HEXAGON TRANSPORTATION CONSULTANTS, INC.

160 El Camino Real

Draft Transportation Impact Analysis

Prepared for:

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Executive Summary

This study was conducted for the purpose of satisfying the requirements of the California Environmental Quality Act (CEQA) and identifying the potential transportation impacts related to the proposed 28-room hotel at 160 El Camino Real in San Bruno, California. The site is currently vacant. Access to the underground parking garage would be provided via a driveway on El Camino Real.

The local transportation analysis supplements the VMT analysis by identifying potential adverse operational effects that may arise due to a new development, as well as evaluating the effects of a new development on site access, circulation, and other safety-related elements in the proximate area of the project.

The effects of the project were evaluated in accordance with the standards set forth by the City of San Bruno and the City/County Association of Governments (C/CAG) of San Mateo County. The C/CAG administers the San Mateo County Congestion Management Program (CMP). The proposed project would not generate more than 100 peak hour trips. Therefore, an analysis based on the requirements of the City/County Association of Governments of San Mateo County (C/CAG), the administering agency for the CMP, is not necessary. The traffic analysis was based on level of service for two signalized intersections.

Based on the project description and trip generation rates recommended by the Institute of Transportation Engineers, it is estimated that the proposed hotel would generate a total of 234 daily vehicle trips, with 13 trips (8 inbound and 5 outbound) occurring during the AM peak hour and 17 trips (9 inbound and 8 outbound) occurring during the PM peak hour.

Vehicles Miles Traveled (VMT) Analysis

The proposed project is located within 400 feet of the Route ECR bus stop with service intervals of 15 minutes during peak commute hours, which qualifies as a high-quality transit corridor. It is presumed that hotel employees would use the transit services that are available along El Camino Real. Thus, the project would be presumed to have a less-than-significant impact on VMT per OPR guidelines.

Project Level of Service Analyses

The results of the intersection level of service analysis show that all study intersections would continue to operate at an acceptable level of service under both existing plus project and background plus project conditions during the AM and PM peak hours. Accordingly, none of the study intersections

would have an adverse effect by the project. The intersection level of service results for all scenarios are summarized in Table ES-1.

Other Transportation Issues

The proposed site plan shows adequate site access and on-site circulation, and the project would not have an adverse effect on the existing transit services, pedestrian facilities, or bicycle facilities in the study area. Hexagon provides the following recommendations and enhancements for the project:

This report also provides the following recommendations for the project:

- Red curb should be painted south of the El Camino Real driveway between the project driveway and the adjacent property driveway to provide adequate sight distance.
- In order to provide better visibility for pedestrian and vehicles entering and exiting the project site, the proposed street trees species are expected to be a high canopy tree and would not be expected to have low foliage that would block vehicular traffic views.
- Signs prohibiting parking during garbage pickup hours should be placed adjacent to the project site. The trash bins also should be removed from the public right-of-way immediately after garbage pickup so as to not impact AM or PM peak hour traffic conditions.

Table ES-1
Intersection Level of Service Summary

Study Number	Intersection	Peak Hour	Traffic Control	Existing					Background				
				No Project		with Project			No Project		with Project		
				Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Incr. in Crit. Delay	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Incr. in Crit. Delay
1	El Camino Real & Crystal Springs Road	AM	Signal	20.3	C	20.5	C	0.1	20.5	C	20.7	C	0.1
		PM		20.2	C	20.4	C	0.1	20.4	C	20.6	C	0.1
2	El Camino Real & San Felipe Avenue	AM	Signal	17.1	B	17.2	B	0.0	17.2	B	17.2	B	0.0
		PM		12.0	B	12.1	B	0.0	12.1	B	12.1	B	0.0

1. Introduction

This report presents the results of the Transportation Analysis (TA) for the proposed 28-room hotel at 160 El Camino Real in San Bruno, California (see Figure 1). The site is currently vacant. Access to the underground parking garage would be provided via a driveway on El Camino Real (see Figures 2 and 3).

CEQA Transportation Analysis Scope and Methodology

The CEQA transportation analysis for the project consists of a project-level vehicle miles traveled (VMT) impact analysis. SB 743 established VMT as the appropriate measure for transportation impacts under CEQA. The Governor's Office of Planning & Research (OPR) published guidelines for the evaluation of VMT, which became mandatory as of July 1, 2020. San Bruno has not yet established its own VMT guidelines, so this study uses the suggested OPR guidelines.

Local Transportation Analysis Scope

The local transportation analysis supplements the VMT analysis by identifying potential adverse operational effects that may arise due to a new development, as well as evaluating the effects of a new development on site access, circulation, and other safety-related elements in the proximate area of the project.

The effects of the project were evaluated in accordance with the standards set forth by the City of San Bruno and the City/County Association of Governments (C/CAG) of San Mateo County. The C/CAG administers the San Mateo County Congestion Management Program (CMP). The proposed project would not generate more than 100 peak hour trips. Therefore, an analysis based on the requirements of the City/County Association of Governments of San Mateo County (C/CAG), the administering agency for the CMP, is not necessary.

The traffic analysis was based on level of service for two signalized intersections. The study intersections are identified below.

Study Intersections

1. El Camino Real and Crystal Springs Avenue
2. El Camino Real and San Felipe Avenue

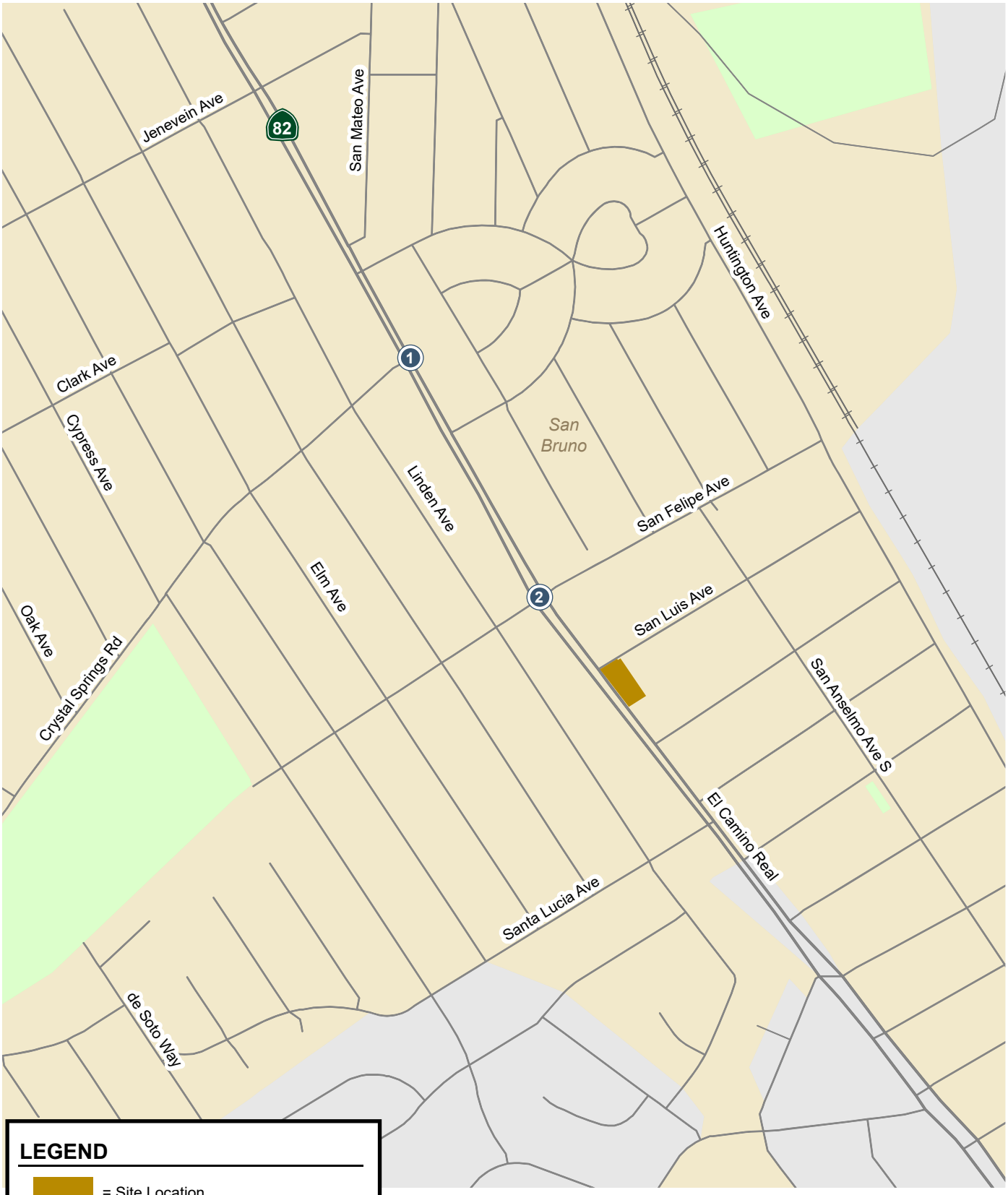


Figure 1
Site Location and Study Intersections

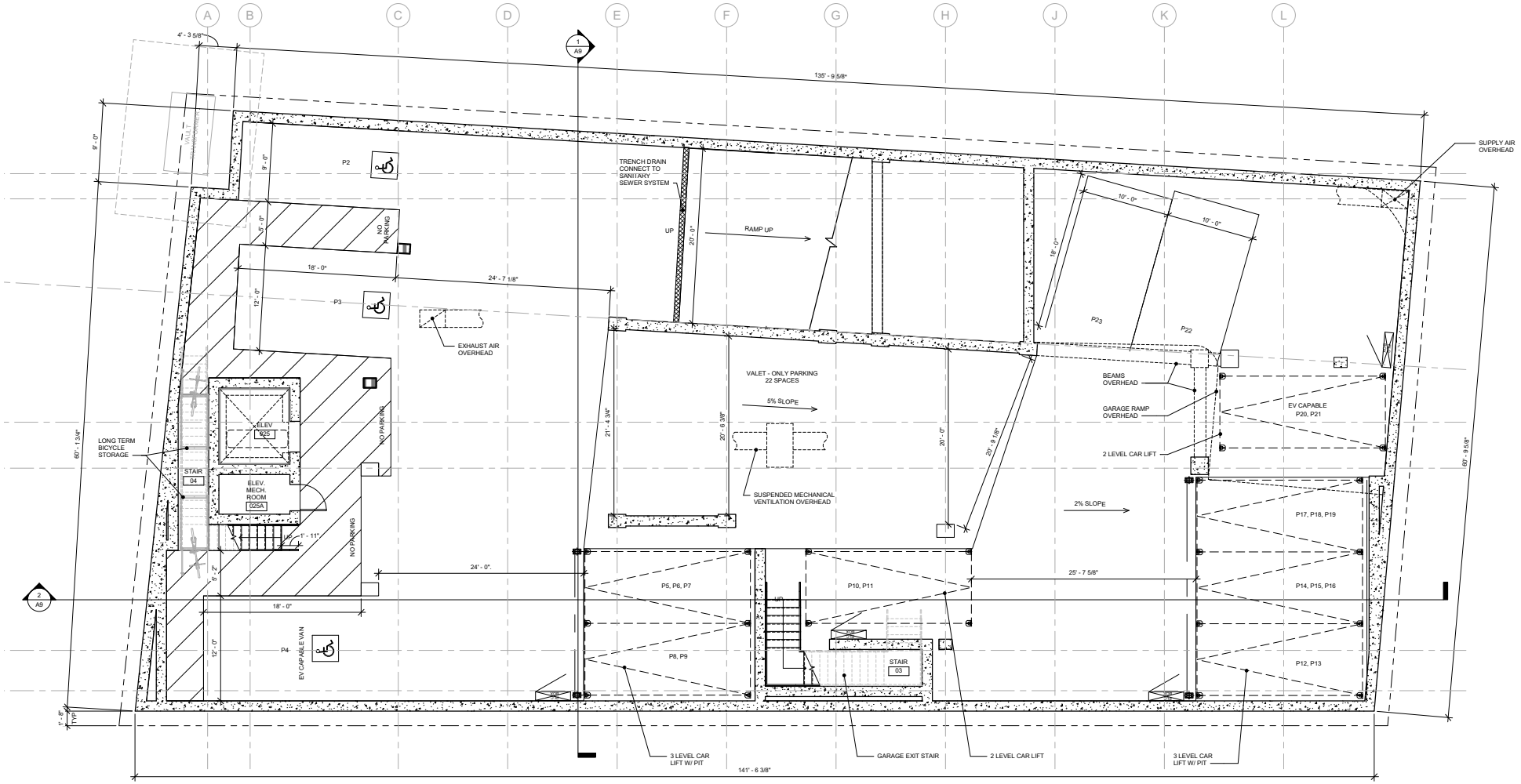


Figure 2
Project Site Plan - Garage Floor Plan

NORTH
Not to Scale

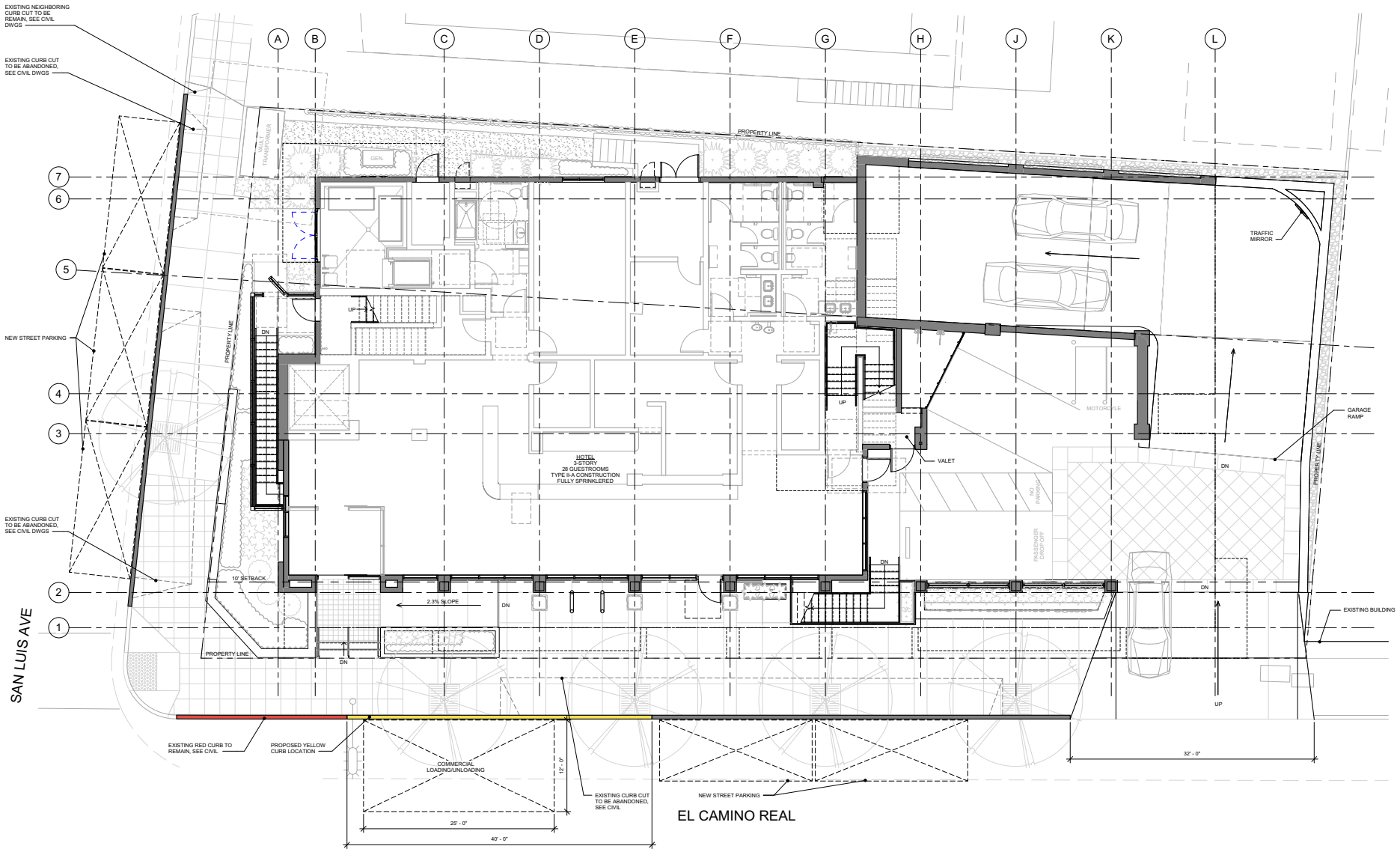


Figure 3
Project Site Plan - First Floor Plan

NORTH
Not to Scale

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most traffic congestion occurs on the roadways.

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes at the study intersections were obtained from new traffic counts conducted in November 2020. Due to Covid-19 and regional shelter-in-place orders, new traffic counts do not represent typical traffic conditions. For the El Camino Real and San Felipe Avenue intersection where historic counts were not available, new counts were collected and adjusted to represent existing conditions using a factor derived from 2019 counts at the El Camino Real and Crystal Springs Avenue intersection. The study intersections were evaluated with a level of service analysis using Synchro software in accordance with the 2010 Highway Capacity Manual methodology.

Scenario 2: *Background Conditions.* Background traffic volumes were estimated by adding to existing volumes the projected volumes from approved but not yet completed developments in the project area. A list of such projects was provided by the City of San Bruno. The approved project information is included in Appendix C.

Scenario 3: *Existing plus Project Conditions.* Existing traffic volumes with the project were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on the existing roadway network.

Scenario 4: *Background plus Project Conditions.* Background plus Project traffic volumes were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions were evaluated relative to background conditions to determine potential adverse effect by the project.

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from recent traffic counts, the City of San Bruno, previous traffic studies, and field observations. The following data were collected from these sources:

- existing peak-hour intersection turning-movement volumes
- existing lane configurations
- signal timing and phasing
- existing bicycle and pedestrian volumes, and
- list of approved projects.

Level of Service Standards and Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions

with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

Signalized Intersections

Level of service at signalized intersections was evaluated based on the *2010 Highway Capacity Manual* (HCM) level of service methodology using Synchro software. This method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. The correlation between average control delay and level of service at signalized intersections is shown in Table 1.

Table 1
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lenghts, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Source: Transportation Research Board, *2010 Highway Capacity Manual* , (Washington, D.C., 2010).

City of San Bruno Intersection Level of Service Standards

The City of San Bruno General Plan specifies certain intersections at which a level of service standard (LOS D) must be maintained during AM and PM peak periods. The relevant General Plan polices are listed below:

- Policy T-B: Maintain acceptable levels of service for vehicular movement along the city's street network. Acceptable level of service could vary based on characteristics of the area under consideration.
- Policy T-6: Maintain LOS standards for intersections for AM and PM peak periods as shown in Figure 4-2.

The City does not have a general LOS standard that applies to all intersections, but the El Camino Real and San Felipe Avenue study intersection is included in General Plan Figure 4-2 with LOS standard D.

The LOS analysis is to ensure that the study intersections would remain consistent with General Plan Policy T-B with implementation of the proposed project.

California Department of Transportation (Caltrans) Intersection Level of Service Standard

Both the study intersections are within the jurisdiction of Caltrans. Therefore, that study intersections are subject to Caltrans' standards in addition to San Bruno standards. According to Caltrans' *Guide for the Preparation of Traffic Impact Studies*, Caltrans seeks to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities but acknowledges that this may not always be feasible. In instances where an existing State highway facility is operating worse than the appropriate target LOS, the existing measure of effectiveness (i.e., vehicle delay at intersections and v/c ratio at the ramps) should be maintained. Thus, LOS D is considered the appropriate target LOS for this State Route intersection.

Intersection LOS Adverse Effect Criteria for Signalized Intersections

The project is said to create an adverse effect on traffic conditions at a signalized intersection in the City of San Bruno if the project is not consistent with General Plan Policy T-B. In order to be consistent with the General Plan Policy T-B, an adverse on intersection operations would occur if for either peak hour

1. The level of service at the intersection degrades from an acceptable level (LOS D or better) under existing conditions to an unacceptable level under existing plus project conditions, or
2. The level of service at the intersection is an unacceptable level (LOS E or F) under existing conditions, and the addition of project trips would cause the critical-movement delay at the intersection to increase by four (4) or more seconds.

