driveway
Northgate Drive
CITY: San Rafael

DATE: 8/28/2025
DAY: Thursday

AM PERIOD

Time	Entering	Exiting	TOTAL
0:00	0	0	**0**
0:15	0	1	**1**
0:30	0	0	**0**
0:45	0	0	**0**
1:00	0	0	**0**
1:15	0	0	**0**
1:30	0	0	**0**
1:45	0	0	**0**
2:00	0	0	**0**
2:15	0	0	**0**
2:30	0	0	**0**
2:45	0	0	**0**
3:00	0	0	**0**
3:15	0	0	**0**
3:30	0	0	**0**
3:45	0	0	**0**
4:00	0	0	**0**
4:15	0	0	**0**
4:30	0	0	**0**
4:45	0	0	**0**
5:00	0	0	**0**
5:15	0	0	**0**
5:30	0	0	**0**
5:45	0	0	**0**
6:00	0	0	**0**
6:15	0	0	**0**
6:30	0	0	**0**
6:45	0	0	**0**
7:00	0	0	**0**
7:15	0	2	**2**
7:30	0	0	**0**
7:45	1	0	**1**
8:00	0	0	**0**
8:15	0	1	**1**
8:30	0	0	**0**
8:45	0	0	**0**
9:00	0	1	**1**
9:15	0	1	**1**
9:30	0	0	**0**
9:45	0	1	**1**
10:00	0	2	**2**
10:15	0	1	**1**
10:30	0	0	**0**
10:45	0	0	**0**
11:00	0	0	**0**
11:15	1	0	**1**
11:30	0	1	**1**
11:45	0	1	**1**
AM TOTAL	2	12	**14**

PM PERIOD

Time	Entering	Exiting	TOTAL
12:00	0	0	**0**
12:15	0	0	**0**
12:30	0	0	**0**
12:45	0	1	**1**
13:00	0	1	**1**
13:15	1	0	**1**
13:30	0	1	**1**
13:45	0	0	**0**
14:00	0	1	**1**
14:15	0	0	**0**
14:30	0	1	**1**
14:45	0	1	**1**
15:00	0	3	**3**
15:15	0	2	**2**
15:30	0	0	**0**
15:45	0	0	**0**
16:00	0	0	**0**
16:15	0	0	**0**
16:30	0	0	**0**
16:45	0	0	**0**
17:00	0	0	**0**
17:15	0	1	**1**
17:30	0	0	**0**
17:45	0	0	**0**
18:00	1	0	**1**
18:15	0	1	**1**
18:30	0	0	**0**
18:45	0	0	**0**
19:00	0	0	**0**
19:15	0	0	**0**
19:30	0	0	**0**
19:45	0	0	**0**
20:00	0	0	**0**
20:15	0	0	**0**
20:30	0	0	**0**
20:45	0	0	**0**
21:00	0	0	**0**
21:15	0	0	**0**
21:30	0	0	**0**
21:45	0	0	**0**
22:00	0	0	**0**
22:15	0	0	**0**
22:30	0	0	**0**
22:45	0	0	**0**
23:00	0	0	**0**
23:15	0	0	**0**
23:30	0	0	**0**
23:45	0	0	**0**
PM TOTAL	2	13	**15**
24 HOUR TOTAL	**4**	**25**	**29**

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24 Hour Driveway Counts

LOCATION: East Driveway
Northgate Drive
CITY: San Rafael

DATE: 8/28/2025
DAY: Thursday

AM PERIOD				PM PERIOD			
Time	Entering	Exiting	TOTAL	Time	Entering	Exiting	TOTAL
0:00	0	0	**0**	12:00	1	0	**1**
0:15	0	1	**1**	12:15	0	0	**0**
0:30	1	0	**1**	12:30	0	0	**0**
0:45	1	0	**1**	12:45	1	0	**1**
1:00	0	0	**0**	13:00	1	0	**1**
1:15	0	0	**0**	13:15	0	0	**0**
1:30	0	0	**0**	13:30	0	0	**0**
1:45	0	0	**0**	13:45	2	0	**2**
2:00	0	0	**0**	14:00	0	0	**0**
2:15	0	0	**0**	14:15	0	0	**0**
2:30	0	0	**0**	14:30	0	0	**0**
2:45	0	0	**0**	14:45	1	0	**1**
3:00	0	0	**0**	15:00	2	0	**2**
3:15	0	0	**0**	15:15	0	0	**0**
3:30	0	0	**0**	15:30	0	0	**0**
3:45	0	0	**0**	15:45	0	0	**0**
4:00	0	0	**0**	16:00	0	0	**0**
4:15	0	0	**0**	16:15	0	0	**0**
4:30	0	0	**0**	16:30	0	0	**0**
4:45	0	0	**0**	16:45	0	0	**0**
5:00	0	0	**0**	17:00	0	0	**0**
5:15	0	0	**0**	17:15	0	0	**0**
5:30	0	0	**0**	17:30	0	0	**0**
5:45	0	0	**0**	17:45	0	0	**0**
6:00	0	0	**0**	18:00	0	0	**0**
6:15	0	0	**0**	18:15	0	0	**0**
6:30	0	0	**0**	18:30	0	0	**0**
6:45	1	0	**1**	18:45	0	0	**0**
7:00	2	0	**2**	19:00	0	0	**0**
7:15	1	1	**2**	19:15	0	0	**0**
7:30	0	0	**0**	19:30	0	0	**0**
7:45	2	0	**2**	19:45	0	0	**0**
8:00	2	0	**2**	20:00	0	0	**0**
8:15	0	0	**0**	20:15	0	0	**0**
8:30	1	0	**1**	20:30	0	0	**0**
8:45	0	0	**0**	20:45	0	0	**0**
9:00	0	0	**0**	21:00	0	0	**0**
9:15	1	0	**1**	21:15	0	0	**0**
9:30	0	0	**0**	21:30	0	0	**0**
9:45	2	0	**2**	21:45	0	0	**0**
10:00	1	0	**1**	22:00	0	0	**0**
10:15	0	0	**0**	22:15	0	0	**0**
10:30	0	0	**0**	22:30	0	0	**0**
10:45	0	0	**0**	22:45	0	0	**0**
11:00	0	0	**0**	23:00	0	0	**0**
11:15	1	0	**1**	23:15	0	0	**0**
11:30	0	0	**0**	23:30	0	0	**0**
11:45	0	1	**1**	23:45	0	0	**0**
AM TOTAL	16	3	**19**	PM TOTAL	8	0	**8**
				24 HOUR TOTAL	**24**	**3**	**27**

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24 Hour Driveway Counts

LOCATION: Driveway Totals
Northgate Drive
CITY: San Rafael

DATE: 8/28/2025
DAY: Thursday

AM PERIOD

Time	Entering	Exiting	TOTAL
0:00	0	0	**0**
0:15	0	2	**2**
0:30	1	0	**1**
0:45	1	0	**1**
1:00	0	0	**0**
1:15	0	0	**0**
1:30	0	0	**0**
1:45	0	0	**0**
2:00	0	0	**0**
2:15	0	0	**0**
2:30	0	0	**0**
2:45	0	0	**0**
3:00	0	0	**0**
3:15	0	0	**0**
3:30	0	0	**0**
3:45	0	0	**0**
4:00	0	0	**0**
4:15	0	0	**0**
4:30	0	0	**0**
4:45	0	0	**0**
5:00	0	0	**0**
5:15	0	0	**0**
5:30	0	0	**0**
5:45	0	0	**0**
6:00	0	0	**0**
6:15	0	0	**0**
6:30	0	0	**0**
6:45	1	0	**1**
7:00	2	0	**2**
7:15	1	3	**4**
7:30	0	0	**0**
7:45	3	0	**3**
8:00	2	0	**2**
8:15	0	1	**1**
8:30	1	0	**1**
8:45	0	0	**0**
9:00	0	1	**1**
9:15	1	1	**2**
9:30	0	0	**0**
9:45	2	1	**3**
10:00	1	2	**3**
10:15	0	1	**1**
10:30	0	0	**0**
10:45	0	0	**0**
11:00	0	0	**0**
11:15	2	0	**2**
11:30	0	1	**1**
11:45	0	2	**2**
AM TOTAL	18	15	**33**

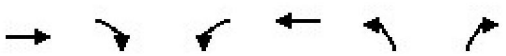
PM PERIOD

Time	Entering	Exiting	TOTAL
12:00	1	0	**1**
12:15	0	0	**0**
12:30	0	0	**0**
12:45	1	1	**2**
13:00	1	1	**2**
13:15	1	0	**1**
13:30	0	1	**1**
13:45	2	0	**2**
14:00	0	1	**1**
14:15	0	0	**0**
14:30	0	1	**1**
14:45	1	1	**2**
15:00	2	3	**5**
15:15	0	2	**2**
15:30	0	0	**0**
15:45	0	0	**0**
16:00	0	0	**0**
16:15	0	0	**0**
16:30	0	0	**0**
16:45	0	0	**0**
17:00	0	0	**0**
17:15	0	1	**1**
17:30	0	0	**0**
17:45	0	0	**0**
18:00	1	0	**1**
18:15	0	1	**1**
18:30	0	0	**0**
18:45	0	0	**0**
19:00	0	0	**0**
19:15	0	0	**0**
19:30	0	0	**0**
19:45	0	0	**0**
20:00	0	0	**0**
20:15	0	0	**0**
20:30	0	0	**0**
20:45	0	0	**0**
21:00	0	0	**0**
21:15	0	0	**0**
21:30	0	0	**0**
21:45	0	0	**0**
22:00	0	0	**0**
22:15	0	0	**0**
22:30	0	0	**0**
22:45	0	0	**0**
23:00	0	0	**0**
23:15	0	0	**0**
23:30	0	0	**0**
23:45	0	0	**0**
PM TOTAL	10	13	**23**

24 HOUR TOTAL	**28**	**28**	**56**

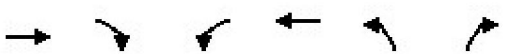
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Appendix D
Intersection Analysis Worksheets
Existing Without Project Conditions



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.933				0.925	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	1773	0	1805	1900	1719	0
Flt Permitted			0.950		0.978	
Satd. Flow (perm)	1773	0	1805	1900	1719	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	111	110	105	35	78	97
Future Volume (vph)	111	110	105	35	78	97
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	154	153	146	49	108	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	307	0	146	49	243	0

Intersection Summary

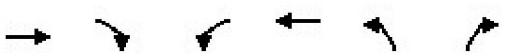
Intersection	
Int Delay, s/veh	6.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	110	105	35	78	97
Future Vol, veh/h	111	110	105	35	78	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	154	153	146	49	108	135

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	307	0	571	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1265	-	486	814
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1265	-	430	814
Mov Cap-2 Maneuver	-	-	-	-	430	-
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	642	-

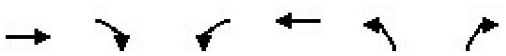
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6.16	15.55
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	582	-	-	1265	-
HCM Lane V/C Ratio	0.418	-	-	0.115	-
HCM Ctrl Dly (s/v)	15.5	-	-	8.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.1	-	-	0.4	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						0.865
Flt Protected						
Satd. Flow (prot)	1900	0	0	1900	0	1644
Flt Permitted						
Satd. Flow (perm)	1900	0	0	1900	0	1644
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	212	0	0	143	0	1
Future Volume (vph)	212	0	0	143	0	1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	307	0	0	207	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	307	0	0	207	0	1

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↱
Traffic Vol, veh/h	212	0	0	143	0	1
Future Vol, veh/h	212	0	0	143	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	307	0	0	207	0	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	307
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	737
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	737
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.89
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	737	-	-
HCM Lane V/C Ratio	0.002	-	-
HCM Ctrl Dly (s/v)	9.9	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.998						0.973	
Flt Protected	0.950				0.997						0.962	
Satd. Flow (prot)	1805	1900	0	0	1891	0	0	0	0	0	1778	0
Flt Permitted	0.950				0.997						0.962	
Satd. Flow (perm)	1805	1900	0	0	1891	0	0	0	0	0	1778	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	2	207	1	10	138	3	0	0	0	3	0	1
Future Volume (vph)	2	207	1	10	138	3	0	0	0	3	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	3	304	1	15	203	4	0	0	0	4	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	305	0	0	222	0	0	0	0	0	5	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	207	1	10	138	3	0	0	0	3	0	1
Future Vol, veh/h	2	207	1	10	138	3	0	0	0	3	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	304	1	15	203	4	0	0	0	4	0	1

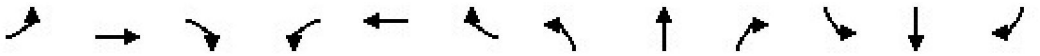
Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	207	0	0	306	0	0	545	546	205
Stage 1	-	-	-	-	-	-	235	235	-
Stage 2	-	-	-	-	-	-	310	312	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1376	-	-	1266	-	-	503	448	841
Stage 1	-	-	-	-	-	-	809	714	-
Stage 2	-	-	-	-	-	-	748	661	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1376	-	-	1266	-	-	495	0	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	495	0	-
Stage 1	-	-	-	-	-	-	807	0	-
Stage 2	-	-	-	-	-	-	738	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.07	0.52	11.59
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1376	-	-	119	-	-	552
HCM Lane V/C Ratio	0.002	-	-	0.012	-	-	0.011
HCM Ctrl Dly (s/v)	7.6	-	-	7.9	0	-	11.6
HCM Lane LOS	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.865			0.999			0.944	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	1900	1615	0	1644	0	1805	1898	0	0	1794	0
Flt Permitted	0.757						0.950					
Satd. Flow (perm)	1438	1900	1615	0	1644	0	1805	1898	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			188		834			1			50	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other



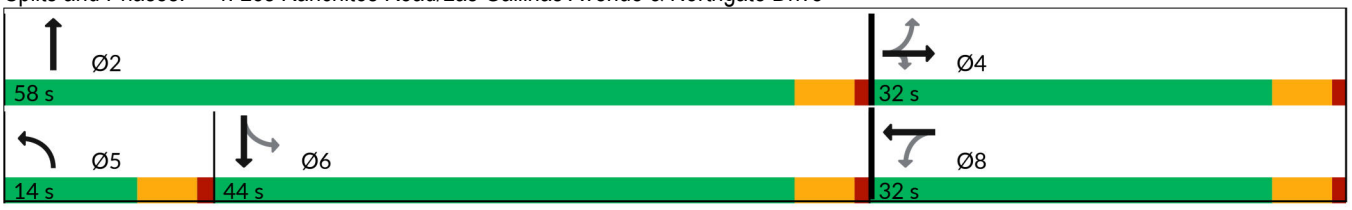
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	68	1	139	0	0	1	38	92	1	0	151	107
Future Volume (vph)	68	1	139	0	0	1	38	92	1	0	151	107
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	92	1	188	0	0	1	51	124	1	0	204	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1	188	0	1	0	51	125	0	0	349	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	68	1	139	0	38	92	151
Future Volume (vph)	68	1	139	0	38	92	151
Turn Type	Perm	NA	Perm	NA	Prot	NA	NA
Protected Phases		4		8	5	2	6
Permitted Phases	4		4				
Detector Phase	4	4	4	8	5	2	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	26.0	20.0	11.0	20.0	32.0
Total Split (s)	32.0	32.0	32.0	32.0	14.0	58.0	44.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	15.6%	64.4%	48.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag
Lead-Lag Optimize?					Yes		Yes
Recall Mode	None	None	None	None	None	Min	Min
Act Effct Green (s)	9.0	9.0	9.0	9.0	7.4	20.3	16.2
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.18	0.50	0.40
v/c Ratio	0.29	0.00	0.37	0.00	0.15	0.13	0.46
Control Delay (s/veh)	17.8	16.0	6.1	0.0	18.8	5.5	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.8	16.0	6.1	0.0	18.8	5.5	12.0
LOS	B	B	A	A	B	A	B
Approach Delay (s/veh)		9.9				9.3	12.0
Approach LOS		A				A	B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 40.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay (s/veh): 10.7	Intersection LOS: B
Intersection Capacity Utilization 47.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive



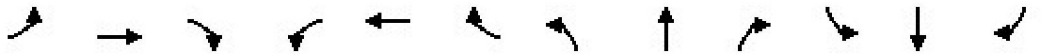
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	92	1	188	1	51	125	349
v/c Ratio	0.29	0.00	0.37	0.00	0.15	0.13	0.46
Control Delay (s/veh)	17.8	16.0	6.1	0.0	18.8	5.5	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.8	16.0	6.1	0.0	18.8	5.5	12.0
Queue Length 50th (ft)	11	0	0	0	7	11	31
Queue Length 95th (ft)	49	3	23	0	34	27	109
Internal Link Dist (ft)		294		28		234	970
Turn Bay Length (ft)	105		85		105		
Base Capacity (vph)	1036	1368	1216	1417	441	1863	1614
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.00	0.15	0.00	0.12	0.07	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	1	139	0	0	1	38	92	1	0	151	107
Future Volume (veh/h)	68	1	139	0	0	1	38	92	1	0	151	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	1	188	0	0	1	51	124	1	0	204	145
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	472	341	289	0	0	289	122	983	8	0	316	224
Arrive On Green	0.18	0.18	0.18	0.00	0.00	0.18	0.07	0.52	0.52	0.00	0.31	0.31
Sat Flow, veh/h	1439	1900	1610	0	0	1610	1810	1882	15	0	1033	734
Grp Volume(v), veh/h	92	1	188	0	0	1	51	0	125	0	0	349
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	0	0	1610	1810	0	1897	0	0	1768
Q Serve(g_s), s	1.9	0.0	3.6	0.0	0.0	0.0	0.9	0.0	1.1	0.0	0.0	5.7
Cycle Q Clear(g_c), s	1.9	0.0	3.6	0.0	0.0	0.0	0.9	0.0	1.1	0.0	0.0	5.7
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.01	0.00		0.42
Lane Grp Cap(c), veh/h	472	341	289	0	0	289	122	0	991	0	0	540
V/C Ratio(X)	0.19	0.00	0.65	0.00	0.00	0.00	0.42	0.00	0.13	0.00	0.00	0.65
Avail Cap(c_a), veh/h	1372	1529	1296	0	0	1296	486	0	2998	0	0	2055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.1	11.3	12.8	0.0	0.0	11.3	15.0	0.0	4.1	0.0	0.0	10.1
Incr Delay (d2), s/veh	0.2	0.0	2.5	0.0	0.0	0.0	2.2	0.0	0.1	0.0	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.3	0.0	0.0	0.0	0.4	0.0	0.3	0.0	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.3	11.3	15.2	0.0	0.0	11.3	17.3	0.0	4.2	0.0	0.0	11.4
LnGrp LOS	B	B	B			B	B		A			B
Approach Vol, veh/h		281			1			176			349	
Approach Delay, s/veh		14.3			11.3			7.9			11.4	
Approach LOS		B			B			A			B	

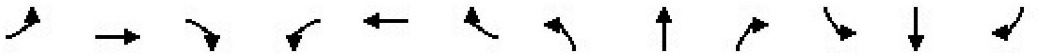
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		22.5		11.0	7.3	15.3		11.0				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		53.0		27.0	9.0	39.0		27.0				
Max Q Clear Time (g_c+I1), s		3.1		5.6	2.9	7.7		2.0				
Green Ext Time (p_c), s		0.8		0.9	0.0	2.5		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			11.6									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950			0.865			0.917			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1644	0	1805	1742	0	1805	1887	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1805	0	1805	1644	0	1805	1742	0	1805	1887	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			156			68			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other



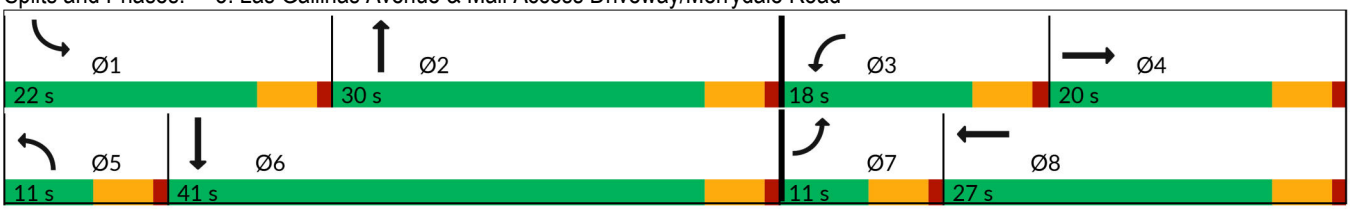
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	1	2	1	143	14	131	1	69	85	188	118	6
Future Volume (vph)	1	2	1	143	14	131	1	69	85	188	118	6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	2	1	170	17	156	1	82	101	224	140	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	3	0	170	173	0	1	183	0	224	147	0

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	2	143	14	1	69	188	118
Future Volume (vph)	1	2	143	14	1	69	188	118
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	11.0	20.0	18.0	27.0	11.0	30.0	22.0	41.0
Total Split (%)	12.2%	22.2%	20.0%	30.0%	12.2%	33.3%	24.4%	45.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.8	6.8	10.7	10.3	6.8	9.6	12.0	27.9
Actuated g/C Ratio	0.15	0.15	0.23	0.22	0.15	0.21	0.26	0.60
v/c Ratio	0.00	0.01	0.41	0.35	0.00	0.44	0.48	0.13
Control Delay (s/veh)	26.0	23.3	22.8	8.0	26.0	16.9	21.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.0	23.3	22.8	8.0	26.0	16.9	21.6	9.4
LOS	C	C	C	A	C	B	C	A
Approach Delay (s/veh)		24.0		15.3		17.0		16.8
Approach LOS		C		B		B		B

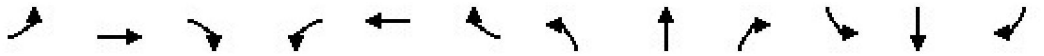
Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 46.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay (s/veh): 16.3	Intersection LOS: B
Intersection Capacity Utilization 50.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	3	170	173	1	183	224	147
v/c Ratio	0.00	0.01	0.41	0.35	0.00	0.44	0.48	0.13
Control Delay (s/veh)	26.0	23.3	22.8	8.0	26.0	16.9	21.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.0	23.3	22.8	8.0	26.0	16.9	21.6	9.4
Queue Length 50th (ft)	0	1	38	4	0	26	50	15
Queue Length 95th (ft)	5	7	114	46	5	88	136	75
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	266	667	577	962	266	1077	755	1472
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.00	0.29	0.18	0.00	0.17	0.30	0.10

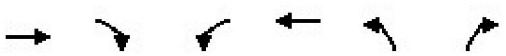
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	1	143	14	131	1	69	85	188	118	6
Future Volume (veh/h)	1	2	1	143	14	131	1	69	85	188	118	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	2	1	170	17	156	1	82	101	224	140	7
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	139	70	224	38	352	4	127	156	292	581	29
Arrive On Green	0.00	0.12	0.12	0.12	0.24	0.24	0.00	0.16	0.16	0.16	0.32	0.32
Sat Flow, veh/h	1810	1195	597	1810	161	1474	1810	774	954	1810	1794	90
Grp Volume(v), veh/h	1	0	3	170	0	173	1	0	183	224	0	147
Grp Sat Flow(s),veh/h/ln	1810	0	1792	1810	0	1635	1810	0	1728	1810	0	1884
Q Serve(g_s), s	0.0	0.0	0.1	4.2	0.0	4.2	0.0	0.0	4.6	5.5	0.0	2.6
Cycle Q Clear(g_c), s	0.0	0.0	0.1	4.2	0.0	4.2	0.0	0.0	4.6	5.5	0.0	2.6
Prop In Lane	1.00		0.33	1.00		0.90	1.00		0.55	1.00		0.05
Lane Grp Cap(c), veh/h	4	0	209	224	0	390	4	0	283	292	0	610
V/C Ratio(X)	0.25	0.00	0.01	0.76	0.00	0.44	0.25	0.00	0.65	0.77	0.00	0.24
Avail Cap(c_a), veh/h	236	0	583	510	0	780	236	0	938	668	0	1472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	18.0	19.5	0.0	14.9	23.0	0.0	18.0	18.5	0.0	11.4
Incr Delay (d2), s/veh	31.0	0.0	0.0	5.2	0.0	0.8	31.0	0.0	2.5	4.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.9	0.0	1.5	0.0	0.0	1.8	2.4	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.9	0.0	18.0	24.8	0.0	15.7	53.9	0.0	20.5	22.7	0.0	11.6
LnGrp LOS	D		B	C		B	D		C	C		B
Approach Vol, veh/h		4			343			184			371	
Approach Delay, s/veh		27.0			20.2			20.7			18.3	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	12.6	10.7	10.4	5.1	19.9	5.1	16.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	25.0	13.0	15.0	6.0	36.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	7.5	6.6	6.2	2.1	2.0	4.6	2.0	6.2
Green Ext Time (p_c), s	0.4	1.0	0.2	0.0	0.0	0.9	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	19.5
HCM 7th LOS	B



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.950				0.926	
Flt Protected			0.950		0.978	
Satd. Flow (prot)	1805	0	1805	1900	1721	0
Flt Permitted			0.950		0.978	
Satd. Flow (perm)	1805	0	1805	1900	1721	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	69	41	29	68	37	46
Future Volume (vph)	69	41	29	68	37	46
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	81	48	34	80	44	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	129	0	34	80	98	0

Intersection Summary

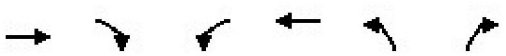
Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	41	29	68	37	46
Future Vol, veh/h	69	41	29	68	37	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	81	48	34	80	44	54

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	129	0	254	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1469	-	739	955
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1469	-	722	955
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	864	-

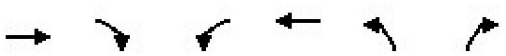
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.25	9.88
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	835	-	-	1469	-
HCM Lane V/C Ratio	0.117	-	-	0.023	-
HCM Ctrl Dly (s/v)	9.9	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1900	0	0	1900	0	1900
Flt Permitted						
Satd. Flow (perm)	1900	0	0	1900	0	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	118	0	0	106	0	0
Future Volume (vph)	118	0	0	106	0	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	133	0	0	119	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	133	0	0	119	0	0

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	118	0	0	106	0	0
Future Vol, veh/h	118	0	0	106	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	133	0	0	119	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	133
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	922
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	922
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Ctrl Dly (s/v)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.994						0.977	
Flt Protected	0.950				0.998						0.960	
Satd. Flow (prot)	1805	1900	0	0	1885	0	0	0	0	0	1782	0
Flt Permitted	0.950				0.998						0.960	
Satd. Flow (perm)	1805	1900	0	0	1885	0	0	0	0	0	1782	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	5	113	0	6	101	5	0	0	0	9	0	2
Future Volume (vph)	5	113	0	6	101	5	0	0	0	9	0	2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	122	0	6	109	5	0	0	0	10	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	122	0	0	120	0	0	0	0	0	12	0

Intersection Summary

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	113	0	6	101	5	0	0	0	9	0	2
Future Vol, veh/h	5	113	0	6	101	5	0	0	0	9	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	122	0	6	109	5	0	0	0	10	0	2

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	114	0	0	122	0	0	256	256	111
Stage 1	-	-	-	-	-	-	124	124	-
Stage 2	-	-	-	-	-	-	132	132	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1488	-	-	1478	-	-	737	651	947
Stage 1	-	-	-	-	-	-	906	797	-
Stage 2	-	-	-	-	-	-	899	791	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1488	-	-	1478	-	-	731	0	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	731	0	-
Stage 1	-	-	-	-	-	-	903	0	-
Stage 2	-	-	-	-	-	-	895	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.31	0.4	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1488	-	-	96	-	-	762
HCM Lane V/C Ratio	0.004	-	-	0.004	-	-	0.016
HCM Ctrl Dly (s/v)	7.4	-	-	7.4	0	-	9.8
HCM Lane LOS	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.955			0.999			0.976	
Flt Protected	0.950				0.968		0.950				0.999	
Satd. Flow (prot)	1805	1900	1615	0	1756	0	1805	1898	0	0	1853	0
Flt Permitted	0.756				0.799		0.950				0.997	
Satd. Flow (perm)	1436	1900	1615	0	1450	0	1805	1898	0	0	1849	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			748		85			1			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other

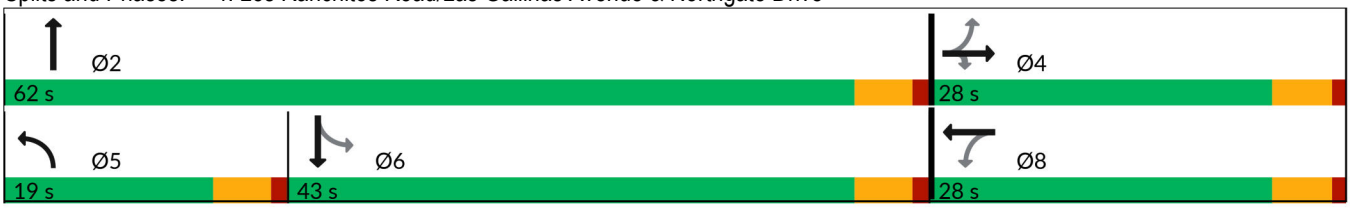
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	40	0	86	2	0	1	69	153	1	3	170	38
Future Volume (vph)	40	0	86	2	0	1	69	153	1	3	170	38
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	43	0	93	2	0	1	75	166	1	3	185	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	0	93	0	3	0	75	167	0	0	229	0

Intersection Summary

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	40	86	2	0	69	153	3	170
Future Volume (vph)	40	86	2	0	69	153	3	170
Turn Type	Perm	Perm	Perm	NA	Prot	NA	Perm	NA
Protected Phases				8	5	2		6
Permitted Phases	4	4	8				6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	20.0	20.0	11.0	20.0	32.0	32.0
Total Split (s)	28.0	28.0	28.0	28.0	19.0	62.0	43.0	43.0
Total Split (%)	31.1%	31.1%	31.1%	31.1%	21.1%	68.9%	47.8%	47.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min
Act Effct Green (s)	7.1	7.1		7.1	7.4	24.8		17.9
Actuated g/C Ratio	0.19	0.19		0.19	0.20	0.66		0.47
v/c Ratio	0.16	0.10		0.01	0.21	0.13		0.26
Control Delay (s/veh)	16.9	0.2		0.0	16.6	4.3		11.8
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay (s/veh)	16.9	0.2		0.0	16.6	4.3		11.8
LOS	B	A		A	B	A		B
Approach Delay (s/veh)						8.1		11.8
Approach LOS						A		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 37.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.26	
Intersection Signal Delay (s/veh): 8.9	Intersection LOS: A
Intersection Capacity Utilization 40.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive





Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	43	93	3	75	167	229
v/c Ratio	0.16	0.10	0.01	0.21	0.13	0.26
Control Delay (s/veh)	16.9	0.2	0.0	16.6	4.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.9	0.2	0.0	16.6	4.3	11.8
Queue Length 50th (ft)	8	0	0	14	14	38
Queue Length 95th (ft)	31	0	0	45	34	93
Internal Link Dist (ft)			28		234	970
Turn Bay Length (ft)	105	85		105		
Base Capacity (vph)	913	1299	953	698	1898	1732
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.07	0.00	0.11	0.09	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	86	2	0	1	69	153	1	3	170	38
Future Volume (veh/h)	40	0	86	2	0	1	69	153	1	3	170	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	43	0	93	2	0	1	75	166	1	3	185	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	459	268	227	315	38	70	171	952	6	131	349	77
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.09	0.50	0.50	0.23	0.23	0.23
Sat Flow, veh/h	1439	1900	1610	729	266	498	1810	1887	11	9	1498	329
Grp Volume(v), veh/h	43	0	93	3	0	0	75	0	167	229	0	0
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	1493	0	0	1810	0	1898	1836	0	0
Q Serve(g_s), s	0.7	0.0	1.5	0.0	0.0	0.0	1.1	0.0	1.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	1.5	0.0	0.0	0.0	1.1	0.0	1.3	3.1	0.0	0.0
Prop In Lane	1.00		1.00	0.67		0.33	1.00		0.01	0.01		0.18
Lane Grp Cap(c), veh/h	459	268	227	423	0	0	171	0	958	557	0	0
V/C Ratio(X)	0.09	0.00	0.41	0.01	0.00	0.00	0.44	0.00	0.17	0.41	0.00	0.00
Avail Cap(c_a), veh/h	1428	1548	1312	1371	0	0	897	0	3832	2592	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.7	0.0	11.1	10.4	0.0	0.0	12.1	0.0	3.8	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.0	0.0	0.0	1.8	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.2	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.8	0.0	12.2	10.4	0.0	0.0	13.8	0.0	3.9	10.0	0.0	0.0
LnGrp LOS	B		B	B			B		A	A		
Approach Vol, veh/h		136			3			242			229	
Approach Delay, s/veh		11.8			10.4			7.0			10.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		19.3		9.0	7.7	11.6		9.0				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		57.0		23.0	14.0	38.0		23.0				
Max Q Clear Time (g_c+I1), s		3.3		3.5	3.1	5.1		2.0				
Green Ext Time (p_c), s		1.1		0.3	0.1	1.5		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	9.2
HCM 7th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.923			0.877			0.941			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1754	0	1805	1666	0	1805	1788	0	1805	1858	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1754	0	1805	1666	0	1805	1788	0	1805	1858	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			194			37			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other