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes the existing roadway network, transit services, and pedestrian and bicycle facilities. Chapter 3 presents the vehicle miles travelled (VMT) analysis. Chapter 4 presents the intersection operations in the study area under the background scenario conditions, including the approved projects in the City of San Bruno. Chapter 5 describes the methods used to estimate the project traffic on the roadway network and presents the intersection operations under existing plus project and background plus project conditions. Chapter 6 provides an evaluation of other transportation-related issues, including potential project impacts on bicycle, pedestrian, and transit facilities, as well as site access, and on-site circulation.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the project site is provided via I-280 and US 101.

US 101 is a north/south freeway that extends from north of San Francisco to south of San Jose. In the project vicinity, US 101 has eight mixed-flow lanes. US 101 provides access to the project site via the interchanges at San Bruno Avenue and Millbrae Avenue.

I-280 is a north/south freeway that extends from San Francisco to downtown San Jose. In the project vicinity, I-280 has eight mixed-flow lanes. Regional access to the project site is provided via an exit at Crystal Springs Road.

Local access to the site is provided via El Camino Real, Crystal Springs Avenue, San Felipe Avenue, and San Luis Avenue. These roadways are described below.

El Camino Real (SR 82) is a six-lane north-south arterial with a raised center median within the project area. El Camino Real extends northward to San Francisco where it changes designation to Mission Street and San Jose Avenue, and southward through San Jose. The posted speed limit on El Camino Real is 35 mph. On-street parking is provided on both sides of the street in most locations within the study area. There are sidewalks on both sides of the street in the project vicinity. El Camino Real provides direct access to the project site.

Crystal Springs Avenue is a two-lane east/west arterial street that extends east from El Camino Real to Oak Avenue. The posted speed limit on Crystal Springs Road is 25 mph. There are sidewalks on both sides of the street in the project vicinity. Access to the project site is provided via El Camino Real.

San Felipe Avenue is a two-lane east/west street that extends east from San Antonio Avenue to Cypress Avenue. The posted speed limit on San Felipe Avenue is 25 mph. There are sidewalks on both sides of the street in the project vicinity. Access to the project site is provided via El Camino Real.

San Luis Avenue is a two-lane east/west local street that is two blocks long, extending from El Camino Real to San Antonio Avenue, and borders the north side of the project site. The speed limit on San Luis Avenue is 25 mph. There are sidewalks on both sides of the street in the project vicinity. Vehicular access to the project site is provided via El Camino Real. The project would not have a driveway on San Luis Avenue but would provide pedestrian access.

Existing Pedestrian and Bicycle Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. In the vicinity of the project site, sidewalks exist along both sides of El Camino Real, which provide access to nearby retail shops and restaurants along El Camino Real. Marked crosswalks with pedestrian signal heads and push buttons are provided on three approaches at the signalized intersection of El Camino Real and San Felipe Avenue intersection. The south approach does not have a crosswalk. A marked crosswalk with pedestrian signal heads, push buttons, and a stop signal for El Camino Real through traffic is installed at Santa Lucia Avenue, just south of the project site. Overall, the network of sidewalks and crosswalks in the study area has adequate connectivity and provides pedestrians with safe routes to the surrounding neighborhoods.

Existing Bicycle Facilities

In the vicinity of the project, there are no bike lanes provided on any of the streets (see Figure 4). The nearest bike lanes are provided along Sneath Lane, which runs east/west along the Golden Gate National Cemetery. Although the Class II bike lanes along Sneath Lane are the only bicycle lanes that currently exist in San Bruno, the City plans to improve the on-street bicycle network. In July of 2016, the City Council adopted the Walk ‘n Bike Plan. This Plan outlines specific improvements to ensure that walking and biking are safe, comfortable, and convenient. The Plan calls for many support programs and initiatives to encourage more walking and cycling throughout the city.

Existing Transit Service

Existing transit service to the study area is provided by the San Mateo County Transit District (SamTrans), BART, and Caltrain (See Figure 5). The reduced transit service route that runs through the study area during Covid-19 is listed below, including the route description and commute hour headways.

SamTrans Bus Service

The study area is served directly by one express route. The nearest bus stop is located on El Camino Real at Santa Dominga Avenue for northbound service and at Santa Lucia Avenue for southbound service. The bus stops are roughly 400 feet from the project site.

Route ECR operates on El Camino Real in the project vicinity, providing service between the Daly City BART Station to the Palo Alto Transit Center between 4:00 AM and 2:00 AM, with 15-minute headways during commute hours. This also provides limited late-night service to San Francisco Airport.

Caltrain Service

The San Bruno Caltrain Station is located 1.1 miles northeast of the project site. The station can be accessed by SamTrans Bus route ECR. Caltrain provides frequent passenger train service between San Jose and San Francisco seven days a week. During commute hours, Caltrain provides extended service to Morgan Hill and Gilroy. Trains that stop at the San Bruno Station operate at approximately 30-40 minute headways in both directions during the commute hours, with somewhat less frequent

service midday. Service operates between about 5:40 AM and 11:45 PM in the northbound direction and between 5:15 AM and 12:30 AM in the southbound direction. Bicycles are permitted on Caltrain. There are bicycle racks and bicycle lockers available at the San Bruno Station.

BART Service

Bay Area Rapid Transit (BART) operates regional rail service in the Bay Area, connecting between San Francisco International Airport and the Millbrae Intermodal Station to the south, San Francisco to the north, and cities in the East Bay. The nearest BART station is the San Bruno Station, located approximately 1.9 miles from the project site on Huntington Avenue, northeast of the project. The BART station can be accessed by SamTrans Route ECR. BART trains operate with 30-minute headways during peak hours.

Figure 4
Existing Bicycle Facilities

NORTH
Not to Scale

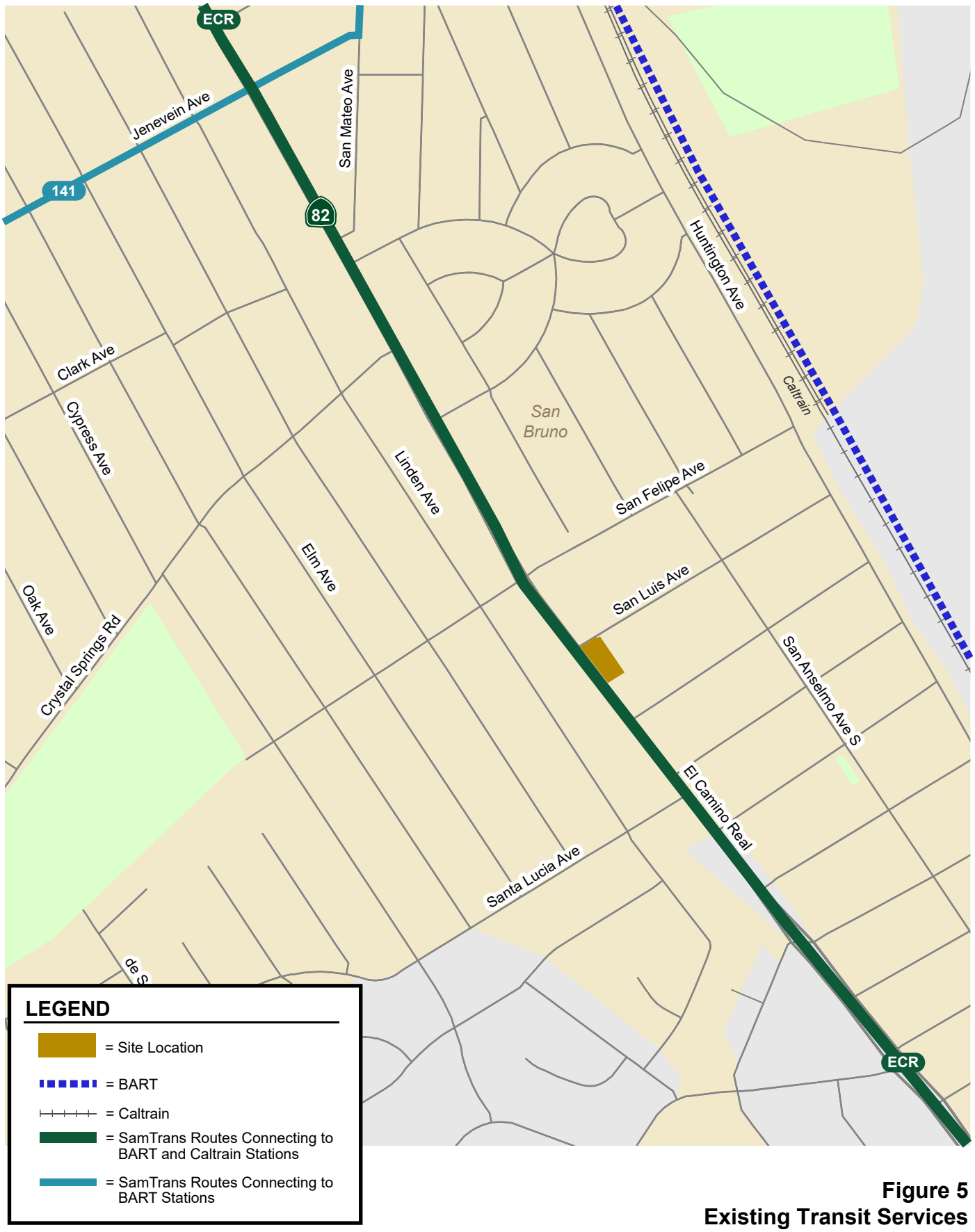


Figure 5
Existing Transit Services

Existing Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 6. Existing traffic volumes at the study intersections were obtained from new traffic counts conducted in November 2020. Due to Covid-19 and regional shelter-in-place orders, new traffic counts do not represent typical traffic conditions. For the El Camino Real and San Felipe Avenue intersection where historic counts were not available, new counts were collected and adjusted to represent existing conditions using a factor derived from 2019 counts at the El Camino Real and Crystal Springs Avenue intersection. Comparing between the 2020 and 2019 peak hour counts at the El Camino Real and Crystal Springs Avenue intersection, the 2020 AM peak hour count was 54 percent lower, and the PM peak hour count was 71 percent lower. These percentages were used to adjust the El Camino Real and San Felipe Avenue intersection counts to pre-Covid conditions. The existing peak-hour intersection volumes are shown on Figure 7. Intersection turning-movement counts conducted for this analysis and 2019 counts are presented in Appendix A. The volume summary sheets with the increased existing counts are presented in Appendix B.

The Crystal Springs Road and El Camino Real intersection has a driveway on the east side of the intersection. However, the eastbound approach lanes only have one right-turn lane and one left-turn lane (see Figure 6). Eastbound vehicles do not have a lane that allows them to go straight into the driveway. The existing volume counts showed that one car during the PM peak hour went straight into the driveway from the eastbound approach. Because the lane configurations do not show a through lane, Hexagon added the one (1) through vehicle to the left turn lane. The PM peak hour also showed three (3) vehicles coming out of the driveway. The driveway is not a part of the intersection as it is unsignalized; therefore, the vehicles were not included in the intersection analysis.

Existing Intersection Levels of Service

The results of the intersection level of service analysis show that both of the study intersections currently operate at LOS C or better during the AM and PM peak hours of traffic (see Table 2). The intersection level of service calculation sheets are provided in Appendix D.

Table 2
Existing Intersection Levels of Service

Study Number	Intersection	Count Date	Traffic Control	Peak Hour	Existing Conditions Avg. Delay (sec.)	Existing Conditions LOS
1	El Camino Real & Crystal Springs Road	01/23/19	Signal	AM	20.3	C
		01/23/19		PM	20.2	C
2	El Camino Real & San Felipe Avenue	11/10/20	Signal	AM	17.1	B
		11/10/20		PM	12.0	B

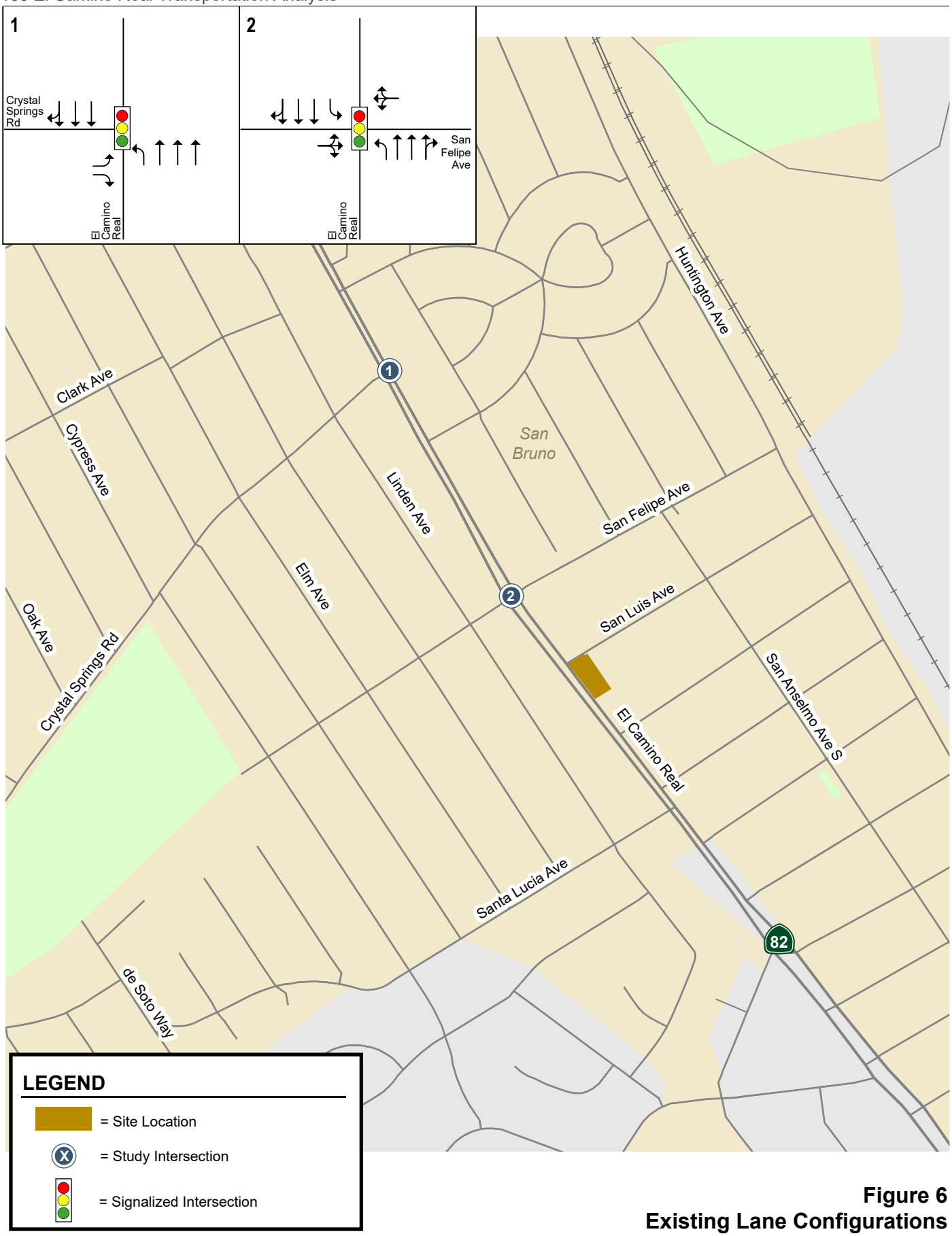


Figure 6
Existing Lane Configurations

NORTH
Not to Scale

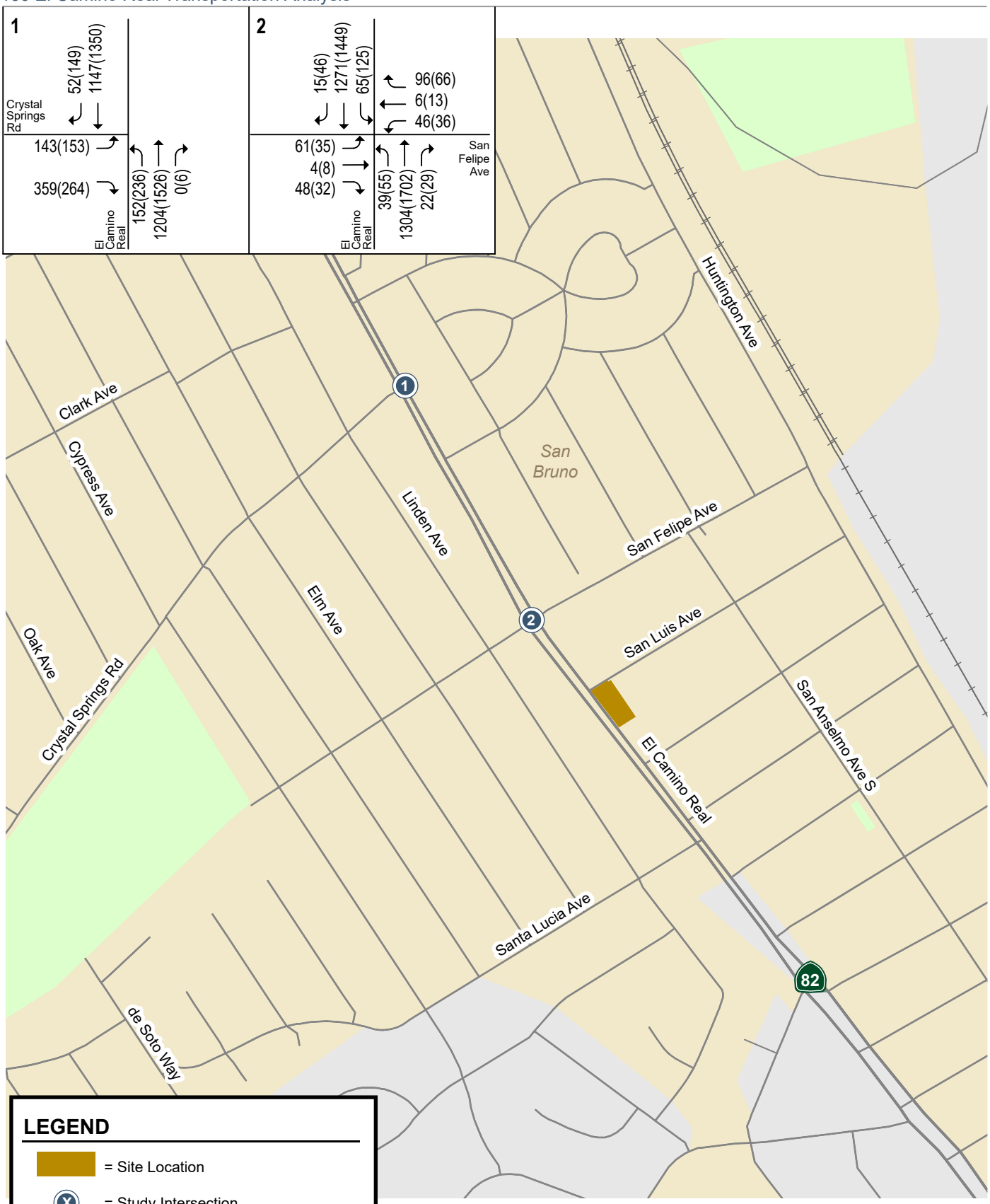


Figure 7
Existing Traffic Volumes

NORTH
Not to Scale

3. Vehicle Miles Traveled (VMT) Analysis

Pursuant to SB 743, the Governor's Office of Planning and Research (OPR) published the finalized updates to the CEQA Guidelines in November 2017. The Technical Advisory on Evaluating Transportation Impacts in CEQA published by OPR in December 2018 provided recommendations regarding VMT evaluation methodology, significance thresholds and screening thresholds for land use projects. The guidelines stated that Level of Service will no longer be considered to be an environmental impact under CEQA and considers vehicle-miles-travelled (VMT) the most appropriate measure of transportation impact. The OPR guidelines state that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) located within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor would have a less-than-significant impact on VMT. A high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. Route ECR provides service between the Daily City BART Station to Palo Alto Transit Center between 4:00 AM and 2:00 AM, with 15-minute headways during both commute hours. The proposed project is located within 400 feet of the Route ECR bus stop with service intervals of 15 minutes during peak commute hours, which qualifies as a high-quality transit corridor.

The OPR guidelines do not address hotel developments. Therefore, jurisdictions need to come up with their own guidelines. The proposed hotel will add vehicular trips generated by employees and guests. It is reasonable to assume that the proposed employee trips at the hotel would be similar to employee trips generated by an office development. Therefore, a location that minimizes office trips would have the same effect on hotel employees. Office locations that are along a high-quality transit corridor would have less VMT than other offices. Therefore, the project location should lower or shorten employee trips. For hotel guests, this location is probably equivalent to other hotels in San Bruno, so the trip lengths would be similar. Since employee trips would be reduced by this location and guest trips would be the same as other hotels, overall the VMT would be less than other hotels not located near transit. Thus, the project would be presumed to have a less-than-significant impact on VMT per OPR guidelines.

4. Background Conditions

This chapter presents background traffic conditions without the project. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the site. This chapter describes the procedure used to determine background traffic volumes and the resulting traffic conditions.

Transportation Network under Background Conditions

It is assumed in this analysis that the transportation network under background conditions, including roadways and intersection lane configurations, would be the same as that described under existing conditions at all study intersections.

Background Traffic Volumes

Background conditions traffic volumes were estimated by adding to the existing traffic volumes the traffic estimated to be generated by the approved but not yet constructed projects in the Cities of San Bruno and Millbrae. A list of approved projects was provided on the City of San Bruno website (see Appendix C). The approved developmental projects in the City of Millbrae would not add trips to the study intersections due to their small size and location. Based on a review of traffic studies prepared for these projects, the types and sizes of these developments, and their distance from the project site, the following approved developments from City of San Bruno are expected to add traffic to at least one of the study intersections during at least one of the peak hour periods.

1. 111 San Bruno Avenue – 62 multi-family dwelling units and 7,600 s.f. of ground floor commercial space including 11 total affordable units
2. 500 Sylvan Avenue – nine dwelling units with an at-grade parking garage
3. 251 City Park Way – demolish the existing Veteran's Memorial Building and San Bruno Park Pool to construct a new two-story, approximately 49,360-square foot San Bruno Recreation and Aquatic Center including a community lounge, lobby, gymnasium, indoor pool, walking track, group exercise room, fitness room, community hall, classrooms, conference room, and City staff offices.
4. Mills Park Center - 427 dwelling units, 7,947 sq. ft. of commercial space, 669 parking spaces, and 65 units designated for very low, low, and moderate income households

Trip generation estimates for the approved projects were based on traffic impact studies conducted for each of the projects, if available. For projects that did not require a traffic study (due to their small size), trips were estimated based on ITE trip rates. The estimated trips from the approved projects were

distributed and assigned to the project study area roadways based on the trip distribution assumptions present in the traffic studies, if available, or knowledge of the study area.

Trips generated by the approved projects were added to existing traffic volumes to estimate background traffic volumes. The AM and PM peak-hour intersection traffic volumes under background conditions are shown on Figure 8. The trips assigned to the study intersections are tabulated in Appendix B.

Background Intersection Levels of Service

The results of the level of service analysis under background conditions show that both study intersections would continue to operate at acceptable levels during both the AM and PM peak hours (see Table 3). The level of service calculation sheets are included in Appendix D.

Table 3
Background Intersection Levels of Service

Study Number	Intersection	Traffic Control	Peak Hour	Existing Conditions		Background Conditions	
				Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	El Camino Real & Crystal Springs Road	Signal	AM	20.3	C	20.5	C
			PM	20.2	C	20.4	C
2	El Camino Real & San Felipe Avenue	Signal	AM	17.1	B	17.2	B
			PM	12.0	B	12.1	B

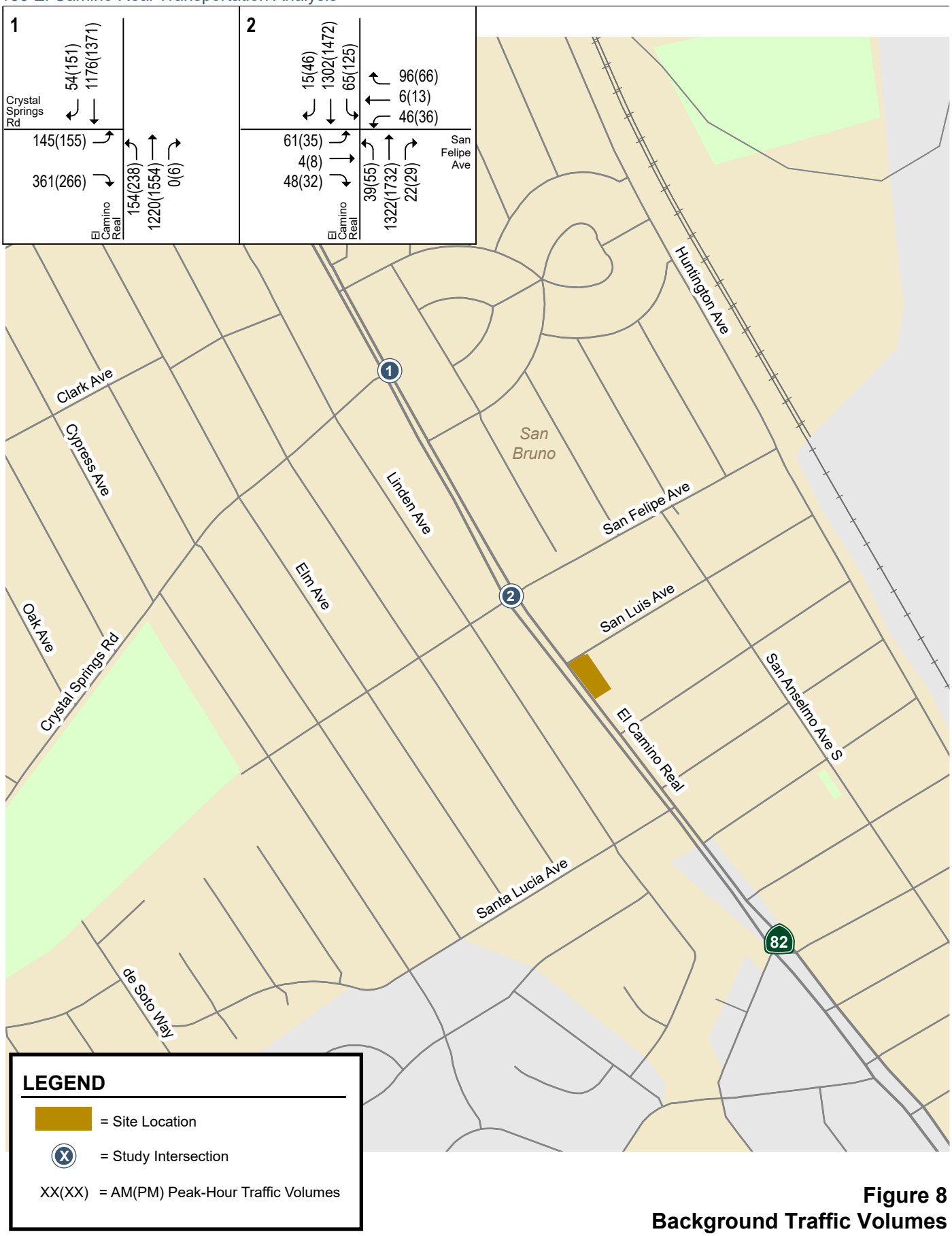


Figure 8
Background Traffic Volumes

NORTH
Not to Scale

5. Project Conditions

This chapter describes traffic conditions with the project and includes: (1) the method by which project traffic is estimated and (2) a level of service summary. Included in this chapter is a summary of project traffic conditions, as well as any adverse effects caused by the project.

Transportation Network

It is assumed in this analysis that the transportation network under project conditions, including roadways and intersection lane configurations, would be the same as that described under existing and background conditions at all study intersections.

Project Description

The project would construct a three-story 28 guestroom hotel with 23 parking stalls in an underground parking garage. The project site is currently vacant. Access to the project would be provided via a right-in and right-out driveway on El Camino Real.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed hotel was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic expected to be generated by many types of land uses. The trip generation research is published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. Project trip generation was estimated by applying the appropriate trip generation rates obtained from the ITE *Trip Generation Manual, 10th Edition* (2017). The average trip generation rates for a Hotel (Land Use 310) were applied to the project. According to the ITE Trip Generation Manual, a hotel is a place of lodging that provides

sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops.

The trip generation is based on the number of guest rooms of the proposed project. Based on the project description and ITE trip generation rates, the proposed new hotel would generate a total of 234 daily vehicle trips, with 13 trips (8 inbound and 5 outbound) occurring during the AM peak hour and 17 trips (9 inbound and 8 outbound) occurring during the PM peak hour (see Table 4).

Table 4
Project Trip Generation Estimates

			Daily		AM Peak Hour				PM Peak Hour			
Land Use	Size	Unit	Rate[1]	Trips	Rate	In	Out	Total	Rate	In	Out	Total
Proposed Uses												
Hotel[2]	28	rooms	8.36	234	0.47	8	5	13	0.60	9	8	17

Notes:
[1] Rates expressed in trips per room.
[2] Hotel (Land Use 310) daily and peak-hour average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*

Trip Distribution and Assignment

The trip distribution pattern for the project was developed based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern. Figure 9 shows the trip distribution pattern for the proposed hotel. Figure 10 shows the net project trip assignment at the study intersections.

Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to the existing and background traffic volumes to obtain existing plus and background plus project traffic volumes. Figures 11 and 12 shows the intersection turning-movement volumes under existing plus project and background plus project conditions, respectively.