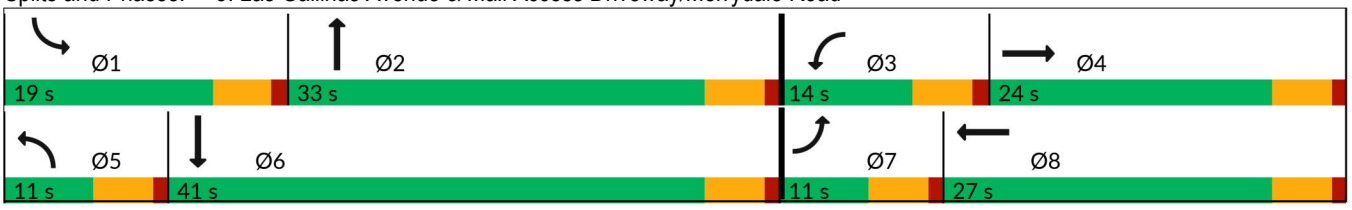
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	32	17	18	80	41	184	8	109	70	131	133	23
Future Volume (vph)	32	17	18	80	41	184	8	109	70	131	133	23
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	34	18	19	84	43	194	8	115	74	138	140	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	37	0	84	237	0	8	189	0	138	164	0

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	17	80	41	8	109	131	133
Future Volume (vph)	32	17	80	41	8	109	131	133
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	11.0	24.0	14.0	27.0	11.0	33.0	19.0	41.0
Total Split (%)	12.2%	26.7%	15.6%	30.0%	12.2%	36.7%	21.1%	45.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.8	7.5	8.3	8.8	6.8	11.6	9.9	21.6
Actuated g/C Ratio	0.15	0.16	0.18	0.19	0.15	0.25	0.21	0.47
v/c Ratio	0.13	0.12	0.26	0.50	0.03	0.40	0.36	0.19
Control Delay (s/veh)	26.3	17.1	24.5	10.7	26.0	18.5	22.8	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.3	17.1	24.5	10.7	26.0	18.5	22.8	10.2
LOS	C	B	C	B	C	B	C	B
Approach Delay (s/veh)		21.5		14.3		18.8		16.0
Approach LOS		C		B		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 46.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay (s/veh): 16.4	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	37	84	237	8	189	138	164
v/c Ratio	0.13	0.12	0.26	0.50	0.03	0.40	0.36	0.19
Control Delay (s/veh)	26.3	17.1	24.5	10.7	26.0	18.5	22.8	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.3	17.1	24.5	10.7	26.0	18.5	22.8	10.2
Queue Length 50th (ft)	7	4	18	9	2	31	28	14
Queue Length 95th (ft)	39	30	72	72	15	110	98	87
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	264	824	396	985	264	1196	617	1477
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.04	0.21	0.24	0.03	0.16	0.22	0.11

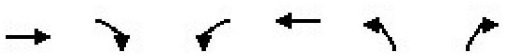
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	17	18	80	41	184	8	109	70	131	133	23
Future Volume (veh/h)	32	17	18	80	41	184	8	109	70	131	133	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	18	19	84	43	194	8	115	74	138	140	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	138	146	160	62	278	23	184	119	204	428	73
Arrive On Green	0.05	0.16	0.16	0.09	0.21	0.21	0.01	0.17	0.17	0.11	0.27	0.27
Sat Flow, veh/h	1810	846	893	1810	300	1356	1810	1080	695	1810	1580	271
Grp Volume(v), veh/h	34	0	37	84	0	237	8	0	189	138	0	164
Grp Sat Flow(s),veh/h/ln	1810	0	1739	1810	0	1656	1810	0	1775	1810	0	1851
Q Serve(g_s), s	0.8	0.0	0.8	1.9	0.0	5.7	0.2	0.0	4.3	3.2	0.0	3.1
Cycle Q Clear(g_c), s	0.8	0.0	0.8	1.9	0.0	5.7	0.2	0.0	4.3	3.2	0.0	3.1
Prop In Lane	1.00		0.51	1.00		0.82	1.00		0.39	1.00		0.15
Lane Grp Cap(c), veh/h	84	0	285	160	0	340	23	0	303	204	0	501
V/C Ratio(X)	0.40	0.00	0.13	0.53	0.00	0.70	0.35	0.00	0.62	0.68	0.00	0.33
Avail Cap(c_a), veh/h	252	0	768	378	0	847	252	0	1155	589	0	1549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	15.4	18.8	0.0	15.9	21.1	0.0	16.6	18.3	0.0	12.6
Incr Delay (d2), s/veh	3.1	0.0	0.2	2.7	0.0	2.6	8.7	0.0	2.1	3.9	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.3	0.8	0.0	2.1	0.1	0.0	1.7	1.4	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.0	0.0	15.6	21.4	0.0	18.4	29.8	0.0	18.7	22.2	0.0	12.9
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h		71			321			197			302	
Approach Delay, s/veh		19.1			19.2			19.1			17.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	12.3	8.8	12.0	5.5	16.6	7.0	13.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	28.0	9.0	19.0	6.0	36.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	5.2	6.3	3.9	2.8	2.2	5.1	2.8	7.7
Green Ext Time (p_c), s	0.2	1.1	0.1	0.1	0.0	1.0	0.0	1.3

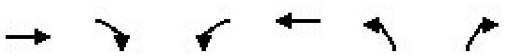
Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Appendix E
Intersection Analysis Worksheets
Existing With Project Conditions



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.935				0.924	
Flt Protected			0.950		0.979	
Satd. Flow (prot)	1776	0	1805	1900	1719	0
Flt Permitted			0.950		0.979	
Satd. Flow (perm)	1776	0	1805	1900	1719	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	117	110	113	50	78	100
Future Volume (vph)	117	110	113	50	78	100
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	163	153	157	69	108	139
Shared Lane Traffic (%)						
Lane Group Flow (vph)	316	0	157	69	247	0

Intersection Summary

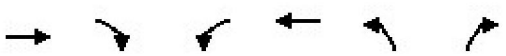
Intersection	
Int Delay, s/veh	6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	110	113	50	78	100
Future Vol, veh/h	117	110	113	50	78	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	163	153	157	69	108	139

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	315	0	622	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	383	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1256	-	454	805
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1256	-	397	805
Mov Cap-2 Maneuver	-	-	-	-	397	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	607	-

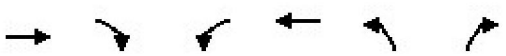
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.74	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	555	-	-	1256	-
HCM Lane V/C Ratio	0.446	-	-	0.125	-
HCM Ctrl Dly (s/v)	16.6	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.3	-	-	0.4	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.992					0.865
Flt Protected						
Satd. Flow (prot)	1885	0	0	1900	0	1644
Flt Permitted						
Satd. Flow (perm)	1885	0	0	1900	0	1644
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	212	13	0	166	0	8
Future Volume (vph)	212	13	0	166	0	8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	307	19	0	241	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	0	0	241	0	12

Intersection Summary

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	13	0	166	0	8
Future Vol, veh/h	212	13	0	166	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	307	19	0	241	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	317
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	729
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	729
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	10.02
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	729	-	-	-
HCM Lane V/C Ratio	0.016	-	-	-
HCM Ctrl Dly (s/v)	10	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.998			0.938			0.973	
Flt Protected	0.950				0.995			0.974			0.962	
Satd. Flow (prot)	1805	1900	0	0	1887	0	0	1736	0	0	1778	0
Flt Permitted	0.950				0.995			0.974			0.962	
Satd. Flow (perm)	1805	1900	0	0	1887	0	0	1736	0	0	1778	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	2	215	0	15	138	3	23	0	20	3	0	1
Future Volume (vph)	2	215	0	15	138	3	23	0	20	3	0	1
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	3	316	0	22	203	4	34	0	29	4	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	316	0	0	229	0	0	63	0	0	5	0

Intersection Summary

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	215	0	15	138	3	23	0	20	3	0	1
Future Vol, veh/h	2	215	0	15	138	3	23	0	20	3	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	316	0	22	203	4	34	0	29	4	0	1

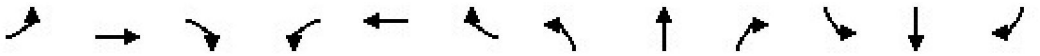
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	316	0	0	569	574	316	571	571	205
Stage 1	-	-	-	-	-	-	322	322	-	249	249	-
Stage 2	-	-	-	-	-	-	247	251	-	322	322	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1376	-	-	1255	-	-	436	432	729	434	433	841
Stage 1	-	-	-	-	-	-	694	655	-	759	704	-
Stage 2	-	-	-	-	-	-	761	703	-	694	655	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1376	-	-	1255	-	-	426	423	729	408	424	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	426	423	-	408	424	-
Stage 1	-	-	-	-	-	-	693	653	-	744	690	-
Stage 2	-	-	-	-	-	-	745	689	-	665	653	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.07	0.76	12.75	12.79
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1376	-	-	172	-	-	468
HCM Lane V/C Ratio	0.12	0.002	-	-	0.018	-	-	0.013
HCM Ctrl Dly (s/v)	12.7	7.6	-	-	7.9	0	-	12.8
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.865			0.999			0.944	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	1900	1615	0	1644	0	1805	1898	0	0	1794	0
Flt Permitted	0.757						0.950					
Satd. Flow (perm)	1438	1900	1615	0	1644	0	1805	1898	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			201		834			1			50	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other



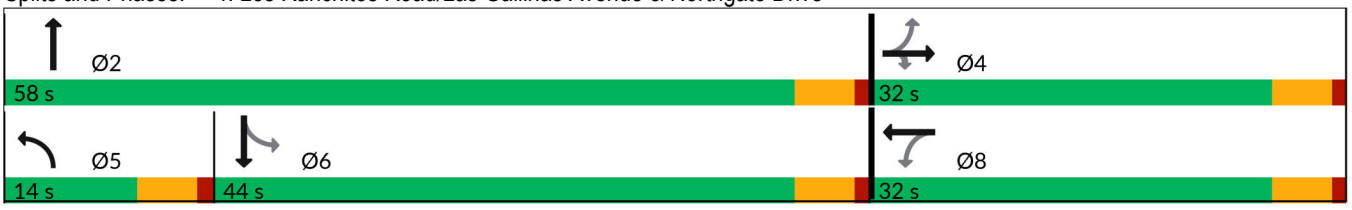
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	83	1	149	0	0	1	43	92	1	0	151	107
Future Volume (vph)	83	1	149	0	0	1	43	92	1	0	151	107
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	112	1	201	0	0	1	58	124	1	0	204	145
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	1	201	0	1	0	58	125	0	0	349	0

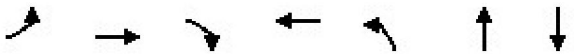
Intersection Summary

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	83	1	149	0	43	92	151
Future Volume (vph)	83	1	149	0	43	92	151
Turn Type	Perm	NA	Perm	NA	Prot	NA	NA
Protected Phases		4		8	5	2	6
Permitted Phases	4		4				
Detector Phase	4	4	4	8	5	2	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	26.0	20.0	11.0	20.0	32.0
Total Split (s)	32.0	32.0	32.0	32.0	14.0	58.0	44.0
Total Split (%)	35.6%	35.6%	35.6%	35.6%	15.6%	64.4%	48.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag
Lead-Lag Optimize?					Yes		Yes
Recall Mode	None	None	None	None	None	Min	Min
Act Effct Green (s)	9.6	9.6	9.6	9.6	7.4	22.8	16.2
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.17	0.53	0.38
v/c Ratio	0.35	0.00	0.39	0.00	0.19	0.12	0.50
Control Delay (s/veh)	19.9	16.0	6.0	0.0	20.9	5.4	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.9	16.0	6.0	0.0	20.9	5.4	13.9
LOS	B	B	A	A	C	A	B
Approach Delay (s/veh)		11.0				10.3	13.9
Approach LOS		B				B	B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 43.1	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay (s/veh): 12.1	Intersection LOS: B
Intersection Capacity Utilization 48.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive





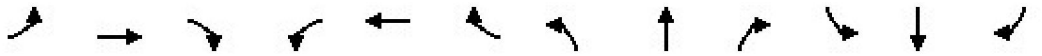
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	112	1	201	1	58	125	349
v/c Ratio	0.35	0.00	0.39	0.00	0.19	0.12	0.50
Control Delay (s/veh)	19.9	16.0	6.0	0.0	20.9	5.4	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.9	16.0	6.0	0.0	20.9	5.4	13.9
Queue Length 50th (ft)	24	0	0	0	13	12	62
Queue Length 95th (ft)	58	3	23	0	39	29	112
Internal Link Dist (ft)		294		28		234	970
Turn Bay Length (ft)	105		85		105		
Base Capacity (vph)	966	1277	1151	1378	404	1853	1559
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.00	0.17	0.00	0.14	0.07	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	1	149	0	0	1	43	92	1	0	151	107
Future Volume (veh/h)	83	1	149	0	0	1	43	92	1	0	151	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	112	1	201	0	0	1	58	124	1	0	204	145
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	482	363	308	0	0	308	134	979	8	0	312	222
Arrive On Green	0.19	0.19	0.19	0.00	0.00	0.19	0.07	0.52	0.52	0.00	0.30	0.30
Sat Flow, veh/h	1439	1900	1610	0	0	1610	1810	1882	15	0	1033	734
Grp Volume(v), veh/h	112	1	201	0	0	1	58	0	125	0	0	349
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	0	0	1610	1810	0	1897	0	0	1768
Q Serve(g_s), s	2.4	0.0	4.0	0.0	0.0	0.0	1.1	0.0	1.2	0.0	0.0	6.0
Cycle Q Clear(g_c), s	2.4	0.0	4.0	0.0	0.0	0.0	1.1	0.0	1.2	0.0	0.0	6.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.01	0.00		0.42
Lane Grp Cap(c), veh/h	482	363	308	0	0	308	134	0	987	0	0	534
V/C Ratio(X)	0.23	0.00	0.65	0.00	0.00	0.00	0.43	0.00	0.13	0.00	0.00	0.65
Avail Cap(c_a), veh/h	1328	1480	1254	0	0	1254	470	0	2901	0	0	1989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	11.3	13.0	0.0	0.0	11.3	15.3	0.0	4.3	0.0	0.0	10.5
Incr Delay (d2), s/veh	0.2	0.0	2.3	0.0	0.0	0.0	2.2	0.0	0.1	0.0	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.6	11.3	15.3	0.0	0.0	11.4	17.5	0.0	4.3	0.0	0.0	11.9
LnGrp LOS	B	B	B			B	B		A			B
Approach Vol, veh/h		314			1			183			349	
Approach Delay, s/veh		14.3			11.4			8.5			11.9	
Approach LOS		B			B			A			B	

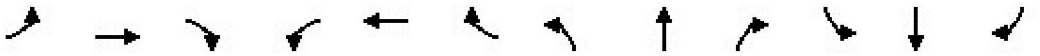
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		23.0		11.6	7.6	15.5		11.6				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		53.0		27.0	9.0	39.0		27.0				
Max Q Clear Time (g_c+I1), s		3.2		6.0	3.1	8.0		2.0				
Green Ext Time (p_c), s		0.8		1.0	0.0	2.5		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.1									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950			0.865			0.911			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1644	0	1805	1731	0	1805	1887	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1805	0	1805	1644	0	1805	1731	0	1805	1887	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			156			80			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other



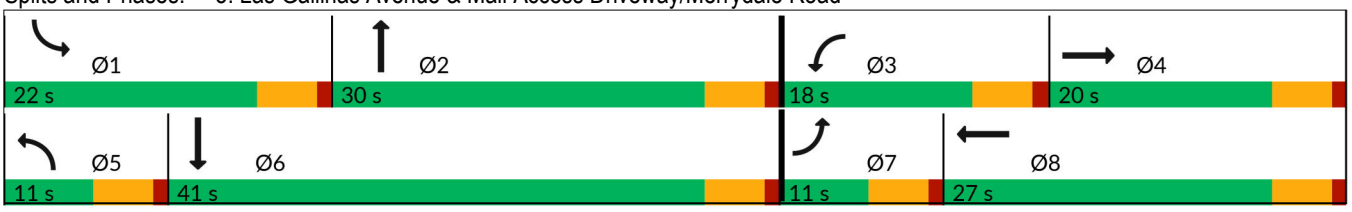
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	1	2	1	141	14	131	1	69	100	188	120	6
Future Volume (vph)	1	2	1	141	14	131	1	69	100	188	120	6
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	1	2	1	168	17	156	1	82	119	224	143	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	3	0	168	173	0	1	201	0	224	150	0

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	2	141	14	1	69	188	120
Future Volume (vph)	1	2	141	14	1	69	188	120
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	11.0	20.0	18.0	27.0	11.0	30.0	22.0	41.0
Total Split (%)	12.2%	22.2%	20.0%	30.0%	12.2%	33.3%	24.4%	45.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.8	6.8	10.6	10.3	6.8	9.9	12.1	28.2
Actuated g/C Ratio	0.15	0.15	0.23	0.22	0.15	0.21	0.26	0.61
v/c Ratio	0.00	0.01	0.41	0.36	0.00	0.47	0.48	0.13
Control Delay (s/veh)	26.0	23.7	23.1	8.2	26.0	16.6	21.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.0	23.7	23.1	8.2	26.0	16.6	21.8	9.3
LOS	C	C	C	A	C	B	C	A
Approach Delay (s/veh)		24.3		15.5		16.7		16.8
Approach LOS		C		B		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 46.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay (s/veh): 16.3	Intersection LOS: B
Intersection Capacity Utilization 51.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road



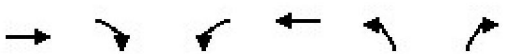
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1	3	168	173	1	201	224	150
v/c Ratio	0.00	0.01	0.41	0.36	0.00	0.47	0.48	0.13
Control Delay (s/veh)	26.0	23.7	23.1	8.2	26.0	16.6	21.8	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.0	23.7	23.1	8.2	26.0	16.6	21.8	9.3
Queue Length 50th (ft)	0	1	38	4	0	28	50	16
Queue Length 95th (ft)	5	8	115	47	5	92	138	76
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	265	665	576	959	265	1072	753	1467
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.00	0.29	0.18	0.00	0.19	0.30	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	2	1	141	14	131	1	69	100	188	120	6
Future Volume (veh/h)	1	2	1	141	14	131	1	69	100	188	120	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1	2	1	168	17	156	1	82	119	224	143	7
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	4	138	69	221	38	347	4	123	178	292	602	29
Arrive On Green	0.00	0.12	0.12	0.12	0.24	0.24	0.00	0.18	0.18	0.16	0.34	0.34
Sat Flow, veh/h	1810	1195	597	1810	161	1474	1810	700	1017	1810	1796	88
Grp Volume(v), veh/h	1	0	3	168	0	173	1	0	201	224	0	150
Grp Sat Flow(s),veh/h/ln	1810	0	1792	1810	0	1635	1810	0	1717	1810	0	1884
Q Serve(g_s), s	0.0	0.0	0.1	4.2	0.0	4.2	0.0	0.0	5.1	5.6	0.0	2.7
Cycle Q Clear(g_c), s	0.0	0.0	0.1	4.2	0.0	4.2	0.0	0.0	5.1	5.6	0.0	2.7
Prop In Lane	1.00		0.33	1.00		0.90	1.00		0.59	1.00		0.05
Lane Grp Cap(c), veh/h	4	0	206	221	0	385	4	0	301	292	0	631
V/C Ratio(X)	0.26	0.00	0.01	0.76	0.00	0.45	0.26	0.00	0.67	0.77	0.00	0.24
Avail Cap(c_a), veh/h	231	0	573	501	0	766	231	0	914	655	0	1445
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	18.4	19.9	0.0	15.3	23.4	0.0	18.1	18.8	0.0	11.3
Incr Delay (d2), s/veh	32.2	0.0	0.0	5.3	0.0	0.8	32.2	0.0	2.5	4.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.0	0.0	1.5	0.0	0.0	2.1	2.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.6	0.0	18.4	25.3	0.0	16.2	55.6	0.0	20.6	23.1	0.0	11.5
LnGrp LOS	E		B	C		B	E		C	C		B
Approach Vol, veh/h		4			341			202			374	
Approach Delay, s/veh		27.7			20.6			20.8			18.4	
Approach LOS		C			C			C			B	

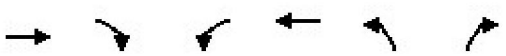
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	13.2	10.7	10.4	5.1	20.7	5.1	16.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	25.0	13.0	15.0	6.0	36.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	7.6	7.1	6.2	2.1	2.0	4.7	2.0	6.2
Green Ext Time (p_c), s	0.4	1.1	0.2	0.0	0.0	0.9	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	19.8
HCM 7th LOS	B



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.959				0.920	
Flt Protected			0.950		0.980	
Satd. Flow (prot)	1822	0	1805	1900	1713	0
Flt Permitted			0.950		0.980	
Satd. Flow (perm)	1822	0	1805	1900	1713	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	93	41	35	79	37	54
Future Volume (vph)	93	41	35	79	37	54
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	109	48	41	93	44	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	157	0	41	93	108	0

Intersection Summary

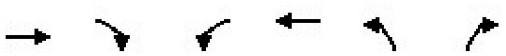
Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	93	41	35	79	37	54
Future Vol, veh/h	93	41	35	79	37	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	109	48	41	93	44	64

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	158	0	309	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1434	-	688	921
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	860	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1434	-	668	921
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	835	-

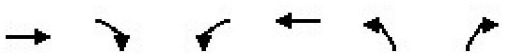
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.33	10.21
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	798	-	-	1434	-
HCM Lane V/C Ratio	0.134	-	-	0.029	-
HCM Ctrl Dly (s/v)	10.2	-	-	7.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971					0.865
Flt Protected						
Satd. Flow (prot)	1845	0	0	1900	0	1644
Flt Permitted						
Satd. Flow (perm)	1845	0	0	1900	0	1644
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	118	32	0	123	0	6
Future Volume (vph)	118	32	0	123	0	6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	133	36	0	138	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	169	0	0	138	0	7

Intersection Summary

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	118	32	0	123	0	6
Future Vol, veh/h	118	32	0	123	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	133	36	0	138	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	151
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	901
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	901
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.02
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	901	-	-	-
HCM Lane V/C Ratio	0.007	-	-	-
HCM Ctrl Dly (s/v)	9	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.995			0.936			0.977	
Flt Protected	0.950				0.990			0.974			0.960	
Satd. Flow (prot)	1805	1900	0	0	1872	0	0	1732	0	0	1782	0
Flt Permitted	0.950				0.990			0.974			0.960	
Satd. Flow (perm)	1805	1900	0	0	1872	0	0	1732	0	0	1782	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	5	119	0	28	101	5	17	0	15	9	0	2
Future Volume (vph)	5	119	0	28	101	5	17	0	15	9	0	2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	128	0	30	109	5	18	0	16	10	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	128	0	0	144	0	0	34	0	0	12	0

Intersection Summary

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	119	0	28	101	5	17	0	15	9	0	2
Future Vol, veh/h	5	119	0	28	101	5	17	0	15	9	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	128	0	30	109	5	18	0	16	10	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	128	0	0	308	313	128	310	310	111
Stage 1	-	-	-	-	-	-	139	139	-	172	172	-
Stage 2	-	-	-	-	-	-	169	174	-	139	139	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1488	-	-	1470	-	-	649	606	927	646	608	947
Stage 1	-	-	-	-	-	-	869	786	-	835	761	-
Stage 2	-	-	-	-	-	-	838	759	-	869	786	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1470	-	-	631	590	927	619	592	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	631	590	-	619	592	-
Stage 1	-	-	-	-	-	-	866	783	-	817	744	-
Stage 2	-	-	-	-	-	-	818	742	-	851	783	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.3	1.57	10.09	10.55
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	742	1488	-	-	373	-	-	660
HCM Lane V/C Ratio	0.046	0.004	-	-	0.02	-	-	0.018
HCM Ctrl Dly (s/v)	10.1	7.4	-	-	7.5	0	-	10.5
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.955			0.999			0.972	
Flt Protected	0.950				0.968		0.950				0.999	
Satd. Flow (prot)	1805	1900	1615	0	1756	0	1805	1898	0	0	1845	0
Flt Permitted	0.756				0.809		0.950				0.997	
Satd. Flow (perm)	1436	1900	1615	0	1468	0	1805	1898	0	0	1841	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			749		85			1			18	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other

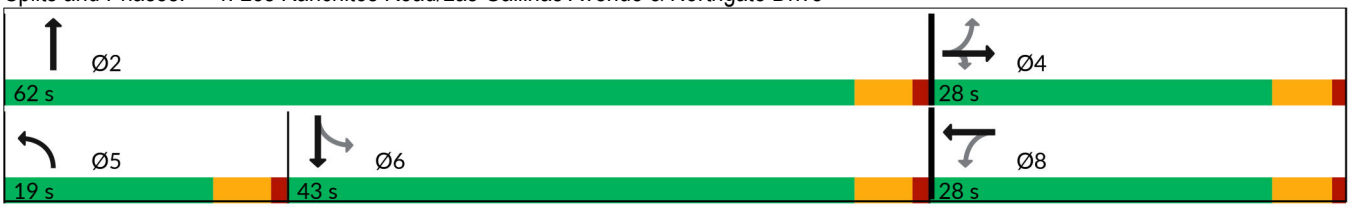
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	51	0	95	2	0	1	83	153	1	3	170	46
Future Volume (vph)	51	0	95	2	0	1	83	153	1	3	170	46
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	55	0	103	2	0	1	90	166	1	3	185	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	0	103	0	3	0	90	167	0	0	238	0

Intersection Summary

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	51	95	2	0	83	153	3	170
Future Volume (vph)	51	95	2	0	83	153	3	170
Turn Type	Perm	Perm	Perm	NA	Prot	NA	Perm	NA
Protected Phases				8	5	2		6
Permitted Phases	4	4	8				6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	20.0	20.0	11.0	20.0	32.0	32.0
Total Split (s)	28.0	28.0	28.0	28.0	19.0	62.0	43.0	43.0
Total Split (%)	31.1%	31.1%	31.1%	31.1%	21.1%	68.9%	47.8%	47.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min
Act Effct Green (s)	7.5	7.5		7.5	7.9	24.8		17.7
Actuated g/C Ratio	0.20	0.20		0.20	0.21	0.65		0.46
v/c Ratio	0.20	0.11		0.01	0.24	0.14		0.28
Control Delay (s/veh)	17.6	0.2		0.0	17.1	4.5		12.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay (s/veh)	17.6	0.2		0.0	17.1	4.5		12.2
LOS	B	A		A	B	A		B
Approach Delay (s/veh)						8.9		12.2
Approach LOS						A		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 38.2	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.28	
Intersection Signal Delay (s/veh): 9.4	Intersection LOS: A
Intersection Capacity Utilization 41.0%	ICU Level of Service A
Analysis Period (min) 15	

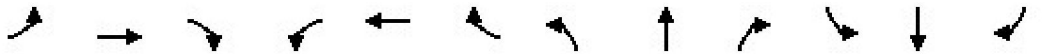
Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive





Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	55	103	3	90	167	238
v/c Ratio	0.20	0.11	0.01	0.24	0.14	0.28
Control Delay (s/veh)	17.6	0.2	0.0	17.1	4.5	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.6	0.2	0.0	17.1	4.5	12.2
Queue Length 50th (ft)	11	0	0	17	14	41
Queue Length 95th (ft)	38	0	0	53	36	100
Internal Link Dist (ft)			28		234	970
Turn Bay Length (ft)	105	85		105		
Base Capacity (vph)	915	1301	967	700	1898	1688
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.08	0.00	0.13	0.09	0.14

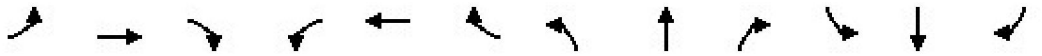
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	0	95	2	0	1	83	153	1	3	170	46
Future Volume (veh/h)	51	0	95	2	0	1	83	153	1	3	170	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	55	0	103	2	0	1	90	166	1	3	185	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	459	283	240	314	37	74	192	965	6	126	338	90
Arrive On Green	0.15	0.00	0.15	0.15	0.00	0.15	0.11	0.51	0.51	0.24	0.24	0.24
Sat Flow, veh/h	1439	1900	1610	739	248	493	1810	1887	11	8	1434	384
Grp Volume(v), veh/h	55	0	103	3	0	0	90	0	167	238	0	0
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	1480	0	0	1810	0	1898	1826	0	0
Q Serve(g_s), s	0.9	0.0	1.7	0.0	0.0	0.0	1.4	0.0	1.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	1.7	0.0	0.0	0.0	1.4	0.0	1.4	3.4	0.0	0.0
Prop In Lane	1.00		1.00	0.67		0.33	1.00		0.01	0.01		0.21
Lane Grp Cap(c), veh/h	459	283	240	424	0	0	192	0	971	554	0	0
V/C Ratio(X)	0.12	0.00	0.43	0.01	0.00	0.00	0.47	0.00	0.17	0.43	0.00	0.00
Avail Cap(c_a), veh/h	1368	1483	1257	1307	0	0	860	0	3672	2471	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	11.4	10.7	0.0	0.0	12.4	0.0	3.9	9.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.2	0.0	0.0	0.0	1.8	0.0	0.1	0.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.6	0.0	0.0	0.0	0.5	0.0	0.3	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.2	0.0	12.6	10.7	0.0	0.0	14.2	0.0	3.9	10.4	0.0	0.0
LnGrp LOS	B		B	B			B		A	B		
Approach Vol, veh/h		158			3			257			238	
Approach Delay, s/veh		12.1			10.7			7.5			10.4	
Approach LOS		B			B			A			B	

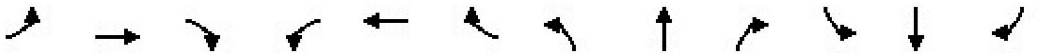
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		20.1		9.4	8.1	11.9		9.4				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		57.0		23.0	14.0	38.0		23.0				
Max Q Clear Time (g_c+I1), s		3.4		3.7	3.4	5.4		2.0				
Green Ext Time (p_c), s		1.1		0.4	0.1	1.6		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.7									
HCM 7th LOS			A									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.923			0.877			0.936			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1754	0	1805	1666	0	1805	1778	0	1805	1860	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1754	0	1805	1666	0	1805	1778	0	1805	1860	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			194			43			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other



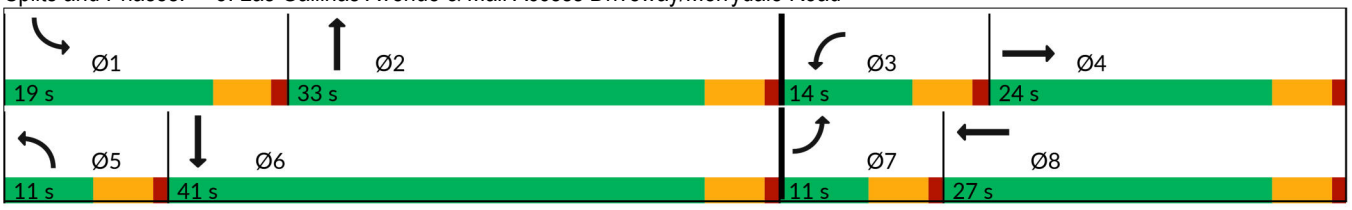
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	32	17	18	83	41	184	8	109	81	131	138	23
Future Volume (vph)	32	17	18	83	41	184	8	109	81	131	138	23
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	34	18	19	87	43	194	8	115	85	138	145	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	37	0	87	237	0	8	200	0	138	169	0