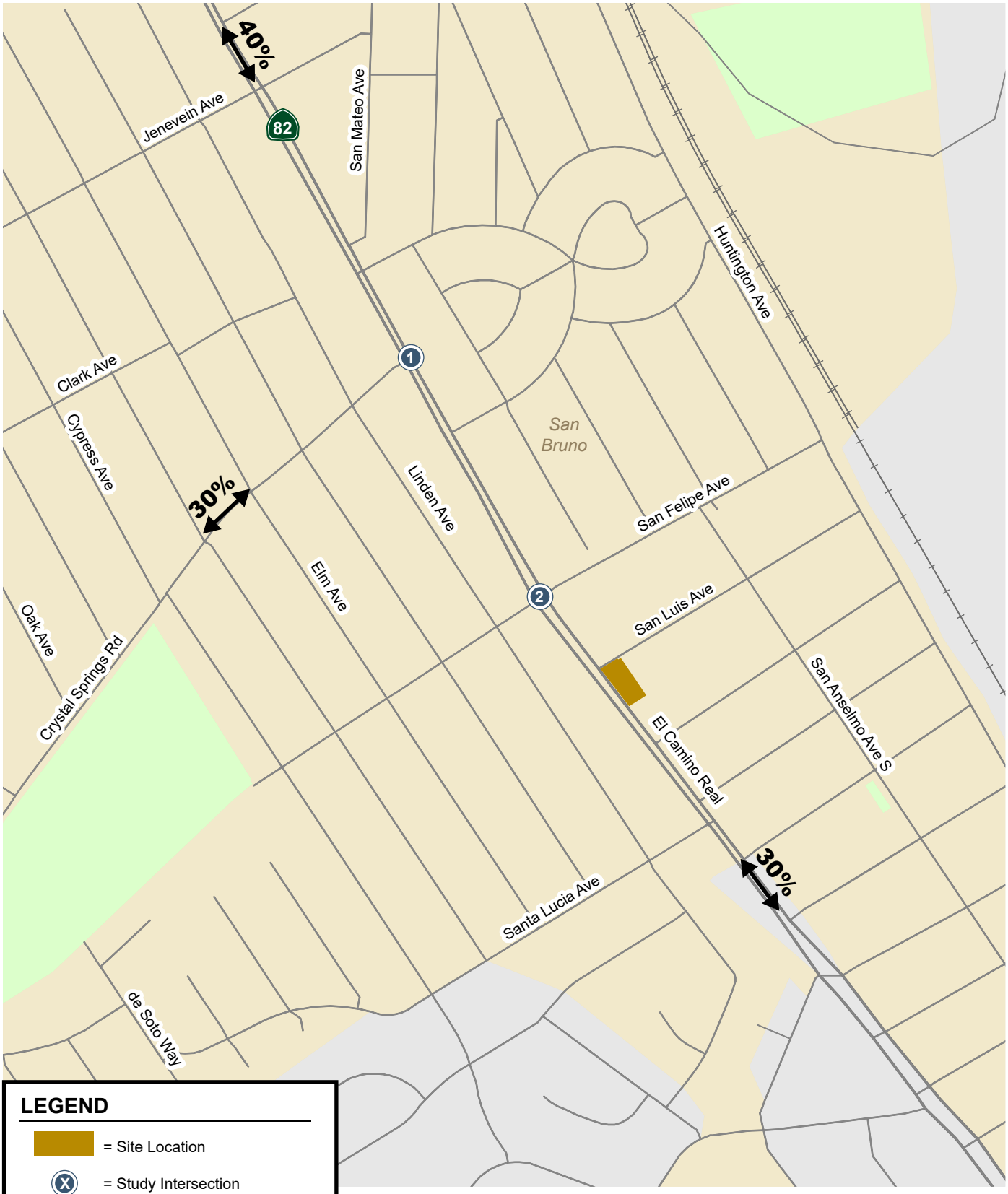


Figure 9
Project Trip Distribution

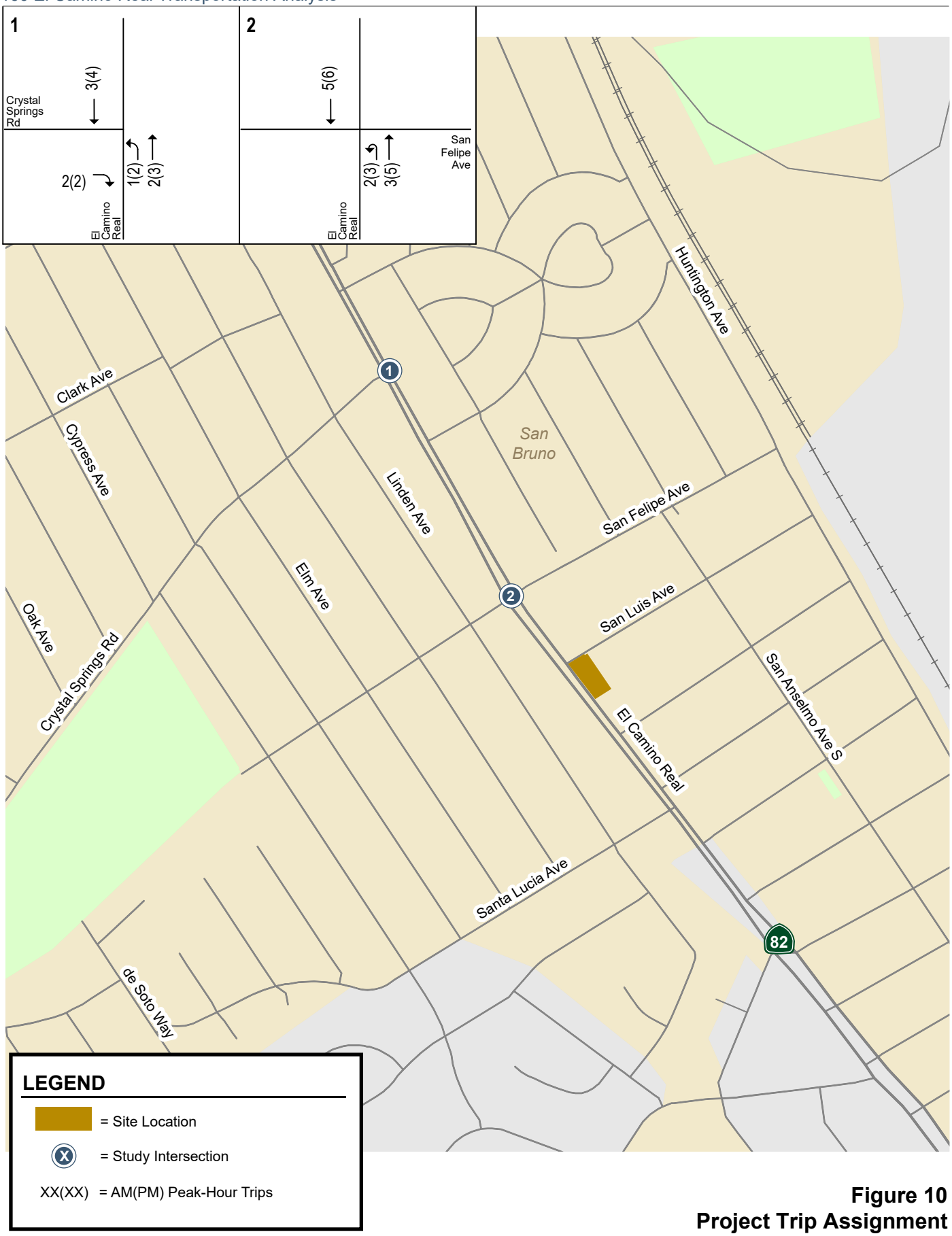


Figure 10
Project Trip Assignment

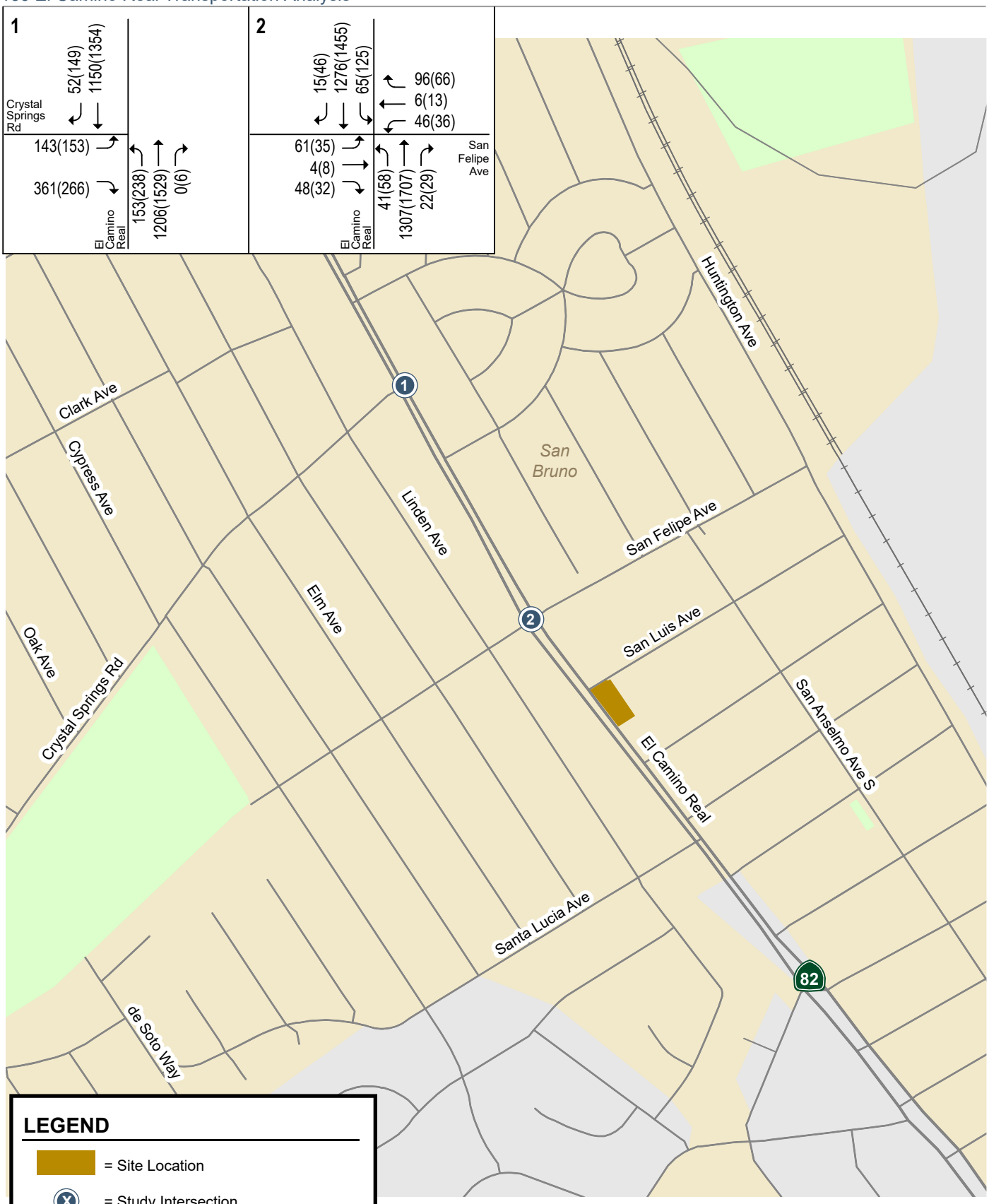


Figure 11
Existing Plus Project Traffic Volumes

NORTH
Not to Scale

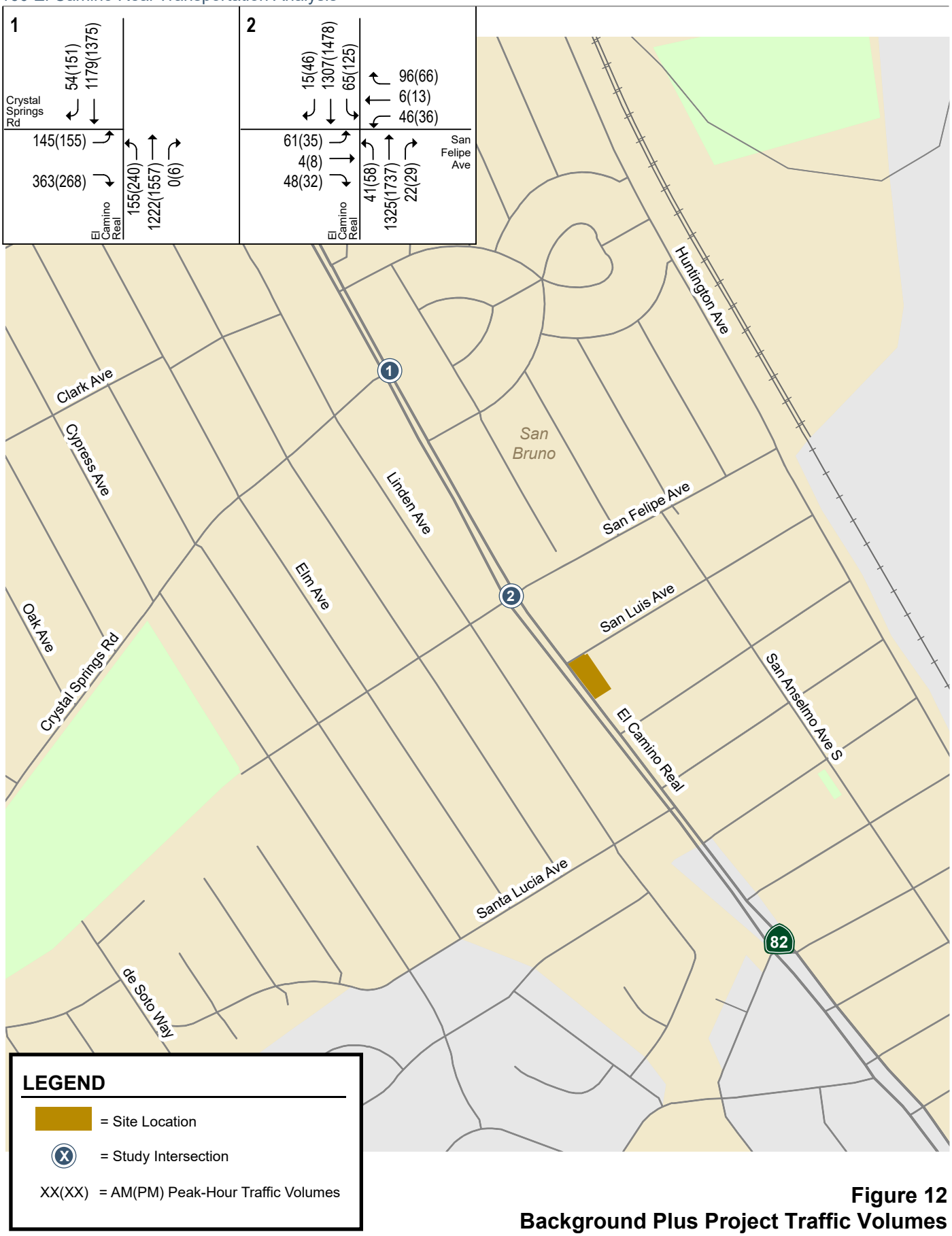


Figure 12
Background Plus Project Traffic Volumes

Project Conditions Intersection Levels of Service

The results of the intersection LOS analysis under existing plus project and background plus project conditions show that both study intersections would operate at an acceptable level during both the AM and PM peak hours of traffic when measured against the applicable municipal and CMP level of service standards (see Table 5).

The volume summary table is included in Appendix B. LOS calculation sheets of each study intersection are included in Appendix D.

Table 5
Project Levels of Service

Study Number	Intersection	Peak Hour	Traffic Control	Existing					Background				
				No Project		with Project			No Project		with Project		
				Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Incr. in Crit. Delay	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS	Incr. in Crit. Delay
1	El Camino Real & Crystal Springs Road	AM	Signal	20.3	C	20.5	C	0.1	20.5	C	20.7	C	0.1
		PM		20.2	C	20.4	C	0.1	20.4	C	20.6	C	0.1
2	El Camino Real & San Felipe Avenue	AM	Signal	17.1	B	17.2	B	0.0	17.2	B	17.2	B	0.0
		PM		12.0	B	12.1	B	0.0	12.1	B	12.1	B	0.0

6. Other Transportation Issues

This chapter presents other transportation issues associated with the project. These include an analysis of:

- Potential impacts to pedestrian, bicycle, and transit facilities
- Site access and circulation
- Parking demand

Pedestrian, Bicycle, and Transit Analysis

All new development projects in San Bruno should enhance opportunities for all modes of transportation, consistent with the goals of the City's General Plan and the Walk 'n Bike Plan. It is the goal of the General Plan and the Walk 'n Bike Plan that all development projects accommodate and encourage the use of non-automobile transportation modes within the area. The Walk 'n Bike Plan establishes strategies to foster more multi-modal opportunities, promote active living, and connect to the other modes of transportation within the network. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

Pedestrian Facilities

As mentioned earlier in this report, in July of 2016 City Council adopted the *Walk 'n Bike Plan*. The Plan recommends specific improvements to ensure that walking is safe, comfortable, and convenient. Over the next few years, the City aims to:

- Enhance crosswalks with improvements such as high-visibility striping and extending curbs
- Add safety signs and markings to roadways
- Fill in key sidewalk gaps
- Beautify streetscapes, or areas where people often walk; and
- Better connect the BART and Caltrain stations to popular destinations like downtown, Bayhill Shopping Center and Office Park, and the Shops at Tanforan

In the vicinity of the project, the plan includes making streetscape improvements along El Camino Real. The Walk 'n Bike plan would improve the pedestrian facilities in the project area with the intent to make walking safer in a more pedestrian friendly environment. The proposed project is planning to add trees along the project frontage and provide pedestrian access to El Camino Real.

The City's Walk 'n Bike Plan outlines the following potential pedestrian improvement strategies, although none are planned or funded projects:

- Intersection of Crystal Springs Road and El Camino Real: Install corner bulb-outs to shorten pedestrian crossing distance and reduce corner curb radii, remove turn pockets where capacity

is not needed, narrow travel lanes to provide a pedestrian refuge, and provide supplemental signal faces and signal push buttons or other detectors, as needed.

The project would widen the existing sidewalks on El Camino Real and San Luis Avenue and add street trees. Thus, the project would enhance the existing pedestrian environment.

Bicycle Facilities

There are no existing bike facilities in the immediate vicinity of the project site (see Chapter 2 for details). However, there are several potential future additional bicycle facilities in the study area. The City's Walk 'n Bike Plan outlines the following potential bicycle improvement strategies although none are planned or funded projects:

- Enhanced Class III bike route on San Felipe Avenue
- Enhanced Class III bike route on Linden Avenue
- Enhanced Class III bike route on San Antonio
- Enhanced Class III bike route on Huntington, south of San Mateo Avenue
- Class III bike route on Santa Inez Avenue between San Antonio Avenue and El Camino Real
- Class III bike route on Park Place between Park Boulevard and El Camino Real
- Class III bike route on Mastick Avenue
- Class III bike route on Crystal Springs Road between Cunningham Way and Linden Avenue

The project would not remove any bicycle facilities, nor would it conflict with any adopted plans or policies for new bicycle facilities. Thus, no project sponsored improvements would be necessary.

Transit Services

The project site is well-served by SamTrans, BART, and Caltrain (see Chapter 2 for details). The nearest bus stop is located at El Camino Real and Santa Dominga Avenue. With the proximity to transit services, it could be expected that a portion (10%) of employee and visitor trips would be made by transit. Assuming up to 10% of the project trips are transit trips, the project would generate 1 transit trip during the AM peak hour and 2 transit trips during the PM peak hour. There are between 16 and 17 scheduled buses that serve the bus stop near the site during peak hours. It is assumed that the buses would have sufficient capacity to accommodate this relatively minor increase in ridership.

Given that the project would not remove any transit facilities, nor would it conflict with any adopted plans or policies for new transit facilities or services, the proposed project is not expected to have an adverse impact on transit services in the immediate vicinity of the project site. Thus, no project sponsored improvements would be necessary.

Site Access and On-Site Circulation

The site access and on-site circulation evaluation is based on the site plan prepared by RYS ARCHITECTS, INC., (see Figure 2 and 3). Site access was evaluated to determine the adequacy of the site's driveways with regard to the following: traffic volume, delays, geometric design, and sight distance. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Site Access

A detailed parking and site access analysis memo was prepared by Hexagon dated October 23, 2020 (see Appendix E). Vehicular access to the project site would be provided via a right-in and right-out

driveway on El Camino Real. The driveway would provide access to 22 parking spaces in the underground parking garage (valet only) and two parking spaces at ground level, including one ADA space. One of the at-grade spaces would be used as a passenger drop off zone for the valet parking. As per the site plan, the proposed width of the two-way driveway is approximately 24 feet, which will provide adequate room for vehicles enter and exit the project site.

The project-generated trips that are estimated to occur at the El Camino Real driveway are 8 inbound and 5 outbound during the AM peak hour and 9 inbound and 8 outbound during the PM peak hour. This equates to one vehicle every four minutes. Therefore, vehicle queuing issues are not expected to occur at the project driveway.

Garage Ramp Design

The project site plan shows the driveway ramp designed with a main slope of 21 percent, transition lengths of 10 feet at 10 percent grade, and a width of approximately 20 feet. This will provide adequate operations for vehicles entering and exiting the garage ramp.

Sight Distance

The project driveway should be free and clear of any obstructions to optimize sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on adjacent roadways. Any landscaping and signage should be located in such a way as to ensure an unobstructed view for drivers entering and exiting the site. Adequate corner sight distance (sight distance triangles) should be provided at all site access points in accordance with the City's standards. Sight distance triangles should be measured approximately 15 feet back from the traveled way. Sight distance requirements vary depending on the roadway speeds. The speed limit on El Camino Real is 35 mph. The Caltrans recommended stopping sight distance is 300 feet for El Camino Real. However, it would be difficult for drivers exiting at driveway to see pedestrians coming from the south on the sidewalk. Their view would be obstructed by the wall on the south side of the driveway. Therefore, the last section of the wall should be removed from the drawings. Red curb should be painted south of the El Camino Real driveway between the project driveway and the adjacent property driveway to provide adequate sight distance. The site plan indicates that the on-street parking in front of the proposed driveway would be moved to the north side of the driveway, where it would not obstruct sight distance. In order to provide better visibility for pedestrian and vehicles entering and exiting the project site, the proposed street trees species are expected to be a high canopy tree and would not be expected to have low foliage that would block vehicular traffic views.

On-Site Circulation

Based on the site plan, all parking for the hotel would be valet only; self-parking would not be provided. The garage would include seven regular parking spaces and 17 mechanical lift spaces. These seven regular parking spaces include one drop off area, one regular parking space in the surface parking area, and five spaces in the underground garage. Guests could enter the site from El Camino Real and drop off their vehicles at the drop off area near the driveway entrance. Valets would move the vehicles from the drop off area into the garage. When the owner returns to retrieve their vehicle, the valet team would drive it back to the valet station in front of the hotel.

The project would provide 90-degree parking stalls in the parking garage (except P22 and P23). The site plan shows the drive aisles to range from 24 to 26 feet wide with 2% slope, which would provide sufficient room for vehicles to back out of the parking stalls. The garage would have a dead-end aisle. However, the project is proposing valet only parking, the valets are familiar with the parking space available in the garage, and it would not be necessary to back out of the parking aisle.

Parking Stall Dimensions

According to the site plan, all the parking stalls are shown to be 9 feet wide by a minimum of 18 feet long. Van accessibility is provided at all of the accessible stalls. The project proposes to provide parking lifts for 17 parking spaces. There would be 2 puzzle lifts providing access to 8 and 5 parking spaces and two 2 level car lifts that would provide access to 4 parking spaces. The applicant should ensure that the parking lifts could accommodate mid-size sport utility vehicles. As per the City of San Bruno Zoning Ordinance (12.100.040.G), parking spaces provided by mechanical and automated parking may be counted towards meeting up to fifty percent of required off-street parking spaces or up to seventy-five percent of required off-street parking spaces with provision of valet assistance and recordation of an "Agreement to Provide Parking Attendant." The project proposes 17 of the parking spaces in parking lifts, which calculates to 75% of the proposed parking spaces and meets the City standard.

Garbage Collection

The site plan shows a trash room located near the northeast corner of the first floor, adjacent to San Luis Avenue. Garbage collection activities for the project are not expected to occur on-site because vehicle access would not be provided to the trash room. Therefore, the trash bins would be moved to the curb along San Luis Avenue on designated garbage collection days. The trash bins also should be removed from the public right-of-way immediately after garbage pickup so as to not impact AM or PM peak hour traffic conditions.

Loading Zone

As per the San Bruno City zoning ordinance (12.100.090), new commercial land uses with 10,000 s.f. to 49,999 s.f. are required to provide one loading space. An on-street loading area, if approved by the appropriate city approval body, shall have a minimum length of forty feet. The project site plan shows a 40-foot long loading area on El Camino Real, which meets the City's requirement.

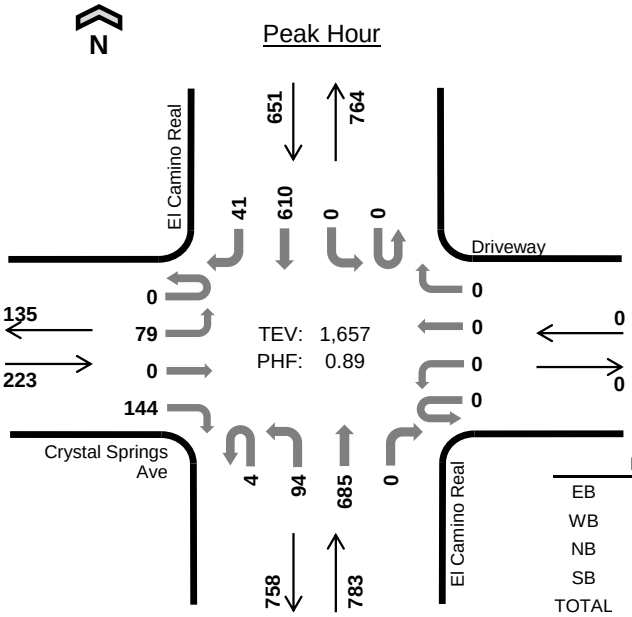
160 El Camino Real Transportation Analysis

Technical Appendices

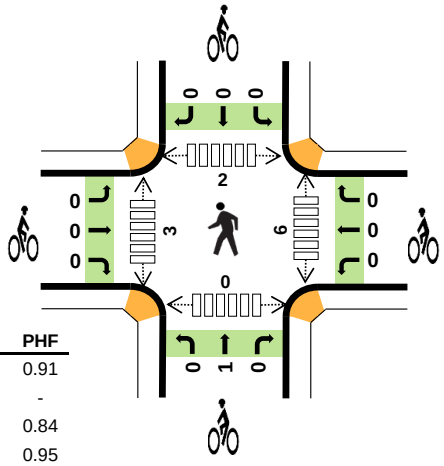
Appendix A
Traffic Counts

El Camino Real
Crystal Springs Ave

Date: 11-10-2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	1.3%	0.91
WB	-	-
NB	3.3%	0.84
SB	3.2%	0.95
TOTAL	3.0%	0.89



Two-Hour Count Summaries

Interval Start	Crystal Springs Ave Eastbound				Driveway Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	11	0	17	0	0	0	0	0	15	107	0	0	0	88	12	250	0
7:15 AM	0	10	0	25	0	0	0	0	0	19	111	0	0	0	76	4	245	0
7:30 AM	0	15	0	21	0	0	0	0	0	22	152	0	0	0	114	10	334	0
7:45 AM	0	28	0	35	0	0	0	0	0	21	154	0	0	0	156	8	402	1,231
8:00 AM	**0**	**23**	**0**	**26**	**0**	**0**	**0**	**0**	**1**	**21**	**170**	**0**	**0**	**0**	**136**	**3**	**380**	1,361
8:15 AM	**0**	**18**	**0**	**43**	**0**	**0**	**0**	**0**	**0**	**21**	**145**	**0**	**0**	**0**	**157**	**11**	**395**	1,511
8:30 AM	**0**	**19**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**24**	**168**	**0**	**0**	**0**	**159**	**13**	**418**	1,595
8:45 AM	**0**	**19**	**0**	**40**	**0**	**0**	**0**	**0**	**3**	**28**	**202**	**0**	**0**	**0**	**158**	**14**	**464**	**1,657**
Count Total	0	143	0	242	0	0	0	0	4	171	1,209	0	0	0	1,044	75	2,888	0
Peak Hour All	**0**	**79**	**0**	**144**	**0**	**0**	**0**	**0**	**4**	**94**	**685**	**0**	**0**	**0**	**610**	**41**	**1,657**	**0**
Peak Hour HV	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**22**	**0**	**0**	**0**	**21**	**0**	**50**	**0**
Peak Hour HV%	**-**	**4%**	**-**	**0%**	**-**	**-**	**-**	**-**	**25%**	**3%**	**3%**	**-**	**-**	**-**	**3%**	**0%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	4	*5*	0	0	0	1	*1*	2	0	1	0	*3*
7:15 AM	0	0	6	3	*9*	0	0	0	0	*0*	1	1	1	0	*3*
7:30 AM	0	0	3	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	1	0	4	9	*14*	0	0	1	0	*1*	1	0	0	0	*1*
8:00 AM	**0**	**0**	**6**	**4**	***10***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**0**	*3*
8:15 AM	**2**	**0**	**10**	**9**	***21***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**1**	**0**	*3*
8:30 AM	**1**	**0**	**5**	**6**	***12***	**0**	**0**	**1**	**0**	***1***	**2**	**1**	**0**	**0**	*3*
8:45 AM	**0**	**0**	**5**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	***2***
Count Total	4	0	40	39	*83*	0	0	2	1	*3*	10	4	4	0	*18*
Peak Hour	**3**	**0**	**26**	**21**	***50***	**0**	**0**	**1**	**0**	***1***	**6**	**3**	**2**	**0**	***11***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Crystal Springs Ave				Driveway				El Camino Real				El Camino Real				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	1	5	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	3	0	9	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	0
7:45 AM	0	1	0	0	0	0	0	0	0	1	3	0	0	0	8	1	14	33
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**4**	**0**	**10**	38
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**9**	**0**	**21**	50
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**6**	**0**	**12**	57
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**2**	**0**	**7**	**50**
Count Total	0	4	0	0	0	0	0	0	1	4	35	0	0	0	37	2	83	0
Peak Hour	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**22**	**0**	**0**	**0**	**21**	**0**	**50**	**0**

Two-Hour Count Summaries - Bikes

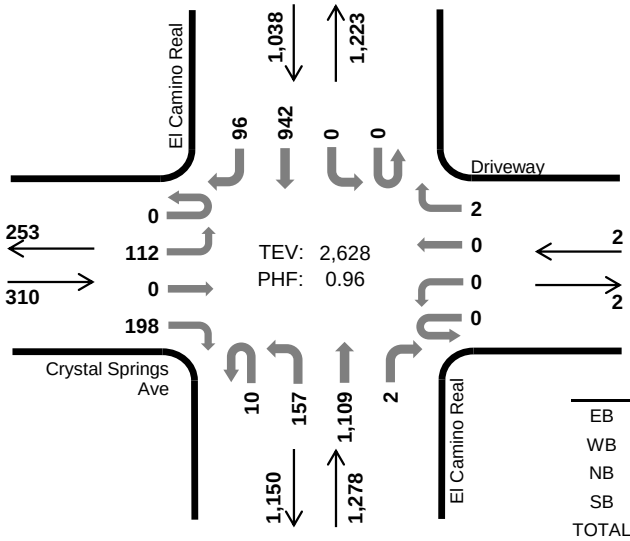
Interval Start	Crystal Springs Ave			Driveway			El Camino Real			El Camino Real			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	2
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Count Total	0	0	0	0	0	0	0	2	0	0	1	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

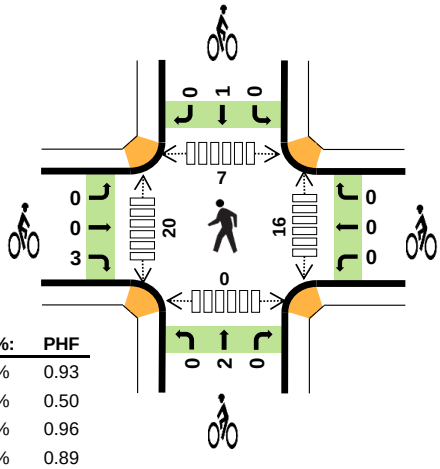
El Camino Real
Crystal Springs Ave

Date: 11-10-2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour



	HV %:	PHF
EB	0.3%	0.93
WB	0.0%	0.50
NB	1.3%	0.96
SB	0.7%	0.89
TOTAL	1.0%	0.96



Two-Hour Count Summaries

Interval Start		Crystal Springs Ave Eastbound				Driveway Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**29**	**0**	**45**	**0**	**0**	**0**	**0**	**3**	**37**	**293**	**0**	**0**	**0**	**226**	**23**	**656**	0
4:15 PM		**0**	**26**	**0**	**57**	**0**	**0**	**0**	**1**	**2**	**39**	**285**	**0**	**0**	**0**	**248**	**21**	**679**	0
4:30 PM		**0**	**25**	**0**	**46**	**0**	**0**	**0**	**0**	**3**	**41**	**260**	**1**	**0**	**0**	**204**	**26**	**606**	0
4:45 PM		**0**	**32**	**0**	**50**	**0**	**0**	**0**	**1**	**2**	**40**	**271**	**1**	**0**	**0**	**264**	**26**	**687**	**2,628**
5:00 PM		0	26	0	48	0	0	0	0	2	37	253	1	0	0	204	34	605	2,577
5:15 PM		0	39	0	41	0	0	0	1	6	49	285	3	0	0	240	26	690	2,588
5:30 PM		0	27	0	50	0	0	0	2	2	49	248	3	1	0	223	29	634	2,616
5:45 PM		0	35	0	44	0	0	0	3	3	29	236	2	0	0	196	20	568	2,497
Count Total		0	239	0	381	0	0	0	8	23	321	2,131	11	1	0	1,805	205	5,125	0
Peak Hour	**All**	**0**	**112**	**0**	**198**	**0**	**0**	**0**	**2**	**10**	**157**	**1,109**	**2**	**0**	**0**	**942**	**96**	**2,628**	**0**
	HV	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**15**	**0**	**0**	**0**	**7**	**0**	**25**	**0**
	HV%	**-**	**1%**	**-**	**0%**	**-**	**-**	**-**	**0%**	**0%**	**1%**	**1%**	**0%**	**-**	**-**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**6**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**3**	**5**	**3**	**0**	*11*
4:15 PM	**1**	**0**	**3**	**2**	***6***	**3**	**0**	**0**	**0**	***3***	**4**	**3**	**1**	**0**	*8*
4:30 PM	**0**	**0**	**6**	**0**	***6***	**0**	**0**	**2**	**1**	***3***	**7**	**6**	**3**	**0**	*16*
4:45 PM	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**2**	**6**	**0**	**0**	***8***
5:00 PM	0	0	6	1	*7*	0	0	0	0	*0*	5	6	4	0	*15*
5:15 PM	0	0	0	1	*1*	0	0	0	0	*0*	2	1	1	0	*4*
5:30 PM	0	0	3	4	*7*	0	0	0	0	*0*	3	5	1	0	*9*
5:45 PM	0	0	3	2	*5*	0	0	2	0	*2*	4	4	1	0	*9*
Count Total	1	0	29	15	*45*	3	0	4	1	*8*	30	36	14	0	*80*
Peak Hour	**1**	**0**	**17**	**7**	***25***	**3**	**0**	**2**	**1**	***6***	**16**	**20**	**7**	**0**	***43***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Crystal Springs Ave				Driveway				El Camino Real				El Camino Real				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**3**	**0**	**9**	0
4:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**0**	**6**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**4**	**25**
5:00 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	7	23
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	18
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7	19
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	20
Count Total	0	1	0	0	0	0	0	0	0	2	27	0	0	0	15	0	45	0
Peak Hour	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**15**	**0**	**0**	**0**	**7**	**0**	**25**	**0**

Two-Hour Count Summaries - Bikes

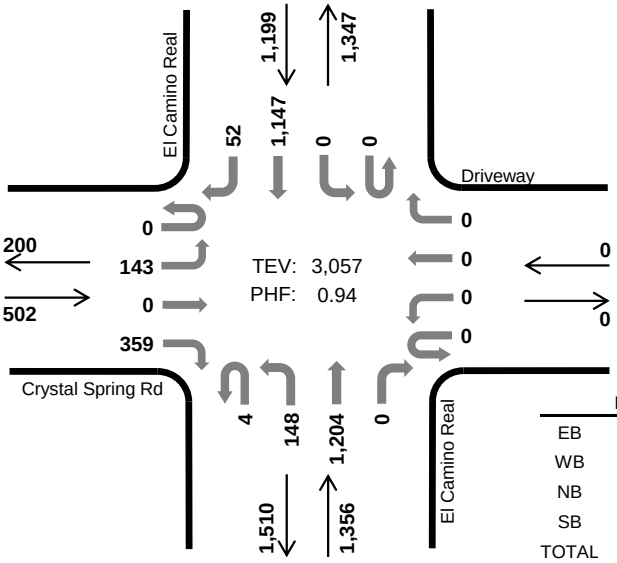
Interval Start	Crystal Springs Ave			Driveway			El Camino Real			El Camino Real			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**3**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	2
Count Total	0	0	3	0	0	0	0	4	0	0	1	0	8	0
Peak Hour	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**6**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

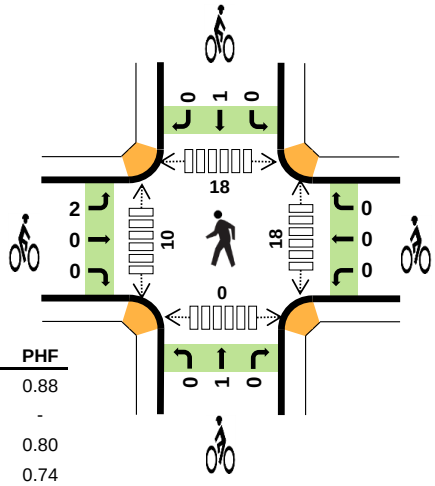
El Camino Real
Crystal Spring Rd

Date: 01-23-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM

Peak Hour



	HV %:	PHF
EB	0.0%	0.88
WB	-	-
NB	2.3%	0.80
SB	2.8%	0.74
TOTAL	2.1%	0.94



Two-Hour Count Summaries

Interval Start	Crystal Spring Rd Eastbound				Driveway Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	29	0	34	0	0	0	0	0	23	143	0	0	0	117	10	356	0
7:15 AM	0	26	0	34	0	0	0	0	1	16	210	0	0	0	172	5	464	0
7:30 AM	0	32	0	53	0	0	0	0	0	23	256	0	0	0	272	17	653	0
7:45 AM	**0**	**27**	**0**	**81**	**0**	**0**	**0**	**0**	**2**	**41**	**211**	**0**	**0**	**0**	**391**	**16**	**769**	2,242
8:00 AM	**0**	**50**	**0**	**89**	**0**	**0**	**0**	**0**	**1**	**36**	**386**	**0**	**0**	**0**	**236**	**19**	**817**	2,703
8:15 AM	**0**	**41**	**0**	**102**	**0**	**0**	**0**	**0**	**0**	**42**	**326**	**0**	**0**	**0**	**223**	**7**	**741**	2,980
8:30 AM	**0**	**25**	**0**	**87**	**0**	**0**	**0**	**0**	**1**	**29**	**281**	**0**	**0**	**0**	**297**	**10**	**730**	**3,057**
8:45 AM	0	32	0	73	0	0	0	0	2	22	253	0	0	0	259	18	659	2,947
Count Total	0	262	0	553	0	0	0	0	7	232	2,066	0	0	0	1,967	102	5,189	0
Peak Hour All	**0**	**143**	**0**	**359**	**0**	**0**	**0**	**0**	**4**	**148**	**1,204**	**0**	**0**	**0**	**1,147**	**52**	**3,057**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**27**	**0**	**0**	**0**	**33**	**0**	**64**	**0**
Peak Hour HV%	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**0%**	**3%**	**2%**	**-**	**-**	**-**	**3%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	0	3	3	*8*	0	0	1	0	*1*	3	1	0	0	*4*
7:15 AM	0	0	6	4	*10*	0	0	0	0	*0*	6	4	1	0	*11*
7:30 AM	2	0	6	3	*11*	0	0	2	1	*3*	4	6	1	0	*11*
7:45 AM	**0**	**0**	**6**	**12**	***18***	**0**	**0**	**1**	**0**	***1***	**6**	**6**	**7**	**0**	*19*
8:00 AM	**0**	**0**	**9**	**6**	***15***	**0**	**0**	**0**	**0**	***0***	**4**	**1**	**5**	**0**	*10*
8:15 AM	**0**	**0**	**10**	**8**	***18***	**2**	**0**	**0**	**1**	***3***	**4**	**2**	**2**	**0**	*8*
8:30 AM	**0**	**0**	**6**	**7**	***13***	**0**	**0**	**0**	**0**	***0***	**4**	**1**	**4**	**0**	***9***
8:45 AM	3	0	9	7	*19*	0	0	0	0	*0*	2	2	0	0	*4*
Count Total	7	0	55	50	*112*	2	0	4	2	*8*	33	23	20	0	*76*
Peak Hour	**0**	**0**	**31**	**33**	***64***	**2**	**0**	**1**	**1**	***4***	**18**	**10**	**18**	**0**	***46***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Crystal Spring Rd				Driveway				El Camino Real				El Camino Real				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	0	8	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10	0
7:30 AM	0	2	0	0	0	0	0	0	0	0	6	0	0	0	2	1	11	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**12**	**0**	**18**	47
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**6**	**0**	**15**	54
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**8**	**0**	**0**	**0**	**8**	**0**	**18**	62
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**7**	**0**	**13**	**64**
8:45 AM	0	0	0	3	0	0	0	0	1	1	7	0	0	0	7	0	19	65
Count Total	0	4	0	3	0	0	0	0	1	5	49	0	0	0	49	1	112	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**27**	**0**	**0**	**0**	**33**	**0**	**64**	**0**

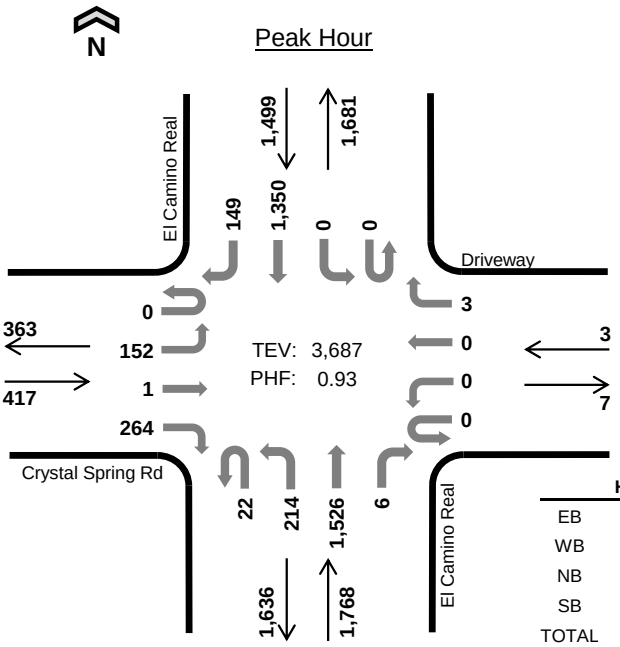
Two-Hour Count Summaries - Bikes

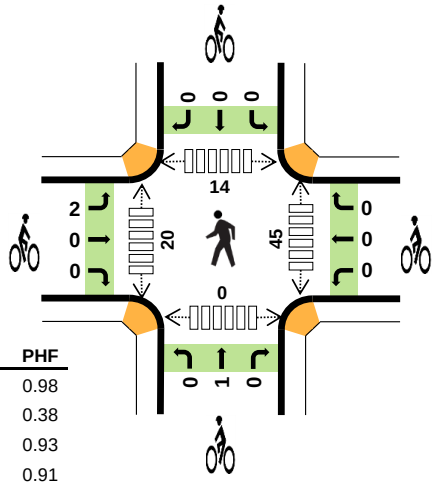
Interval Start	Crystal Spring Rd			Driveway			El Camino Real			El Camino Real			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	2	0	0	1	0	3	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	5
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	4
8:15 AM	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	7
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	2	0	0	0	0	0	0	4	0	0	2	0	8	0
Peak Hour	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**4**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

El Camino Real
Crystal Spring Rd

Date: 01-23-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV %:	PHF
EB	0.7%	0.98
WB	0.0%	0.38
NB	0.6%	0.93
SB	0.7%	0.91
TOTAL	0.7%	0.93

Two-Hour Count Summaries

Interval Start	Crystal Spring Rd Eastbound				Driveway Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	33	0	55	0	0	0	0	7	41	327	1	0	0	300	26	790	0
4:15 PM	0	44	0	61	0	0	0	2	6	45	332	0	0	0	290	22	802	0
4:30 PM	0	38	0	57	0	0	0	1	6	37	353	1	0	0	348	18	859	0
4:45 PM	0	46	0	72	0	0	0	0	6	52	355	3	0	0	336	25	895	3,346
5:00 PM	**0**	**38**	**0**	**66**	**0**	**0**	**0**	**0**	**5**	**43**	**359**	**1**	**0**	**0**	**309**	**30**	**851**	3,407
5:15 PM	**0**	**46**	**0**	**60**	**0**	**0**	**0**	**0**	**4**	**56**	**414**	**0**	**0**	**0**	**379**	**33**	**992**	3,597
5:30 PM	**0**	**37**	**1**	**68**	**0**	**0**	**0**	**1**	**6**	**61**	**385**	**4**	**0**	**0**	**315**	**49**	**927**	3,665
5:45 PM	**0**	**31**	**0**	**70**	**0**	**0**	**0**	**2**	**7**	**54**	**368**	**1**	**0**	**0**	**347**	**37**	**917**	**3,687**
Count Total	0	313	1	509	0	0	0	6	47	389	2,893	11	0	0	2,624	240	7,033	0
Peak Hour All	**0**	**152**	**1**	**264**	**0**	**0**	**0**	**3**	**22**	**214**	**1,526**	**6**	**0**	**0**	**1,350**	**149**	**3,687**	**0**
Peak Hour HV	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**11**	**0**	**25**	**0**
Peak Hour HV%	**-**	**2%**	**0%**	**0%**	**-**	**-**	**-**	**0%**	**0%**	**0%**	**1%**	**0%**	**-**	**-**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	8	6	*16*	0	0	0	0	*0*	16	3	11	0	*30*
4:15 PM	0	0	2	4	*6*	1	0	1	1	*3*	8	9	5	0	*22*
4:30 PM	0	0	2	4	*6*	0	0	1	0	*1*	12	8	13	0	*33*
4:45 PM	1	0	2	4	*7*	0	0	0	0	*0*	5	0	1	0	*6*
5:00 PM	**1**	**0**	**2**	**3**	***6***	**2**	**0**	**0**	**0**	***2***	**8**	**6**	**1**	**0**	*15*
5:15 PM	**1**	**0**	**3**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**16**	**7**	**7**	**0**	*30*
5:30 PM	**1**	**0**	**4**	**4**	***9***	**0**	**0**	**1**	**0**	***1***	**15**	**3**	**5**	**0**	*23*
5:45 PM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**6**	**4**	**1**	**0**	***11***
Count Total	6	0	25	29	*60*	3	0	3	1	*7*	86	40	44	0	*170*
Peak Hour	**3**	**0**	**11**	**11**	***25***	**2**	**0**	**1**	**0**	***3***	**45**	**20**	**14**	**0**	***79***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Crystal Spring Rd				Driveway				El Camino Real				El Camino Real				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	1	0	0	0	0	0	0	8	0	0	0	5	1	16	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	1	6	0
4:45 PM	0	0	0	1	0	0	0	0	0	1	1	0	0	0	4	0	7	35
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**6**	25
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**7**	26
5:30 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**9**	29
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	**25**
Count Total	0	4	0	2	0	0	0	0	0	1	24	0	0	0	27	2	60	0
Peak Hour	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**11**	**0**	**25**	**0**

Two-Hour Count Summaries - Bikes

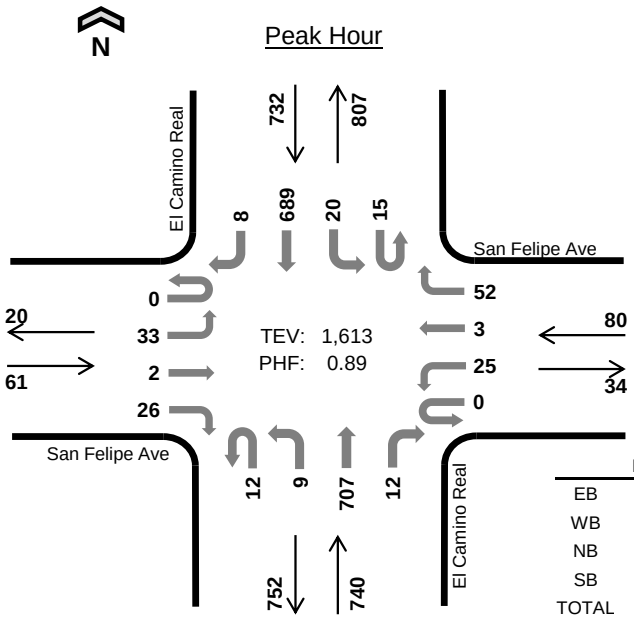
Interval Start	Crystal Spring Rd			Driveway			El Camino Real			El Camino Real			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	1	0	0	1	0	3	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	3
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
Count Total	3	0	0	0	0	0	0	3	0	0	1	0	7	0
Peak Hour	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