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	32	17	83	41	8	109	131	138
Future Volume (vph)	32	17	83	41	8	109	131	138
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	11.0	24.0	14.0	27.0	11.0	33.0	19.0	41.0
Total Split (%)	12.2%	26.7%	15.6%	30.0%	12.2%	36.7%	21.1%	45.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.8	7.5	8.3	8.8	6.8	11.7	9.9	21.7
Actuated g/C Ratio	0.15	0.16	0.18	0.19	0.15	0.25	0.21	0.47
v/c Ratio	0.13	0.12	0.27	0.50	0.03	0.42	0.36	0.19
Control Delay (s/veh)	26.5	17.2	24.8	10.7	26.3	18.2	23.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	17.2	24.8	10.7	26.3	18.2	23.0	10.2
LOS	C	B	C	B	C	B	C	B
Approach Delay (s/veh)		21.7		14.5		18.6		15.9
Approach LOS		C		B		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 46.6	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay (s/veh): 16.5	Intersection LOS: B
Intersection Capacity Utilization 55.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	37	87	237	8	200	138	169
v/c Ratio	0.13	0.12	0.27	0.50	0.03	0.42	0.36	0.19
Control Delay (s/veh)	26.5	17.2	24.8	10.7	26.3	18.2	23.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	17.2	24.8	10.7	26.3	18.2	23.0	10.2
Queue Length 50th (ft)	8	4	18	9	2	32	29	15
Queue Length 95th (ft)	39	31	74	72	15	114	99	90
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	264	822	396	983	264	1186	616	1471
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.05	0.22	0.24	0.03	0.17	0.22	0.11

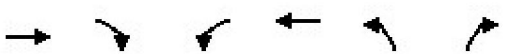
Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	17	18	83	41	184	8	109	81	131	138	23
Future Volume (veh/h)	32	17	18	83	41	184	8	109	81	131	138	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	34	18	19	87	43	194	8	115	85	138	145	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	137	144	162	62	278	23	180	133	202	440	73
Arrive On Green	0.05	0.16	0.16	0.09	0.20	0.20	0.01	0.18	0.18	0.11	0.28	0.28
Sat Flow, veh/h	1810	846	893	1810	300	1356	1810	1015	750	1810	1590	263
Grp Volume(v), veh/h	34	0	37	87	0	237	8	0	200	138	0	169
Grp Sat Flow(s),veh/h/ln	1810	0	1739	1810	0	1656	1810	0	1765	1810	0	1853
Q Serve(g_s), s	0.8	0.0	0.8	2.0	0.0	5.8	0.2	0.0	4.6	3.2	0.0	3.2
Cycle Q Clear(g_c), s	0.8	0.0	0.8	2.0	0.0	5.8	0.2	0.0	4.6	3.2	0.0	3.2
Prop In Lane	1.00		0.51	1.00		0.82	1.00		0.43	1.00		0.14
Lane Grp Cap(c), veh/h	84	0	281	162	0	339	23	0	314	202	0	513
V/C Ratio(X)	0.40	0.00	0.13	0.54	0.00	0.70	0.35	0.00	0.64	0.68	0.00	0.33
Avail Cap(c_a), veh/h	249	0	759	374	0	836	249	0	1135	582	0	1531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	15.6	19.0	0.0	16.1	21.3	0.0	16.6	18.6	0.0	12.5
Incr Delay (d2), s/veh	3.1	0.0	0.2	2.7	0.0	2.6	8.8	0.0	2.2	4.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.3	0.9	0.0	2.2	0.1	0.0	1.8	1.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	0.0	15.9	21.7	0.0	18.7	30.1	0.0	18.8	22.6	0.0	12.9
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h		71			324			208			307	
Approach Delay, s/veh		19.4			19.5			19.2			17.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	12.7	8.9	12.0	5.6	17.1	7.0	13.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	28.0	9.0	19.0	6.0	36.0	6.0	22.0
Max Q Clear Time (g_c+I1), s	5.2	6.6	4.0	2.8	2.2	5.2	2.8	7.8
Green Ext Time (p_c), s	0.2	1.2	0.1	0.1	0.0	1.0	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.7
HCM 7th LOS	B

Appendix F
Intersection Analysis Worksheets
Existing Plus Approved Development Without Project Conditions



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.935				0.921	
Flt Protected			0.950		0.980	
Satd. Flow (prot)	1776	0	1805	1900	1715	0
Flt Permitted			0.950		0.980	
Satd. Flow (perm)	1776	0	1805	1900	1715	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	128	117	128	53	83	116
Future Volume (vph)	128	117	128	53	83	116
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	178	163	178	74	115	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	0	178	74	276	0

Intersection Summary

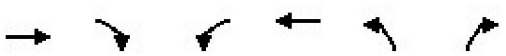
Intersection	
Int Delay, s/veh	7.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	128	117	128	53	83	116
Future Vol, veh/h	128	117	128	53	83	116
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	178	163	178	74	115	161

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	340	0	688	259
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	429	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1230	-	415	784
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1230	-	355	784
Mov Cap-2 Maneuver	-	-	-	-	355	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	565	-

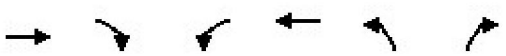
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.95	19.42
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	521	-	-	1230	-
HCM Lane V/C Ratio	0.53	-	-	0.145	-
HCM Ctrl Dly (s/v)	19.4	-	-	8.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.1	-	-	0.5	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1900	0	0	1900	0	1900
Flt Permitted						
Satd. Flow (perm)	1900	0	0	1900	0	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	249	0	0	184	0	0
Future Volume (vph)	249	0	0	184	0	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	361	0	0	267	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	361	0	0	267	0	0

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	249	0	0	184	0	0
Future Vol, veh/h	249	0	0	184	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	361	0	0	267	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	361
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	688
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	688
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Ctrl Dly (s/v)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.992						0.901	
Flt Protected	0.950				0.998						0.987	
Satd. Flow (prot)	1805	1900	0	0	1881	0	0	0	0	0	1690	0
Flt Permitted	0.950				0.998						0.987	
Satd. Flow (perm)	1805	1900	0	0	1881	0	0	0	0	0	1690	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	26	219	0	7	146	10	0	0	0	12	0	33
Future Volume (vph)	26	219	0	7	146	10	0	0	0	12	0	33
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	322	0	10	215	15	0	0	0	18	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	322	0	0	240	0	0	0	0	0	67	0

Intersection Summary

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	219	0	7	146	10	0	0	0	12	0	33
Future Vol, veh/h	26	219	0	7	146	10	0	0	0	12	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	38	322	0	10	215	15	0	0	0	18	0	49

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	229	0	0	322	0	0			641	641	222
Stage 1	-	-	-	-	-	-			243	243	-
Stage 2	-	-	-	-	-	-			399	399	-
Critical Hdwy	4.1	-	-	4.1	-	-			6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-			5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-			3.5	4	3.3
Pot Cap-1 Maneuver	1351	-	-	1249	-	-			442	395	823
Stage 1	-	-	-	-	-	-			802	709	-
Stage 2	-	-	-	-	-	-			682	606	-
Platoon blocked, %		-	-		-	-					
Mov Cap-1 Maneuver	1351	-	-	1249	-	-			426	0	823
Mov Cap-2 Maneuver	-	-	-	-	-	-			426	0	-
Stage 1	-	-	-	-	-	-			780	0	-
Stage 2	-	-	-	-	-	-			676	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.82	0.34	11.08
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1351	-	-	76	-	-	659
HCM Lane V/C Ratio	0.028	-	-	0.008	-	-	0.1
HCM Ctrl Dly (s/v)	7.7	-	-	7.9	0	-	11.1
HCM Lane LOS	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	-	-	0	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.865			0.999			0.951	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	1900	1615	0	1644	0	1805	1898	0	0	1807	0
Flt Permitted	0.757						0.950					
Satd. Flow (perm)	1438	1900	1615	0	1644	0	1805	1898	0	0	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			211		759			1			40	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other

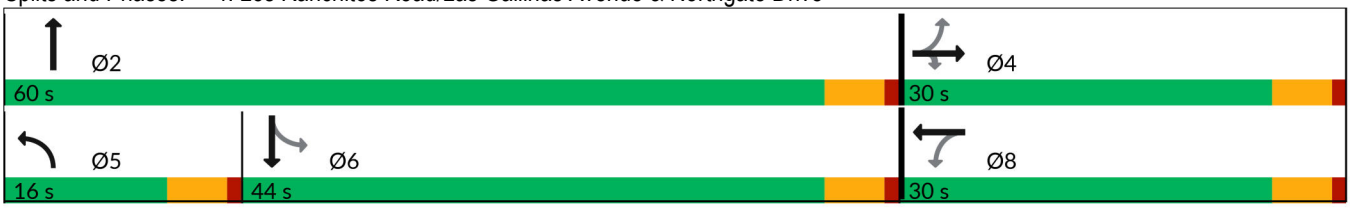
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	72	1	156	0	0	1	47	129	1	0	200	113
Future Volume (vph)	72	1	156	0	0	1	47	129	1	0	200	113
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	97	1	211	0	0	1	64	174	1	0	270	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	1	211	0	1	0	64	175	0	0	423	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	72	1	156	0	47	129	200
Future Volume (vph)	72	1	156	0	47	129	200
Turn Type	Perm	NA	Perm	NA	Prot	NA	NA
Protected Phases		4		8	5	2	6
Permitted Phases	4		4				
Detector Phase	4	4	4	8	5	2	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	26.0	20.0	11.0	20.0	32.0
Total Split (s)	30.0	30.0	30.0	30.0	16.0	60.0	44.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	17.8%	66.7%	48.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag
Lead-Lag Optimize?					Yes		Yes
Recall Mode	None	None	None	None	None	Min	Min
Act Effct Green (s)	9.5	9.5	9.5	9.5	7.9	26.3	19.4
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.17	0.56	0.42
v/c Ratio	0.33	0.00	0.42	0.00	0.21	0.16	0.55
Control Delay (s/veh)	22.4	19.0	6.9	0.0	23.0	5.1	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.4	19.0	6.9	0.0	23.0	5.1	14.7
LOS	C	B	A	A	C	A	B
Approach Delay (s/veh)		11.8				9.9	14.7
Approach LOS		B				A	B

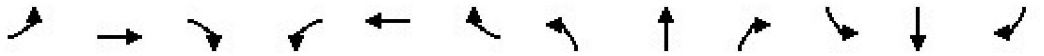
Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 46.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay (s/veh): 12.6	Intersection LOS: B
Intersection Capacity Utilization 51.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive



Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	97	1	211	1	64	175	423
v/c Ratio	0.33	0.00	0.42	0.00	0.21	0.16	0.55
Control Delay (s/veh)	22.4	19.0	6.9	0.0	23.0	5.1	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.4	19.0	6.9	0.0	23.0	5.1	14.7
Queue Length 50th (ft)	23	0	0	0	15	17	85
Queue Length 95th (ft)	58	3	25	0	45	37	148
Internal Link Dist (ft)		294		28		234	970
Turn Bay Length (ft)	105		85		105		
Base Capacity (vph)	837	1106	1028	1274	462	1826	1502
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.00	0.21	0.00	0.14	0.10	0.28

Intersection Summary



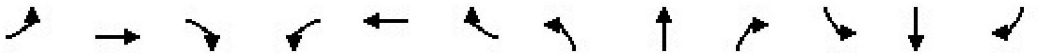
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	1	156	0	0	1	47	129	1	0	200	113
Future Volume (veh/h)	72	1	156	0	0	1	47	129	1	0	200	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	97	1	211	0	0	1	64	174	1	0	270	153
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	462	363	308	0	0	307	140	1033	6	0	386	219
Arrive On Green	0.19	0.19	0.19	0.00	0.00	0.19	0.08	0.55	0.55	0.00	0.34	0.34
Sat Flow, veh/h	1439	1900	1610	0	0	1610	1810	1887	11	0	1139	645
Grp Volume(v), veh/h	97	1	211	0	0	1	64	0	175	0	0	423
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	0	0	1610	1810	0	1898	0	0	1784
Q Serve(g_s), s	2.2	0.0	4.7	0.0	0.0	0.0	1.3	0.0	1.8	0.0	0.0	7.9
Cycle Q Clear(g_c), s	2.3	0.0	4.7	0.0	0.0	0.0	1.3	0.0	1.8	0.0	0.0	7.9
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.01	0.00		0.36
Lane Grp Cap(c), veh/h	462	363	308	0	0	308	140	0	1039	0	0	605
V/C Ratio(X)	0.21	0.00	0.69	0.00	0.00	0.00	0.46	0.00	0.17	0.00	0.00	0.70
Avail Cap(c_a), veh/h	1128	1242	1053	0	0	1053	521	0	2730	0	0	1819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	12.5	14.4	0.0	0.0	12.5	16.9	0.0	4.3	0.0	0.0	10.9
Incr Delay (d2), s/veh	0.2	0.0	2.7	0.0	0.0	0.0	2.3	0.0	0.1	0.0	0.0	1.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.7	0.0	0.0	0.0	0.6	0.0	0.4	0.0	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.7	12.5	17.1	0.0	0.0	12.5	19.2	0.0	4.4	0.0	0.0	12.4
LnGrp LOS	B	B	B			B	B		A			B
Approach Vol, veh/h		309			1			239			423	
Approach Delay, s/veh		16.0			12.5			8.4			12.4	
Approach LOS		B			B			A			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		25.9		12.3	8.0	18.0		12.3				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		55.0		25.0	11.0	39.0		25.0				
Max Q Clear Time (g_c+I1), s		3.8		6.7	3.3	9.9		2.0				
Green Ext Time (p_c), s		1.1		0.9	0.1	3.1		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.6									
HCM 7th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950			0.878			0.917			0.929	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1668	0	1805	1742	0	1805	1765	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1805	0	1805	1668	0	1805	1742	0	1805	1765	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			165			67			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other



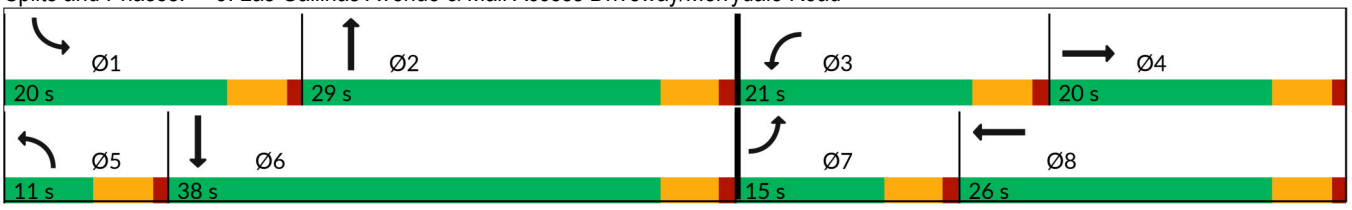
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	124	83	41	151	32	139	32	73	90	199	125	112
Future Volume (vph)	124	83	41	151	32	139	32	73	90	199	125	112
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	148	99	49	180	38	165	38	87	107	237	149	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	148	0	180	203	0	38	194	0	237	282	0

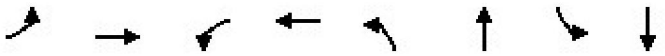
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	124	83	151	32	32	73	199	125
Future Volume (vph)	124	83	151	32	32	73	199	125
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	15.0	20.0	21.0	26.0	11.0	29.0	20.0	38.0
Total Split (%)	16.7%	22.2%	23.3%	28.9%	12.2%	32.2%	22.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.6	10.1	14.9	12.4	6.2	10.7	13.4	23.3
Actuated g/C Ratio	0.14	0.15	0.22	0.19	0.09	0.16	0.20	0.35
v/c Ratio	0.57	0.50	0.45	0.46	0.23	0.58	0.66	0.43
Control Delay (s/veh)	40.7	30.3	30.8	10.7	36.7	26.0	37.3	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.7	30.3	30.8	10.7	36.7	26.0	37.3	18.3
LOS	D	C	C	B	D	C	D	B
Approach Delay (s/veh)		35.5		20.2		27.8		26.9
Approach LOS		D		C		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 66.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay (s/veh): 27.0	Intersection LOS: C
Intersection Capacity Utilization 57.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road

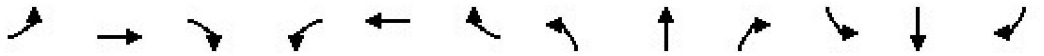




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	148	180	203	38	194	237	282
v/c Ratio	0.57	0.50	0.45	0.46	0.23	0.58	0.66	0.43
Control Delay (s/veh)	40.7	30.3	30.8	10.7	36.7	26.0	37.3	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.7	30.3	30.8	10.7	36.7	26.0	37.3	18.3
Queue Length 50th (ft)	58	48	69	13	15	49	89	76
Queue Length 95th (ft)	#138	103	136	57	46	108	#193	149
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	280	439	466	655	168	691	420	931
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.34	0.39	0.31	0.23	0.28	0.56	0.30

Intersection Summary

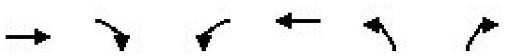
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	83	41	151	32	139	32	73	90	199	125	112
Future Volume (veh/h)	124	83	41	151	32	139	32	73	90	199	125	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	148	99	49	180	38	165	38	87	107	237	149	133
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	179	89	236	54	234	88	127	157	301	261	233
Arrive On Green	0.11	0.15	0.15	0.13	0.17	0.17	0.05	0.16	0.16	0.17	0.28	0.28
Sat Flow, veh/h	1810	1199	594	1810	310	1347	1810	775	953	1810	925	826
Grp Volume(v), veh/h	148	0	148	180	0	203	38	0	194	237	0	282
Grp Sat Flow(s),veh/h/ln	1810	0	1793	1810	0	1657	1810	0	1728	1810	0	1751
Q Serve(g_s), s	4.1	0.0	3.9	4.9	0.0	5.9	1.0	0.0	5.4	6.4	0.0	7.1
Cycle Q Clear(g_c), s	4.1	0.0	3.9	4.9	0.0	5.9	1.0	0.0	5.4	6.4	0.0	7.1
Prop In Lane	1.00		0.33	1.00		0.81	1.00		0.55	1.00		0.47
Lane Grp Cap(c), veh/h	192	0	268	236	0	287	88	0	284	301	0	493
V/C Ratio(X)	0.77	0.00	0.55	0.76	0.00	0.71	0.43	0.00	0.68	0.79	0.00	0.57
Avail Cap(c_a), veh/h	353	0	524	564	0	678	212	0	808	529	0	1126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	20.2	21.5	0.0	20.0	23.7	0.0	20.2	20.5	0.0	15.8
Incr Delay (d2), s/veh	6.3	0.0	1.8	5.1	0.0	3.2	3.3	0.0	2.9	4.6	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.7	2.3	0.0	2.4	0.5	0.0	2.2	2.9	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.7	0.0	22.0	26.6	0.0	23.2	27.0	0.0	23.1	25.1	0.0	16.8
LnGrp LOS	C		C	C		C	C		C	C		B
Approach Vol, veh/h		296			383			232			519	
Approach Delay, s/veh		25.3			24.8			23.7			20.6	
Approach LOS		C			C			C			C	

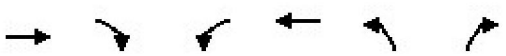
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	13.4	11.7	12.7	7.5	19.5	10.5	13.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	24.0	16.0	15.0	6.0	33.0	10.0	21.0
Max Q Clear Time (g_c+I1), s	8.4	7.4	6.9	5.9	3.0	9.1	6.1	7.9
Green Ext Time (p_c), s	0.4	1.0	0.3	0.5	0.0	1.8	0.1	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	23.2
HCM 7th LOS	C



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.960				0.908	
Flt Protected			0.950		0.984	
Satd. Flow (prot)	1824	0	1805	1900	1698	0
Flt Permitted			0.950		0.984	
Satd. Flow (perm)	1824	0	1805	1900	1698	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	103	43	65	104	39	84
Future Volume (vph)	103	43	65	104	39	84
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	121	51	76	122	46	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	172	0	76	122	145	0

Intersection Summary

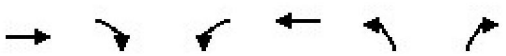
Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	103	43	65	104	39	84
Future Vol, veh/h	103	43	65	104	39	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	121	51	76	122	46	99

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	172	0	422	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1417	-	592	906
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	560	906
Mov Cap-2 Maneuver	-	-	-	-	560	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	734	-

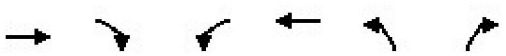
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.96	10.87
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	758	-	-	1417	-
HCM Lane V/C Ratio	0.191	-	-	0.054	-
HCM Ctrl Dly (s/v)	10.9	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.2	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						
Flt Protected						
Satd. Flow (prot)	1900	0	0	1900	0	1900
Flt Permitted						
Satd. Flow (perm)	1900	0	0	1900	0	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	190	0	0	178	0	0
Future Volume (vph)	190	0	0	178	0	0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	213	0	0	200	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	213	0	0	200	0	0

Intersection Summary

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		↱
Traffic Vol, veh/h	190	0	0	178	0	0
Future Vol, veh/h	190	0	0	178	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	213	0	0	200	0	0

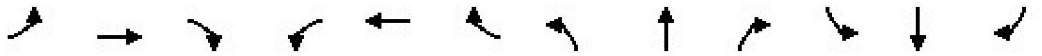
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	-	213
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	0	0	-	0	832
Stage 1	-	0	0	-	0	-
Stage 2	-	0	0	-	0	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	-	832
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Ctrl Dly (s/v)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.975						0.903	
Flt Protected	0.950				0.998						0.986	
Satd. Flow (prot)	1805	1900	0	0	1849	0	0	0	0	0	1692	0
Flt Permitted	0.950				0.998						0.986	
Satd. Flow (perm)	1805	1900	0	0	1849	0	0	0	0	0	1692	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	70	120	0	6	107	26	0	0	0	27	0	68
Future Volume (vph)	70	120	0	6	107	26	0	0	0	27	0	68
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	75	129	0	6	115	28	0	0	0	29	0	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	129	0	0	149	0	0	0	0	0	102	0

Intersection Summary

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	120	0	6	107	26	0	0	0	27	0	68
Future Vol, veh/h	70	120	0	6	107	26	0	0	0	27	0	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	75	129	0	6	115	28	0	0	0	29	0	73

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	143	0	0	129	0	0	422	422	129
Stage 1	-	-	-	-	-	-	142	142	-
Stage 2	-	-	-	-	-	-	280	280	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1452	-	-	1469	-	-	593	527	926
Stage 1	-	-	-	-	-	-	890	783	-
Stage 2	-	-	-	-	-	-	772	683	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	1452	-	-	1469	-	-	559	0	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	559	0	-
Stage 1	-	-	-	-	-	-	844	0	-
Stage 2	-	-	-	-	-	-	769	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.81	0.32	10.31
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1452	-	-	75	-	-	781
HCM Lane V/C Ratio	0.052	-	-	0.004	-	-	0.131
HCM Ctrl Dly (s/v)	7.6	-	-	7.5	0	-	10.3
HCM Lane LOS	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	-	-	0	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.955			0.999			0.982	
Flt Protected	0.950				0.968		0.950					
Satd. Flow (prot)	1805	1900	1615	0	1756	0	1805	1898	0	0	1866	0
Flt Permitted	0.756				0.808		0.950				0.997	
Satd. Flow (perm)	1436	1900	1615	0	1466	0	1805	1898	0	0	1860	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			654		85						11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other

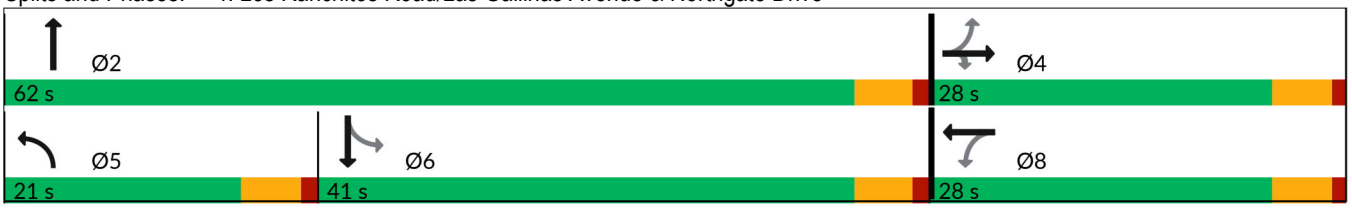
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	42	0	108	2	0	1	94	242	1	3	247	40
Future Volume (vph)	42	0	108	2	0	1	94	242	1	3	247	40
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	46	0	117	2	0	1	102	263	1	3	268	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	0	117	0	3	0	102	264	0	0	314	0

Intersection Summary

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	42	108	2	0	94	242	3	247
Future Volume (vph)	42	108	2	0	94	242	3	247
Turn Type	Perm	Perm	Perm	NA	Prot	NA	Perm	NA
Protected Phases				8	5	2		6
Permitted Phases	4	4	8				6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	20.0	20.0	11.0	20.0	32.0	32.0
Total Split (s)	28.0	28.0	28.0	28.0	21.0	62.0	41.0	41.0
Total Split (%)	31.1%	31.1%	31.1%	31.1%	23.3%	68.9%	45.6%	45.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min
Act Effct Green (s)	7.5	7.5		7.5	8.4	27.2		19.8
Actuated g/C Ratio	0.19	0.19		0.19	0.21	0.67		0.49
v/c Ratio	0.17	0.14		0.01	0.27	0.21		0.34
Control Delay (s/veh)	19.5	0.4		0.0	18.7	4.4		12.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay (s/veh)	19.5	0.4		0.0	18.7	4.4		12.7
LOS	B	A		A	B	A		B
Approach Delay (s/veh)						8.4		12.7
Approach LOS						A		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 40.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.34	
Intersection Signal Delay (s/veh): 9.4	Intersection LOS: A
Intersection Capacity Utilization 49.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive



Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	46	117	3	102	264	314
v/c Ratio	0.17	0.14	0.01	0.27	0.21	0.34
Control Delay (s/veh)	19.5	0.4	0.0	18.7	4.4	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.5	0.4	0.0	18.7	4.4	12.7
Queue Length 50th (ft)	10	0	0	21	23	60
Queue Length 95th (ft)	37	0	0	64	53	137
Internal Link Dist (ft)			28		234	970
Turn Bay Length (ft)	105	85		105		
Base Capacity (vph)	877	1241	929	767	1898	1587
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.09	0.00	0.13	0.14	0.20

Intersection Summary

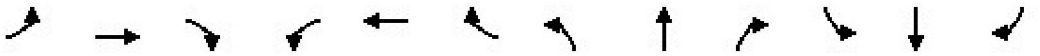
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	108	2	0	1	94	242	1	3	247	40
Future Volume (veh/h)	42	0	108	2	0	1	94	242	1	3	247	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	46	0	117	2	0	1	102	263	1	3	268	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	433	274	233	294	34	71	202	1028	4	115	439	70
Arrive On Green	0.14	0.00	0.14	0.14	0.00	0.14	0.11	0.54	0.54	0.28	0.28	0.28
Sat Flow, veh/h	1439	1900	1610	740	238	489	1810	1892	7	5	1592	253
Grp Volume(v), veh/h	46	0	117	3	0	0	102	0	264	314	0	0
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	1467	0	0	1810	0	1899	1851	0	0
Q Serve(g_s), s	0.8	0.0	2.1	0.0	0.0	0.0	1.7	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	2.1	0.0	0.0	0.0	1.7	0.0	2.4	4.7	0.0	0.0
Prop In Lane	1.00		1.00	0.67		0.33	1.00		0.00	0.01		0.14
Lane Grp Cap(c), veh/h	433	274	233	399	0	0	202	0	1032	624	0	0
V/C Ratio(X)	0.11	0.00	0.50	0.01	0.00	0.00	0.50	0.00	0.26	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1257	1363	1155	1193	0	0	903	0	3375	2184	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	0.0	12.7	11.8	0.0	0.0	13.4	0.0	3.9	10.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.7	0.0	0.0	0.0	1.9	0.0	0.1	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.5	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.2	0.0	14.3	11.8	0.0	0.0	15.4	0.0	4.0	10.7	0.0	0.0
LnGrp LOS	B		B	B			B		A	B		
Approach Vol, veh/h		163			3			366			314	
Approach Delay, s/veh		13.7			11.8			7.2			10.7	
Approach LOS		B			B			A			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		22.4		9.6	8.6	13.9		9.6				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		57.0		23.0	16.0	36.0		23.0				
Max Q Clear Time (g_c+I1), s		4.4		4.1	3.7	6.7		2.0				
Green Ext Time (p_c), s		1.8		0.4	0.2	2.1		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			9.8									
HCM 7th LOS			A									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950			0.897			0.941			0.897	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1704	0	1805	1788	0	1805	1704	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1805	0	1805	1704	0	1805	1788	0	1805	1704	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			82			27			102	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other



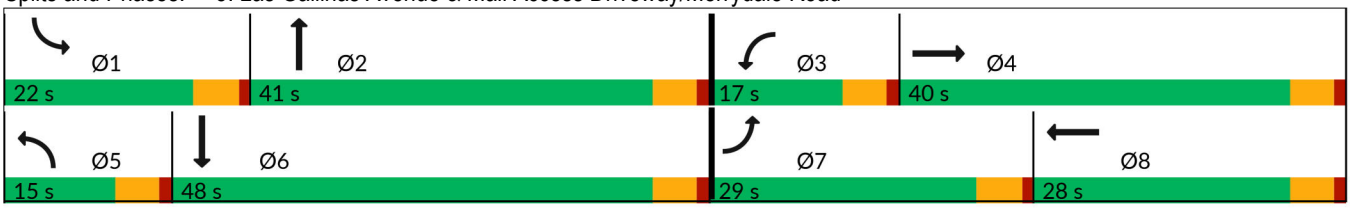
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	256	171	85	85	88	195	88	116	74	139	141	308
Future Volume (vph)	256	171	85	85	88	195	88	116	74	139	141	308
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	269	180	89	89	93	205	93	122	78	146	148	324
Shared Lane Traffic (%)												
Lane Group Flow (vph)	269	269	0	89	298	0	93	200	0	146	472	0

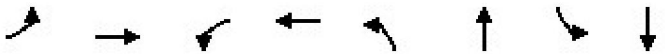
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	256	171	85	88	88	116	139	141
Future Volume (vph)	256	171	85	88	88	116	139	141
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	29.0	40.0	17.0	28.0	15.0	41.0	22.0	48.0
Total Split (%)	24.2%	33.3%	14.2%	23.3%	12.5%	34.2%	18.3%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	19.2	30.8	9.9	17.7	9.3	22.7	13.0	30.3
Actuated g/C Ratio	0.20	0.33	0.11	0.19	0.10	0.24	0.14	0.32
v/c Ratio	0.73	0.45	0.47	0.77	0.52	0.44	0.58	0.77
Control Delay (s/veh)	51.3	30.1	54.9	43.0	58.6	30.5	53.1	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.3	30.1	54.9	43.0	58.6	30.5	53.1	33.6
LOS	D	C	D	D	E	C	D	C
Approach Delay (s/veh)		40.7		45.7		39.4		38.2
Approach LOS		D		D		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay (s/veh): 40.7	Intersection LOS: D
Intersection Capacity Utilization 83.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	269	89	298	93	200	146	472
v/c Ratio	0.73	0.45	0.47	0.77	0.52	0.44	0.58	0.77
Control Delay (s/veh)	51.3	30.1	54.9	43.0	58.6	30.5	53.1	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.3	30.1	54.9	43.0	58.6	30.5	53.1	33.6
Queue Length 50th (ft)	160	128	54	131	57	90	88	221
Queue Length 95th (ft)	#314	244	122	#288	#140	172	178	374
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	494	732	247	507	205	750	350	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.37	0.36	0.59	0.45	0.27	0.42	0.53