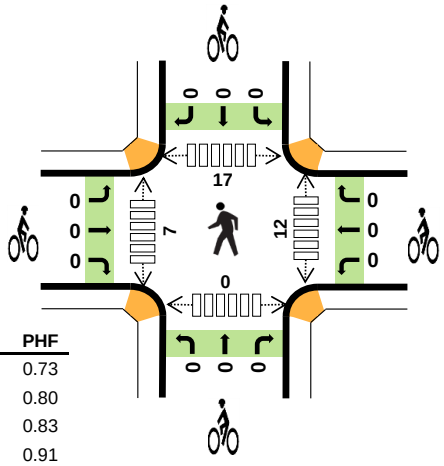
El Camino Real
San Felipe Ave

Date: 11-10-2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour



	HV %:	PHF
EB	0.0%	0.73
WB	1.3%	0.80
NB	3.2%	0.83
SB	3.1%	0.91
TOTAL	3.0%	0.89



Two-Hour Count Summaries

Interval Start	San Felipe Ave Eastbound				San Felipe Ave Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	0	2	0	8	2	4	0	1	118	4	0	3	96	1	242	0
7:15 AM	0	2	0	2	0	4	0	17	3	1	113	1	0	3	104	0	250	0
7:30 AM	0	5	1	3	0	7	0	21	1	1	146	2	0	1	128	1	317	0
7:45 AM	0	8	2	3	0	9	2	19	2	3	162	2	2	1	181	1	397	1,206
8:00 AM	**0**	**12**	**0**	**3**	**0**	**6**	**0**	**15**	**3**	**2**	**158**	**2**	**2**	**5**	**144**	**1**	**353**	1,317
8:15 AM	**0**	**4**	**1**	**7**	**0**	**8**	**0**	**11**	**2**	**1**	**158**	**6**	**1**	**8**	**191**	**1**	**399**	1,466
8:30 AM	**0**	**11**	**1**	**9**	**0**	**4**	**3**	**8**	**4**	**3**	**178**	**1**	**5**	**4**	**174**	**2**	**407**	1,556
8:45 AM	**0**	**6**	**0**	**7**	**0**	**7**	**0**	**18**	**3**	**3**	**213**	**3**	**7**	**3**	**180**	**4**	**454**	**1,613**
Count Total	0	51	5	36	0	53	7	113	18	15	1,246	21	17	28	1,198	11	2,819	0
Peak Hour All	**0**	**33**	**2**	**26**	**0**	**25**	**3**	**52**	**12**	**9**	**707**	**12**	**15**	**20**	**689**	**8**	**1,613**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**24**	**0**	**1**	**1**	**21**	**0**	**48**	**0**
Peak Hour HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**2%**	**0%**	**0%**	**3%**	**0%**	**7%**	**5%**	**3%**	**0%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	2	4	*6*	0	0	0	1	*1*	4	1	3	1	*9*
7:15 AM	0	1	6	3	*10*	0	0	0	0	*0*	2	1	3	0	*6*
7:30 AM	0	0	3	2	*5*	0	0	0	0	*0*	1	1	1	0	*3*
7:45 AM	0	0	4	6	*10*	0	0	0	0	*0*	0	1	3	0	*4*
8:00 AM	**0**	**0**	**6**	**6**	***12***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**6**	**0**	*9*
8:15 AM	**0**	**0**	**9**	**9**	***18***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**0**	*2*
8:30 AM	**0**	**1**	**4**	**5**	***10***	**0**	**0**	**0**	**0**	***0***	**6**	**5**	**8**	**0**	*19*
8:45 AM	**0**	**0**	**5**	**3**	***8***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**2**	**0**	***6***
Count Total	0	2	39	38	*79*	0	0	0	1	*1*	19	11	27	1	*58*
Peak Hour	**0**	**1**	**24**	**23**	***48***	**0**	**0**	**0**	**0**	***0***	**12**	**7**	**17**	**0**	***36***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	San Felipe Ave				San Felipe Ave				El Camino Real				El Camino Real				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	4	0	6	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	6	0	0	0	3	0	10	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	3	0	0	0	6	0	10	31
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**6**	**0**	**12**	37
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**1**	**8**	**0**	**18**	45
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**0**	**1**	**0**	**4**	**0**	**10**	50
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**8**	**48**
Count Total	0	0	0	0	0	0	0	2	1	1	37	0	1	1	36	0	79	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**24**	**0**	**1**	**1**	**21**	**0**	**48**	**0**

Two-Hour Count Summaries - Bikes

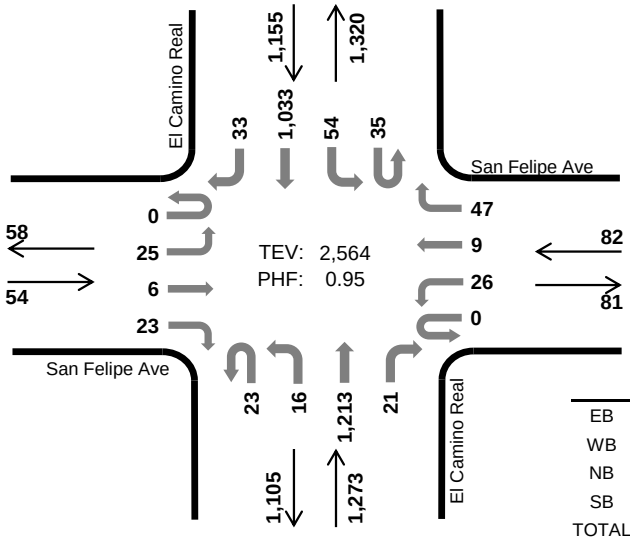
Interval Start	San Felipe Ave			San Felipe Ave			El Camino Real			El Camino Real			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

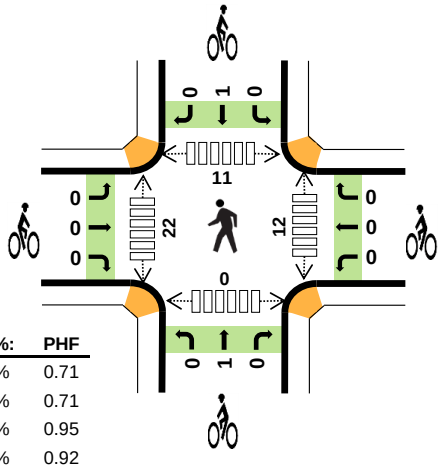
El Camino Real
San Felipe Ave

Date: 11-10-2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM

Peak Hour



	HV %:	PHF
EB	1.9%	0.71
WB	6.1%	0.71
NB	1.0%	0.95
SB	0.7%	0.92
TOTAL	1.1%	0.95



Two-Hour Count Summaries

Interval Start	San Felipe Ave Eastbound				San Felipe Ave Westbound				El Camino Real Northbound				El Camino Real Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**10**	**2**	**7**	**0**	**3**	**0**	**14**	**7**	**2**	**309**	**4**	**6**	**12**	**247**	**4**	**627**	0
4:15 PM	**0**	**7**	**3**	**2**	**0**	**5**	**5**	**9**	**9**	**4**	**316**	**6**	**7**	**13**	**283**	**9**	**678**	0
4:30 PM	**0**	**5**	**0**	**5**	**0**	**12**	**1**	**16**	**3**	**4**	**302**	**6**	**9**	**15**	**224**	**12**	**614**	0
4:45 PM	**0**	**3**	**1**	**9**	**0**	**6**	**3**	**8**	**4**	**6**	**286**	**5**	**13**	**14**	**279**	**8**	**645**	**2,564**
5:00 PM	0	10	1	8	0	8	3	10	6	3	270	13	6	15	218	8	579	2,516
5:15 PM	0	4	2	11	0	9	0	9	6	3	322	11	8	11	262	6	664	2,502
5:30 PM	0	8	1	7	0	9	0	14	6	5	273	5	9	12	237	6	592	2,480
5:45 PM	0	7	0	6	0	7	1	5	9	9	259	5	6	16	209	12	551	2,386
Count Total	0	54	10	55	0	59	13	85	50	36	2,337	55	64	108	1,959	65	4,950	0
Peak Hour All	**0**	**25**	**6**	**23**	**0**	**26**	**9**	**47**	**23**	**16**	**1,213**	**21**	**35**	**54**	**1,033**	**33**	**2,564**	**0**
Peak Hour HV	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**13**	**0**	**0**	**0**	**8**	**0**	**27**	**0**
Peak Hour HV%	**-**	**0%**	**17%**	**0%**	**-**	**0%**	**11%**	**9%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**1%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**0**	**6**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**2**	**3**	**1**	**0**	*6*
4:15 PM	**1**	**3**	**3**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**3**	**8**	**3**	**0**	*14*
4:30 PM	**0**	**2**	**3**	**1**	***6***	**0**	**0**	**1**	**1**	***2***	**3**	**6**	**1**	**0**	*10*
4:45 PM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**4**	**5**	**6**	**0**	***15***
5:00 PM	1	0	5	1	*7*	0	0	0	0	*0*	6	8	5	2	*21*
5:15 PM	0	0	0	1	*1*	0	0	0	0	*0*	2	2	1	0	*5*
5:30 PM	0	0	3	3	*6*	0	0	0	0	*0*	4	6	7	0	*17*
5:45 PM	0	0	3	2	*5*	0	0	0	0	*0*	4	2	2	0	*8*
Count Total	2	5	24	15	*46*	0	0	1	1	*2*	28	40	26	2	*96*
Peak Hour	**1**	**5**	**13**	**8**	***27***	**0**	**0**	**1**	**1**	***2***	**12**	**22**	**11**	**0**	***45***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	San Felipe Ave				San Felipe Ave				El Camino Real				El Camino Real				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**3**	**0**	**9**	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**9**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**6**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**27**
5:00 PM	0	1	0	0	0	0	0	0	0	0	5	0	0	0	1	0	7	25
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	17
5:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	17
5:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	19
Count Total	0	1	1	0	0	0	1	4	0	0	24	0	0	0	15	0	46	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**13**	**0**	**0**	**0**	**8**	**0**	**27**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	San Felipe Ave			San Felipe Ave			El Camino Real			El Camino Real			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	1	0	0	1	0	2	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix B
Volume Summary Sheets

Intersection Number: 1
Traffix Node Number: 1
Intersection Name: El Camino Real and Crystal Springs Avenue
Peak Hour: AM
Count Date: 1/23/2019

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**52**	**1147**	**0**	**0**	**0**	**0**	**0**	**1204**	**152**	**359**	**0**	**143**	**3057**
Approved Project Trips													
111 San Bruno Avenue	0	2	0	0	0	0	0	0	0	0	0	0	2
251 City Park Way	2	0	0	0	0	0	0	0	2	2	0	2	8
Mills Park Center	0	25	0	0	0	0	0	16	0	0	0	0	41
500 Sylvan Avenue	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Approved Trips	2	29	0	0	0	0	0	16	2	2	0	2	53
Background Conditions	**54**	**1176**	**0**	**0**	**0**	**0**	**0**	**1220**	**154**	**361**	**0**	**145**	**3110**
Project Trips	0	3	0	0	0	0	0	2	1	2	0	0	8
Existing Plus Project Conditions	**52**	**1150**	**0**	**0**	**0**	**0**	**0**	**1206**	**153**	**361**	**0**	**143**	**3065**
Background Plus Project Conditions	**54**	**1179**	**0**	**0**	**0**	**0**	**0**	**1222**	**155**	**363**	**0**	**145**	**3118**

Intersection Number: 2
Traffix Node Number: 2
Intersection Name: El Camino Real and San Felipe Avenue
Peak Hour: AM
Count Date: 11/10/2020

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**15**	**1271**	**65**	**96**	**6**	**46**	**22**	**1304**	**39**	**48**	**4**	**61**	**2977**
Approved Project Trips													
111 San Bruno Avenue	0	2	0	0	0	0	0	0	0	0	0	0	2
251 City Park Way	0	2	0	0	0	0	0	2	0	0	0	0	4
Mills Park Center	0	25	0	0	0	0	0	16	0	0	0	0	41
500 Sylvan Avenue	0	2	0	0	0	0	0	0	0	0	0	0	2
Total Approved Trips	0	31	0	0	0	0	0	18	0	0	0	0	49
Background Conditions	**15**	**1302**	**65**	**96**	**6**	**46**	**22**	**1322**	**39**	**48**	**4**	**61**	**3026**
Project Trips	0	5	0	0	0	0	0	3	2	0	0	0	10
Existing Plus Project Conditions	**15**	**1276**	**65**	**96**	**6**	**46**	**22**	**1307**	**41**	**48**	**4**	**61**	**2987**
Background Plus Project Conditions	**15**	**1307**	**65**	**96**	**6**	**46**	**22**	**1325**	**41**	**48**	**4**	**61**	**3036**

Intersection Number: 1
Traffix Node Number: 1
Intersection Name: El Camino Real and Crystal Springs Avenue
Peak Hour: PM
Count Date: 1/23/2019

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**149**	**1350**	**0**	**0**	**0**	**0**	**6**	**1526**	**236**	**264**	**0**	**153**	**3684**
							0						
Approved Project Trips													
2 Davis Drive	0	1	0	0	0	0	0	2	0	0	0	0	3
Belmont Community Center	2	0	0	0	0	0	0	0	2	2	0	2	8
Firehouse Square	0	19	0	0	0	0	0	24	0	0	0	0	43
Hillstreet @ El Camino Real	0	1	0	0	0	0	0	2	0	0	0	0	3
Total Approved Trips	2	21	0	0	0	0	0	28	2	2	0	2	57
Background Conditions	**151**	**1371**	**0**	**0**	**0**	**0**	**6**	**1554**	**238**	**266**	**0**	**155**	**3741**
							0						
Net Project Trips	0	4	0	0	0	0	0	3	2	2	0	0	11
Existing Plus Project Conditions	**149**	**1354**	**0**	**0**	**0**	**0**	**6**	**1529**	**238**	**266**	**0**	**153**	**3695**
							0						
Background Plus Project Conditions	**151**	**1375**	**0**	**0**	**0**	**0**	**6**	**1557**	**240**	**268**	**0**	**155**	**3752**
							0						

Intersection Number: 2
Traffix Node Number: 2
Intersection Name: El Camino Real and San Felipe Avenue
Peak Hour: PM
Count Date: 11/10/2020

	Movements												
	North Approach			East Approach			South Approach			West Approach			
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Conditions	**46**	**1449**	**125**	**66**	**13**	**36**	**29**	**1702**	**55**	**32**	**8**	**35**	**3596**
Approved Project Trips													
2 Davis Drive	0	1	0	0	0	0	0	2	0	0	0	0	3
Belmont Community Center	0	2	0	0	0	0	0	2	0	0	0	0	4
Firehouse Square	0	19	0	0	0	0	0	24	0	0	0	0	43
Hillstreet @ El Camino Real	0	1	0	0	0	0	0	2	0	0	0	0	3
Total Approved Trips	0	23	0	0	0	0	0	30	0	0	0	0	53
Background Conditions	**46**	**1472**	**125**	**66**	**13**	**36**	**29**	**1732**	**55**	**32**	**8**	**35**	**3649**
Net Project Trips	0	6	0	0	0	0	0	5	3	0	0	0	14
Existing Plus Project Conditions	**46**	**1455**	**125**	**66**	**13**	**36**	**29**	**1707**	**58**	**32**	**8**	**35**	**3610**
Background Plus Project Conditions	**46**	**1478**	**125**	**66**	**13**	**36**	**29**	**1737**	**58**	**32**	**8**	**35**	**3663**

Appendix C
List of Approved Projects

Major Development Projects in San Bruno

Includes Projects Approved, with Formal Applications Submitted, or Under Construction

August 2020

Approved Planning Applications				
Rendering	**Location**	**Land Use**	**Project Description**	**Status**
	111 San Bruno Ave.	Mixed Use – Residential Multi-Family / Commercial	The project is a five-story mixed-use building including 62 multi-family dwelling units and 7,600 sq. ft. of ground floor commercial space. Project includes 11 total affordable units: 6 units designated for low income households and 5 for moderate income households.	Building permits for underground and vertical construction have been submitted are currently under review. The Final Subdivision Map, related Improvement Plans and Agreements, and Affordable Housing Agreement have been submitted and are under review.
	500 Sylvan Ave.	Residential – Multi-Family	The project is a three-story multi-family residential development includes nine rental units with an at-grade parking garage. The project includes a mix of one studio, two one-bedroom and six two-bedroom units.	Building permits for vertical construction were submitted in December 2019 and are currently under review. The project was approved by the City Council in May 2019 and an entitlement time extension request was granted by the Planning Commission in June 2020.

Major Development Projects in San Bruno

Includes Projects Approved, with Formal Applications Submitted, or Under Construction

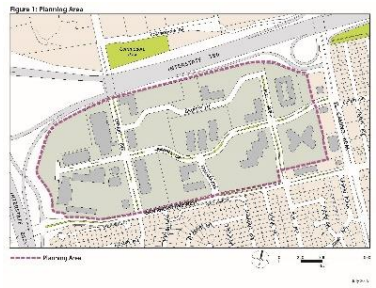
August 2020

	251 City Park Way. Located within San Bruno City Park	Recreation and Aquatic Center	The project includes demolition of the existing Veteran's Memorial Building and San Bruno Park Pool to construct a new two-story, approximately 49,360-square foot San Bruno Recreation and Aquatic Center including a community lounge, lobby, gymnasium, indoor pool, walking track, group exercise room, fitness room, community hall, classrooms, conference room, and City staff offices. An outdoor pool may be proposed for a future phase pending the availability of additional funding. The project also includes reconfiguration of the existing parking lot adjacent to the existing Veterans Memorial building and realignment of City Park Way to create a designated parking lot with 71 parking spaces. Realignment and naturalization of a portion of the water channel running through the park is also proposed to accommodate the parking lot reconfiguration and to improve the safety and function of the park for vehicles and pedestrians.	The project was reviewed and approved by the Planning Commission in May 2020. See here for more details. Building permits have been submitted for review with construction anticipated to begin in 2021.
	Mills Park Center 601 – 799 El Camino Real	Mixed Use Residential – Multi-Family / Commercial	A revised project was submitted for review in March 2020. The revised project is similar in scale to the previous project (1-5-stories) but the grocery store has been removed. The resubmitted project includes 427 dwelling units, 7,947 sq. ft. of commercial space, 669 parking spaces, and 65 units designated for very low, low, and moderate income households. See here for more details.	On July 9, 2019, the City Council considered the project and the Mayor made two motions: to approve the environmental determination for the project, and to approve the architectural review permit. Both motions did not pass by a 2-1 vote. On June 25, 2020, by a 4-0 vote, the City Council approved the revised project that was submitted on March 23, 2020.