Intersection Summary

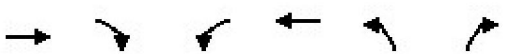
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	171	85	85	88	195	88	116	74	139	141	308
Future Volume (veh/h)	256	171	85	85	88	195	88	116	74	139	141	308
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	269	180	89	89	93	205	93	122	78	146	148	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	314	377	187	116	108	238	120	312	199	184	171	375
Arrive On Green	0.17	0.31	0.31	0.06	0.20	0.20	0.07	0.29	0.29	0.10	0.32	0.32
Sat Flow, veh/h	1810	1200	593	1810	528	1163	1810	1083	692	1810	530	1161
Grp Volume(v), veh/h	269	0	269	89	0	298	93	0	200	146	0	472
Grp Sat Flow(s),veh/h/ln	1810	0	1793	1810	0	1691	1810	0	1775	1810	0	1691
Q Serve(g_s), s	12.4	0.0	10.4	4.2	0.0	14.7	4.4	0.0	7.8	6.8	0.0	22.6
Cycle Q Clear(g_c), s	12.4	0.0	10.4	4.2	0.0	14.7	4.4	0.0	7.8	6.8	0.0	22.6
Prop In Lane	1.00		0.33	1.00		0.69	1.00		0.39	1.00		0.69
Lane Grp Cap(c), veh/h	314	0	564	116	0	346	120	0	511	184	0	546
V/C Ratio(X)	0.86	0.00	0.48	0.77	0.00	0.86	0.77	0.00	0.39	0.80	0.00	0.86
Avail Cap(c_a), veh/h	504	0	728	252	0	451	210	0	742	357	0	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	0.0	23.8	39.7	0.0	33.1	39.6	0.0	24.6	37.8	0.0	27.4
Incr Delay (d2), s/veh	8.1	0.0	0.6	10.2	0.0	12.5	10.1	0.0	0.5	7.6	0.0	5.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	4.4	2.2	0.0	7.1	2.3	0.0	3.3	3.4	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.7	0.0	24.5	49.9	0.0	45.6	49.7	0.0	25.1	45.4	0.0	33.3
LnGrp LOS	D		C	D		D	D		C	D		C
Approach Vol, veh/h		538			387			293			618	
Approach Delay, s/veh		33.6			46.6			32.9			36.2	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	29.8	10.5	32.1	10.7	32.8	20.0	22.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	36.0	12.0	35.0	10.0	43.0	24.0	23.0
Max Q Clear Time (g_c+I1), s	8.8	9.8	6.2	12.4	6.4	24.6	14.4	16.7
Green Ext Time (p_c), s	0.2	1.2	0.1	1.7	0.1	3.3	0.6	1.0

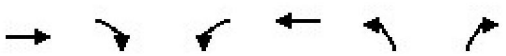
Intersection Summary	
HCM 7th Control Delay, s/veh	37.1
HCM 7th LOS	D

Appendix G
Intersection Analysis Worksheets
Existing Plus Approved Development With Project Conditions



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.938				0.920	
Flt Protected			0.950		0.980	
Satd. Flow (prot)	1782	0	1805	1900	1713	0
Flt Permitted			0.950		0.980	
Satd. Flow (perm)	1782	0	1805	1900	1713	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	137	117	136	68	83	119
Future Volume (vph)	137	117	136	68	83	119
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	190	163	189	94	115	165
Shared Lane Traffic (%)						
Lane Group Flow (vph)	353	0	189	94	280	0

Intersection Summary

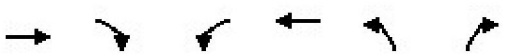
Intersection	
Int Delay, s/veh	8.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	137	117	136	68	83	119
Future Vol, veh/h	137	117	136	68	83	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	72	72	72	72
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	190	163	189	94	115	165

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	353	0	744	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1217	-	385	772
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1217	-	325	772
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	534	-

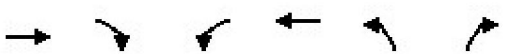
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.67	21.47
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	494	-	-	1217	-
HCM Lane V/C Ratio	0.568	-	-	0.155	-
HCM Ctrl Dly (s/v)	21.5	-	-	8.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	3.5	-	-	0.5	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.993					0.865
Flt Protected						
Satd. Flow (prot)	1887	0	0	1900	0	1644
Flt Permitted						
Satd. Flow (perm)	1887	0	0	1900	0	1644
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	249	13	0	207	0	8
Future Volume (vph)	249	13	0	207	0	8
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	361	19	0	300	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	0	0	300	0	12

Intersection Summary

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	249	13	0	207	0	8
Future Vol, veh/h	249	13	0	207	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	361	19	0	300	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	370
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	680
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	680
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	10.39
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	680	-	-	-
HCM Lane V/C Ratio	0.017	-	-	-
HCM Ctrl Dly (s/v)	10.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.992			0.938			0.901	
Flt Protected	0.950				0.996			0.974			0.987	
Satd. Flow (prot)	1805	1900	0	0	1877	0	0	1736	0	0	1690	0
Flt Permitted	0.950				0.996			0.974			0.987	
Satd. Flow (perm)	1805	1900	0	0	1877	0	0	1736	0	0	1690	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	26	227	0	15	146	10	23	0	20	12	0	33
Future Volume (vph)	26	227	0	15	146	10	23	0	20	12	0	33
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	334	0	22	215	15	34	0	29	18	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	334	0	0	252	0	0	63	0	0	67	0

Intersection Summary

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	227	0	15	146	10	23	0	20	12	0	33
Future Vol, veh/h	26	227	0	15	146	10	23	0	20	12	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	68	68	68	68	68	68	68	68	68
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	38	334	0	22	215	15	34	0	29	18	0	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	229	0	0	334	0	0	669	684	334	676	676	222
Stage 1	-	-	-	-	-	-	410	410	-	266	266	-
Stage 2	-	-	-	-	-	-	259	274	-	410	410	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1351	-	-	1237	-	-	374	374	713	370	377	823
Stage 1	-	-	-	-	-	-	622	599	-	744	692	-
Stage 2	-	-	-	-	-	-	750	687	-	622	599	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1351	-	-	1237	-	-	335	356	713	337	359	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	356	-	337	359	-
Stage 1	-	-	-	-	-	-	605	582	-	728	678	-
Stage 2	-	-	-	-	-	-	692	673	-	580	582	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.8	0.7	14.44	11.81
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	444	1351	-	-	156	-	-	595
HCM Lane V/C Ratio	0.142	0.028	-	-	0.018	-	-	0.111
HCM Ctrl Dly (s/v)	14.4	7.7	-	-	8	0	-	11.8
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.865			0.999			0.950	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	1900	1615	0	1644	0	1805	1898	0	0	1805	0
Flt Permitted	0.757						0.950					
Satd. Flow (perm)	1438	1900	1615	0	1644	0	1805	1898	0	0	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			228		759			1			41	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other

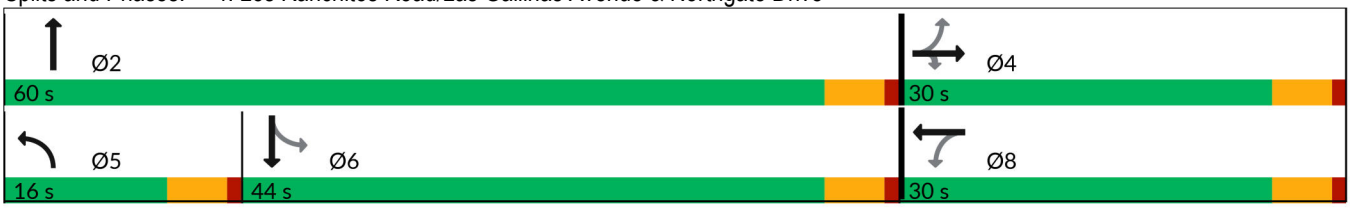
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	87	1	169	0	0	1	52	129	1	0	200	116
Future Volume (vph)	87	1	169	0	0	1	52	129	1	0	200	116
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	118	1	228	0	0	1	70	174	1	0	270	157
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	1	228	0	1	0	70	175	0	0	427	0

Intersection Summary

Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Configurations							
Traffic Volume (vph)	87	1	169	0	52	129	200
Future Volume (vph)	87	1	169	0	52	129	200
Turn Type	Perm	NA	Perm	NA	Prot	NA	NA
Protected Phases		4		8	5	2	6
Permitted Phases	4		4				
Detector Phase	4	4	4	8	5	2	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	26.0	20.0	11.0	20.0	32.0
Total Split (s)	30.0	30.0	30.0	30.0	16.0	60.0	44.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	17.8%	66.7%	48.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag					Lead		Lag
Lead-Lag Optimize?					Yes		Yes
Recall Mode	None	None	None	None	None	Min	Min
Act Effct Green (s)	10.6	10.6	10.6	10.6	8.2	25.9	19.1
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.17	0.54	0.40
v/c Ratio	0.37	0.00	0.43	0.00	0.22	0.17	0.57
Control Delay (s/veh)	23.0	20.0	6.5	0.0	24.2	5.6	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.0	20.0	6.5	0.0	24.2	5.6	15.8
LOS	C	B	A	A	C	A	B
Approach Delay (s/veh)		12.2				10.9	15.8
Approach LOS		B				B	B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 47.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay (s/veh): 13.4	Intersection LOS: B
Intersection Capacity Utilization 52.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive



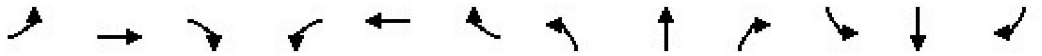
Lane Group	EBL	EBT	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	118	1	228	1	70	175	427
v/c Ratio	0.37	0.00	0.43	0.00	0.22	0.17	0.57
Control Delay (s/veh)	23.0	20.0	6.5	0.0	24.2	5.6	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.0	20.0	6.5	0.0	24.2	5.6	15.8
Queue Length 50th (ft)	29	0	0	0	18	18	89
Queue Length 95th (ft)	70	3	25	0	50	40	157
Internal Link Dist (ft)		294		28		234	970
Turn Bay Length (ft)	105		85		105		
Base Capacity (vph)	841	1111	1039	1276	464	1795	1465
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.00	0.22	0.00	0.15	0.10	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	1	169	0	0	1	52	129	1	0	200	116
Future Volume (veh/h)	87	1	169	0	0	1	52	129	1	0	200	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	118	1	228	0	0	1	70	174	1	0	270	157
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	473	386	327	0	0	327	147	1029	6	0	381	222
Arrive On Green	0.20	0.20	0.20	0.00	0.00	0.20	0.08	0.55	0.55	0.00	0.34	0.34
Sat Flow, veh/h	1439	1900	1610	0	0	1610	1810	1887	11	0	1127	655
Grp Volume(v), veh/h	118	1	228	0	0	1	70	0	175	0	0	427
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	0	0	1610	1810	0	1898	0	0	1782
Q Serve(g_s), s	2.8	0.0	5.2	0.0	0.0	0.0	1.5	0.0	1.8	0.0	0.0	8.3
Cycle Q Clear(g_c), s	2.9	0.0	5.2	0.0	0.0	0.0	1.5	0.0	1.8	0.0	0.0	8.3
Prop In Lane	1.00		1.00	0.00		1.00	1.00		0.01	0.00		0.37
Lane Grp Cap(c), veh/h	473	386	327	0	0	327	147	0	1035	0	0	603
V/C Ratio(X)	0.25	0.00	0.70	0.00	0.00	0.00	0.48	0.00	0.17	0.00	0.00	0.71
Avail Cap(c_a), veh/h	1085	1195	1012	0	0	1012	501	0	2625	0	0	1748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	12.6	14.7	0.0	0.0	12.6	17.5	0.0	4.5	0.0	0.0	11.5
Incr Delay (d2), s/veh	0.3	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.1	0.0	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.9	0.0	0.0	0.0	0.6	0.0	0.5	0.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.0	12.6	17.4	0.0	0.0	12.6	19.8	0.0	4.6	0.0	0.0	13.0
LnGrp LOS	B	B	B			B	B		A			B
Approach Vol, veh/h		347			1			245			427	
Approach Delay, s/veh		16.2			12.6			9.0			13.0	
Approach LOS		B			B			A			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		26.7		13.1	8.2	18.4		13.1				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		55.0		25.0	11.0	39.0		25.0				
Max Q Clear Time (g_c+I1), s		3.8		7.2	3.5	10.3		2.0				
Green Ext Time (p_c), s		1.1		1.0	0.1	3.2		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			13.1									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950			0.878			0.912			0.930	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1668	0	1805	1733	0	1805	1767	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1805	0	1805	1668	0	1805	1733	0	1805	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			165			78			56	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other

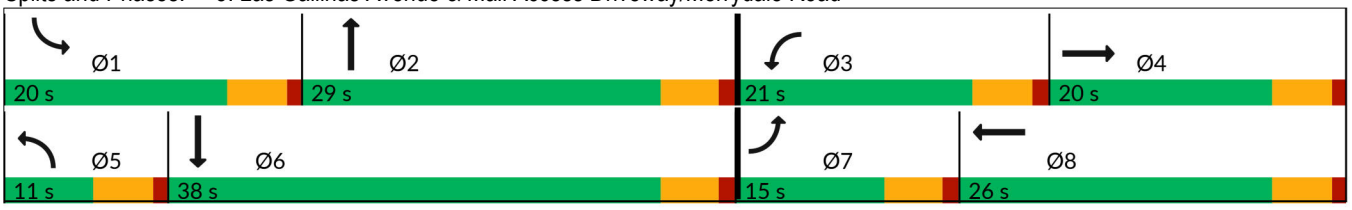
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	124	83	41	152	32	139	32	73	105	199	127	112
Future Volume (vph)	124	83	41	152	32	139	32	73	105	199	127	112
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	148	99	49	181	38	165	38	87	125	237	151	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	148	0	181	203	0	38	212	0	237	284	0

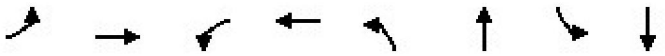
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	124	83	152	32	32	73	199	127
Future Volume (vph)	124	83	152	32	32	73	199	127
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	15.0	20.0	21.0	26.0	11.0	29.0	20.0	38.0
Total Split (%)	16.7%	22.2%	23.3%	28.9%	12.2%	32.2%	22.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.6	10.2	14.9	12.4	6.2	11.1	13.4	23.7
Actuated g/C Ratio	0.14	0.15	0.22	0.18	0.09	0.17	0.20	0.35
v/c Ratio	0.58	0.51	0.45	0.46	0.23	0.61	0.66	0.43
Control Delay (s/veh)	41.2	30.7	31.3	10.8	37.1	25.7	37.9	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.2	30.7	31.3	10.8	37.1	25.7	37.9	18.2
LOS	D	C	C	B	D	C	D	B
Approach Delay (s/veh)		36.0		20.5		27.4		27.1
Approach LOS		D		C		C		C

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 67.2	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay (s/veh): 27.2	Intersection LOS: C
Intersection Capacity Utilization 58.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	148	181	203	38	212	237	284
v/c Ratio	0.58	0.51	0.45	0.46	0.23	0.61	0.66	0.43
Control Delay (s/veh)	41.2	30.7	31.3	10.8	37.1	25.7	37.9	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.2	30.7	31.3	10.8	37.1	25.7	37.9	18.2
Queue Length 50th (ft)	59	48	70	14	15	52	90	77
Queue Length 95th (ft)	#140	104	139	58	46	114	#197	149
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	278	436	463	652	167	690	417	927
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.34	0.39	0.31	0.23	0.31	0.57	0.31

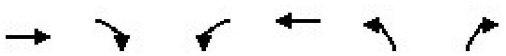
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	83	41	152	32	139	32	73	105	199	127	112
Future Volume (veh/h)	124	83	41	152	32	139	32	73	105	199	127	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	148	99	49	181	38	165	38	87	125	237	151	133
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	177	88	236	53	232	88	124	178	299	272	240
Arrive On Green	0.11	0.15	0.15	0.13	0.17	0.17	0.05	0.18	0.18	0.17	0.29	0.29
Sat Flow, veh/h	1810	1199	594	1810	310	1347	1810	705	1013	1810	932	821
Grp Volume(v), veh/h	148	0	148	181	0	203	38	0	212	237	0	284
Grp Sat Flow(s),veh/h/ln	1810	0	1793	1810	0	1657	1810	0	1718	1810	0	1752
Q Serve(g_s), s	4.2	0.0	4.0	5.1	0.0	6.1	1.1	0.0	6.1	6.6	0.0	7.2
Cycle Q Clear(g_c), s	4.2	0.0	4.0	5.1	0.0	6.1	1.1	0.0	6.1	6.6	0.0	7.2
Prop In Lane	1.00		0.33	1.00		0.81	1.00		0.59	1.00		0.47
Lane Grp Cap(c), veh/h	192	0	265	236	0	285	88	0	301	299	0	512
V/C Ratio(X)	0.77	0.00	0.56	0.77	0.00	0.71	0.43	0.00	0.70	0.79	0.00	0.55
Avail Cap(c_a), veh/h	344	0	512	551	0	663	207	0	785	517	0	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	20.8	22.1	0.0	20.5	24.3	0.0	20.4	21.0	0.0	15.7
Incr Delay (d2), s/veh	6.4	0.0	1.8	5.1	0.0	3.3	3.3	0.0	3.0	4.7	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.7	2.4	0.0	2.4	0.5	0.0	2.5	3.0	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.2	0.0	22.6	27.2	0.0	23.8	27.6	0.0	23.4	25.7	0.0	16.6
LnGrp LOS	C		C	C		C	C		C	C		B
Approach Vol, veh/h		296			384			250			521	
Approach Delay, s/veh		25.9			25.4			24.0			20.8	
Approach LOS		C			C			C			C	

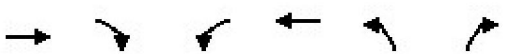
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	14.2	11.9	12.8	7.6	20.4	10.6	14.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	15.0	24.0	16.0	15.0	6.0	33.0	10.0	21.0
Max Q Clear Time (g_c+I1), s	8.6	8.1	7.1	6.0	3.1	9.2	6.2	8.1
Green Ext Time (p_c), s	0.4	1.1	0.3	0.5	0.0	1.9	0.1	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	55		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.966				0.905	
Flt Protected			0.950		0.985	
Satd. Flow (prot)	1835	0	1805	1900	1694	0
Flt Permitted			0.950		0.985	
Satd. Flow (perm)	1835	0	1805	1900	1694	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	229			314	124	
Travel Time (s)	6.2			8.6	3.4	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	127	43	71	115	39	92
Future Volume (vph)	127	43	71	115	39	92
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	149	51	84	135	46	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	0	84	135	154	0

Intersection Summary

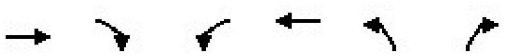
Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	43	71	115	39	92
Future Vol, veh/h	127	43	71	115	39	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	55	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	149	51	84	135	46	108

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	200	0	477	175
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1384	-	550	874
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	754	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1384	-	517	874
Mov Cap-2 Maneuver	-	-	-	-	517	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	709	-

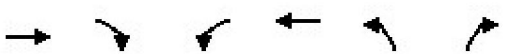
Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.97	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	725	-	-	1384	-
HCM Lane V/C Ratio	0.213	-	-	0.06	-
HCM Ctrl Dly (s/v)	11.3	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.2	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.980					0.865
Flt Protected						
Satd. Flow (prot)	1862	0	0	1900	0	1644
Flt Permitted						
Satd. Flow (perm)	1862	0	0	1900	0	1644
Link Speed (mph)	25			25	25	
Link Distance (ft)	314			173	306	
Travel Time (s)	8.6			4.7	8.3	

Intersection Summary	
Area Type:	Other



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Volume (vph)	190	32	0	195	0	6
Future Volume (vph)	190	32	0	195	0	6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	213	36	0	219	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	249	0	0	219	0	7

Intersection Summary

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	190	32	0	195	0	6
Future Vol, veh/h	190	32	0	195	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	213	36	0	219	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	231
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	813
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	813
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0	9.47
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	813	-	-	-
HCM Lane V/C Ratio	0.008	-	-	-
HCM Ctrl Dly (s/v)	9.5	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	55		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.978			0.936			0.903	
Flt Protected	0.950				0.991			0.974			0.986	
Satd. Flow (prot)	1805	1900	0	0	1841	0	0	1732	0	0	1692	0
Flt Permitted	0.950				0.991			0.974			0.986	
Satd. Flow (perm)	1805	1900	0	0	1841	0	0	1732	0	0	1692	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			374			165			136	
Travel Time (s)		4.7			10.2			4.5			3.7	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	70	126	0	28	107	26	17	0	15	27	0	68
Future Volume (vph)	70	126	0	28	107	26	17	0	15	27	0	68
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	75	135	0	30	115	28	18	0	16	29	0	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	135	0	0	173	0	0	34	0	0	102	0

Intersection Summary

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	126	0	28	107	26	17	0	15	27	0	68
Future Vol, veh/h	70	126	0	28	107	26	17	0	15	27	0	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	55	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	75	135	0	30	115	28	18	0	16	29	0	73

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	135	0	0	461	489	135	475	475	129
Stage 1	-	-	-	-	-	-	286	286	-	189	189	-
Stage 2	-	-	-	-	-	-	175	203	-	286	286	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1452	-	-	1461	-	-	514	482	919	503	491	926
Stage 1	-	-	-	-	-	-	726	679	-	817	747	-
Stage 2	-	-	-	-	-	-	831	737	-	726	679	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1461	-	-	439	447	919	458	455	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	439	447	-	458	455	-
Stage 1	-	-	-	-	-	-	688	643	-	799	731	-
Stage 2	-	-	-	-	-	-	748	721	-	676	643	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	2.72	1.31	11.59	10.85
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	581	1452	-	-	301	-	-	718
HCM Lane V/C Ratio	0.059	0.052	-	-	0.021	-	-	0.142
HCM Ctrl Dly (s/v)	11.6	7.6	-	-	7.5	0	-	10.8
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-	-	0.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	105		85	0		0	105		0	0		0
Storage Lanes	1		1	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850		0.955			0.999			0.978	
Flt Protected	0.950				0.968		0.950					
Satd. Flow (prot)	1805	1900	1615	0	1756	0	1805	1898	0	0	1858	0
Flt Permitted	0.756				0.816		0.950				0.997	
Satd. Flow (perm)	1436	1900	1615	0	1481	0	1805	1898	0	0	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			654		85						13	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		374			108			314			1050	
Travel Time (s)		10.2			2.9			8.6			28.6	

Intersection Summary	
Area Type:	Other

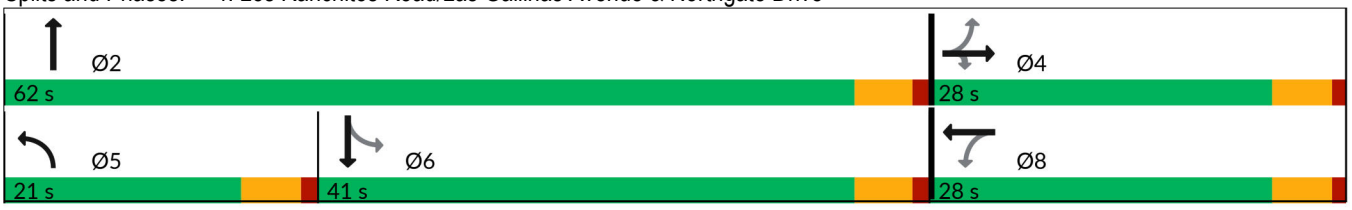
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	53	0	118	2	0	1	108	242	1	3	247	48
Future Volume (vph)	53	0	118	2	0	1	108	242	1	3	247	48
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	58	0	128	2	0	1	117	263	1	3	268	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	0	128	0	3	0	117	264	0	0	323	0

Intersection Summary

Lane Group	EBL	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	53	118	2	0	108	242	3	247
Future Volume (vph)	53	118	2	0	108	242	3	247
Turn Type	Perm	Perm	Perm	NA	Prot	NA	Perm	NA
Protected Phases				8	5	2		6
Permitted Phases	4	4	8				6	
Detector Phase	4	4	8	8	5	2	6	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	26.0	26.0	20.0	20.0	11.0	20.0	32.0	32.0
Total Split (s)	28.0	28.0	28.0	28.0	21.0	62.0	41.0	41.0
Total Split (%)	31.1%	31.1%	31.1%	31.1%	23.3%	68.9%	45.6%	45.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0
Lead/Lag					Lead		Lag	Lag
Lead-Lag Optimize?					Yes		Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	Min
Act Effct Green (s)	8.0	8.0		8.0	8.8	30.1		19.5
Actuated g/C Ratio	0.18	0.18		0.18	0.20	0.69		0.45
v/c Ratio	0.22	0.15		0.01	0.32	0.20		0.39
Control Delay (s/veh)	20.8	0.4		0.0	20.2	4.4		14.4
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0
Total Delay (s/veh)	20.8	0.4		0.0	20.2	4.4		14.4
LOS	C	A		A	C	A		B
Approach Delay (s/veh)						9.2		14.4
Approach LOS						A		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 43.5	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.39	
Intersection Signal Delay (s/veh): 10.6	Intersection LOS: B
Intersection Capacity Utilization 49.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Los Ranchitos Road/Las Gallinas Avenue & Northgate Drive





Lane Group	EBL	EBR	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	58	128	3	117	264	323
v/c Ratio	0.22	0.15	0.01	0.32	0.20	0.39
Control Delay (s/veh)	20.8	0.4	0.0	20.2	4.4	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.8	0.4	0.0	20.2	4.4	14.4
Queue Length 50th (ft)	13	0	0	25	24	64
Queue Length 95th (ft)	46	0	0	75	56	148
Internal Link Dist (ft)			28		234	970
Turn Bay Length (ft)	105	85		105		
Base Capacity (vph)	817	1200	879	714	1884	1516
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.11	0.00	0.16	0.14	0.21

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	0	118	2	0	1	108	242	1	3	247	48
Future Volume (veh/h)	53	0	118	2	0	1	108	242	1	3	247	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	58	0	128	2	0	1	117	263	1	3	268	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	432	283	240	292	34	72	216	1039	4	111	430	83
Arrive On Green	0.15	0.00	0.15	0.15	0.00	0.15	0.12	0.55	0.55	0.28	0.28	0.28
Sat Flow, veh/h	1439	1900	1610	744	226	485	1810	1892	7	5	1541	297
Grp Volume(v), veh/h	58	0	128	3	0	0	117	0	264	323	0	0
Grp Sat Flow(s),veh/h/ln	1439	1900	1610	1454	0	0	1810	0	1899	1843	0	0
Q Serve(g_s), s	1.1	0.0	2.4	0.0	0.0	0.0	2.0	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	2.4	0.0	0.0	0.0	2.0	0.0	2.4	5.1	0.0	0.0
Prop In Lane	1.00		1.00	0.67		0.33	1.00		0.00	0.01		0.16
Lane Grp Cap(c), veh/h	432	283	240	398	0	0	216	0	1043	624	0	0
V/C Ratio(X)	0.13	0.00	0.53	0.01	0.00	0.00	0.54	0.00	0.25	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1215	1318	1117	1147	0	0	873	0	3263	2104	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	0.0	13.0	12.0	0.0	0.0	13.8	0.0	3.9	10.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.8	0.0	0.0	0.0	2.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	0.0	0.0	0.0	0.8	0.0	0.5	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.6	0.0	14.9	12.0	0.0	0.0	15.9	0.0	4.0	11.1	0.0	0.0
LnGrp LOS	B		B	B			B		A	B		
Approach Vol, veh/h		186			3			381			323	
Approach Delay, s/veh		14.2			12.0			7.7			11.1	
Approach LOS		B			B			A			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		23.2		9.9	9.0	14.3		9.9				
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s		57.0		23.0	16.0	36.0		23.0				
Max Q Clear Time (g_c+I1), s		4.4		4.4	4.0	7.1		2.0				
Green Ext Time (p_c), s		1.8		0.5	0.2	2.2		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.3									
HCM 7th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	25		0	95		0	95		0	110		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.950			0.897			0.937			0.898	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1805	0	1805	1704	0	1805	1780	0	1805	1706	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1805	0	1805	1704	0	1805	1780	0	1805	1706	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			82			31			98	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		200			342			1050			244	
Travel Time (s)		5.5			9.3			28.6			6.7	

Intersection Summary	
Area Type:	Other

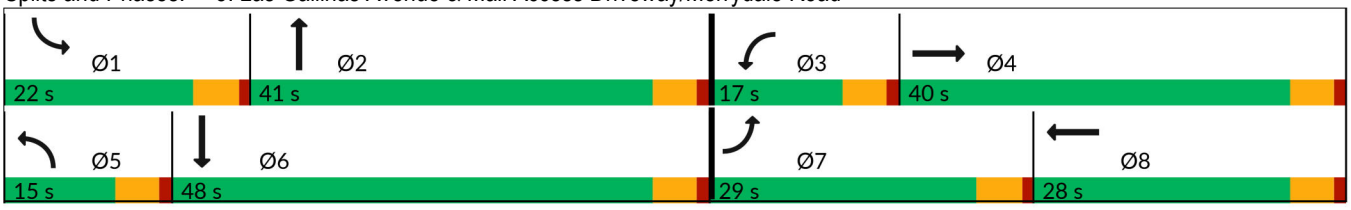
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	256	171	85	88	88	195	88	116	85	139	146	308
Future Volume (vph)	256	171	85	88	88	195	88	116	85	139	146	308
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	269	180	89	93	93	205	93	122	89	146	154	324
Shared Lane Traffic (%)												
Lane Group Flow (vph)	269	269	0	93	298	0	93	211	0	146	478	0

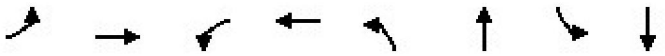
Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	256	171	88	88	88	116	139	146
Future Volume (vph)	256	171	88	88	88	116	139	146
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	20.0	11.0	26.0	11.0	29.0	11.0	27.0
Total Split (s)	29.0	40.0	17.0	28.0	15.0	41.0	22.0	48.0
Total Split (%)	24.2%	33.3%	14.2%	23.3%	12.5%	34.2%	18.3%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	19.3	30.8	10.0	17.8	9.3	23.2	13.1	30.7
Actuated g/C Ratio	0.20	0.32	0.11	0.19	0.10	0.24	0.14	0.32
v/c Ratio	0.73	0.45	0.49	0.77	0.53	0.46	0.59	0.77
Control Delay (s/veh)	51.6	30.4	55.8	43.3	59.1	30.4	53.5	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.6	30.4	55.8	43.3	59.1	30.4	53.5	34.2
LOS	D	C	E	D	E	C	D	C
Approach Delay (s/veh)		41.0		46.3		39.2		38.7
Approach LOS		D		D		D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 94.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay (s/veh): 41.1	Intersection LOS: D
Intersection Capacity Utilization 83.4%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Las Gallinas Avenue & Mall Access Driveway/Merrydale Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	269	269	93	298	93	211	146	478
v/c Ratio	0.73	0.45	0.49	0.77	0.53	0.46	0.59	0.77
Control Delay (s/veh)	51.6	30.4	55.8	43.3	59.1	30.4	53.5	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.6	30.4	55.8	43.3	59.1	30.4	53.5	34.2
Queue Length 50th (ft)	162	130	57	132	57	95	89	229
Queue Length 95th (ft)	#314	244	126	#288	#140	180	178	384
Internal Link Dist (ft)		120		262		970		164
Turn Bay Length (ft)	25		95		95		110	
Base Capacity (vph)	490	728	245	504	204	744	347	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.37	0.38	0.59	0.46	0.28	0.42	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	256	171	85	88	88	195	88	116	85	139	146	308
Future Volume (veh/h)	256	171	85	88	88	195	88	116	85	139	146	308
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	269	180	89	93	93	205	93	122	89	146	154	324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	314	373	185	121	108	238	120	297	217	183	178	374
Arrive On Green	0.17	0.31	0.31	0.07	0.20	0.20	0.07	0.29	0.29	0.10	0.33	0.33
Sat Flow, veh/h	1810	1200	593	1810	528	1163	1810	1021	745	1810	546	1148
Grp Volume(v), veh/h	269	0	269	93	0	298	93	0	211	146	0	478
Grp Sat Flow(s),veh/h/ln	1810	0	1793	1810	0	1691	1810	0	1766	1810	0	1693
Q Serve(g_s), s	12.5	0.0	10.6	4.4	0.0	14.8	4.4	0.0	8.4	6.9	0.0	23.1
Cycle Q Clear(g_c), s	12.5	0.0	10.6	4.4	0.0	14.8	4.4	0.0	8.4	6.9	0.0	23.1
Prop In Lane	1.00		0.33	1.00		0.69	1.00		0.42	1.00		0.68
Lane Grp Cap(c), veh/h	314	0	558	121	0	345	120	0	514	183	0	552
V/C Ratio(X)	0.86	0.00	0.48	0.77	0.00	0.86	0.77	0.00	0.41	0.80	0.00	0.87
Avail Cap(c_a), veh/h	499	0	722	250	0	447	208	0	731	354	0	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	24.3	39.9	0.0	33.4	39.9	0.0	24.8	38.2	0.0	27.5
Incr Delay (d2), s/veh	8.4	0.0	0.6	9.9	0.0	12.9	10.1	0.0	0.5	7.6	0.0	6.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	4.5	2.3	0.0	7.2	2.3	0.0	3.5	3.4	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	0.0	24.9	49.8	0.0	46.3	50.0	0.0	25.4	45.8	0.0	33.8
LnGrp LOS	D		C	D		D	D		C	D		C
Approach Vol, veh/h		538			391			304			624	
Approach Delay, s/veh		34.1			47.2			32.9			36.6	
Approach LOS		C			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	30.3	10.8	32.1	10.8	33.3	20.1	22.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	17.0	36.0	12.0	35.0	10.0	43.0	24.0	23.0
Max Q Clear Time (g_c+I1), s	8.9	10.4	6.4	12.6	6.4	25.1	14.5	16.8
Green Ext Time (p_c), s	0.2	1.3	0.1	1.7	0.1	3.3	0.6	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	37.5
HCM 7th LOS	D

Appendix B

Roadway Construction Noise Model Results

Construction Noise

Lmax	Noise Level @ 50 ft	Alma Via - Senior Living	Single Family Res to the W	Drake Terrace - Senior Living	Mt Olivet San Raf Cemetery
Distance		10	10	10	375
Demolition	90	103.979	103.979	103.979	72.499
Site Preparation	85	98.979	98.979	98.979	67.499
Grading	85	98.979	98.979	98.979	67.499
Building Construction	78	91.979	72.069	91.979	60.499
Paving	80	93.979	93.979	93.979	62.499
Architectural Coating	78	91.979	91.979	91.979	60.499

Construction Vibration

in/sec PPV	Vibration @ 25 ft	Alma Via - Senior Living	Single Family Res to the W	Drake Terrace
Distance		18	40	45
Vibratory Roller	0.21	0.344	0.104	0.087
Large Bulldozer	0.089	0.146	0.044	0.037
Loaded Trucks	0.076	0.124	0.038	0.031
Small Bulldozer	0.003	0.005	0.001	0.001

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/22/2025
Case Description: Demolition

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Demolition	Residential	65.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	50.0	0.0
Dozer	No	40		81.7	50.0	0.0
Front End Loader	No	40		79.1	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	79.1	75.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	84.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/22/2025
Case Description: Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Site Preparation	Residential	65.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Scraper	No	40		83.6	50.0	0.0
Grader	No	40	85.0		50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)				Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Scraper	83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85.0	83.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/22/2025
Case Description: Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Grading	Residential	65.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	50.0	0.0
Grader	No	40	85.0		50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85.0	81.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85.0	83.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/22/2025
Case Description: Building Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Building Construction	Residential	65.0	55.0	50.0

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Equipment Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Man Lift	No	20		74.7	50.0	0.0
Man Lift	No	20		74.7	50.0	0.0
Backhoe	No	40		77.6	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day	Evening	Night

Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	74.7	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.6	75.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/22/2025
Case Description: Paving

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Paving	Residential	65.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Roller	No	20		80.0	50.0	0.0
Roller	No	20		80.0	50.0	0.0
Paver	No	50		77.2	50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80.0	73.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	80.0	78.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 12/22/2025
Case Description: Architectural Coating

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Architectural Coating	Residential	65.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	50.0	0.0

Results

Noise Limit Exceedance (dBA)							Noise Limits (dBA)			
Calculated (dBA)		Day		Evening		Night		Day		Evening
Night										
Equipment		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq				
Compressor (air)		77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A				
Total		77.7	73.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A				

Appendix C

Operational Equipment Specifications

Amana® Brand PTAC Sound Report

As a manufacturer of PTAC equipment we realize the importance of product acoustics and sound levels to overall customer satisfaction. As a long standing member of the American Heating and Refrigeration Institute (AHRI) it is our practice to utilize U.S. based, accredited third party acoustical laboratories to test our equipment and to validate our test results from our U.S. based engineering, test, and production facilities. We also believe that back-to-back testing with our and competitive products by these third party testing facilities provide the best, most unbiased product performance comparisons. This report will discuss the various definitions regarding sound, how it is measured and the methods by which we design and test our PTAC equipment to meet industry standards. We will also show comparative results from third party testing facilities of our Amana® brand and our competitor's PTAC products.