Major Development Projects in San Bruno

Includes Projects Approved, with Formal Applications Submitted, or Under Construction

August 2020

Planning Applications Under Review				
Rendering	**Location**	**Land Use**	**Project Description**	**Status**
	201 Balboa Way	Private School	The project includes the remodel of existing classrooms at the former El Crystal Elementary School and the addition of 3,368 sq. ft. to the primary structure to establish a new private preschool and kindergarten with enrollment of up to 348 students (28 Pre-K and 60 Kindergarten kids). The new facility includes 11 preschool and two kindergarten classrooms. A total of 112 parking spaces will be provided in two parking lots: 83 space at Balboa Way lot and 29 space at Anza Way lot that are for employees only.	The project was reviewed by the Architectural Review Committee at its May 12, 2020 meeting and forwarded to the Planning Commission for review. The Planning Commission approved the project on June 16, 2020. Stratford School anticipates to be in operation by August 2021.
	Bayhill Specific Plan	Specific Plan	The Bayhill Specific Plan will be a regulatory long-range planning document that will outline a cohesive, long-term plan for the Project Site, which is home to the largest cluster of offices in San Bruno, including Walmart.com, the SF Police Credit Union, the headquarters of YouTube, and other commercial uses. The Specific Plan will facilitate integrated development within the Project Site, including the Phase I Development, which is described below. The City anticipates that adoption of the Specific Plan will result in further intensification of	Draft EIR and Draft Specific Plan preparation underway. See here for more details.

			land uses beyond what currently exists today. At this time it is anticipated that the Specific Plan would consider allowing for the following land uses: commercial/retail, office, residential, hotel, civic (such as a library and/or community center), and open space. Actual development intensities/densities and permitted uses will be defined through the planning and environmental review process. New internal vehicular streets and/or pedestrian and bicycle paths, as well as improvements to streetscapes, may be included in the Specific Plan.	
	Surface parking lots adjacent to 1000 and 900 Cherry Avenue(New addresses are 1300 Bayhill Dr. and 1350 Grundy Ln.)	Office	YouTube, the applicant and owner of the Phase I Development area, proposes to retain the two existing office buildings on the Phase I Site and construct two new buildings with 440,000 square feet of additional office space. A maximum of three levels of subgrade parking would be provided at both parcels. Additional improvements and items include: (1) the construction of an off-street multi-modal transportation hub on an accessway located between Grundy Lane and Bayhill Drive, on the west side of the parcel containing 950 Elm Street; (2) the realignment of Grundy Lane from Cherry Avenue to Elm Avenue; (3) the abandonment of northern portion of Elm Avenue located directly to the north of the realigned Grundy Lane; (4) the demolition of three existing buildings located at 1150–1250 Bayhill Drive to provide a construction staging and parking area during construction of the Phase I Development; and (5) a Development	The YouTube Phase I Development is currently being processed concurrently with the Bayhill Specific Plan and will be designed to be consistent with the Specific Plan. The EIR will provide a project-level analysis of the YouTube Phase I Development

Major Development Projects in San Bruno
Includes Projects Approved, with Formal Applications Submitted, or Under Construction
August 2020

			Agreement requested as part of the Phase I planning entitlements.	
	Glenview Terrace	Residential – Single-Family	The project consists of 29 for-sale single family dwelling units.	Planning application under review. Environmental document preparation underway.
	271 El Camino Real	Residential Multi-Family	The project consists of a three-story multi-family development with 23 dwelling units.	Planning application under review
	160 El Camino Real	Hotel	The project consists of a three-story hotel with 32 rooms and basement parking on a vacant parcel.	Planning application under review

Major Development Projects in San Bruno

Includes Projects Approved, with Formal Applications Submitted, or Under Construction

August 2020

Projects Under Construction				
Rendering	**Location**	**Land Use**	**Project Description**	**Status**
	3300 College Drive (East entrance to Skyline College)	Residential Single Family and Multi-Family	The project is a 70-unit residential development, consisting of 40 for-sale detached single-family homes and 30 multi-family rental units for college faculty and staff. The project includes 11 total affordable rental units: 6 units designated for low income households and 5 for moderate income households. Located on an 8-acre site on the east side of the Skyline College campus.	The project is under construction with two model homes granted a temporary certificate of occupancy. Building permits for 20 homes and the multi-family buildings have been issued. Grading and site infrastructure construction on the multi-family site occurred in Spring 2020, with vertical construction for the multi-family potentially to commence in Spring 2022.

Appendix D
Level of Service Calculations

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	143	359	152	1204	1147	52
Future Volume (veh/h)	143	359	152	1204	1147	52
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	155	390	165	1309	1247	57
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	487	435	202	3180	2301	105
Arrive On Green	0.27	0.27	0.11	0.63	0.46	0.46
Sat Flow, veh/h	1774	1583	1774	5253	5153	228
Grp Volume(v), veh/h	155	390	165	1309	848	456
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1823
Q Serve(g_s), s	6.3	21.3	8.2	11.7	16.2	16.2
Cycle Q Clear(g_c), s	6.3	21.3	8.2	11.7	16.2	16.2
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	487	435	202	3180	1565	841
V/C Ratio(X)	0.32	0.90	0.82	0.41	0.54	0.54
Avail Cap(c_a), veh/h	641	572	227	3180	1565	841
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	25.9	31.4	39.0	8.5	17.4	17.4
Incr Delay (d2), s/veh	0.4	13.9	17.3	0.4	1.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	18.4	5.0	5.6	7.8	8.7
LnGrp Delay(d),s/veh	26.3	45.3	56.2	8.9	18.7	19.9
LnGrp LOS	C	D	E	A	B	B
Approach Vol, veh/h	545			1474	1304	
Approach Delay, s/veh	39.9			14.2	19.1	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.8		29.2	14.7	46.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		48.5		32.5	11.5	32.5		
Max Q Clear Time (g_c+I1), s		13.7		23.3	10.2	18.2		
Green Ext Time (p_c), s		12.4		1.4	0.1	7.6		

Intersection Summary	
HCM 2010 Ctrl Delay	20.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	4	48	46	6	96	39	1304	22	65	1271	15
Future Volume (veh/h)	61	4	48	46	6	96	39	1304	22	65	1271	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	66	4	52	50	7	104	42	1417	24	71	1382	16
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	19	72	97	20	128	453	3557	60	92	2524	29
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.26	0.69	0.69	0.05	0.49	0.49
Sat Flow, veh/h	630	158	586	408	166	1047	1774	5150	87	1774	5182	60
Grp Volume(v), veh/h	122	0	0	161	0	0	42	933	508	71	904	494
Grp Sat Flow(s),veh/h/ln	1374	0	0	1621	0	0	1774	1695	1847	1774	1695	1852
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	1.8	11.7	11.7	4.0	18.7	18.7
Cycle Q Clear(g_c), s	8.6	0.0	0.0	9.5	0.0	0.0	1.8	11.7	11.7	4.0	18.7	18.7
Prop In Lane	0.54		0.43	0.31		0.65	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	224	0	0	246	0	0	453	2341	1276	92	1651	902
V/C Ratio(X)	0.54	0.00	0.00	0.65	0.00	0.00	0.09	0.40	0.40	0.77	0.55	0.55
Avail Cap(c_a), veh/h	453	0	0	491	0	0	453	2341	1276	239	1651	902
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	42.1	0.0	0.0	42.6	0.0	0.0	28.4	6.6	6.6	46.8	17.9	17.9
Incr Delay (d2), s/veh	2.1	0.0	0.0	2.9	0.0	0.0	0.1	0.5	0.9	10.6	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	4.5	0.0	0.0	0.9	5.6	6.3	2.2	8.9	10.0
LnGrp Delay(d),s/veh	44.1	0.0	0.0	45.6	0.0	0.0	28.5	7.1	7.5	57.4	19.0	19.9
LnGrp LOS	D			D			C	A	A	E	B	B
Approach Vol, veh/h		122			161			1483			1469	
Approach Delay, s/veh		44.1			45.6			7.9			21.2	
Approach LOS		D			D			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	73.6		16.8	30.0	53.2		16.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	13.5	44.5		28.5	9.3	48.7		28.5
Max Q Clear Time (g_c+I1), s	6.0	13.7		10.6	3.8	20.7		11.5
Green Ext Time (p_c), s	0.1	12.6		0.6	0.0	11.7		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	17.1
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	264	236	1526	1350	149
Future Volume (veh/h)	153	264	236	1526	1350	149
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	166	287	257	1659	1467	162
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	368	329	291	3572	2294	253
Arrive On Green	0.21	0.21	0.16	0.70	0.49	0.49
Sat Flow, veh/h	1774	1583	1774	5253	4817	513
Grp Volume(v), veh/h	166	287	257	1659	1070	559
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1772
Q Serve(g_s), s	8.2	17.5	14.2	14.4	23.3	23.4
Cycle Q Clear(g_c), s	8.2	17.5	14.2	14.4	23.3	23.4
Prop In Lane	1.00	1.00	1.00			0.29
Lane Grp Cap(c), veh/h	368	329	291	3572	1673	874
V/C Ratio(X)	0.45	0.87	0.88	0.46	0.64	0.64
Avail Cap(c_a), veh/h	559	499	346	3572	1673	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	34.6	38.3	40.9	6.6	18.7	18.8
Incr Delay (d2), s/veh	0.9	10.6	16.7	0.3	1.9	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	15.2	8.3	6.7	11.3	12.2
LnGrp Delay(d),s/veh	35.5	49.0	57.6	6.9	20.6	22.3
LnGrp LOS	D	D	E	A	C	C
Approach Vol, veh/h	453			1916	1629	
Approach Delay, s/veh	44.0			13.7	21.2	
Approach LOS	D			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		74.7		25.3	20.9	53.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		31.5	19.5	35.5		
Max Q Clear Time (g_c+I1), s		16.4		19.5	16.2	25.4		
Green Ext Time (p_c), s		18.8		1.2	0.2	7.2		

Intersection Summary	
HCM 2010 Ctrl Delay	20.2
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	8	32	36	13	66	55	1702	29	125	1449	46
Future Volume (veh/h)	35	8	32	36	13	66	55	1702	29	125	1449	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	38	9	35	39	14	72	60	1850	32	136	1575	50
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	33	67	87	28	93	589	3471	60	165	2203	70
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.33	0.67	0.67	0.19	0.87	0.87
Sat Flow, veh/h	575	341	682	408	290	948	1774	5148	89	1774	5064	161
Grp Volume(v), veh/h	82	0	0	125	0	0	60	1218	664	136	1054	571
Grp Sat Flow(s),veh/h/ln	1597	0	0	1646	0	0	1774	1695	1847	1774	1695	1834
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	2.3	18.3	18.3	7.4	10.7	10.7
Cycle Q Clear(g_c), s	4.7	0.0	0.0	7.2	0.0	0.0	2.3	18.3	18.3	7.4	10.7	10.7
Prop In Lane	0.46		0.43	0.31		0.58	1.00		0.05	1.00		0.09
Lane Grp Cap(c), veh/h	209	0	0	208	0	0	589	2286	1245	165	1475	798
V/C Ratio(X)	0.39	0.00	0.00	0.60	0.00	0.00	0.10	0.53	0.53	0.83	0.71	0.72
Avail Cap(c_a), veh/h	483	0	0	495	0	0	589	2286	1245	257	1475	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	42.8	0.0	0.0	43.9	0.0	0.0	23.1	8.3	8.3	39.9	4.4	4.4
Incr Delay (d2), s/veh	1.2	0.0	0.0	2.8	0.0	0.0	0.1	0.9	1.6	9.0	2.2	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	3.5	0.0	0.0	1.2	8.7	9.8	4.0	4.9	5.7
LnGrp Delay(d),s/veh	44.0	0.0	0.0	46.6	0.0	0.0	23.2	9.2	9.9	48.9	6.6	8.5
LnGrp LOS	D			D			C	A	A	D	A	A
Approach Vol, veh/h		82			125			1942			1761	
Approach Delay, s/veh		44.0			46.6			9.9			10.5	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	71.9		14.3	37.7	48.0		14.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	14.5	43.5		28.5	14.5	43.5		28.5
Max Q Clear Time (g_c+I1), s	9.4	20.3		6.7	4.3	12.7		9.2
Green Ext Time (p_c), s	0.1	15.0		0.4	0.1	14.9		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	143	361	153	1206	1150	52
Future Volume (veh/h)	143	361	153	1206	1150	52
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	155	392	166	1311	1250	57
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	489	437	203	3174	2293	105
Arrive On Green	0.28	0.28	0.11	0.62	0.46	0.46
Sat Flow, veh/h	1774	1583	1774	5253	5153	227
Grp Volume(v), veh/h	155	392	166	1311	850	457
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1823
Q Serve(g_s), s	6.2	21.4	8.2	11.7	16.3	16.3
Cycle Q Clear(g_c), s	6.2	21.4	8.2	11.7	16.3	16.3
Prop In Lane	1.00	1.00	1.00			0.12
Lane Grp Cap(c), veh/h	489	437	203	3174	1559	838
V/C Ratio(X)	0.32	0.90	0.82	0.41	0.55	0.55
Avail Cap(c_a), veh/h	641	572	227	3174	1559	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	25.9	31.4	38.9	8.6	17.5	17.5
Incr Delay (d2), s/veh	0.4	14.1	17.5	0.4	1.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	18.5	5.0	5.6	7.9	8.7
LnGrp Delay(d),s/veh	26.2	45.4	56.4	8.9	18.9	20.1
LnGrp LOS	C	D	E	A	B	C
Approach Vol, veh/h	547			1477	1307	
Approach Delay, s/veh	40.0			14.3	19.3	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.7		29.3	14.8	45.9		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		48.5		32.5	11.5	32.5		
Max Q Clear Time (g_c+I1), s		13.7		23.4	10.2	18.3		
Green Ext Time (p_c), s		12.4		1.4	0.1	7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	4	48	46	6	96	41	1307	22	65	1276	15
Future Volume (veh/h)	61	4	48	46	6	96	41	1307	22	65	1276	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	66	4	52	50	7	104	45	1421	24	71	1387	16
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	19	72	97	20	128	453	3557	60	92	2524	29
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.26	0.69	0.69	0.05	0.49	0.49
Sat Flow, veh/h	630	158	586	408	166	1047	1774	5151	87	1774	5183	60
Grp Volume(v), veh/h	122	0	0	161	0	0	45	935	510	71	907	496
Grp Sat Flow(s),veh/h/ln	1374	0	0	1621	0	0	1774	1695	1847	1774	1695	1852
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	1.9	11.8	11.8	4.0	18.7	18.7
Cycle Q Clear(g_c), s	8.6	0.0	0.0	9.5	0.0	0.0	1.9	11.8	11.8	4.0	18.7	18.7
Prop In Lane	0.54		0.43	0.31		0.65	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	224	0	0	246	0	0	453	2341	1276	92	1651	902
V/C Ratio(X)	0.54	0.00	0.00	0.65	0.00	0.00	0.10	0.40	0.40	0.77	0.55	0.55
Avail Cap(c_a), veh/h	453	0	0	491	0	0	453	2341	1276	239	1651	902
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	42.1	0.0	0.0	42.6	0.0	0.0	28.4	6.6	6.6	46.8	18.0	18.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	2.9	0.0	0.0	0.1	0.5	0.9	10.5	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	4.5	0.0	0.0	1.0	5.6	6.3	2.2	8.9	10.0
LnGrp Delay(d),s/veh	44.1	0.0	0.0	45.6	0.0	0.0	28.5	7.1	7.5	57.4	19.0	19.9
LnGrp LOS	D			D			C	A	A	E	B	B
Approach Vol, veh/h		122			161			1490			1474	
Approach Delay, s/veh		44.1			45.6			7.9			21.2	
Approach LOS		D			D			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	73.6		16.8	30.0	53.2		16.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	13.5	44.5		28.5	9.3	48.7		28.5
Max Q Clear Time (g_c+I1), s	6.0	13.8		10.6	3.9	20.7		11.5
Green Ext Time (p_c), s	0.1	12.7		0.6	0.0	11.7		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	266	238	1529	1354	149
Future Volume (veh/h)	153	266	238	1529	1354	149
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	166	289	259	1662	1472	162
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	371	331	293	3565	2284	251
Arrive On Green	0.21	0.21	0.17	0.70	0.49	0.49
Sat Flow, veh/h	1774	1583	1774	5253	4819	512
Grp Volume(v), veh/h	166	289	259	1662	1073	561
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1772
Q Serve(g_s), s	8.2	17.7	14.3	14.5	23.6	23.6
Cycle Q Clear(g_c), s	8.2	17.7	14.3	14.5	23.6	23.6
Prop In Lane	1.00	1.00	1.00			0.29
Lane Grp Cap(c), veh/h	371	331	293	3565	1665	870
V/C Ratio(X)	0.45	0.87	0.88	0.47	0.64	0.64
Avail Cap(c_a), veh/h	559	499	346	3565	1665	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	34.5	38.3	40.8	6.6	18.9	18.9
Incr Delay (d2), s/veh	0.8	10.8	16.9	0.3	1.9	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	15.3	8.4	6.7	11.3	12.4
LnGrp Delay(d),s/veh	35.4	49.1	57.8	7.0	20.9	22.6
LnGrp LOS	D	D	E	A	C	C
Approach Vol, veh/h	455			1921	1634	
Approach Delay, s/veh	44.1			13.8	21.5	
Approach LOS	D			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		74.6		25.4	21.0	53.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		31.5	19.5	35.5		
Max Q Clear Time (g_c+I1), s		16.5		19.7	16.3	25.6		
Green Ext Time (p_c), s		18.9		1.2	0.2	7.1		