Acoustics is the branch of science dealing with the production, control, transmission, reception and effects of longitudinal pressure waves in a material medium (gas or liquid). Sound is the sensation perceived by the sense of hearing. What can be measured and how is it measured? The sensors available measure the amplitude of the longitude pressure waves, similar to the human ear. The amplitude of these pressure waves is the **Sound Pressure** in units of Pascals (Pa). What is a longitudinal wave? It is a compression and expansion wave. The air pressure on your ear (or a microphone) increases and decreases by a small amount which is then perceived as sound. **What is a decibel or dB?** Since Sound Pressure is non-linear with respect to the human ear, the standard unit of sound measurement is the decibel. The decibel is a logarithm unit based on the threshold of human hearing. Another unit of sound measurement is the Bel (typically used for sound power levels), named after Alexander Graham Bell. Decibels are 1/10th of a Bel. **What is dBA?** dBA is an A-weighted decibel. It is a frequency weighting of the sound signal and is another attempt to calculate sound magnitude in a way that follows the human ear. Since some frequencies are perceived to be louder than others, this weighting provides a way to account for that perception. To better understand sound pressure and sound power measurements is to think in terms of an electric light bulb. **Sound Pressure Level** = Brightness, which varies at different locations around the bulb. Sound Pressure level depends on a variety of factors including distance from the sound source (PTAC in motel room), the surroundings including floor coverings, hard or soft, walls, curtains, and articles in the room or space. On the other hand **Sound Power Level** = Bulb Wattage, which has only 1 value, i.e. 75 watts.

We design and manufacture our Amana brand PTAC products to meet the Sound Rating System and Industry Standard calling out the applicable test and rating for PTAC equipment. The independent, nationally accredited and certified acoustical laboratory tested both the Amana brand and competitive equipment in accordance to ASTM Standard E90 and calculated with E413 for the Sound Transmission Classification and E1332 for the Outdoor-Indoor Transmission Classification. The Outdoor/Indoor tests were conducted in accordance with ARI Standards 350 and 270 respectively. Breul & Kjaer instrumentation were used for acoustical data acquisition during all tests.

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Each of these methods was developed for specific applications; not all methods are equally suitable for the rating of HVAC related sound in the variety of applications encountered. Several background sound rating methods are used to rate indoor sound:

Sound Transmission Class
Outdoor-Indoor Transmission Class
A-weighted sound power level (dBA or Bels)
A-weighted sound pressure level (dBA)
Noise Criteria (NC)

The A-weighted sound level is widely used to state acoustical design goals as a single number and is expressed as a number followed by dBA, for example 55 dBA. But usefulness is limited because it gives no information on the spectral content. Many different-sounding spectra can have the same numeric rating, but due to each individual's hearing capabilities, have quite different subjective qualities. Thus, **A-weighted levels** should be used with sounds that sound alike but are different in level. A-weighted sound levels correlate well with human judgments of relative loudness, but give no information on spectral balance. Thus, they do not necessarily correlate well with the potential annoyances caused by sound.

Both Sound Pressure and Sound Power are recorded and stated as dB, but when stating Sound Pressure you must also state the distance from the unit and volume of space in order to qualify the measurement.

A-weighted **sound pressure levels** are used extensively in outdoor environmental sound standards in situations with known measurement environmental factors.

A-weighted **sound power levels** are used extensively in outdoor environmental sound standards where measurement environment is a non-factor.

The laboratory also tested for **NC (Noise Criteria),** to provide spectral distribution of the sound using a single number. This rating has been popular in the HVAC industry for some time**.** NC ratings are used to calculate ratings for some HVAC components such as terminal units and diffusers.

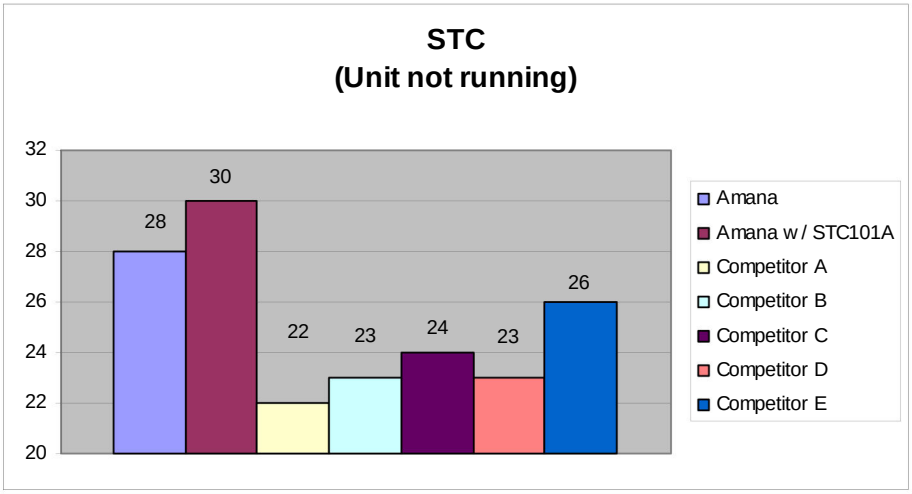
For a given sound spectrum, the NC rating can be obtained by plotting its octave band levels on the set of NC curves. The sound spectrum is specified as having a NC rating same as the lowest NC curve which is not exceeded by the spectrum. NC puts more emphasis on the speech communication mid range frequencies.

Tests were conducted to determine sound transmission loss as reported as **STC** (Sound Transmission Class) and **OITC** (Outdoor/Indoor Transmission Class). The purpose of the **STC** is to provide a single value rating that can be used to compare the sound insulating properties of partition elements for general building design purposes. The higher the **STC** rating is the greater (or better) the sound insulating properties of the tested partition. The units are not operating during the **STC** tests.

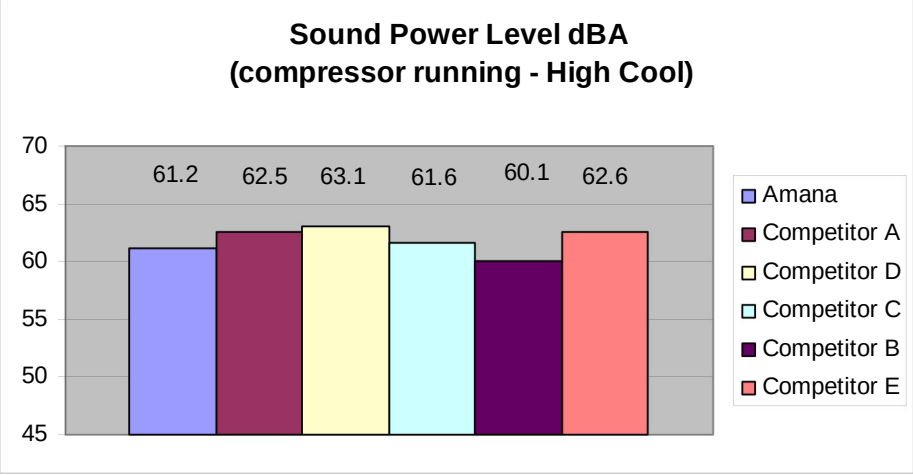
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The **OITC** purpose is also to provide a single number rating that can be used for comparing building façade designs including exterior walls, doors, windows, air conditioning units and a combination thereof. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of ground and transportation sounds. It is intended to be used as a rank-ordering device. The higher the **OITC** rating is, the greater the sound insulating properties of the partition. The units also, are not operating during the **OITC** tests.

Below are the results of testing completed by our 3rd party, U.S. based accredited acoustical laboratory. The results are from testing our major competitors 12K PTAC units and our Amana 12K PTAC.

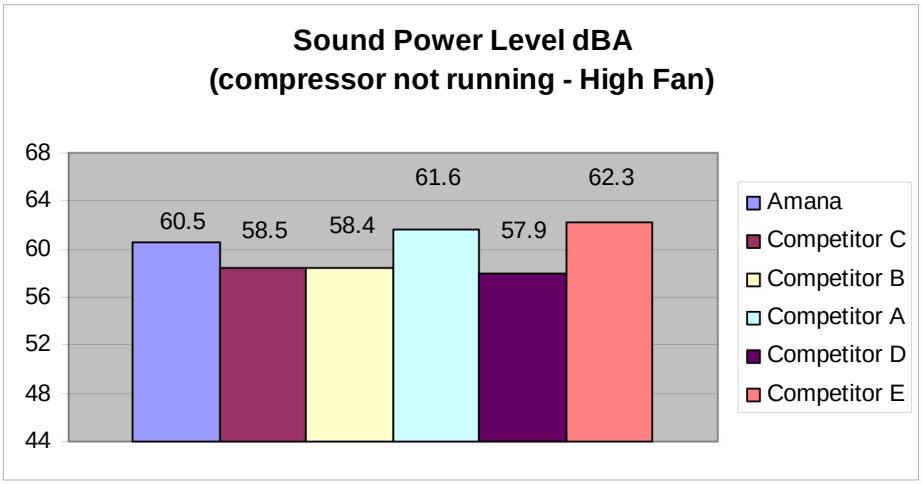


The higher the STC number the better the sound insulation of the PTAC partition.

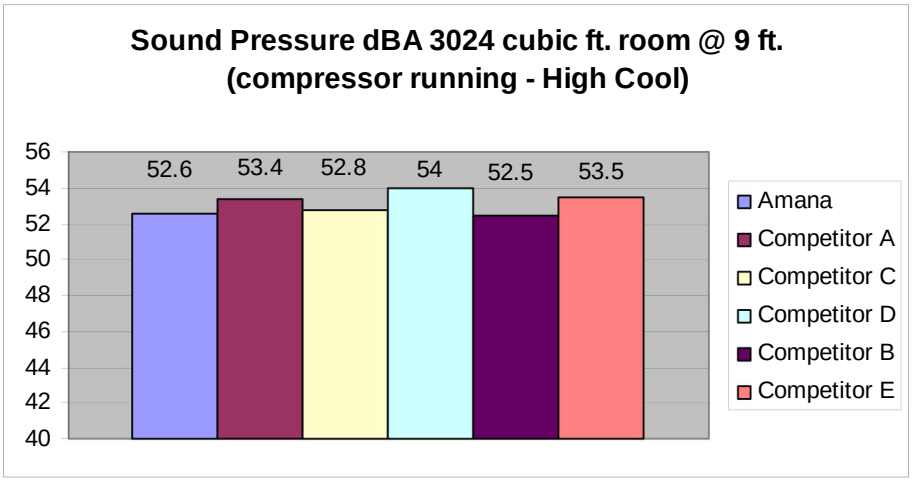


The lower the Sound Power number the less sound is generated during operation.

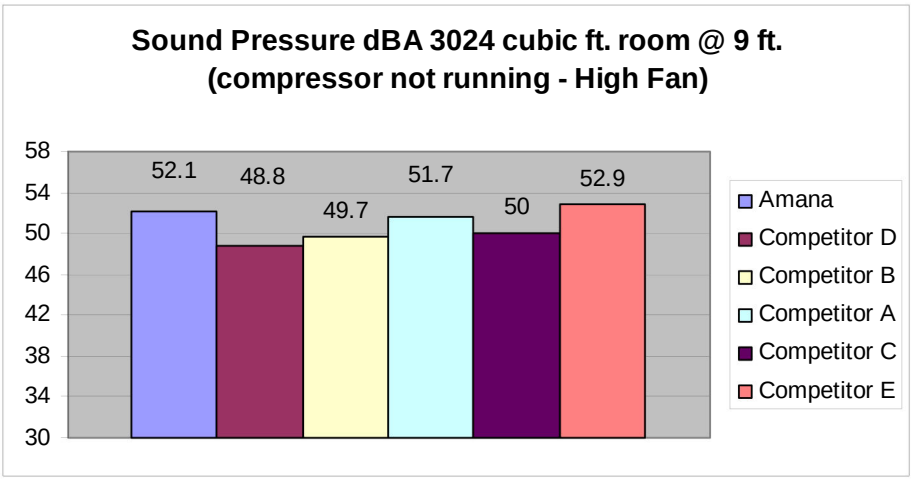
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The lower the Sound Power number the less sound is generated during operation.

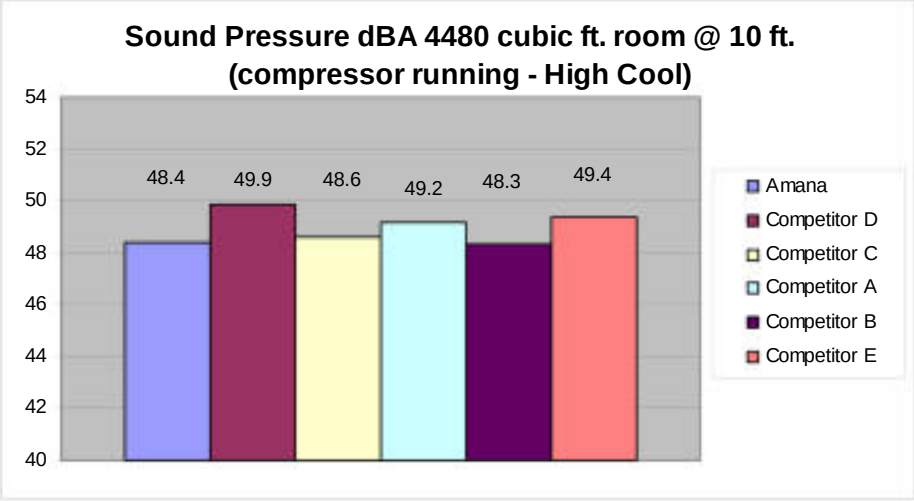


The lower the Sound Pressure number the less sound is generated during operation.

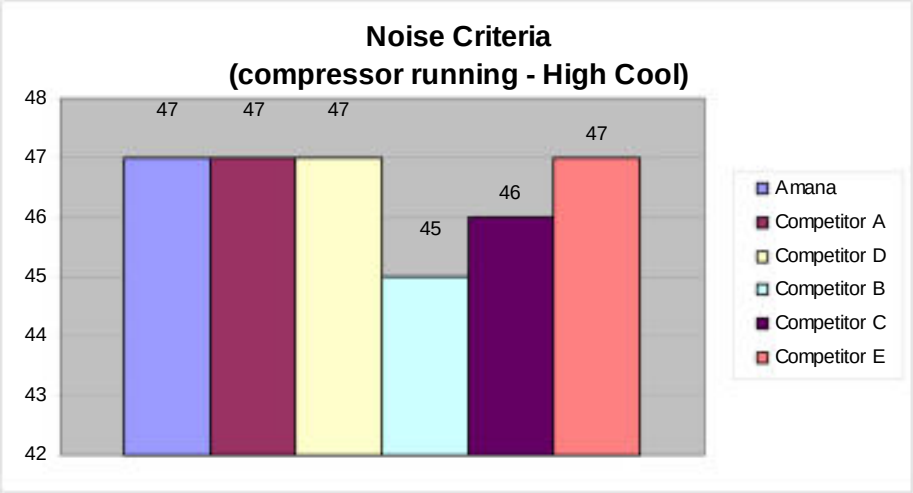


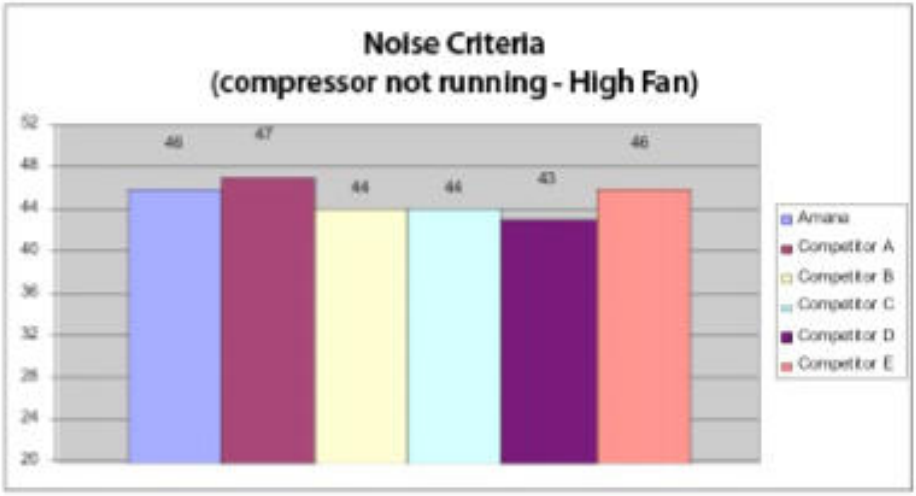
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	Amana / Amana w/ STC101A kit	Competitor A	Competitor B	Competitor C	Competitor D	Competitor E
STC (unit off)	**28/30**	**22**	**23**	**24**	**23**	**26**
Sound Power Level dBA (compressor running - High Cool)	**61.2**	**62.5**	**60.1**	**61.6**	**63.1**	**62.6**
Sound Power Level dBA (Compressor off- High Fan)	**60.5**	**61.6**	**58.4**	**58.5**	**57.9**	**62.3**
Sound Pressure dBA 3024 cubic ft room @ 9 ft (compressor running - High Cool)	**52.6**	**53.4**	**52.5**	**52.8**	**54**	**53.5**
Sound Pressure dBA 3024 cubic ft room @ 9 ft (compressor off - High Fan)	**52.1**	**51.7**	**49.7**	**50**	**48.8**	**52.9**
Sound Pressure dBA 4480 cubic ft room @ 10 ft (compressor running - High Cool)	**48.4**	**49.2**	**48.3**	**48.6**	**49.9**	**49.4**
NC - compressor running (High Cool)	**47**	**47**	**45**	**46**	**47**	**47**
NC - compressor off (High Fan)	**46**	**47**	**44**	**44**	**43**	**46**

Test Methods:
The laboratory method used in conducting these tests is in accordance with ARI 300-2000 "Sound Rating and Sound Transmission Loss of Packaged Terminal Equipment". The air conditioner was mounted in the wall of a 16,640 cu. Ft. reverberation room. The wall was constructed to minimize any wall vibration effects. Indoor/outdoor tests were conducted in accordance with ARI Standard 350 and 270 respectively. During cooling and heating tests temperature and humidity conditions in the outdoor and indoor rooms were in accordance with the standards and were held steady for one-half hour prior to and during the test.

The Bruel & Kjaer Type 4204 reference sound source (RSS) was used to obtain the sound power level data. The sound pressure levels were obtained on a Bruel & Kjaer Digital Frequency Analyzer Model 2131, analyzed on a Compaq Prolinea 4/33 Computer and printed using an Epson LQ-850 printer.

We believe that as a domestic manufacturer of PTAC equipment, we must strive to meet or exceed the demands of our customers. We strive to produce products that provide long-life and economical operation at a competitive price. The accredited, third party test data provided above validates that our Amana® brand PTAC products rank among the best in sound testing in the industry. As a long standing member of AHRI, we will continue to develop new products and drive continuous improvements to meet the needs of our customers in all areas of performance including sound and efficiency and impartially 3rd party test to standards as prescribed by AHRI and the American Society of Heating, Refrigeration and Air-conditioning Engineers.

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Appendix D

Air Quality Modeling Results

555 Northgate Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	555 Northgate
Construction Start Date	3/2/2027
Operational Year	2029
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.6
Precipitation (days)	28
Location	555 Northgate Dr, San Rafael, CA 94903, USA
County	Marin
City	San Rafael
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	915
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.35

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Apartments Mid Rise	200	Dwelling Unit	1.9	235,419	8,393	0.00	480	—

Parking Lot	36	Space	0.32	0.00	0.00	0.00	—	—
Enclosed Parking with Elevator	106	Space	0.00	42,400	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.1	0.98	6.9	28	0.04	0.07	7.5	7.5	0.07	3.5	3.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	167	167	5.8	20	0.03	0.05	1.8	1.9	0.05	0.43	0.48
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.2	9.2	3.6	13	0.02	0.04	1.1	1.1	0.04	0.30	0.33
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.7	1.7	0.66	2.3	< 0.005	0.01	0.20	0.20	0.01	0.05	0.06

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—

2027	1.1	0.98	6.9	28	0.04	0.07	7.5	7.5	0.07	3.5	3.6
2028	0.86	0.74	5.0	19	0.03	0.05	1.5	1.6	0.05	0.37	0.42
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2027	0.87	0.74	5.2	18	0.03	0.05	1.5	1.6	0.05	0.37	0.42
2028	0.84	0.72	5.1	18	0.03	0.05	1.5	1.6	0.05	0.37	0.42
2029	167	167	5.8	20	0.03	0.05	1.8	1.9	0.05	0.43	0.48
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2027	0.44	0.38	2.8	11	0.02	0.03	1.0	1.0	0.03	0.30	0.33
2028	0.60	0.51	3.6	13	0.02	0.04	1.1	1.1	0.04	0.26	0.29
2029	9.2	9.2	0.62	2.1	< 0.005	0.01	0.19	0.20	0.01	0.05	0.05
Annual	—	—	—	—	—	—	—	—	—	—	—
2027	0.08	0.07	0.51	2.0	< 0.005	0.01	0.19	0.19	0.01	0.05	0.06
2028	0.11	0.09	0.66	2.3	< 0.005	0.01	0.20	0.20	0.01	0.05	0.05
2029	1.7	1.7	0.11	0.39	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10	10	1.9	35	0.06	0.04	5.4	5.5	0.04	1.4	1.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.9	8.7	2.1	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.6	9.3	2.1	27	0.05	0.04	5.3	5.4	0.03	1.3	1.4
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.7	1.7	0.37	4.8	0.01	0.01	0.97	0.98	0.01	0.25	0.25

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.1	2.8	1.8	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Area	7.3	7.2	0.12	13	< 0.005	0.01	—	0.01	0.01	—	0.01
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—	—
Total	10	10	1.9	35	0.06	0.04	5.4	5.5	0.04	1.4	1.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.0	2.7	2.1	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Area	5.9	5.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—	—
Total	8.9	8.7	2.1	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.9	2.7	2.0	20	0.05	0.03	5.3	5.4	0.03	1.3	1.4
Area	6.6	6.6	0.06	6.5	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—	—

Refrig.	—	—	—	—	—	—	—	—	—	—	—
Total	9.6	9.3	2.1	27	0.05	0.04	5.3	5.4	0.03	1.3	1.4
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.54	0.49	0.36	3.7	0.01	0.01	0.97	0.98	0.01	0.25	0.25
Area	1.2	1.2	0.01	1.2	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—
Waste	—	—	—	—	—	—	—	—	—	—	—
Refrig.	—	—	—	—	—	—	—	—	—	—	—
Total	1.7	1.7	0.37	4.8	0.01	0.01	0.97	0.98	0.01	0.25	0.25

3. Construction Emissions Details

3.1. Demolition (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	2.3	15	0.02	0.05	—	0.05	0.05	—	0.05
Demolition	—	—	—	—	—	—	0.37	0.37	—	0.06	0.06
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.25	2.3	15	0.02	0.05	—	0.05	0.05	—	0.05
Demolition	—	—	—	—	—	—	0.37	0.37	—	0.06	0.06
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.26	1.7	< 0.005	0.01	—	0.01	0.01	—	0.01
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.42	0.00	0.00	0.10	0.10	0.00	0.02	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.41	0.25	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.43	0.25	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.02
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.05	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.3. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.26	0.26	1.3	15	0.03	0.05	—	0.05	0.05	—	0.05
Dust From Material Movement	—	—	—	—	—	—	1.6	1.6	—	0.17	0.17
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.23	1.2	14	0.02	0.05	—	0.05	0.05	—	0.05
Dust From Material Movement	—	—	—	—	—	—	7.1	7.1	—	3.4	3.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.12	0.12
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.34	0.00	0.00	0.08	0.08	0.00	0.02	0.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.16	0.02	1.5	0.94	0.01	0.01	0.29	0.31	0.01	0.08	0.09
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.06	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.6	5.5	0.01	0.02	—	0.02	0.02	—	0.02
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.29	1.0	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.55	0.49	0.35	5.5	0.00	0.00	1.3	1.3	0.00	0.31	0.31
Vendor	0.10	0.03	1.0	0.60	0.01	0.01	0.20	0.22	0.01	0.06	0.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.48	0.41	4.9	0.00	0.00	1.3	1.3	0.00	0.31	0.31
Vendor	0.09	0.03	1.1	0.61	0.01	0.01	0.20	0.22	0.01	0.06	0.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—

Worker	0.23	0.20	0.17	2.1	0.00	0.00	0.57	0.57	0.00	0.13	0.13
Vendor	0.04	0.01	0.45	0.26	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.10	0.10	0.00	0.02	0.02
Vendor	0.01	< 0.005	0.08	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	2.7	9.1	0.02	0.03	—	0.03	0.03	—	0.03
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.49	1.7	< 0.005	0.01	—	0.01	0.01	—	0.01
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.48	0.30	5.2	0.00	0.00	1.3	1.3	0.00	0.31	0.31
Vendor	0.09	0.02	0.96	0.57	0.01	0.01	0.20	0.22	0.01	0.06	0.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.46	0.40	4.7	0.00	0.00	1.3	1.3	0.00	0.31	0.31
Vendor	0.09	0.02	1.0	0.59	0.01	0.01	0.20	0.22	0.01	0.06	0.07
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.37	0.33	0.25	3.2	0.00	0.00	0.94	0.94	0.00	0.22	0.22
Vendor	0.06	0.02	0.71	0.42	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.59	0.00	0.00	0.17	0.17	0.00	0.04	0.04
Vendor	0.01	< 0.005	0.13	0.08	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.24	3.7	13	0.02	0.04	—	0.04	0.04	—	0.04

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.43	1.5	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.27	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.44	0.36	4.4	0.00	0.00	1.3	1.3	0.00	0.31	0.31
Vendor	0.08	0.02	0.95	0.57	0.01	0.01	0.20	0.22	0.01	0.06	0.06
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.49	0.00	0.00	0.15	0.15	0.00	0.04	0.04
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.03	0.03	0.00	0.01	0.01
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T

Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	1.8	8.3	0.01	0.02	—	0.02	0.02	—	0.02
Paving	0.04	0.04	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.51	0.00	0.00	0.12	0.12	0.00	0.03	0.03
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	166	166	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	9.1	9.1	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Architectural Coatings	1.7	1.7	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	0.87	0.00	0.00	0.27	0.27	0.00	0.06	0.06
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.1	2.8	1.8	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	3.1	2.8	1.8	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	3.0	2.7	2.1	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	3.0	2.7	2.1	21	0.05	0.03	5.4	5.4	0.03	1.4	1.4
Annual	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.54	0.49	0.36	3.7	0.01	0.01	0.97	0.98	0.01	0.25	0.25
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.54	0.49	0.36	3.7	0.01	0.01	0.97	0.98	0.01	0.25	0.25

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	5.0	5.0	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.91	0.91	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.4	1.3	0.12	13	< 0.005	0.01	—	0.01	0.01	—	0.01
Total	7.3	7.2	0.12	13	< 0.005	0.01	—	0.01	0.01	—	0.01

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	5.0	5.0	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.91	0.91	—	—	—	—	—	—	—	—	—
Total	5.9	5.9	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00
Consumer Products	0.92	0.92	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.2	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005
Total	1.2	1.2	0.01	1.2	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	3/2/2027	4/28/2027	5.0	42	—
Site Preparation	Site Preparation	4/29/2027	5/6/2027	5.0	6.0	—
Grading	Grading	5/7/2027	5/25/2027	5.0	13	—
Building Construction	Building Construction	5/26/2027	2/28/2029	5.0	461	—
Paving	Paving	5/26/2027	6/22/2027	5.0	20	—
Architectural Coating	Architectural Coating	2/1/2029	2/28/2029	5.0	20	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.0	33	0.73
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.0	8.0	84	0.37
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Tier 4 Final	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.0	84	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.0	7.0	84	0.37
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	2.0	7.0	82	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Final	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	6.0	84	0.37
Building Construction	Welders	Diesel	Tier 4 Final	3.0	8.0	46	0.45
Paving	Cement and Mortar Mixers	Diesel	Tier 4 Final	1.00	8.0	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.0	8.0	36	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.0	37	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	13	12	LDA,LDT1,LDT2
Demolition	Vendor	—	8.4	HHDT,MHDT
Demolition	Hauling	4.1	20	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	7.5	12	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.4	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.0	12	LDA,LDT1,LDT2
Grading	Vendor	—	8.4	HHDT,MHDT
Grading	Hauling	15	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	162	12	LDA,LDT1,LDT2
Building Construction	Vendor	28	8.4	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15	12	LDA,LDT1,LDT2
Paving	Vendor	—	8.4	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	32	12	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.4	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	476,723	158,908	0.00	0.00	836

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	14,980	0.00
Site Preparation	0.00	0.00	9.0	0.00	0.00
Grading	1,600	0.00	13	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.32

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Apartments Mid Rise	—	0%
Paving	Parking Lot	0.32	100%
Paving	Enclosed Parking with Elevator	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005
2029	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	906	906	906	330,690	7,702	7,702	7,702	2,811,099
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	200	200
Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0

Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0
Enclosed Parking with Elevator	Wood Fireplaces	0	0
Enclosed Parking with Elevator	Gas Fireplaces	0	0
Enclosed Parking with Elevator	Propane Fireplaces	0	0
Enclosed Parking with Elevator	Electric Fireplaces	0	0
Enclosed Parking with Elevator	No Fireplaces	0	0
Enclosed Parking with Elevator	Conventional Wood Stoves	0	0
Enclosed Parking with Elevator	Catalytic Wood Stoves	0	0
Enclosed Parking with Elevator	Non-Catalytic Wood Stoves	0	0
Enclosed Parking with Elevator	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

—	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
undefined	476,723	158,908	0.00	0.00	836

5.10.3. Landscape Equipment

Season	Unit	Value

Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,296,862	204	0.0330	0.0040	0.00
Parking Lot	12,211	204	0.0330	0.0040	0.00
Enclosed Parking with Elevator	156,517	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	6,044,400	84,454
Parking Lot	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	148	0.00
Parking Lot	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	8.9	annual days of extreme heat
Extreme Precipitation	14	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	6.3	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	4	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	4	1	1	4
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	11
AQ-PM	22
AQ-DPM	34
Drinking Water	7.4
Lead Risk Housing	29
Pesticides	9.9
Toxic Releases	38
Traffic	59
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	3.3
Haz Waste Facilities/Generators	81
Impaired Water Bodies	0.00
Solid Waste	22
Sensitive Population	—
Asthma	17
Cardio-vascular	24
Low Birth Weights	31
Socioeconomic Factor Indicators	—

Education	47
Housing	34
Linguistic	64
Poverty	50
Unemployment	83

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	76.22225074
Employed	97.33093802
Median HI	69.74207622
Education	—
Bachelor's or higher	80.97010137
High school enrollment	100
Preschool enrollment	61.06762479
Transportation	—
Auto Access	10.39394328
Active commuting	65.75131528
Social	—
2-parent households	71.73104068
Voting	98.49865264
Neighborhood	—
Alcohol availability	66.46990889
Park access	81.35506224
Retail density	79.30193764
Supermarket access	54.22815347

Tree canopy	91.64634929
Housing	—
Homeownership	46.43911202
Housing habitability	14.07673553
Low-inc homeowner severe housing cost burden	59.822918
Low-inc renter severe housing cost burden	60.07955858
Uncrowded housing	56.30694213
Health Outcomes	—
Insured adults	71.87219299
Arthritis	0.0
Asthma ER Admissions	61.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	60.2
Cognitively Disabled	32.0
Physically Disabled	5.0
Heart Attack ER Admissions	81.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	63.2
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	63.4
Children	65.5
Elderly	4.5
English Speaking	40.8
Foreign-born	51.4
Outdoor Workers	87.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	74.4
Traffic Density	81.1
Traffic Access	59.7
Other Indices	—
Hardship	18.8
Other Decision Support	—
2016 Voting	96.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	19
Healthy Places Index Score for Project Location (b)	82
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Changes to lot size based on actual site area of 2.22 acres and building square footage of 235,419 square feet. landscaped area based on courtyard size.
Construction: Construction Phases	Project is 2 years of construction. Default of one year revised to approximately double estimated days per phase to account for the 2 year construction Schedule. Spring 2027 to Spring 2029. Demo, 20 to 42, Site Preparation 3 to 6; grading 6 to 13, building construction 220 to 461; Paving and Arch. Coating 10 to 20. Paving and Arch Coating moved to over lap with building construction phasing.
Construction: Off-Road Equipment	Project Design Feature calls for use of Tier 4 equipment throughout construction. Default average engine tier revised to Tier 4 Final in accordance with the project design feature.
Operations: Vehicle Data	Defaults of 5.44, 4.91, and 4.09 for weekday, Sat and Sun were revised to 4.53 in accordance with the provided traffic study to account for the affordable housing land use and the net new trips of 906 per day.
Operations: Hearths	No natural gas in building. Affordable housing, no fireplaces will be added.
Operations: Energy Use	Project will not have natural gas to the site. Default total electricity of 461,955.82 was increased to 1,296,862.42 to account for conversion of default BTU to KWh. 0.000293071 kWh per BTU conversion factor used.

Appendix E

Historical Resources Assessment

Rincon Consultants, Inc.
66 Franklin Street, Suite 300
Oakland, California 94607
805-644-4455

December 17, 2025
Project No: 25-18320

Christina Ratcliffe, AICP
Project Consultant, City of San Rafael
1400 5th Avenue
San Rafael, California 94901
Via email: Christina.Ratcliffe@cityofsanrafael.org

Subject: Historical Resources Assessment for the 555 Northgate Affordable Housing Project, 555 Northgate Drive, San Rafael, California, 94903

Dear Ms. Ratcliffe:

This letter report presents the findings of a historical resources assessment completed in support of the 555 Northgate Drive Affordable Housing Project (hereafter, project) on APN 175-060-32 in San Rafael. The City of San Rafael retained Rincon Consultants, Inc. (Rincon) to support the project's compliance with the California Environmental Quality Act (CEQA). This letter report documents the methods and results of a cultural resources records search, archival and background research, Sacred Lands File search, field survey, and California Register of Historical Resources (CRHR) and City of San Rafael Landmark evaluations. The intent of the study is to identify historical resources, as defined by CEQA Section 15064.5(a), within the project site.

Architectural Historian Josh Bevan, AICP, MSHP conducted archival research, pedestrian survey of the subject property, and was the primary author of this assessment. Cultural Resources Director Steven Treffers, MHP, provided senior oversight. Senior Archeologist Michael Vader prepared geoarchaeological analysis and provided senior oversight. Archeologist Clare Allen prepared is a contributing author of this assessment. Geographic Information Systems Analyst Kaylee Herbold prepared the figures found in this report. Mr. Bevan and Mr. Treffers meet the Secretary of the Interior's Professional Qualifications Standards (PQS) for history and architectural history (36 CFR, Part 61).

Project Site and Description

The project site is comprised of one located on the south side of Northgate Drive (Attachment 1, Figure 1). Specifically, the project encompasses portions of Township 02N, Range 06W, Section 20 on the *Novato, California* and *San Rafael, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangles.

The project would involve demolition of the existing building and pavement on the project site and construction of a new seven-story residential building with 200 dwelling units, using provisions of State density bonus law. The first story would be a partial story to accommodate the sloping site and would consist of parking and resident amenities. The second story would consist of parking and six residential units; floors 3 through 7 would be residential units around two courtyards (Attachment 1, Figure 2).

Methods

This section describes the methodology of the background and archival research, cultural resources records search, Sacred Lands File search, field survey, and CRHR and City Landmark evaluations conducted to identify historical resources with the potential to be impacted by the proposed project.

Background and Archival Research

Rincon completed background and archival research in support of this assessment in November and December 2025. A variety of primary and secondary source materials were consulted. Sources included, but were not limited to, historical maps, aerial photographs, and written histories of the area. The following sources were utilized to develop an understanding of the project site and its context:

- Geocon Consultants, Inc., Geotechnical Investigation: Proposed 6-story Mixed-Use Development, 555 Northgate Drive, San Rafael, CA. Prepared for AMG & Associates, LLC, March 2024 (Geocon 2024)
- Dudek, Northgate Town Square Draft Environmental Impact Review (EIR): Appendix C: Final Built Environment Inventory and Evaluation Report Northgate Town Square Project, San Rafael, California. September 2022, in Northgate Town Square Draft Environmental Impact Review (Dudek 2022)
- Marin County Assessor's Office property data accessed via ParcelQuest
- Historical aerial photographs accessed via NETR Online
- Historical aerial photographs accessed via University of California, Santa Barbara Library FrameFinder (UCSB)
- Historical United States Geological Survey (USGS) topographic maps accessed online, via USGS topoView
- City of San Rafael Building Permits accessed via the City's Online Record Search (San Rafael City of 2025a, 2025b)
- Historical newspaper clippings obtained from Newspapers.com
- Various historical records via Ancestry.com

California Historical Resources Information System Records Search

Rincon completed a California Historical Resources Information System (CHRIS) records search (24-0954) through the Northwest Information Center (NWIC) at Sonoma State University. The NWIC is the official state repository for cultural resources records and reports for the county in which the project falls. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project site and a 0.25-mile radius. Rincon also reviewed the National Register of Historic Places (NRHP), CRHR, California Historical Landmarks list, Built Environment Resources Directory (BERD), and the Archaeological Determination of Eligibility list.

Sacred Lands File Search

Rincon contacted the Native American Heritage Commission (NAHC) on November 10, 2025 to request a search of the Sacred Lands File (SLF), as well as a contact list of Native Americans culturally affiliated with the project site vicinity.

Field Survey

Rincon Architectural Historian Josh Bevan, AICP, MSHP conducted a built environment survey of the project site on November 24, 2025. Site characteristics and survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained digitally by Rincon. Pursuant to OHP Guidelines (California OHP 1995: 2), properties within the project

site and over 45 years of age were evaluated for historical resources eligibility and recorded on California Department of Parks (DPR) 523 series forms.

California Register of Historical Resources

The CRHR was established in 1992 and codified by PRC Sections 5024.1 and Title 14 Section 4852. The CRHR is an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (PRC 5024.1[a]). The criteria for eligibility for the CRHR are consistent with the NRHP criteria but have been modified for state use in order to include a range of historical resources that better reflect the history of California (PRC 5024.1[b]). Unlike the NRHP however, the CRHR does not have a defined age threshold for eligibility; rather, a resource may be eligible for the CRHR if it can be demonstrated sufficient time has passed to understand its historical or architectural significance (California Office of Historic Preservation [OHP] 2011). Furthermore, resources may still be eligible for listing in the CRHR even if they do not retain sufficient integrity for NRHP eligibility (OHP 2011). Generally, the OHP recommends resources over 45 years of age be recorded and evaluated for historical resources eligibility (OHP 1995: 2).

A property is eligible for listing in the CRHR if it meets one of more of the following criteria:

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

Criterion 2: Is associated with the lives of persons important to our past.

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

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

City San Rafael Landmarks

Chapter 2.18 Historic Preservation of the City of San Rafael Code of Ordinances (San Rafael, City of 2024) lists criteria for the designation of buildings, places, and areas in the City of San Rafael as historic landmarks or historic districts as follows:

(a) Historical, Cultural Importance.

(1) Has significant character, interest, or value as part of the development, heritage or cultural characteristics of the city, state or nation; or is associated with the life of a person significant in the past;

(2) Is the site of a historic event with a significant effect upon society; or

(3) Exemplifies the cultural, political, economic, social or historic heritage of the community.

(b) Architectural, Engineering Importance.

(1) Portrays the environment in the era of history characterized by a distinctive architectural style;

(2) Embodies those distinguishing characteristics of an architectural type or engineering specimen;

(3) Is the work of a designer whose individual work has significantly influenced the development of San Rafael or its environs;

(4) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or

(5) The work of a designer and/or architect of merit.

(c) Geographic Importance.

(1) By being part of or related to a square, park or other distinctive area, should be developed or preserved according to a plan based on a historic, cultural or architectural motif; or

(2) Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or city.

(d) Archaeological Importance. Has yielded information important in prehistory or history.

Findings

This section describes the findings of the background and archival research, cultural resources records search, Sacred Lands File search, field survey, and historical resources evaluation conducted to identify historical resources within the project site.

California Historical Resources Information System Records Search

Rincon received records search results from the NWIC on November 19, 2025. The CHRIS records search and background research identified 0 studies within the project site and seven within the 0.25-mile search radius (Attachment 2). The NWIC also provided a reference to a previous evaluation of 555 Northgate Drive in 2020, which is listed in the BERD for Marin County and appears to have been completed as part of a study pertaining to review of proposed interior building alterations under Section 106 of the National Historic Preservation Act, with the U.S. Department of Housing and Urban Development as lead agency (OHP 2022). This study assigned a status code of 6Y (Determined ineligible for NR[HP] by consensus through Section 106 process – Not evaluated for CR[HR] or local listing).

Rincon requested a copy of this previous study from NWIC, which was provided on November 20, 2024. While this study recommended a finding of no historic properties affected, an evaluation of the property was not provided, and the property was not apparently surveyed. Therefore, the project site does not appear to have been intensively studied or surveyed in the past.

The supplemental documentation provided by NWIC shows the 2020 finding relates to a historic review clearance request prepared by the Marin County Community Development (CDA) Agency as responsible entity for the Family Welcome & Resource Center project, which involved interior alterations at the subject building. CDA sought OHP's concurrence that no historic properties would be affected by the project and explained:

> The property is not listed in the Statewide Historic Resource Inventory database, also known as the Built Environment Resource Directory (BERD), maintained by the Office of Historic Preservation and the California Historical Resources Inventory System. The property has also not been recognized on any Historic Inventories done by the City of San Rafael, moreover it was confirmed that the property was built and officially occupied in 1970. Because of this, CDA staff still believe that the structure is ineligible for National Register listing (OHP 2020).

OHP's finding stated:

> Pursuant to 36 CFR §800.4(d) we do not object to the County of Marin's finding that no historic properties will be affected by the proposed Family Welcome & Resource Center

> interior space reconfiguration and rehabilitation project located 555 Northgate Drive in San Rafael. However, the County may have additional Section 106 responsibilities under certain circumstances set forth at 36 CFR Part 800. For example, in the event that historic properties are discovered during implementation of the undertaking, your agency is required to consult further pursuant to §800.13(b) (OHP 2020)

While limited research on the subject property's development was completed by CDA, no documentation was found that would indicate the subject property was intensively surveyed, recorded with DPR 523 Series forms, or evaluated under criteria of the NRHP, CRHR, or as a San Rafael Landmark. Nonetheless, the property was entered into BERD with a 6Y status as a result of the 2020 undertaking.

The CHRIS records search and background research also identified one additional previously recorded cultural resource within the 0.25-mile search radius, the Terra Linda historic district, which was identified as part of *Northgate Town Square Draft Environmental Impact Review (EIR): Appendix C: Final Built Environment Inventory and Evaluation Report Northgate Town Square Project, San Rafael, California* (Dudek 2022). This report was prepared to support CEQA compliance for a project at the nearby Northgate Shopping Center. The 555 Northgate Drive property was among several commercial properties in the vicinity of the Northgate Shopping Center that were subject to "desktop research through ParcelQuest and Google Earth Pro." This documentation noted that as of September 2022 the subject property at 555 Northgate Drive was not part of an existing historic district, considered an individual historical resource, or identified by the City of San Rafael for special historic consideration.

The Terra Linda Valley neighborhood to the southwest of the subject property was identified as potential historic district and considered a historical resource under CEQA, with the findings adopted as part of the EIR (Dudek 2022). The subject property is adjacent to, but outside of the Terra Linda Valley historic district. The identified district contains over 100 possible contributing buildings and "appears historically significant at the local level as a district, and is significant as an example of mid-century neighborhood districts planned by Joseph Eichler in North San Rafael and its ability to convey characteristics of the Post-and-Beam architectural style as designed by architects Anshen and Allen, and Jones and Emmons (historic significance is under architecture)" (Dudek 2022).

Character-defining features of the Terra Linda Valley historic district were identified as follows:

- Maintains cohesion as a Mid-Century Modern subdivision
- Exhibits most construction methods, architectural details, and circulation patterns associated with the potential district's period of significance, 1959–1960.
- Maintains its original residential setting and location
- Continues to function as a residential neighborhood

Character-Defining Features of the individual Post-and-Beam style buildings within the Terra Linda Valley district were identified as follows:

- Mid-Century Modern Post-and-Beam construction
- Broad, single plane front elevation with recessed entry at center
- Private street-facing elevations with minimal windows
- Flat and/or shallow-pitched, front-facing gable roofs
- Clerestory windows
- Vertical wood, wood shingle, or concrete masonry unit siding
- Uniform setback from the street

- Mature landscaping in front yards
- Concrete driveways
- Double and single-width garages
- Integrated covered parking areas
- Mediterranean Courtyard entryway
- Mass produced and economic materials (Dudek 2022)

Sacred Lands File Search

The NAHC responded to Rincon's request for an SLF search on November 10, 2025 and indicated results of the search were negative. See Attachment 3 for the NAHC response, including Tribal contacts list(s). No outreach was completed in support of this study.

Aerial Imagery and Historical Map Review

Rincon completed a review of historical maps and aerial imagery to ascertain the development history of the project site. Historical topographic maps reviewed include the 1914, 1942, and 1954 *Petaluma, CA* 15-minute quadrangles, and the 1954 *Novato, CA* 7.5-minute quadrangles. Historical aerial photographs for the years 1946, 1952, 1965, 1968, 1982, 1983, 1987, 1993, 2002, 2005, 2009, 2010, 2012, and 2022 were also reviewed (UCSB 1965, NETR Online 2025).

The 1914 topographic map shows the project site on a northeast-facing slope in an undeveloped area, and the placename, "Forbes", is depicted immediately north of the project site. The nearest major development is the northeast-southwest trending Northwestern Pacific Railroad which is approximately 0.25 miles east of the project site. The 1942 map identifies no changes within the project site, but the Mt. Oliver Cemetery is depicted approximately 425 feet northeast of the project site and Highway 101 is shown approximately 1-mile east of the project site. The 1954 map shows a northeast-southwest trending ephemeral drainage bisecting the project site.

The 1946 and 1952 aerial imagery show no development within the project site or its immediate vicinity. The photographs depict the project site as being bisected by a northeast-southwest trending wash at the base of northeast-facing slope. However, The 1968 aerial photograph shows residential development immediately west of the project site, and North Gate Drive is depicted along the northern boundary of the project site. The 1982 photograph depicts the building and parking lot presently within the project site. No additional developments occurred within the project site between 1982 until present.

In summary, the historical map and aerial photograph review indicates the project site remained undeveloped until 1970, when the current building occupying the project site was constructed. The aerial imagery pre-dating development of the project site shows the project site on a slope with a drainage bisecting the project site's central portion.

Geoarchaeological Review

The following section assesses the potential for subsurface archaeological resources, which could qualify as historical resources, to be present within the project site. Sources reviewed as part of this assessment include geologic maps, soil survey maps, and a geotechnical report.

Geologic Map Review

The geologic mapping indicates Late Pleistocene- to Holocene-age (126,000 years ago to present) colluvium (map unit Qc) is mapped at surface within the project site (Wagner and Gutierrez 2017). The Late Pleistocene- to Holocene-age colluvial deposits within the project site were deposited during a period spanning the entirety of human occupation of the region and are of appropriate age to bury and preserve archaeological materials. Although thses deposits are of appropriate age to preserve buried archaeological materialsthe, the colluviam withn the project site may represent a high-energy erosional context, possibly associated with the ephemeral drainage noted in the historical map and aerial review, based on the size of clastic particles present (e.g., clay, sand, gravels, cobbles). These larger particles such as gravel or cobbles are indicative of higher energy erosioal settings (Waters 1992).

Soil Map Review

Soils mapping indicates two soil types are mapped within the project site including the Saurin-Bonnydoon complex and Urban land-Xerothents complex. The Saurin-Bonnydoon complex, located in the southwestern portion of the project site, accounts for 8.3 percent of the overall project site and is comprised of both the Saurin soil series and Bonnydoon soil series. The Saurin soil series forms on slopes ranging from 2 to 75 percent and are derived from weathered sandstone and shale. This soil series has a typical profile consisting of topsoil (A-horizon) extending from the ground surface to 22 inches below the ground surface (bgs), followed by a clay loam (B-horizon) extending from 22 to 33 inches bgs, and parent material (C-horizon) of fractured sandstone extending from 33 to 42 inches bgs (USDA 2025a).

The Bonnydoon soil series forms on slopes ranging from 5 to 85 percent and consists of soils formed in material weathered from sandstone and shale. This soil series has a typical profile consisting of a very dark brown loamy topsoil (A-horizon) extending from the ground surface to 11 inches bgs followed by parent material of weathered sandstone (C-Horizon) from 11 to 40 inches beneath the ground surface (USDA 2025b).

The Urban land-Xerothents complex accounts for 91.7 percent and encompasses all but the southwestern corner of the project site. This soil subtype occurs in areas with a slope ranging from 0 to 9 percent and can be characterized as human-transported or human altered soil forming in a Mediterranean climate. Urban land-Xerothents can also include artificial fill material imported from unknown sources (USDA 1999). Given the human-altered nature of these soil types, they represent disturbed contexts. Archaeological materials present in such disturbed contexts would not be in-situ and lack integrity

As indicated by Waters (1992), A-horizons form on stable landforms not subject to intensive depositional or erosional processes, whereas B-horizons represent the leaching of fine particles from the topsoil into the underlying parent material (C-horizon), creating a distinct horizon. As A-horizons form on stable landforms, they are the primary horizons wherein archaeological materials would typically be deposited. There are different classes of A-horizons, including Ap-horizons, which are A-horizons disturbed by agricultural activities such as plowing, and Ab-horizons, which are A-horizons buried by depositional processes. Archaeological resources encountered within Ap-horizons represent a disturbed context wherein archaeological materials have been displaced by plowing and discing. Because Ab-horizons are buried A-horizons, they have the greatest likelihood of containing intact subsurface archaeological deposits suggesting an elevated sensitivity for subsurface archaeological deposits. The soils identified within the project site do not typically contain Ab-horizons and the dominant soil type within the project site has the urban lands qualifier suggesting a degree of

disturbance likely associated with the construction of the building currently occupying the project site, which would have destroyed or displaced archaeological materials if any were ever present.

Geotechnical Report Review

A geotechnical investigation report was prepared for the project by Geocon Consultants, Inc., in March of 2024 and documents the methods and results of five auger borings (B1 through B5) within the project site (Attachment 1, Figure 3). Table 1 summarizes the soils and sediments identified as within auger borings B1 through B5.

Table 1 Summary of Auger Borings Within Project Site

Auger Boring	Location	Depth	Description
B1	Northwest quadrant of project site	0-1.25 feet bgs	Asphalt and aggregate base
		1.25-5 feet bgs	Orange-brown alluvial sandy clay
		5-13.5 feet	Mottled gray-brown colluvial clay with sand and sub-rounded gravel
		13.5-18 feet	Franciscan complex claystone
		18-18.25 feet bgs	Claystone
B2	Central portion of project site	0-0.25 feet bgs	Asphalt
		0.25-1 feet bgs	Artificial fill
		1-3.75 feet bgs	Sandy dark orange-brown to brown alluvial clay with sub-angular to sub-rounded gravels
		3.75-13.5 feet bgs	Dark gray sandy clay with orange-brown streaks and trace sub-angular to angular gravels
		13.5-20 feet bgs	Franciscan complex claystone
B3	Southwest portion of the project site	0-0.4 feet bgs	Asphalt
		0.4-1 feet bgs	Aggregate base
		1-2 feet bgs	Dark gray alluvial clay with sand
		2-2.25 feet bgs	Orange-brown mottled colluvial sandy clay with little gravel
		2.25-3.5 feet bgs	Franciscan complex, moderately weathered light tan-gray sandstone
B4	Southeast portion of the project site	0-0.5 feet bgs	Asphalt and aggregate base
		0.5-1.25 feet bgs	Dark gray alluvial clay with sand
		0.25-3.75 feet bgs	Orange-brown mottled gray colluvial sub-angular to sub-rounded gravelly clayey sand
		3.75-7 feet bgs	Franciscan complex gray clay with few sands
		7-12.5 feet bgs	Highly weathered black claystone with sand and trace gravels
B5	Northeast portion of the project site	0-0.65 feet bgs	Asphalt and aggregate base
		0.65-2.5 feet bgs	Artificial fill
		2.5-4.25 feet bgs	Dark gray alluvial clay with sand
		4.25-6 feet bgs	Orange-brown mottled gray colluvial clayey sand with sub-angular to angular gravel
		6-6.25 feet bgs	Franciscan complex, dark brown, moderately weathered claystone

The five auger borings within the project site identify disturbed sediments likely associated with the development of the project site from the ground surface to 2.5 feet bgs. Further, the borings identified colluvial sand and gravels which represent large clasts requiring high energy flows to transport. As discussed above, these high energy flows represent high-energy environments not conducive to the natural burial and preservation of archaeological deposits

Discussion

The historical map and aerial review indicates the project site was located at the base of a hillslope and bisected by an ephemeral drainage prior to its development in 1970 when the current building and parking lot were constructed. The geologic map review identified Late Pleistocene to Holocene-age colluvium within the project site. Although the age of this geologic unit encompasses human occupation of the region, it represents a high-energy environment as indicated by the sand and gravel present, as well as its location at the base of a slope and along an ephemeral drainage. The soil map review identifies much of the project as being underlain by a soil type with the urban land qualifier, which indicates disturbances associated with human transported sediments associated with development. The geotechnical report identified disturbed soil extending from the ground surface to 2.5 feet below the ground surface followed by sediments containing sand and gravel, which are larger clastic particles indicative of high-energy environments. Based on the level of previous disturbance and the colluvial deposits representing a high-energy, erosional environment, the likelihood for project-related ground disturbance for encountering intact subsurface archaeological deposits is low.

Field Survey

Most ground surface within the Project site was hardscaped and developed with a parking lot, buildings, or concrete pad foundations of constructed in the recent past. Visible ground surface was inspected within planting beds within the parking lot and lining the outer parts of the buildings. Ground visibility in planting beds was poor (0-20 percent) due to coverage from vegetation, wood chips, and other landscaping elements. No archaeological resources were observed in the project site.

The field work resulted in the identification of one historic-age commercial-office building within the project site: 555 Northgate Drive, a two-story commercial-office building constructed in 1970. The property also contains two prefabricated storage sheds and adjacent concrete slab foundations that date to the 2000s and later. DPR 523 Series Forms providing architectural descriptions are provided in Attachment 4.

Historical Resources Evaluation

As a result of background research and field survey for this study, Rincon recommends the property at 555 Northgate Avenue ineligible for listing in the CRHR due to a lack of historical and architectural significance. The property is also recommended ineligible for listing as City of San Rafael Landmarks due to a lack of historical, cultural, architectural, engineering, and geographic importance. Please refer to Attachment 4 for DPR 523 Series Forms providing architectural description, historical context, and full evaluation for the subject property.

Conclusion

As detailed above, the one historic-age property within the project site at 555 Northgate Drive has been previously determined ineligible for listing in the NRHP and is recommended ineligible for listing in the CRHR and local designation as a result of this study. As such, it does not qualify as a historical

resource and its demolition would not result in a significant adverse impact as defined by Section 15064.5 of the CEQA Guidelines.

Background research confirmed the project site is directly adjacent to the northeastern edge of the presumed eligible Terra Linda Valley historic district; however, the project-related construction would occur entirely outside of the potentially eligible district and would not directly alter any physical characteristics of the district's contributing buildings. The proposed 7-story tower would be visible from properties within the district, particularly along Nova Albion and Sao Augustine ways, along its northeastern perimeter, where the rear yards of properties back up to the west edge of the Project site. While the district's setting along its northeastern perimeter would be altered by the taller building, the district would retain its existing location, layout, function as a residential neighborhood, and overall setting in an urban area, that has seen periodic development (including expansion of the nearby Northgate Shopping Center) since the district was built in 1959-1960. Thus, the district's integrity would remain sufficient to support its presumed eligibility.

Finally, no archeological resources are known to be located within the project site, based upon background research and field survey. As discussed above, the project site is not considered sensitive for archaeological resources based on findings of the CHRIS records search, SLF search, and geoarcheological review. Although grading and site preparation for the proposed project has the potential to encounter unanticipated archaeological resources, which could qualify as historical resources, the City has adopted policies and regulations to protect cultural resources in these instances. Therefore, with adherence to these policies and regulations, Rincon finds the project would not result in the substantial adverse change in the significance of a historical resource.

Should you have any questions concerning this study, please do not hesitate to contact the undersigned at jbevan@rinconconsultants.com.

Sincerely,
Rincon Consultants, Inc.



Josh Bevan AICP, MSHP
Architectural Historian



Steven Treffers
Cultural Resources Director

Attachments

Attachment 1 Figures

Attachment 2 Northwest Information Center CHRIS Search Results

Attachment 3 Native American Heritage Commission Sacred Lands File Search Results

Attachment 4 DPR 523 Series Forms

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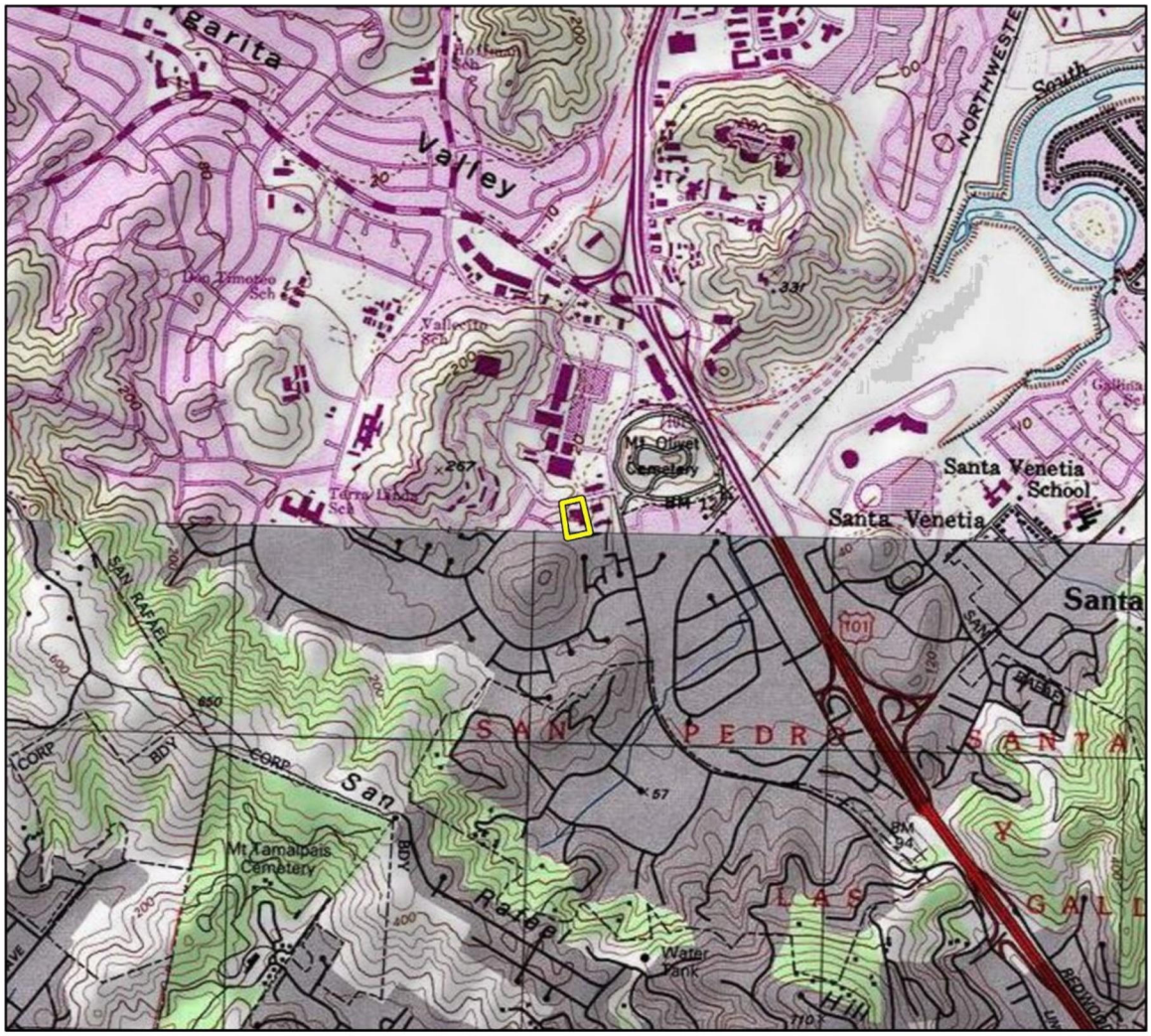
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Attachment 1

Figures

Figure 1 Regional Location Map



Basemap provided by National Geographic Society, Esri and their licensors © 2025. Novato and San Rafael Quadrangles. T02N R06W S20. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

25-18320 CR
CRFig 1 Proj Locn Map

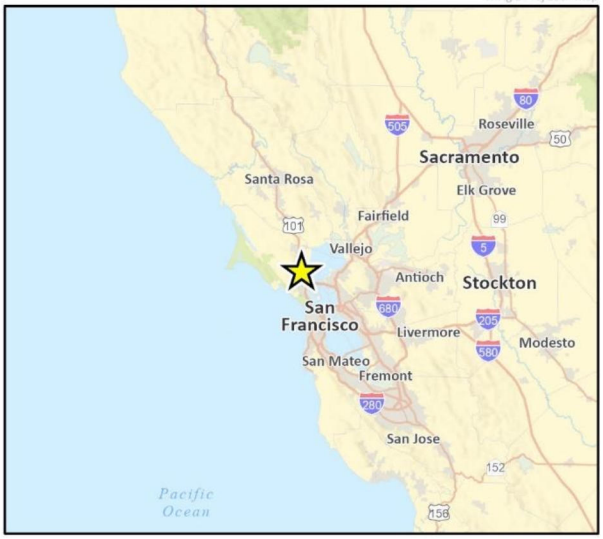


Figure 2 Project Location Map



Figure 3 Geotechnical Boring Locations Within The Project Site



Attachment 2

Northwest Information Center CHRIS Search Results

California Historical Resources Information System

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.: 56.00 **IC FILE NO.:** _____

To: Northwest Information Center

Print Name: Josh Bevan Date: 11/10/2025

Affiliation: Rincon Consultants, Inc.

Address: 66 Franklin Street Suite 300

City: Oakland State: CA Zip: 94607

Phone: (610) 724-4743 Fax: _____ Email: jbevan@rinconconsultants.com

Billing Address (if different than above): _____

Billing Email: ap@rinconconsultants.com Billing Phone: _____

Project Name / Reference: 555 Northgate - 25-18320

Project Street Address: 555 Northgate Drive, San Rafael, CA

County or Counties: Marin

Township/Range/UTMs: T02N/R06W, 10 S 540043.15 m E4, 205978.27 m N

USGS 7.5' Quad(s): Novato, CA

PRIORITY RESPONSE (Additional Fee): yes ☒ / no ☐

TOTAL FEE NOT TO EXCEED: $ 1,200.00
(If blank, the Information Center will contact you if the fee is expected to exceed $1,000.00)

Special Instructions:

Information Center Use Only

Date of CHRIS Data Provided for this Request: _____

Confidential Data Included in Response: yes ☐ / no ☐

Notes: _____

_____

CHRIS Data Request Form

Mark the request form as needed. Attach a PDF of your project area (with the radius if applicable) mapped on a 7.5' USGS topographic quadrangle to scale 1:24000 ratio 1:1 neither enlarged nor reduced and include a shapefile of your project area, if available. Shapefiles are the current CHRIS standard for submitting digital spatial data for your project area or radius. **Check with the appropriate IC for current availability of digital data products.**

- Documents will be provided in PDF format. Paper copies will only be provided if PDFs are not available at the time of the request or under specially arranged circumstances.
- Location information will be provided as a digital map product (Custom Maps or GIS data) unless the area has not yet been digitized. In such circumstances, the IC may provide hand drawn maps.
- In addition to the $150/hr. staff time fee, client will be charged the Custom Map fee when GIS is required to complete the request [e.g., a map printout or map image/PDF is requested and no GIS Data is requested, or an electronic product is requested (derived from GIS data) but no mapping is requested].

For product fees, see the CHRIS IC Fee Structure on the OHP website.

1. Map Format Choice:

Select One: Custom GIS Maps ☐ GIS Data ☐ Custom GIS Maps **and** GIS Data ☐ No Maps ☐

Any selection below left unmarked will be considered a "no. "

Location Information:

	Within project area	Within .25 mi. radius
ARCHAEOLOGICAL Resource Locations[1]	yes ☐ / no ☐	yes ☐ / no ☐
NON-ARCHAEOLOGICAL Resource Locations	yes ☐ / no ☐	yes ☐ / no ☐
Report Locations[1]	yes ☐ / no ☐	yes ☐ / no ☐
"Other" Report Locations[2]	yes ☐ / no ☐	yes ☐ / no ☐

3. Database Information:
(contact the IC for product examples, or visit the SSJVIC website for examples)

	Within project area	Within .25 mi. radius
ARCHAEOLOGICAL Resource Database[1]		
List (PDF format)	yes ☐ / no ☐	yes ☐ / no ☐
Detail (PDF format)	yes ☐ / no ☐	yes ☐ / no ☐
Excel Spreadsheet	yes ☐ / no ☐	yes ☐ / no ☐
NON-ARCHAEOLOGICAL Resource Database		
List (PDF format)	yes ☐ / no ☐	yes ☐ / no ☐
Detail (PDF format)	yes ☐ / no ☐	yes ☐ / no ☐
Excel Spreadsheet	yes ☐ / no ☐	yes ☐ / no ☐
Report Database[1]		
List (PDF format)	yes ☐ / no ☐	yes ☐ / no ☐
Detail (PDF format)	yes ☐ / no ☐	yes ☐ / no ☐
Excel Spreadsheet	yes ☐ / no ☐	yes ☐ / no ☐
Include "Other" Reports [2]	yes ☐ / no ☐	yes ☐ / no ☐

4. Document PDFs (paper copy only upon request)**:**

	Within project area	Within .25 mi. radius
ARCHAEOLOGICAL Resource Records[1]	yes ☐ / no ☐	yes ☐ / no ☐
NON-ARCHAEOLOGICAL Resource Records	yes ☐ / no ☐	yes ☐ / no ☐
Reports[1]	yes ☐ / no ☐	yes ☐ / no ☐
"Other" Reports[2]	yes ☐ / no ☐	yes ☐ / no ☐

CHRIS Data Request Form

5. Eligibility Listings and Documentation:

	Within project area	Within .25 mi. radius
OHP Built Environment Resources Directory[3]:		
Directory listing only (Excel format)	yes ☒ / no ☐	yes ☐ / no ☒
Associated documentation[4]	yes ☒ / no ☐	yes ☐ / no ☒
OHP Archaeological Resources Directory[1,5]:		
Directory listing only (Excel format)	yes ☒ / no ☐	yes ☒ / no ☐
Associated documentation[4]	yes ☒ / no ☐	yes ☐ / no ☒
***California Inventory of Historic Resources* (1976):**		
Directory listing only (PDF format)	yes ☒ / no ☐	yes ☒ / no ☐
Associated documentation[4]	yes ☐ / no ☒	yes ☐ / no ☒

6. Additional Information:

The following sources of information may be available through the Information Center. However, several of these sources are now available on the OHP website and can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through these sources. Indicate below if the Information Center should review and provide documentation (if available) of any of the following sources as part of this request.

Caltrans Bridge Survey	yes ☐ / no ☒
Ethnographic Information	yes ☐ / no ☒
Historical Literature	yes ☐ / no ☒
Historical Maps	yes ☐ / no ☒
Local Inventories	yes ☐ / no ☒
GLO and/or Rancho Plat Maps	yes ☐ / no ☒
Shipwreck Inventory	yes ☐ / no ☒
Soil Survey Maps	yes ☐ / no ☒

---

[1] In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User or Conditional User under an active CHRIS Access and Use Agreement.

[2] "Other" Reports GIS layer consists of report study areas for which the report content is almost entirely non-fieldwork related (e.g., local/regional history, or overview) and/or for which the presentation of the study area boundary may or may not add value to a record search.

[3] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Includes, but not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys. Previously known as the HRI and then as the HPD, it is now known as the Built Environment Resources Directory (BERD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.

[4] Associated documentation will vary by resource. Contact the IC for further details.

[5] Provided as Excel spreadsheets with no cost for the rows; the only cost for this component is IC staff time. Previously known as the Archaeological Determinations of Eligibility, now it is known as the Archaeological Resources Directory (ARD). The Office of Historic Preservation compiles this documentation and it is the source of the official status codes for evaluated resources.

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
1400 Valley House Drive, Suite 210
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
https://nwic.sonoma.edu

11/19/2025 NWIC File No.: 25-0781

Josh Bevan
Rincon Consultants, Inc.
66 Franklin Street Suite 300
Oakland, CA 94607

Re: 555 Northgate – 25-18320

The Northwest Information Center received your record search request for the project area referenced above, located on the Novato USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a ¼ mile radius:

Resources within project area:	0
Resources within ¼ mi. radius:	1: P-21-000943
Reports within project area:	0
Reports within ¼ mi. radius:	7: See page 3

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☒ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Built Environment Resources Directory:	☒ enclosed	☐ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

*Notes:

** Current versions of these resources are available on-line:

Caltrans Bridge Survey: https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels

Soil Survey: https://alabamamaps.ua.edu/historicalmaps/soilsurvey/California/california.html

Shipwreck Inventory: https://www.slc.ca.gov/shipwrecks/

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Lindsey Willoughby

Lindsey Willoughby, M. A.
Researcher

Reports within project area
7555
13217
15162
31737
39157
48626
58830

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-21-000943	CA-	Resource Name - Mount Olivet Cemetery; OHP PRN - 4902-0212-0000 3S; Other - Mt. Olivet Cemetery; OTIS Resource Number - 403865; OHP Property Number - 000808	Structure, Site	Historic	AH03; AH12; HP26; HP30; HP40	1977 (Niki Simons, City of San Rafael); 1985 (Charlene Detlefs, Archeological Resource Management); 2025 (N. Radtkey, P. Lawler, Alta Archaeological Consulting)	S-007555, S-058830

Report List

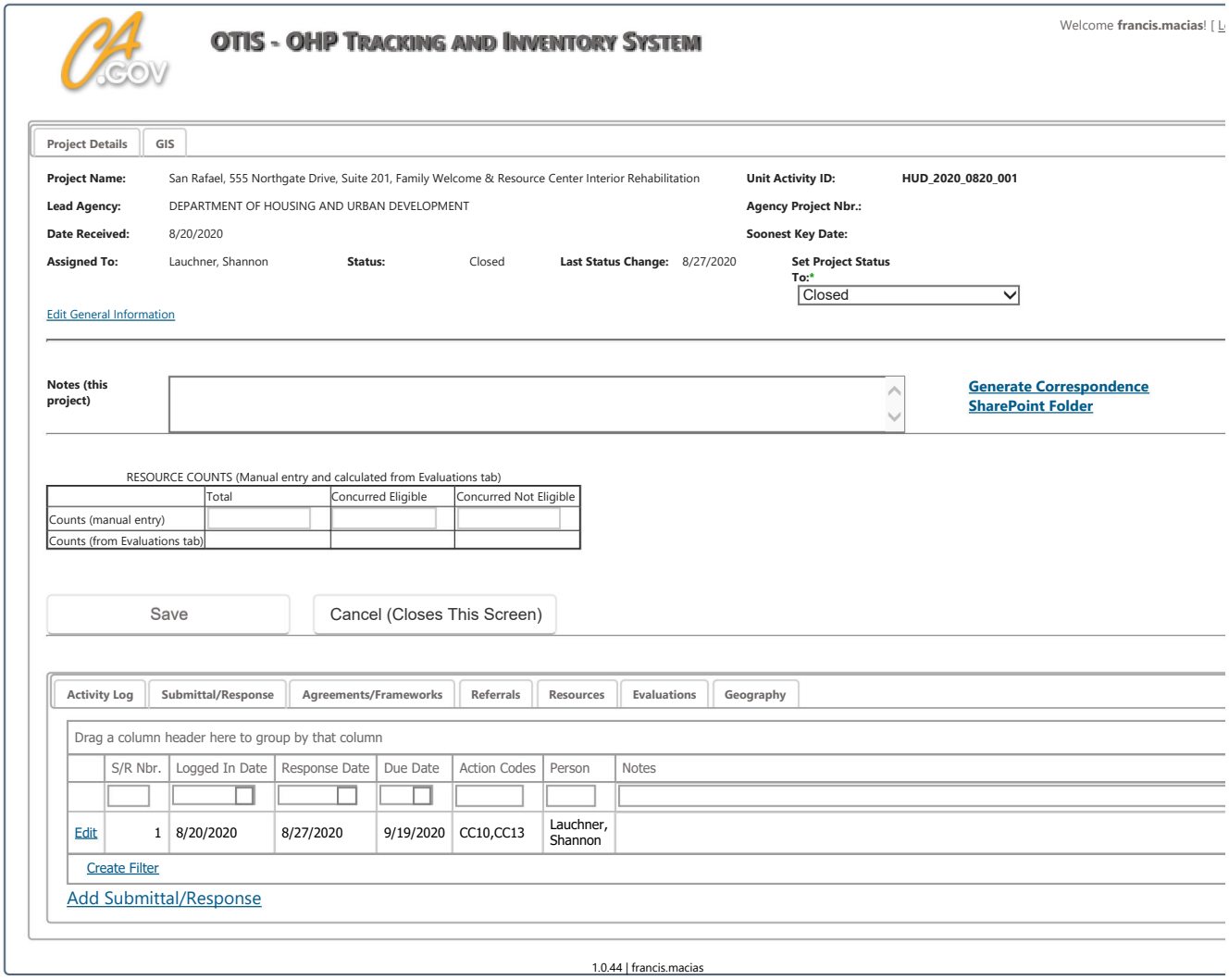
Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-007555	Caltrans - 4232-115740; Submitter - #6080-85-250; Voided - S-7556; Voided - S-7726	1985	Robert Cartier	Archeological Resource Evaluation of the Merrydale Overcrossing Project in the City of San Rafael, County of Marin	Archeological Resource Management	21-000943
S-007555a		1985	Robert Cartier and Charlene Detlefs	Section 106, Historic Property Survey Report for the Merrydale Overcrossing Project in the City of San Rafael, County of Marin	Archeological Resource Management	
S-007555b		1985	Robert Cartier	Archeological Resource Evaluation of the Merrydale Overcrossing Project in the City of San Rafael, County of Marin; 4-MRN-101-13.5/13.6 4232-115740	Archeological Resource Management	
S-007555c		1985	Robert Cartier and Charlene Detlefs	Section 106, Historic Property Survey Report for the Merrydale Overcrossing Project in the City of San Rafael, County of Marin 4-MRN-101-13.5/13.6 4232-115740	Archeological Resource Management	
S-013217	Voided - S-13399; Voided - S-13400; Voided - S-13401	1990	Thomas M. Origer	An Archaeological Survey for the AT&T Fiber Optics Cable, San Francisco to Point Arena, California	Tom Origer & Associates	21-000042, 21-000043, 21-000347, 21-000527, 21-000528, 21-002694, 38-001336, 49-002834
S-013217a		1990	Thomas M. Origer	Archaeological findings regarding a selection of a route through Novato for the AT&T Fiber Optics Cable (letter report)		
S-013217b		1991	Thomas M. Origer	An archaeological study of revised portions of the AT&T route near Santa Rosa and Sausalito (letter report)		
S-013217c		1991	Thomas M. Origer	Archaeological study of AT&T revised fiber cable routes (letter report)		
S-013217d		1992	Thomas M. Origer	Archaeological survey of alternative fiber optics cable routes, Point Arena (letter report)	Tom Origer & Associates	
S-015162	Submitter - ARS Project 92-24	1992	William Roop	A Cultural Resources Evaluation of the Las Gallinas Reclaimed Water Project, Marin County, California	Archaeological Resource Service	21-000154

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-031737	Voided - S-31738	2004	Carole Denardo and Daniel Hart	Archaeological Resources Technical Report for the Sonoma Marin Rail Transit (SMART) Project, Sonoma and Marin Counties, California	Garcia and Associates	21-000113, 21-000114, 21-000193, 21-000194, 21-000551, 21-000560, 21-000675, 21-000681, 21-000685, 21-002540, 21-002571, 21-002611, 21-002612, 49-000788, 49-000790, 49-000900, 49-000901, 49-000902, 49-001014, 49-001196, 49-001198, 49-001262, 49-001263, 49-001352, 49-001468, 49-001517, 49-001583, 49-001798, 49-002134, 49-002255, 49-002273, 49-002274, 49-002275, 49-002301, 49-002304, 49-002319, 49-002536, 49-002539, 49-002695, 49-002697, 49-002819, 49-002820, 49-002823, 49-002824, 49-002825, 49-002826, 49-002827, 49-002833, 49-002834, 49-003014, 49-003022, 49-003135, 49-003250, 49-003334, 49-003352, 49-003353, 49-003374, 49-003376, 49-003377, 49-003379, 49-003380, 49-004755
S-031737a		2004		Historic Architectural Resources Technical Report for the Sonoma Marin Area Rail Transit (SMART) Project	Garcia and Associates	
S-039157		2012	Heidi Koenig	Abovenet Lucas Film Segment 2 & 3 Project, Marin County, California, Archaeological Survey Report	ESA, Inc.	
S-048626	OTIS Report Number - COE_2013_0628_001; Submitter - ICF 00707.12	2013	Meg Scantlebury, Tait Elder, Melissa Cascella, Monte Kim, Aisha Rahimi-Fike, Lily Henry Roberts, and Patrick Maley	Cultural Resources Inventory & Evaluation Report for Sonoma-Marin Area Rail Transit (SMART): Downtown San Rafael, Marin County to Petaluma, Sonoma County (MP17-MP 37.02)	ICF International	21-001015, 21-002586, 21-002611, 49-001368, 49-001583, 49-002834
S-048626a		2014		Archaeological Monitoring Plan For Sonoma-Marin Area Rail Transit (SMART): Downtown San Rafael, Marin County To Petaluma, Sonoma County (MP 17-MP 37.02)	ICF International	
S-048626b		2014	Julianne Polanco and Jane M. Hicks	COE_2013_0628_001, Section 106 Consultation for the Sonoma Marin Area Rail Transit (SMART) Railroad Initial Operating Segment-1 South Project	Office of Historic Preservation, U.S. Army Corps of Engineers	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-058830	Submitter - ALTA2025-009	2025	Patrick Lawler and Nicholas Radtkey	Historic Resource Evaluation for Mount Olivet Cemetery 270 Los Rachitos Road San Rafael, Marin County, California	Alta Archaeological Consulting	21-000943



OTIS - OHP TRACKING AND INVENTORY SYSTEM

Welcome **francis.macias**! [L

Project Details | GIS

Project Name: San Rafael, 555 Northgate Drive, Suite 201, Family Welcome & Resource Center Interior Rehabilitation
Unit Activity ID: HUD_2020_0820_001
Lead Agency: DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Agency Project Nbr.:
Date Received: 8/20/2020
Soonest Key Date:
Assigned To: Lauchner, Shannon **Status:** Closed **Last Status Change:** 8/27/2020
Set Project Status To:* Closed

Edit General Information

Notes (this project)

Generate Correspondence SharePoint Folder

RESOURCE COUNTS (Manual entry and calculated from Evaluations tab)

	Total	Concurred Eligible	Concurred Not Eligible
Counts (manual entry)			
Counts (from Evaluations tab)			

Save | Cancel (Closes This Screen)

Activity Log | Submittal/Response | Agreements/Frameworks | Referrals | Resources | Evaluations | Geography

Drag a column header here to group by that column

	S/R Nbr.	Logged In Date	Response Date	Due Date	Action Codes	Person	Notes
Edit	1	8/20/2020	8/27/2020	9/19/2020	CC10,CC13	Lauchner, Shannon	

Create Filter

Add Submittal/Response

1.0.44 | francis.macias

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Lisa Ann L. Mangat, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

August 27, 2020

Refer to HUD_2020_0820_001

Ms. Leelee Thomas, Planning Manager
Community Development Agency
Housing & Federal Grants Division
County of Marin
3501 Civic Center Drive, Suite 308
San Rafael, CA 94903

Re: Family Welcome & Resource Center Interior Rehabilitation Project at 555 Northgate Drive, San Rafael, Marin County, CA

Dear Ms. Thomas:

The California State Historic Preservation Officer received the consultation submittal for the above referenced undertaking for our review and comment pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800. The regulations and advisory materials are located at www.achp.gov.

Pursuant to 36 CFR §800.4(d) we do not object to the County of Marin's finding that no historic properties will be affected by the proposed Family Welcome & Resource Center interior space reconfiguration and rehabilitation project located 555 Northgate Drive in San Rafael. However, the County may have additional Section 106 responsibilities under certain circumstances set forth at 36 CFR Part 800. For example, in the event that historic properties are discovered during implementation of the undertaking, your agency is required to consult further pursuant to §800.13(b).

We appreciate the County of Marin's consideration of historic properties in the project planning process. If you have questions please contact Shannon Lauchner Pries, Historian II, with the Local Government & Environmental Compliance Unit at (916)445-7013 or by email at shannon.pries@parks.ca.gov .

Note that we are only sending this letter in electronic format. Please confirm receipt of this letter. If you would like a hard copy mailed to you, respond to this email to request a hard copy be mailed.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

COUNTY OF MARIN

COMMUNITY DEVELOPMENT AGENCY
FEDERAL GRANTS DIVISION

August 18, 2020

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

RE: Historic Review Clearance for Marin County Community Development HUD CDBG Program Project:

Family Welcome & Resource Center:
555 Northgate Drive, Ste. 201 – San Rafael, CA 94903

Dear Ms. Polanco,

The Marin County Community Development Agency (CDA) is the Responsible Entity for NEPA compliance for the above-referenced project, which has been awarded HUD CDBG program funding. We seek your concurrence in our finding that no historic properties would be affected by the project.

Project Undertaking:
The project entails reconfiguring existing open office space at our main office location in San Rafael as part of the welcome and reception area in order to accommodate client and family use of a portion of the space into designated offices for private and confidential training, skills building, orientation videos, appointments, volunteer engagement, breast feeding (as needed), client intake and enrollment in services, and other agency activities that may be provided in service to community.

Area of Potential Effect:
The Area of Potential Effect (APE) for the project is considered to be the building itself. A recent photo of the existing building and a project site aerial map are attached.

Identification of Historic Properties:
The property is not listed in the Statewide Historic Resource Inventory database, also known as the Built Environment Resource Directory (BERD), maintained by the Office of Historic Preservation and the California Historical Resources Inventory System. The property has also not been recognized on any Historic Inventories done by the City of San Rafael, moreover it was confirmed that the property was built and officially occupied in 1970. Because of this, CDA staff still believe that the structure is ineligible for National Register listing.

Additionally, the project does not include excavation or clearing of undisturbed ground, and therefore the project does not have the potential to affect archaeological resources or tribal cultural resources. In accordance with County of Marin municipal codes, however, should any potential archaeological

resources or human remains be discovered during construction, construction activities would cease, and CDA and the San Rafael City Planning Department would be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may occur in compliance with State and federal law.

County of Marin Finding:
The house is not listed on the Countywide or San Rafael Historic Studies and because of this, CDA staff believe the structure is ineligible. No excavation or ground disturbance is being proposed with this project, and thus could not affect archaeological resources, even if they were present on the site.

In compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800, we seek your concurrence in our finding that no historic properties would be affected by the project.

We request your review and concurrence in these finding so that this project may proceed without delay.

Sincerely,

Expired certificate

X

Signed by: lthomas@marincounty.org

Leelee Thomas
Planning Manager

Cc: Tammy Taylor, Planner

Encl: Site photo; aerial map

Street View:



Aerial Map:



Attachment 3

Native American Heritage Commission Sacred Lands File Search Results

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☐ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☐ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ General Plan ___ General Plan Element ___ General Plan Amendment

___ Specific Plan ___ Specific Plan Amendment ___ Pre-planning Outreach Activity

Required Information

Project Title: 555 Northgate Drive

Local Government/Lead Agency: City of San Rafael

Contact Person: Josh Bevan, Architectural Historian - Rincon Consultants

Street Address: 66 Franklin Street, Suite 300

City: Oakland **Zip:** 94607

Phone: 510-834-4455 **Fax:**

Email: jbevan@rinconconsultants.com

Specific Area Subject to Proposed Action

County: Marin **City/Community:** City of San Rafael

Project Description:

Residential project at 555 Northgate Drive, San Rafael, CA requiring demolition of a two-story commercial buildings on one 2.2-acre parcel on the south side of Northgate Drive. The project will include a new 7-story residential development.

Additional Request

■ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Novato, CA

Township: 02N **Range:** 06W **Section(s):** 20

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Isaac Bojorquez
Ohlone-Costanoan

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Sara Dutschke
Miwok

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

COMMISSIONER
Vacant

COMMISSIONER
Vacant

ACTING EXECUTIVE SECRETARY
Michelle Carr

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov

November 10, 2025

Josh Bevan
Rincon Consultants

Via Email to: jbevan@rinconconsultants.com

Re: 555 Northgate Drive Project, Marin County

To Whom It May Concern:

As requested, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed based on information submitted for the above referenced project. The results were negative. Be aware that tribes do not always record their sacred sites in the SLF, nor are they required to do so. As such, an SLF search is not a substitute for consultation with all tribes that are traditionally and culturally affiliated with a project's geographic area.

Attached is a list of Native American tribes that are traditionally and culturally affiliated with the project's geographic area. Please contact all of the listed tribes as they may have information about sacred sites within the project area that is not listed with the NAHC.

If within two weeks of notification, a response has not been received, the Commission requests that you follow up with a telephone call or email to ensure that the project information was received.

If you receive notification of a change of address or phone number from a tribe, please inform the NAHC so that we can assure that our lists contain current information.

In addition to engaging in tribal consultation, you should consult the appropriate regional California Historical Research Information System (CHRIS) information center to determine whether it has information regarding the presence of recorded archaeological sites within the project area.

If you have any questions or need additional information, please contact me at Mathew.lin@nahc.ca.gov.

Sincerely,

Mathew Lin

Mathew Lin, MPP
Cultural Resources Analyst

Attachment

Attachment 4

DPR 523 Series Forms

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings OTIS 697794 in Marin County BERD
Review Code Reviewer Date

***Resource Name or #:** 555 Northgate Drive

P1. Other Identifier: None. ***P2. Location:** ☒**Unrestricted** ***a. County** Marin **and *b. USGS 7.5' Quad** *Novato, Calif.* and *San Rafael, Calif.* **Date** *Novato:* 1984 (1955 edit.); *San Rafael*: 1993 (1995 edit. **T** 02N; **R** 06W **of Sec** 20, M.D.B.M

c. Address: 555 Northgate Drive City San Rafael Zip 94903

d. UTM: Zone 10S, 540043.14 mE/ 4205978.27 mN e. Other Locational Data: APN 175-060-32

***P3a. Description:** 555 Northgate Drive (subject property) is an approximately 2.2-acre commercial property contained within a nearly rectangular parcel on the southside of Northgate Drive in the City of San Rafael's Terra Linda Valley area (P5a. Photograph 1). Neighboring properties include the Northgate shopping center to the north, the Terry Linda Valley single-family residential neighborhood and Hartzell Park, a public open space, to the west and southwest and multiple-family residential properties to the east and southeast. The subject building was constructed in 1970 and features elements of regional mid-twentieth century Modern architecture, referred to as the Second Bay Tradition. The building is situated near the front property line, with driveways flanking it east and west. It has a concrete foundation and an L-shaped footprint, composed of a two-story east wing that is oriented north-south, and a one-story north wing that extends westward from the two-story wing. Each wing is capped by a flat roof with wide overhangs, wood soffits with applied strip detailing, an wood fascia. The exterior is clad with horizontal composite wood siding (T1-11 or similar). The building's corners and recessed exterior walkways at the front and rear feature wood columns formed by a central post sandwiched between two outer boards. These columns also feature circular dowel details that appear to be non-structural. Narrower, single-board wood posts with similar dowel details are used to divide the exterior walls into bays of even width. Fenestration consists of floor-to-ceiling, anodized aluminum-frame gridded windows. The grids contain a central row with glass and upper and lower rows with opaque spandrel panels. In some locations, these grids extend the full two-story height of the building. The building appears to be in good condition based upon observation of the exterior (Continued on Page 4)

***P3b. Resource Attributes:** HP6. 1-3 Story Commercial Building, HP29. Landscape Architecture, HP4. Ancillary Building (prefabricated sheds) ***P4. Resources Present:** ☒Building ☒Structure

P5a. Photograph 1



P5b. Description of Photograph 1: Primary (north) façade, view facing southeast from Northgate Drive. November 24, 2025

P6. Date Constructed/Age and Source: ☒Historic 1970
(San Rafael, City 2025a, 2025b)

***P7. Owner and Address:**
Affordable Housing Land Consultants
P.O. Box 260770, Encino, CA 91426

***P8. Recorded by:**
Josh Bevan, AICP, MSHP
Rincon Consultants, Inc.
66 Franklin Street, Suite 300
Oakland, CA 94607

***P9. Date Recorded:**
November 24, 2025

***P10. Survey Type:** Intensive

***P11. Report Citation:** Rincon Consultants. 2025. *Historical Resources Assessment for the 555 Northgate Drive Affordable Housing Project, 555 Northgate Drive, San Rafael, California, 94903*. On file at Northwest Information Center, Sonoma State University.

***Attachments:** ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record

B1. Historic Name: Western Travelers Insurance Company B2. Common Name: None
B3. Original Use: Commercial (Office) B4. Present Use: Commercial (Office)
***B5. Architectural Style:** Second Bay Area Tradition
***B6. Construction History:** The following construction information is provided in building permit documentation for the subject property that involves alterations to architectural and structural elements of the building, on file with the City of San Rafael Building Division and accessed through the City's Online Record Search, unless otherwise cited (San Rafael, City of 2025a, 2025b).

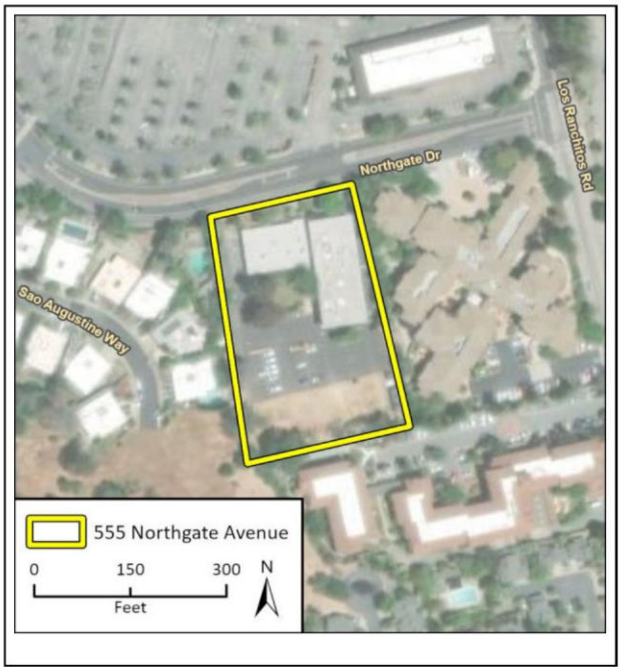
11-4-1969: Permit 5953: Application for Building Permit to construct office building (6-2-1970: Certificate of Occupancy)
2-10-1971: Permit 7841: Complete interior work, install partitions and ceiling for office space
6-14-1973: Permit 2734: Interior partition; 6-16-1975: Permit 5992: Interior alteration; 3-7-1979: Permit 11195: Interior partition
Circa 1974: Front entrance ramp to east entrance was constructed ca. 1974, based on historical aerials (Geocon 2024)
5-13-1983: Permit 19101: Interior remodeling "Super Cuts" office
4-23-1984: Permit 20769: Remove and replace siding at eaves due to gutter leaking
1-20-1988: Permit 27419: 20' interior walls, 1 door, electrical work, sinks, cabinets, exhaust fan
2-15-1991: Permit 33324: Tenant improvement, education room for Supercuts, Inc.
11-12-1991: Permit 34500: Reroof and repair of gravel stop. Some gutter repair and painting
7-22-1993: Permit 37139: Interior, non-structural remodel; 12-9-1994: Permit 37139: Interior remodel
12-15-2000: Permit B0012-040: New entrance door at interior suite, interior demolition
1-16-2001: Permit B0101-027: Interior alterations, partitions, finishes, accessibility, upgrades
1-5-2004: Permit B0401-019: Roofing replacement with new class A "BUR (YGNE Manville)"
10-12-2005: Permit B0507-108: Structural upgrade new partitions, with related B0512-061 addendum

***B7. Moved?** ☒**No** ***B8. Related Features:** None
B9a. Architect: Walter E. Bearden b. Builder: Associated Construction and Engineering Co.
***B10. Significance:** **Theme** Community Planning and Development; Architecture **Area:** City of San Rafael
Period of Significance 1970 **Property Type** Commercial **Applicable Criteria** None
Previous Historical Evaluation: 555 Northgate Drive is listed in the California Office of Historic Preservation's (OHP) Marin County Built Environment Resource Directory (BERD) with a 6Y (Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or local listing), OHP Tracking and Inventory System (OTIS) number 697794, and Evaluation Info: 6Y, 08/27/2020, HUD_2020_0820_001. This indicates the property was determined ineligible for listing in the National Register of Historic Places (NRHP) in 2020, but has not been subject to evaluation for eligibility to the California Register of Historical Resources (CRHR) or as a City of San Rafael Landmark.

(Continued on Page 4)

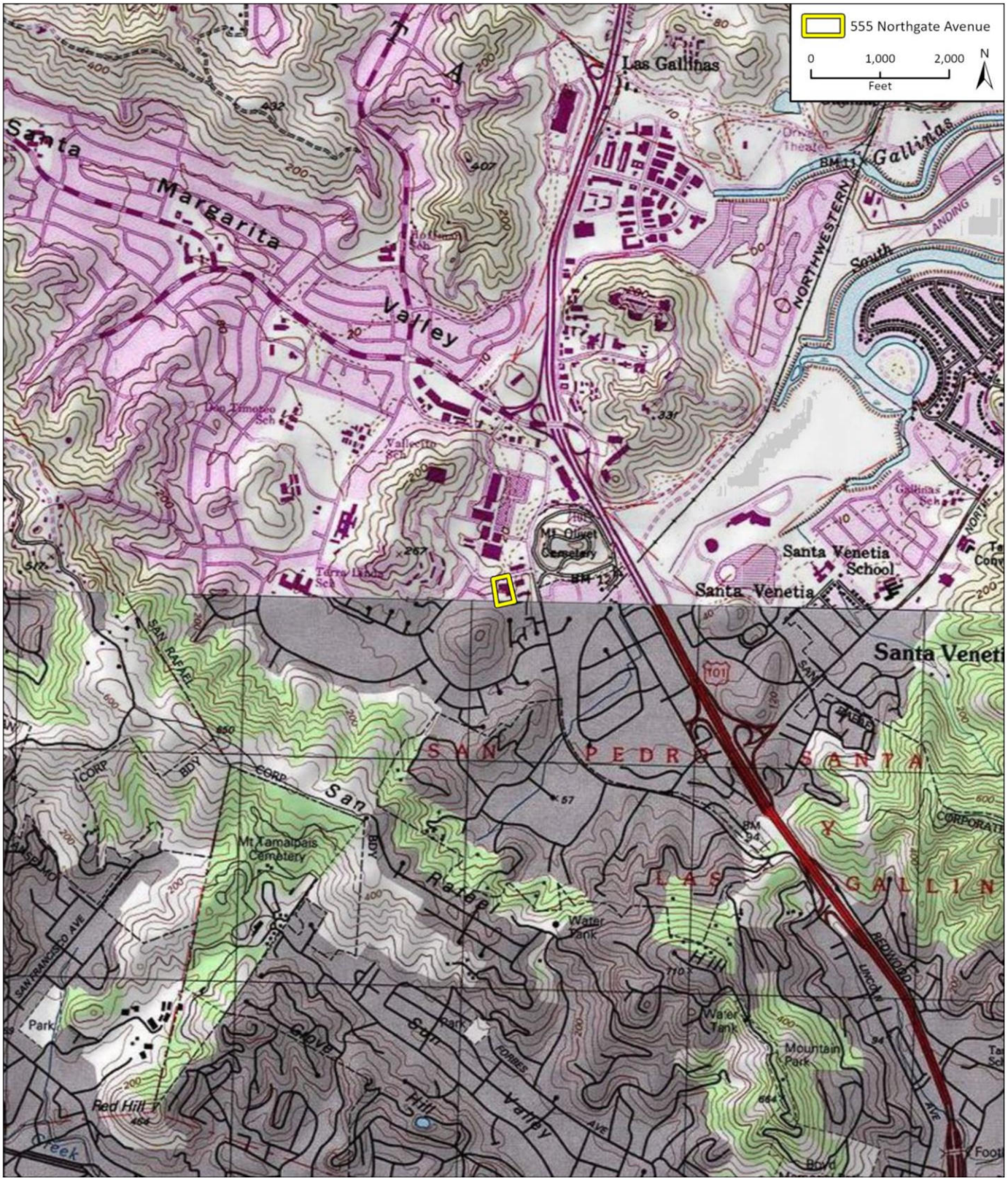
B11. Additional Resource Attributes: None.
***B12. References:** See Page 9
B13. Remarks: None.

***B14. Evaluator:** Josh Bevan, AICP, MSHP – Rincon Consultants, Inc.
***Date of Evaluation:** December 2, 2025



(This space reserved for official comments.)

***Map Name:** *Novato, Calif. , San Rafael, Calif.* ***Scale:** 1:24,000 ***Date of map:** *Novato:* 1984 (1955 edit.); *San Rafael*: 1993 (1995 edit.)



P4a. Description (Continued from Page 1):

The primary façade is oriented to north, facing Northgate Drive. At its east end, the façade is two stories, with a two-story grid containing fenestrated bays and the east front entrance. The east entrance is accessed by a concrete ramp with round metal railings (Photograph 2). This ramp and entrance did not appear on 1969 plans for the building, but appear to have been built by 1974, based on historical aerial photography. The entrance contains a set of glazed, bronze-anodized double doors, with sidelites and a transom. The doors have been modified with a kickplate panel set above the bottom rail, likely to bring them in compliance with accessibility standards (Photograph 3). The entrance is set beneath a flat canopy that is an extension of the overhanging roof of the one-story wing to the west. A planting bed with stone veneer cladding is located immediately west of the entrance. Further to the west, the main entrance is centered in the easternmost bay of the one-story wing. It is accessed by a concrete entrance path with rectangular planting bed, which leads up to three concrete steps and an entrance landing (Photograph 5).



Photograph 2. East end of primary facade, view facing south.



Photograph 3. East entrance, view facing south.



Photograph 4. Planting bed next to east entrance, view facing west.



Photograph 5. Concrete entrance path leading to central front entrance, view facing south.

This entrance features identical doors to the east entrance, with a wider grid of surrounding sidelites and a transom (Photograph 6). To the west of this entrance an additional planting bed clad with stone veneer extends westward for the entire length of the one-story wing, forming the north/outer wall of the building's front covered concrete walkway. The walkway also has integrated planting beds that separate it from the façade (Photograph 7). The remainder of the primary façade features alternating bays of similar window grids and solid wall (Photograph 8 and Photograph 9).



Photograph 6. Main entrance at the center of the primary façade, view facing south.



Photograph 7. Planting bed extending the length of the one-story wing, west of the main entrance, view facing west.



Photograph 8. Typical fenestration along the front of the one-story wing, view facing south.



Photograph 9. Covered outdoor walkway along the front of the one-story wing, view facing west.

The west façade of the one-story wing faces the west entrance driveway and adjacent surface parking stalls. It has three additional bays with similar window grids to those found on the north side of the one-story wing (Photograph 10). At the rear of the building, the south façade of the one-story wing and the west façade of the two-story wing frame a landscaped lawn. Concrete walkways abutting and running along the building exterior and planting beds along the edge of the walkways frame the lawn area (Photograph 11). The south façade of the one-story wing features an entrance near its west end, with two additional bays filled with gridded windows (Photograph 12). Further eastward, the main south entrance is set on the same axis as the central front entrance. The entrance doors and sidelites have a darker finish than the original doors at the central front entrance and taller kickplates; the doors appears to be non-original and are estimated to date to the 1990s or later (Photograph 13).



Photograph 10. West façade of one-story wing, view facing east.



Photograph 11. South façade, one-story wing, view facing north.



Photograph 12. Walkway along south facade of one-story wing, view facing east.



Photograph 13. South entrance, view facing north.

The two-story wing features an additional entrance, directly adjacent to the main south entrance, with a replacement door (Photograph 14). The remaining portion of two-story wing's south façade features similar grid windows at the first and second story, as well as one bay with a sliding glazed door (Photograph 15). The south façade of the two-story wing features two single-door entrances within the west end of its first story, a stairwell window at the west end of the second story, and additional bays with typical gridded windows at center (Photograph 16). Finally, the east façade is contained entirely in the two-story wing faces the east entrance driveway. It features four groups of gridded windows, spanning two bays each, interspersed with bays containing solid wall or smaller gridded windows (Photograph 17).



Photograph 14. West-facing rear entrance, within west-facade of two-story wing.



Photograph 15. West façade of two-story wing, view facing east.



Photograph 16. South facade of two-story wing, view facing northeast.



Photograph 17. East facade, view facing northwest.

Site Features

The frontage of the property contains extensive landscaping, in addition to the east and west driveways that flank the subject building (Photograph 18). The landscaped area includes rectangular lawn areas, ground covering plantings set in mulched beds, and several trees. These areas are separated by the entrance pathways leading to the building's front entrances. A sloping lawn surrounded by mulched planting beds and concrete pathways is located to the rear of the building (Photograph 19). Each of the driveways and the parking lot to the rear of the building is paved with asphalt. The parking lot has several light standards (round metal poles with concrete bases) and several shorter standards with flat tops adjacent to the parking stalls that are closest to the rear lawn (Photograph 20 and Photograph 21). Additional site features include two prefabricated storage sheds that appear to be of recent origin located near the southeast corner of the property. These sheds are identical to each other and sit on concrete blocks set on concrete pad foundations. Two additional foundations are located to the north of the sheds, and another former shed location (a cleared patch of ground) was present to the rear of the sheds. Aerial photograph indicates these features date to ca. 2005 and later (Geocon 2024). Survey also identified concrete drainage gutters that circulated generally north-south, with a curved footprint, to the immediate west of the sheds, as well as one additional similar concrete gutter located along the southwest perimeter of the site. These drainage features appear to be of contemporaneous construction to the sheds.



Photograph 18. Landscaping at front of property, view facing southwest.



Photograph 19. Lawn behind building, view facing northwest.



Photograph 20. Parking lot within rear of site, view facing northeast.



Photograph 21. Shorter metal light standards between rear lawn and parking lot, view facing south.



Photograph 22. Sheds, foundations, and drainage gutters located near southeast corner of property, view facing southeast.



Photograph 23. Concrete gutter along southeast perimeter of property, view facing southwest.

B10. Significance (Continued from Page 2):

Property Development History

The following section provides documentation of 555 Northgate Drive's developmental history, within the context of San Rafael's historical development, as provided in the *Downtown San Rafael Precise Plan Historic Resources Inventory Summary Report* (San Rafael, City of 2021), and with reference to the *Northgate Town Square Project, San Rafael, California / Final Built Environment Inventory and Evaluation Report* (hereafter, *Northgate Built Environment Report*) that documents patterns of historical development in the subject property's immediate vicinity (Dudek 2022). Supplemental review of historical maps, aerial photography, and archival materials was also completed.

San Rafael developed around its former Spanish Mission in the 1840s, as Gold Rush-era settlers found the area suitable for cattle farming, which supplied beef to markets in San Francisco and Gold Country (San Rafael, City of 2021). Early settlement in San Rafael occurred as former ranchos were divided into smaller holdings, and the town site into blocks. The downtown coalesced along C Street, with transportation improvements including the San Rafael & San Quentin Railroad, and the North Pacific Coast Railroad between 1870 and 1871. After the city incorporated in 1874, connection to passenger ferries was provided with the extension of the San Francisco and North Pacific Railroad in 1879. The railroads served local commerce and encouraged seasonal travel to the area (San Rafael, City of 2021). While San Rafael's settlement was concentrated in its downtown, the land within the subject property was further to the north, in the sparsely settled Santa Margarita and Gallinas valleys. As of 1892, much of this area was under the ownership of Maria L. Lucas, identified as owner of a 3000-plus-acre ranch that stretched across lands of the former Ranch San Pedro Santa Margarita Y Las Gallinas on an 1892 map. To the southeast, the estate of A. Forbes spread across 400 acres to the immediate east of the subject property's location. Mount Olivet Cemetery was located to the immediate northeast, to the north of Forbes' land (Dodge 1892, Figure 1). The San Francisco and North Pacific Railroad trended through this area, east of the future location of the subject property.

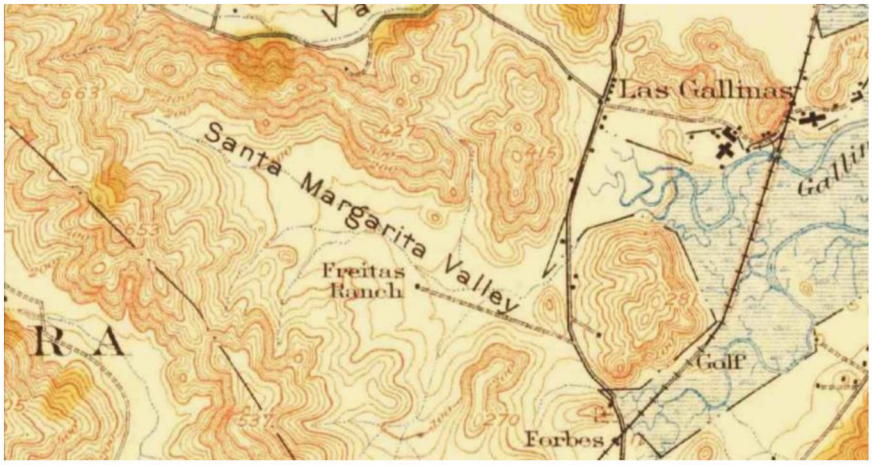
Figure 1 Map of Marin County, 1892 (approximate location of subject property identified with arrow)



Source: Dodge 1892

By 1914, lands within the former ranch of Maria L. Lucas appeared as Freitas Ranch, owned by the Manuel T. Freitas family, within the Santa Margarita Valley (USGS 1914, Dudek 2022). The former Forbes landholdings were labeled as "Forbes," at the juncture of a regional road connecting San Rafael and Novato (generally along the alignment of present-day U.S. 101), while no other major development was apparent in the immediate area of the subject property (United States Geological Survey [USGS] 1914, Figure 2). The development of automobile-serving roadways during the early 1900s and expanded ferry service brought additional travel through San Rafael and its vicinity.

Figure 2 Areas to the immediate north of the subject property's location, depicted on a topographic map of the Petaluma, CA Quadrangle, 1914



Source: USGS 1914

In 1925, U.S. 101 was designated as an interstate highway, following a similar alignment to Lincoln Avenue and a preexisting State Highway that led northward from San Rafael. The development of the Golden Gate Bridge between 1933 and 1937 further increased access to Marin County for automobile traffic, marking a turning point in transportation history, with the last commuter train from San Rafael departing in 1941 (San Rafael, City of 2021, Dudek 2022). While access to the rural areas north of San Rafael increased during the interwar years, the land within the subject property remained vacant into the 1940s. After World War II, the area containing Freitas Ranch was subdivided, leading to the development of residential neighborhoods, commercial shopping centers, and industrial parks in the vicinity of the subject property (Dudek 2022). As explained by in the *Northgate Built Environment Report*:

> As transportation corridors such as the Golden Gate Bridge were completed in the early twentieth century, the city developed into a bedroom community for these proximate centers of economic activity. Precipitated by growth throughout the Bay Area in the period during and following World War II, the population of the city rose from 13,848 citizens in 1950 to 20,460 citizens by 1960. Census data indicates that the jump in population was supported by the construction of new suburban housing developments along U.S. Highway 101 in unincorporated areas of Marin County that were gradually annexed to San Rafael. The rate of growth continued to accelerate during the 1960s, and the population reached 38,977 citizens by 1970. This suburban expansion prompted the corresponding development of regional commercial centers to support the populations located there. In 1964, the Northgate Mall, an open-air regional shopping mall, was developed to support the growing population of the Terra Linda neighborhood in North San Rafael. (Dudek 2022)

Between 1955 and 1964, two major developments occurred to the immediate north and southwest of the subject property's location: the Northgate Shopping Center and the Terra Linda Valley/Terra Linda neighborhoods (Dudek 2022). The Terra Linda Valley subdivision, and the related Terra Linda subdivision were developed by well-known builder Joseph Eichler. Consisting of over 900 contemporary residences, the neighborhoods were built in phases between 1955 and 1961 on lands to the immediate southwest of the subject property, with design by Bay Area-based architects Jones & Emmons and Anshen & Allen. The homes showcase mid-twentieth century post-and-beam construction, with a cohesive character of flat and wide gable roof forms, and one-story heights, typically with a courtyard integrated into the building footprint. The Northgate Shopping Center opened in 1964 on lands to the north Terra Linda Valley subdivision and the subject property, and continued to expand into the late 1960s. The shopping center was developed by the Draper Company, with design by Welton Beckett & Associates architects and landscape architect Lawrence Halprin (Dudek 2022). Historical aerial photography indicates during the post-World War II period, the property to the immediate east of the subject property was under development by the mid-1960s, and was later redeveloped ca. 2005 with the existing multiple-family residential building (UCSB 1965: Figure 3, Geocon 2024). Overall, the immediate vicinity of the subject property has been extensively developed from its pre-World War II rural setting to one containing several neighboring commercial and residential properties.

The subject property was developed between 1969 and 1970 by Western Traveler's Insurance Company and its parent company Mutual Fund Associates. These financial businesses relocated their headquarters from Los Angeles to San Rafael, consolidating their headquarters in the subject building (*Daily Independent Journal* 1969). The development of the subject property included the subject building, adjacent surviving parking, and landscaped areas to the previously undeveloped parcel. While occupancy of the subject building transitioned to multiple tenants in the 1980s and more recent years, as explained in the Occupancy History section below, the subject building has retained its footprint and form, as well as the general spatial layout of building and parking within the site. Around 1974, the existing east entrance pathway ramp was constructed, based on aerial photography. As detailed in the construction history on Page 2, several interior alteration campaigns and structural upgrades occurred between the 1970s and 2000s, while exterior alterations in the more recent past appear to be limited to the installation of newer entrance doors on the south façade of the north wing, and some replacement/infilling of fenestration or secondary entrances on the west-facing rear wall of the east wing (San Rafael, City of 2025a, 2025b, Geocon 2024).

Figure 3. Aerial view over future site of 555 Northgate Drive (approximate boundary outlined), 1965



Source: UCSB 1965

Occupancy History

Western Travelers Life Insurance Company was founded in 1892 in Omaha, Nebraska. Known until 1959 as Wester Travelers Accident Association, the company's name changed when it gained a California charter (*Daily Independent Journal* 1969). Between 1959 and 1969, Western Travelers Life Insurance Company was headquartered in Los Angeles and led by presidents Edwin J. Garrett and Lowell B. Martin. By 1969, the company was a part of Mutual Fund Associates, a sales organization that spread across seven states (*Los Angeles Times* 1960; *San Francisco Chronicle* 1969). Between 1969 and 1970, Western Travelers Life Insurance Company and its parent Mutual Fund Associates relocated their headquarters from Los Angeles into a consolidated headquarters at 555 Northgate Drive in San Rafael. The firms temporarily occupied offices at 4380 Redwood Highway until the construction of the subject building was completed in 1970 (*Daily Independent Journal* 1969). In 1972, Martin retired and Oliver M. Wilhelm was elected president (*San Francisco Chronicle* 1972). During the 1970s, the city directories listed Western Travelers Life Insurance Company, as well as its parent companies Mutual Fund Associates and Putnam Financial Services as occupants. During the 1980s, the occupancy of the building transitioned to Supercuts and its parent company Emra Corp, a hair styling business. Supercuts and Knightsbridge, Inc. were occupants in the early 1990s. By 2000, a new suite of occupants were listed in directories, including Children's Discovery Centers, Easter Seals Northern California, Marin Child Care Council Referral Service, and Marin County Department of Health and Human Services. Occupancy continued to evolve in the very recent past, but has continued to include service organizations, along with some County and State offices (Geocon 2024).

Architectural Style

Regional trends in architectural design in the San Francisco Bay Area have evolved in a series of traditions between the late nineteenth and mid-twentieth centuries, and are typically referred to as, First, Second, or Third Bay Traditions. The First Bay Tradition infused the East Coast's Shingle style with design approaches that adapted buildings to the climate and topography of the Bay Area ca. 1890s to 1920s. The Second Bay Tradition (1930s-1960s) is, "a unique regional Modern vernacular style developed in the San Francisco Bay Area in the late-1930s […] fused the rustic, hand-crafted, woodsy-aesthetic of First Bay Tradition

architects […] with the sleek functional design and cubic, rectilinear forms associated with European Modernism," as explained by San Francisco Planning Department (San Francisco Planning Department 2011). The Second Bay Tradition extended into the 1960s, but was succeeded between the mid-1960s and early 1970s by the Third Bay Tradition, which continued the evolvement of Modernist design, and featured shed and gable roof forms and further explored the integration of buildings and sites (San Francisco Planning Department 2024). Although several professionally trained architects were influential and regular adopters of these regional traditions, this evolving aesthetic was also adopted for vernacular construction by non-architects and contractors; a regional vernacular. The subject building aligns with the Second Bay Tradition, given in rectangular massing, flat roof form, wood exterior cladding, and rectangular fenestration that shows the influence of earlier International style influenced architecture that was adopted widely during the mid-twentieth century.

Design and Construction Professionals

Associated Construction and Engineering Co. is listed as general contractor for the subject building in available building permit and plan records (San Rafael, City of 2025a, 2025b, Geocon 2024). Research of this firm's role in the construction industry did not identify a date when the firm was founded; however an estimated year of 1952 is inferred from historical newspapers (*San Francisco Chronicle* 1967). In 1955, business partners William H. Acheson, John L. Chapman, and Earl E. Swanson dissolved their partnership and ownership of their business, Associated Construction and Engineering Co., was reorganized (*Redwood City Tribune* 1955). By 1957, the company was based in South San Francisco, where it built a distribution center for drug and toiletries manufacturer J.H. Coffman and Son (*San Mateo Times* 1957). Chapman remained part of the company's leadership and president by 1967, when Associated Construction and Engineering Co. expanded with an office in Chicago. By that year, the company had built over 300 industrial and commercial buildings on the West Coast and in the Midwest (*San Francisco Chronicle* 1967). The company had several projects involving industrial parks, including the above-mentioned project in South San Francisco in 1957, and a project in Cordelia in 1973 (*The Times Herald* 1973), as well as a factory for Gant Shirtmakers in Connecticut in 1970, which appeared in a book discussing architecture in New Haven (Brown 1976). Review of architectural journals found one project, the Grant Avenue Arcade in San Francisco's Chinatown, which Associated Construction and Engineering Co. served as general contractor for (*Architecture/West* 1966).

Walter E. Bearden, Architect

Oakland-based architect Walter E. Bearden (1924-1986) is attributed as architect of record for the subject building's original design, based upon Bearden's name appearing on plans (stamped) for the subject building prepared in 1969 (Geocon 2024). Bearden was born in 1924 and was raised in the East Bay region. Research of Bearden's career found no information on his academic or professional training in architecture. During World War II he enlisted in the Navy and was discharged in 1945 (Ancestry 2025). He entered the architecture industry and resided in El Cerrito with his immediate family by 1950. By that year he was employed as an architectural designer for an agency that sold steel building materials (Ancestry 2025a, 2025b). Bearden's name and affiliation with AIA's East Bay chapter were listed in AIA's 1962 national directory of architects, while AIA's directories in 1956 and 1970 listed no information for Bearden (AIA 1956, 1962, 1970). Bearden did not list any of his projects in the 1962 directory; likewise, searches of architectural journals produced no information on Bearden's work (USModernist 2025). Historical newspapers provide several articles mentioning Bearden as architect for buildings in the East Bay area and as far northeast as Woodland, Yolo County during the 1960s, including: Yolo Savings & Loan Association, 500 Main Street, Woodland, 1962 (extant) (Figure 3); Contra Costa Savings and Loan, Concord, 1962 (extant) (Figure 5); Building Leased to U.S. Post Office, Pleasant Hill, 1945 Contra Costa Boulevard, Pleasant Hill, 1966; Kalman Plumbing building 5th and Jones Streets, Berkeley, 1967 (appears to be extant with alterations) (*East Yolo Record* 1962, *Contra Costa Times* 1966, *Concord Transcript* 1962, *Berkeley Gazette* 1967). Online research also found Bearden was architect for the former Yolo Savings & Loan Branch in Woodland (1962, extant), a U.S. Post Office in Pleasant Hill, and a four-story commercial-office building for Contra Costa Savings and Loan in Concord (1962, extant). These buildings were designed and built between 1962 and 1966. Of the three, the Contra Costa Savings and Loan building was noted in local newspapers as Concord's first "skyscraper" (*Concord Transcript* 1962). Research did not identify any of these buildings as listed on local, state, or national registers.



Figure 4 Yolo Savings & Loan Association building, Woodland (Google Street View 2022a)



Figure 5 Former Contra Costa Savings & Loan building (Google Street View 2022b)

Historical Resources Evaluation

The property at 555 Northgate Drive has not been previously intensively surveyed, nor fully evaluated for potential historical or architectural significance and eligibility for NRHP, CRHR or as City San Rafael Landmark. The property is currently listed in the OHP's BERD for Marin County with a status code of 6Y (Determined ineligible for NR[HP] by consensus through Section 106 process – Not evaluated for CR[HR] or local listing). This code relates to a 2020 historic review clearance request prepared by the Marin County Community Development (CDA) Agency as responsible entity for the Family Welcome & Resource Center project, which involved interior alterations at the subject building. CDA sought OHP's concurrence that no historic properties would be effected by the project and explained:

> The property is not listed in the Statewide Historic Resource Inventory database, also known as the Built Environment Resource Directory (BERD), maintained by the Office of Historic Preservation and the California Historical Resources Inventory System. The property has also not been recognized on any Historic Inventories done by the City of San Rafael, moreover it was confirmed that the property was built and officially occupied in 1970. Because of this, CDA staff still believe that the structure is ineligible for National Register listing.

OHP's finding stated:

> Pursuant to 36 CFR §800.4(d) we do not object to the County of Marin's finding that no historic properties will be affected by the proposed Family Welcome & Resource Center interior space reconfiguration and rehabilitation project located 555 Northgate Drive in San Rafael. However, the County may have additional Section 106 responsibilities under certain circumstances set forth at 36 CFR Part 800. For example, in the event that historic properties are discovered during implementation of the undertaking, your agency is required to consult further pursuant to §800.13(b) (OHP 2020)

While limited research on the subject property's development was completed by CDA, no documentation was found that would indicate the subject property was intensively surveyed, recorded with DPR 523 Series forms, or evaluated under criteria of the NRHP, CRHR, or as a San Rafael Landmark. Nonetheless, the property was entered into BERD with a 6Y status as a result of the 2020 undertaking.

In 2022, the 555 Northgate Drive was among several commercial properties in the vicinity of the Northgate Shopping Center that were subject to "desktop research through ParcelQuest and Google Earth Pro," as documented in the *Northgate Town Square Project, San Rafael, California / Final Built Environment Inventory and Evaluation Report* related to the *Northgate Town Square Project*'s

Environmental Impact Report (Dudek 2022). This previous documentation noted that as of September 2022 the subject property was not part of an existing historic district, considered an individual historical resource, or identified by the City of San Rafael for special historic consideration. The Terra Linda Valley neighborhood to the southwest of the subject property was identified as potential historic district and considered a historical resource under CEQA, with the findings adopted as part of the Northgate Tow Square Project EIR (Dudek 2022). The subject property is adjacent to, but outside of the presumed eligible Terra Linda Valley historic district.

Current Evaluation

The scope of evaluation of the subject property is limited to the criteria of the CRHR and City of San Rafael. The subject property is recommended ineligible for listing in the CRHR, and as a City of San Rafael Landmark, due to a lack of historical and architectural significance.

California Register of Historical Resources

Criterion 1 (Events)

The property at 555 Northgate Drive is historically associated with development in North San Rafael, an area that experienced extensive development during post-World War II decades, as San Rafael and other communities in southern Marin County saw increased population growth, with related residential, commercial, and industrial development. The subject property was constructed in 1970, after Eichler's Terra Linda and Terra Linda Valley neighborhoods and the Northgate Shopping Center were developed between the mid-1950s and mid-1960s. The subject property's development does not appear to have been individually significant to the pattern of commercial development occurring in San Rafael during the later years of the mid-twentieth century. While the property was part of a pattern of increased commercial development after World War II, the property is not known to have started or influenced commercial development or other themes related to historical development in an individually significant way. Furthermore, no singular historical events of importance are known to have occurred at this property. Therefore, the property is recommended ineligible under Criterion 1.

Criterion 2 (Persons)

Research into available property ownership and occupancy data indicates the subject property was primarily associated with Western Travelers Life Insurance Company and its related parent companies between 1970 and the early 1980s, covering the period of the building's existence that occurred at least 45 years ago, which is generally considered beyond the recent past. Western Travelers Life Insurance Company was headed by presidents Lowell B. Martin and Oliver M. Wilhelm during this period of the building's history, which saw the company relocated from headquarters in Los Angeles, where it had been established in 1959, to the subject property. Research did not identify Martin, Wilhelm, or any employees as having made significant contributions to history. Additionally, more recent occupancy of the building has consisted of several businesses, organizations, and agencies, with no individuals appearing with strong association to the subject building, and no evidence that any additional persons have made significant contributions to history that this building would represent. Therefore, the property is recommended ineligible under Criterion 2.

Criterion 3 (Architecture)

555 Northgate Drive was constructed in 1970, and the subject building is identified as a project led by general contractor Associated Construction and Engineering Co., with the building's original design attributed as a project of architect Walter E. Bearden. Research did not identify a landscape architect or other design professionals. Bearden's design for the building incorporates common, contemporary architectural elements such as aluminum-frame gridded windows, bronze-anodized doors, and horizontal exterior siding with rectangular massing and flat roof forms. The building is largely void of ornament but features modest circular dowels on its porch columns and the posts that divide the exterior into bays of even width, as well as wood soffit strip. The building also features integration with its site's landscape, including planting beds that abut the exterior, or which separate exterior walkways from the building. Additionally, the building's one-story wing features a flat roof that doubles as an entrance canopy and extends over the primary façade's exterior walkway. While the building features massing, fenestration, and integration with its site that are examples of mid-twentieth century architectural design, and align with aspects of Second Bay Tradition architecture, it does not appear to stand out individually as a distinctive example of a style, type, period, or method of construction, for possessing high artistic values, or for representing a significant work of a design or construction professional considered to have been a master in their field. The building's construction occurred relatively late in the period of use of the

Second Bay Tradition, and has not been identified as an important or lauded example of the style in existing scholarship. Bearden was active primarily in the East Bay during the 1950s and 1960s, and was responsible for designing the City of Concord's first "skyscraper" in 1962. Associated Construction and Engineering Co. was designer and builder associated with the development of industrial parks in California, and other commercial-industrial properties in the United States between the 1950s and 1970s. Nonetheless, research did not find that Bearden or Associated Construction and Engineering Co. were significant for their role in influencing Modernism, or other achievements in the field of architecture or construction, such that these practitioners were considered masters. Therefore, the property is recommended ineligible under Criterion 3.

Criterion 4 (Information Potential)
The built environment of the subject property is not likely to yield valuable information which will contribute to our understanding of human history because the property is not and never was the principal source of important information pertaining to significant events, people, architectural style, commercial or residential development. Therefore, 555 Northgate Drive is recommended ineligible under Criterion 4.

City of San Rafael Landmarks
(a) Historical, Cultural Importance
The subject property is recommended ineligible under Landmark criterion (a). The property is not identified as having significant character, interest, or value to the heritage or cultural characteristics of San Rafael, the state, or nation as it is not associated with a significant trend or patterns of events in history. Additionally, the building has not been identified as having an association with the life of a historically significant person, or as the location of a significant historic event.

(b) Architectural, Engineering Importance
The subject property is recommended ineligible under Landmark criterion (b). Consisting of one building constructed in 1970, and ancillary, prefabricated storage sheds, the property has no identified architectural or engineering importance. Additionally, the building is not identified as the work of a designer or architect of merit.

(c) Geographic Importance
The subject property is recommended ineligible under Landmark criterion (c). The property has not been identified as part of a historical development that in the present day is embodied within a square, park, or distinctive area within the City. As demonstrated in the property development history of this study, development in the vicinity 555 Northgate Drive commenced in earnest during the mid-1950s and continued into the 1960s, when the neighboring Terra Linda Valley and Terra Linda residential neighborhoods were developed and shortly followed by the development of the Northgate Shopping Center. The subject property's development in 1970 occurred after earlier, larger commercial and residential developments of the post-World War II period were well underway. Overall, the subject property is located in an area that was primarily developed from earlier rural, ranching uses during the mid-twentieth century; however, the subject property was not apparently significant to that pattern of historical development, which was established prior to the subject property's development.

(d) Archaeological Importance
The built environment of the subject property is recommended ineligible under Landmark criterion (d). The buildings and landscape features on the property do not possess archeological importance as they have not yielded information important to history or prehistory, as explained under CRHR Criterion 4 (Information Potential) above.

***B12. References (Continued from Page 2)**

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