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	8	32	36	13	66	58	1707	29	125	1455	46
Future Volume (veh/h)	35	8	32	36	13	66	58	1707	29	125	1455	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	38	9	35	39	14	72	63	1855	32	136	1582	50
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	33	67	87	28	93	589	3471	60	165	2203	70
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.33	0.67	0.67	0.19	0.87	0.87
Sat Flow, veh/h	575	341	682	408	290	948	1774	5149	89	1774	5065	160
Grp Volume(v), veh/h	82	0	0	125	0	0	63	1221	666	136	1059	573
Grp Sat Flow(s),veh/h/ln	1597	0	0	1646	0	0	1774	1695	1847	1774	1695	1835
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	2.5	18.3	18.4	7.4	10.8	10.8
Cycle Q Clear(g_c), s	4.7	0.0	0.0	7.2	0.0	0.0	2.5	18.3	18.4	7.4	10.8	10.8
Prop In Lane	0.46		0.43	0.31		0.58	1.00		0.05	1.00		0.09
Lane Grp Cap(c), veh/h	209	0	0	208	0	0	589	2286	1245	165	1475	798
V/C Ratio(X)	0.39	0.00	0.00	0.60	0.00	0.00	0.11	0.53	0.53	0.83	0.72	0.72
Avail Cap(c_a), veh/h	483	0	0	495	0	0	589	2286	1245	257	1475	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	42.8	0.0	0.0	43.9	0.0	0.0	23.1	8.3	8.3	39.9	4.4	4.4
Incr Delay (d2), s/veh	1.2	0.0	0.0	2.8	0.0	0.0	0.1	0.9	1.6	9.0	2.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	3.5	0.0	0.0	1.2	8.8	9.8	4.0	4.9	5.7
LnGrp Delay(d),s/veh	44.0	0.0	0.0	46.6	0.0	0.0	23.2	9.2	9.9	48.9	6.6	8.5
LnGrp LOS	D			D			C	A	A	D	A	A
Approach Vol, veh/h		82			125			1950			1768	
Approach Delay, s/veh		44.0			46.6			9.9			10.5	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	71.9		14.3	37.7	48.0		14.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	14.5	43.5		28.5	14.5	43.5		28.5
Max Q Clear Time (g_c+I1), s	9.4	20.4		6.7	4.5	12.8		9.2
Green Ext Time (p_c), s	0.1	15.0		0.4	0.1	14.9		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	145	361	154	1220	1176	54
Future Volume (veh/h)	145	361	154	1220	1176	54
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	158	392	167	1326	1278	59
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	489	437	204	3174	2289	106
Arrive On Green	0.28	0.28	0.11	0.62	0.46	0.46
Sat Flow, veh/h	1774	1583	1774	5253	5150	230
Grp Volume(v), veh/h	158	392	167	1326	870	467
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1822
Q Serve(g_s), s	6.4	21.4	8.3	11.9	16.8	16.8
Cycle Q Clear(g_c), s	6.4	21.4	8.3	11.9	16.8	16.8
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	489	437	204	3174	1557	837
V/C Ratio(X)	0.32	0.90	0.82	0.42	0.56	0.56
Avail Cap(c_a), veh/h	641	572	227	3174	1557	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	25.9	31.4	38.9	8.6	17.7	17.7
Incr Delay (d2), s/veh	0.4	14.0	17.6	0.4	1.5	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	18.5	5.0	5.6	8.2	9.1
LnGrp Delay(d),s/veh	26.3	45.4	56.6	9.0	19.1	20.4
LnGrp LOS	C	D	E	A	B	C
Approach Vol, veh/h	550			1493	1337	
Approach Delay, s/veh	39.9			14.3	19.6	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.7		29.3	14.8	45.8		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		48.5		32.5	11.5	32.5		
Max Q Clear Time (g_c+I1), s		13.9		23.4	10.3	18.8		
Green Ext Time (p_c), s		12.6		1.4	0.1	7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	20.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	4	48	46	6	96	39	1322	22	65	1302	15
Future Volume (veh/h)	61	4	48	46	6	96	39	1322	22	65	1302	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	66	4	52	50	7	104	42	1437	24	71	1415	16
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	19	72	97	20	128	453	3558	59	92	2525	29
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.26	0.69	0.69	0.05	0.49	0.49
Sat Flow, veh/h	630	158	586	408	166	1047	1774	5152	86	1774	5184	59
Grp Volume(v), veh/h	122	0	0	161	0	0	42	946	515	71	925	506
Grp Sat Flow(s),veh/h/ln	1374	0	0	1621	0	0	1774	1695	1848	1774	1695	1852
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	1.8	12.0	12.0	4.0	19.3	19.3
Cycle Q Clear(g_c), s	8.6	0.0	0.0	9.5	0.0	0.0	1.8	12.0	12.0	4.0	19.3	19.3
Prop In Lane	0.54		0.43	0.31		0.65	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	224	0	0	246	0	0	453	2341	1276	92	1651	902
V/C Ratio(X)	0.54	0.00	0.00	0.65	0.00	0.00	0.09	0.40	0.40	0.77	0.56	0.56
Avail Cap(c_a), veh/h	453	0	0	491	0	0	453	2341	1276	239	1651	902
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	42.1	0.0	0.0	42.6	0.0	0.0	28.4	6.6	6.6	46.8	18.1	18.1
Incr Delay (d2), s/veh	2.1	0.0	0.0	2.9	0.0	0.0	0.1	0.5	1.0	10.4	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	4.5	0.0	0.0	0.9	5.7	6.4	2.2	9.3	10.3
LnGrp Delay(d),s/veh	44.1	0.0	0.0	45.6	0.0	0.0	28.5	7.2	7.6	57.3	19.2	20.1
LnGrp LOS	D			D			C	A	A	E	B	C
Approach Vol, veh/h		122			161			1503			1502	
Approach Delay, s/veh		44.1			45.6			7.9			21.3	
Approach LOS		D			D			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	73.6		16.8	30.0	53.2		16.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	13.5	44.5		28.5	9.3	48.7		28.5
Max Q Clear Time (g_c+I1), s	6.0	14.0		10.6	3.8	21.3		11.5
Green Ext Time (p_c), s	0.1	12.8		0.6	0.0	11.9		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	155	266	238	1554	1371	151
Future Volume (veh/h)	155	266	238	1554	1371	151
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	168	289	259	1689	1490	164
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	371	331	293	3565	2284	251
Arrive On Green	0.21	0.21	0.17	0.70	0.49	0.49
Sat Flow, veh/h	1774	1583	1774	5253	4819	512
Grp Volume(v), veh/h	168	289	259	1689	1086	568
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1772
Q Serve(g_s), s	8.3	17.7	14.3	14.9	24.0	24.0
Cycle Q Clear(g_c), s	8.3	17.7	14.3	14.9	24.0	24.0
Prop In Lane	1.00	1.00	1.00			0.29
Lane Grp Cap(c), veh/h	371	331	293	3565	1665	870
V/C Ratio(X)	0.45	0.87	0.88	0.47	0.65	0.65
Avail Cap(c_a), veh/h	559	499	346	3565	1665	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	34.6	38.3	40.8	6.7	19.1	19.1
Incr Delay (d2), s/veh	0.9	10.8	16.8	0.4	2.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	15.3	8.3	7.0	11.6	12.6
LnGrp Delay(d),s/veh	35.4	49.0	57.6	7.0	21.1	22.9
LnGrp LOS	D	D	E	A	C	C
Approach Vol, veh/h	457			1948	1654	
Approach Delay, s/veh	44.0			13.8	21.7	
Approach LOS	D			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		74.6		25.4	21.0	53.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		31.5	19.5	35.5		
Max Q Clear Time (g_c+I1), s		16.9		19.7	16.3	26.0		
Green Ext Time (p_c), s		19.3		1.2	0.2	6.9		

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	8	32	36	13	66	55	1732	29	125	1472	46
Future Volume (veh/h)	35	8	32	36	13	66	55	1732	29	125	1472	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	38	9	35	39	14	72	60	1883	32	136	1600	50
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	33	67	87	28	93	589	3472	59	165	2204	69
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.33	0.67	0.67	0.19	0.87	0.87
Sat Flow, veh/h	575	341	682	408	290	948	1774	5150	87	1774	5067	158
Grp Volume(v), veh/h	82	0	0	125	0	0	60	1239	676	136	1070	580
Grp Sat Flow(s),veh/h/ln	1597	0	0	1646	0	0	1774	1695	1847	1774	1695	1835
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	2.3	18.8	18.8	7.4	11.1	11.1
Cycle Q Clear(g_c), s	4.7	0.0	0.0	7.2	0.0	0.0	2.3	18.8	18.8	7.4	11.1	11.1
Prop In Lane	0.46		0.43	0.31		0.58	1.00		0.05	1.00		0.09
Lane Grp Cap(c), veh/h	209	0	0	208	0	0	589	2286	1245	165	1475	798
V/C Ratio(X)	0.39	0.00	0.00	0.60	0.00	0.00	0.10	0.54	0.54	0.83	0.73	0.73
Avail Cap(c_a), veh/h	483	0	0	495	0	0	589	2286	1245	257	1475	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	42.8	0.0	0.0	43.9	0.0	0.0	23.1	8.4	8.4	39.9	4.4	4.4
Incr Delay (d2), s/veh	1.2	0.0	0.0	2.8	0.0	0.0	0.1	0.9	1.7	8.9	2.3	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	3.5	0.0	0.0	1.2	8.9	10.0	4.0	4.9	5.8
LnGrp Delay(d),s/veh	44.0	0.0	0.0	46.6	0.0	0.0	23.2	9.3	10.1	48.8	6.7	8.6
LnGrp LOS	D			D			C	A	B	D	A	A
Approach Vol, veh/h		82			125			1975			1786	
Approach Delay, s/veh		44.0			46.6			10.0			10.6	
Approach LOS		D			D			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	71.9		14.3	37.7	48.0		14.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	14.5	43.5		28.5	14.5	43.5		28.5
Max Q Clear Time (g_c+I1), s	9.4	20.8		6.7	4.3	13.1		9.2
Green Ext Time (p_c), s	0.1	15.1		0.4	0.1	15.1		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	145	363	155	1222	1179	54
Future Volume (veh/h)	145	363	155	1222	1179	54
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	158	395	168	1328	1282	59
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	493	440	205	3165	2277	105
Arrive On Green	0.28	0.28	0.12	0.62	0.46	0.46
Sat Flow, veh/h	1774	1583	1774	5253	5151	229
Grp Volume(v), veh/h	158	395	168	1328	872	469
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1822
Q Serve(g_s), s	6.4	21.6	8.3	12.0	16.9	16.9
Cycle Q Clear(g_c), s	6.4	21.6	8.3	12.0	16.9	16.9
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	493	440	205	3165	1549	833
V/C Ratio(X)	0.32	0.90	0.82	0.42	0.56	0.56
Avail Cap(c_a), veh/h	641	572	227	3165	1549	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.91	0.91	1.00	1.00
Uniform Delay (d), s/veh	25.8	31.3	38.9	8.7	17.9	17.9
Incr Delay (d2), s/veh	0.4	14.2	17.8	0.4	1.5	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	11.2	5.1	5.6	8.2	9.1
LnGrp Delay(d),s/veh	26.1	45.5	56.7	9.1	19.3	20.6
LnGrp LOS	C	D	E	A	B	C
Approach Vol, veh/h	553			1496	1341	
Approach Delay, s/veh	40.0			14.4	19.8	
Approach LOS	D			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.5		29.5	14.9	45.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		48.5		32.5	11.5	32.5		
Max Q Clear Time (g_c+I1), s		14.0		23.6	10.3	18.9		
Green Ext Time (p_c), s		12.6		1.4	0.1	7.5		

Intersection Summary	
HCM 2010 Ctrl Delay	20.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	4	48	46	6	96	41	1325	22	65	1307	15
Future Volume (veh/h)	61	4	48	46	6	96	41	1325	22	65	1307	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	66	4	52	50	7	104	45	1440	24	71	1421	16
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	19	72	97	20	128	453	3558	59	92	2525	28
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.26	0.69	0.69	0.05	0.49	0.49
Sat Flow, veh/h	630	158	586	408	166	1047	1774	5152	86	1774	5184	58
Grp Volume(v), veh/h	122	0	0	161	0	0	45	948	516	71	929	508
Grp Sat Flow(s),veh/h/ln	1374	0	0	1621	0	0	1774	1695	1848	1774	1695	1852
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	1.9	12.0	12.0	4.0	19.4	19.4
Cycle Q Clear(g_c), s	8.6	0.0	0.0	9.5	0.0	0.0	1.9	12.0	12.0	4.0	19.4	19.4
Prop In Lane	0.54		0.43	0.31		0.65	1.00		0.05	1.00		0.03
Lane Grp Cap(c), veh/h	224	0	0	246	0	0	453	2341	1276	92	1651	902
V/C Ratio(X)	0.54	0.00	0.00	0.65	0.00	0.00	0.10	0.40	0.40	0.77	0.56	0.56
Avail Cap(c_a), veh/h	453	0	0	491	0	0	453	2341	1276	239	1651	902
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	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	42.1	0.0	0.0	42.6	0.0	0.0	28.4	6.6	6.6	46.8	18.1	18.1
Incr Delay (d2), s/veh	2.1	0.0	0.0	2.9	0.0	0.0	0.1	0.5	1.0	10.4	1.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	4.5	0.0	0.0	1.0	5.7	6.4	2.2	9.3	10.4
LnGrp Delay(d),s/veh	44.1	0.0	0.0	45.6	0.0	0.0	28.5	7.2	7.6	57.2	19.2	20.2
LnGrp LOS	D			D			C	A	A	E	B	C
Approach Vol, veh/h		122			161			1509			1508	
Approach Delay, s/veh		44.1			45.6			8.0			21.3	
Approach LOS		D			D			A			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.7	73.6		16.8	30.0	53.2		16.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	13.5	44.5		28.5	9.3	48.7		28.5
Max Q Clear Time (g_c+I1), s	6.0	14.0		10.6	3.9	21.4		11.5
Green Ext Time (p_c), s	0.1	12.9		0.6	0.0	12.0		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	17.2
HCM 2010 LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	155	268	240	1557	1375	151
Future Volume (veh/h)	155	268	240	1557	1375	151
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	168	291	261	1692	1495	164
Adj No. of Lanes	1	1	1	3	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	373	333	295	3559	2274	249
Arrive On Green	0.21	0.21	0.17	0.70	0.49	0.49
Sat Flow, veh/h	1774	1583	1774	5253	4820	510
Grp Volume(v), veh/h	168	291	261	1692	1089	570
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1695	1695	1773
Q Serve(g_s), s	8.3	17.8	14.4	15.0	24.2	24.2
Cycle Q Clear(g_c), s	8.3	17.8	14.4	15.0	24.2	24.2
Prop In Lane	1.00	1.00	1.00			0.29
Lane Grp Cap(c), veh/h	373	333	295	3559	1657	866
V/C Ratio(X)	0.45	0.87	0.89	0.48	0.66	0.66
Avail Cap(c_a), veh/h	559	499	346	3559	1657	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	34.5	38.2	40.8	6.8	19.3	19.3
Incr Delay (d2), s/veh	0.9	11.0	17.0	0.4	2.1	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	15.4	8.4	7.0	11.7	12.7
LnGrp Delay(d),s/veh	35.3	49.2	57.8	7.1	21.3	23.2
LnGrp LOS	D	D	E	A	C	C
Approach Vol, veh/h	459			1953	1659	
Approach Delay, s/veh	44.1			13.9	21.9	
Approach LOS	D			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		74.5		25.5	21.1	53.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		31.5	19.5	35.5		
Max Q Clear Time (g_c+I1), s		17.0		19.8	16.4	26.2		
Green Ext Time (p_c), s		19.3		1.2	0.2	6.8		

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	8	32	36	13	66	58	1737	29	125	1478	46
Future Volume (veh/h)	35	8	32	36	13	66	58	1737	29	125	1478	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	38	9	35	39	14	72	63	1888	32	136	1607	50
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	33	67	87	28	93	589	3472	59	165	2204	69
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.33	0.67	0.67	0.19	0.87	0.87
Sat Flow, veh/h	575	341	682	408	290	948	1774	5150	87	1774	5067	158
Grp Volume(v), veh/h	82	0	0	125	0	0	63	1242	678	136	1075	582
Grp Sat Flow(s),veh/h/ln	1597	0	0	1646	0	0	1774	1695	1847	1774	1695	1835
Q Serve(g_s), s	0.0	0.0	0.0	2.5	0.0	0.0	2.5	18.8	18.9	7.4	11.3	11.3
Cycle Q Clear(g_c), s	4.7	0.0	0.0	7.2	0.0	0.0	2.5	18.8	18.9	7.4	11.3	11.3
Prop In Lane	0.46		0.43	0.31		0.58	1.00		0.05	1.00		0.09
Lane Grp Cap(c), veh/h	209	0	0	208	0	0	589	2286	1245	165	1475	798
V/C Ratio(X)	0.39	0.00	0.00	0.60	0.00	0.00	0.11	0.54	0.54	0.83	0.73	0.73
Avail Cap(c_a), veh/h	483	0	0	495	0	0	589	2286	1245	257	1475	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	42.8	0.0	0.0	43.9	0.0	0.0	23.1	8.4	8.4	39.9	4.4	4.4
Incr Delay (d2), s/veh	1.2	0.0	0.0	2.8	0.0	0.0	0.1	0.9	1.7	8.8	2.4	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	3.5	0.0	0.0	1.2	8.9	10.0	4.0	5.3	6.1
LnGrp Delay(d),s/veh	44.0	0.0	0.0	46.6	0.0	0.0	23.2	9.3	10.1	48.8	6.8	8.7
LnGrp LOS	D			D			C	A	B	D	A	A
Approach Vol, veh/h		82			125			1983			1793	
Approach Delay, s/veh		44.0			46.6			10.0			10.6	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	71.9		14.3	37.7	48.0		14.3
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	14.5	43.5		28.5	14.5	43.5		28.5
Max Q Clear Time (g_c+I1), s	9.4	20.9		6.7	4.5	13.3		9.2
Green Ext Time (p_c), s	0.1	15.1		0.4	0.1	15.1		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Appendix E

Parking and Site Access Study for 160 El Camino Real Hotel dated October 23, 2020

HEXAGON TRANSPORTATION CONSULTANTS, INC.

October 23, 2020

Mr. Robert Sauvageau
RYS Architects, Inc.
10 Monterey Boulevard #1
San Francisco, CA 94131

Re: Revision 2 Parking Study for the Proposed Hotel at 160 El Camino Real in San Bruno, California (Original Study dated 3/18/20, Revision 1 dated 5/15/20)

Dear Mr. Sauvageau:

Hexagon Transportation Consultants, Inc. has completed a parking study for the proposed hotel at 160 El Camino Real, California. It is our understanding that the proposed hotel will have 28 rooms. The City parking requirements specify that a hotel should provide one parking space for each guest room. This equates to a minimum City parking requirement of 28 parking spaces for the proposed hotel. The parking study summarized below supports a reduced parking space rate.

Parking Analysis

Hexagon has conducted parking counts at seven hotels in the Bay Area. The hotels ranged in size from 56 to 173 rooms. Table 1 shows the names and locations of the hotels and the results of the parking counts. The results show an average of 108 occupied rooms with 81 occupied parking spaces. Thus, the average parking demand ratio is 0.75 spaces per occupied room.

Applying this ratio to the proposed hotel at 160 El Camino Real yields a parking demand estimate of 21 spaces when all 28 rooms are occupied.

Table 1 also shows the hotel parking rate from the Institute of Transportation Engineers (ITE) Parking Generation Manual. The manual provides average parking demand rates for different land uses based on approved submitted parking count data. Rates taken from the category of Hotel (Land Use 310 in the Parking Generation Manual 5th edition) was used to estimate peak hour parking demand. As seen in Table 2, the 28-room hotel would have a peak hour demand of 23 parking spaces based on the ITE rate.

Turn Radii

Hexagon also completed a parking design analysis. The attached drawings show vehicle turning radii simulations for the garage and at-grade parking for three vehicle types. These turning radii drawings show how a vehicle would likely need to maneuver and whether the vehicle would be able to enter in and out of the garage and maneuver to designated parking spaces.

The site plan indicates that the underground parking garage will be valet parking only. Therefore, the property owner should train valet staff to navigate the parking garage, as well as operate the parking lifts.

The three typical vehicle types were a Chevy Suburban, a Toyota Landcruiser, and a Volvo V40, which represent a large SUV, midsize SUV, and a small compact car, respectively. The drawings indicate that parking spaces P14, 15, and 16 would require multiple maneuvers by any large size family vehicle. Valet staff should park smaller vehicles in spaces P10-19 first, in order to leave room for larger vehicles to park in spaces P5-9, 20, and 21. The drawings also indicate that parking spaces P10 and 11would require more than one turn to access. In addition, the drawings indicate midsize vehicles would be able to access each space but would require multiple maneuvers for some spaces. However, this is a typical design for parking lots and garages: some spaces require more than one turn to access.

The drawings also show that a large vehicle exiting the garage would need to encroach into the oncoming lane to complete the turn out of the ramp. This is acceptable because the garage will be valet-only. Some ADA users may access the garage themselves, but that would be under the supervision of the valets.

The two at-grade spaces also were checked for back-up space. The drawings show that vehicles could back out of the spaces without encroaching into El Camino Real. If a vehicle were exiting the garage at the same time a vehicle was backing out of one of these spaces, they may not be able to see each other. Therefore, the site plan shows a mirror mounted on the garage ramp, which would allow these vehicles to see each other.

Queuing Space

Since the garage is proposed to be valet only, it will be necessary to have space for new guests to arrive to check in. The site plan shows one regular space and one handicapped space at grade for check-in within the site.

Conclusions

Based on counts at other hotels, Hexagon estimates the hotel will need 21 to 23 parking spaces for the proposed 28 rooms. Thus, the proposed garage design with 23 parking spaces would be sufficient. However, as seen in the attached turning radii drawings, larger vehicles may require multiple movements to park in the parking lifts for spaces P10-19. Since parking will be valet only, it is recommended that valet staff be trained to park in and operate the parking lifts. Additionally, since it is more difficult to park larger vehicles in the parking lifts located on the second aisle, valet staff should park smaller vehicles in spaces P10-19 first.

There would be two at-grade spaces within the site designated for short-term parking.

We appreciate the opportunity to provide this parking study. If you have any questions, please do not hesitate to call.

Sincerely,
HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gary K. Black
President

Table 1
Bay Area Hotels Parking Demand

	Holiday Inn Belmont		Fairfield Inn & Suites San Carlos		Hilton Garden Inn Mountain View		Sheraton Inn Sunnyvale		Courtyard Marriott Sunnyvale	
	Wed. 3/30/2016	Sat. 4/2/2016	Thurs. 4/7/2016	Sat. 4/9/2016	Thurs. 4/30/2015	Sat. 5/2/2015	Thurs. 4/30/2015	Sat. 5/2/2015	Thurs. 4/30/2015	Sat. 5/2/2015
Total Rooms	82	82	120	120	160	160	173	173	145	145
Occupied Rooms	65	68	82	69	155	156	125	164	82	144
Total Parking Spaces	77	77	112	112	153	153	283	283	127	127
Occupied Parking Spaces	39	55	66	88	115	125	88	146	55	107
Parking Demand Ratio	0.60	0.81	0.80	1.28	0.74	0.80	0.70	0.89	0.67	0.74

Table 1 (Continued)
Bay Area Hotels Parking Demand

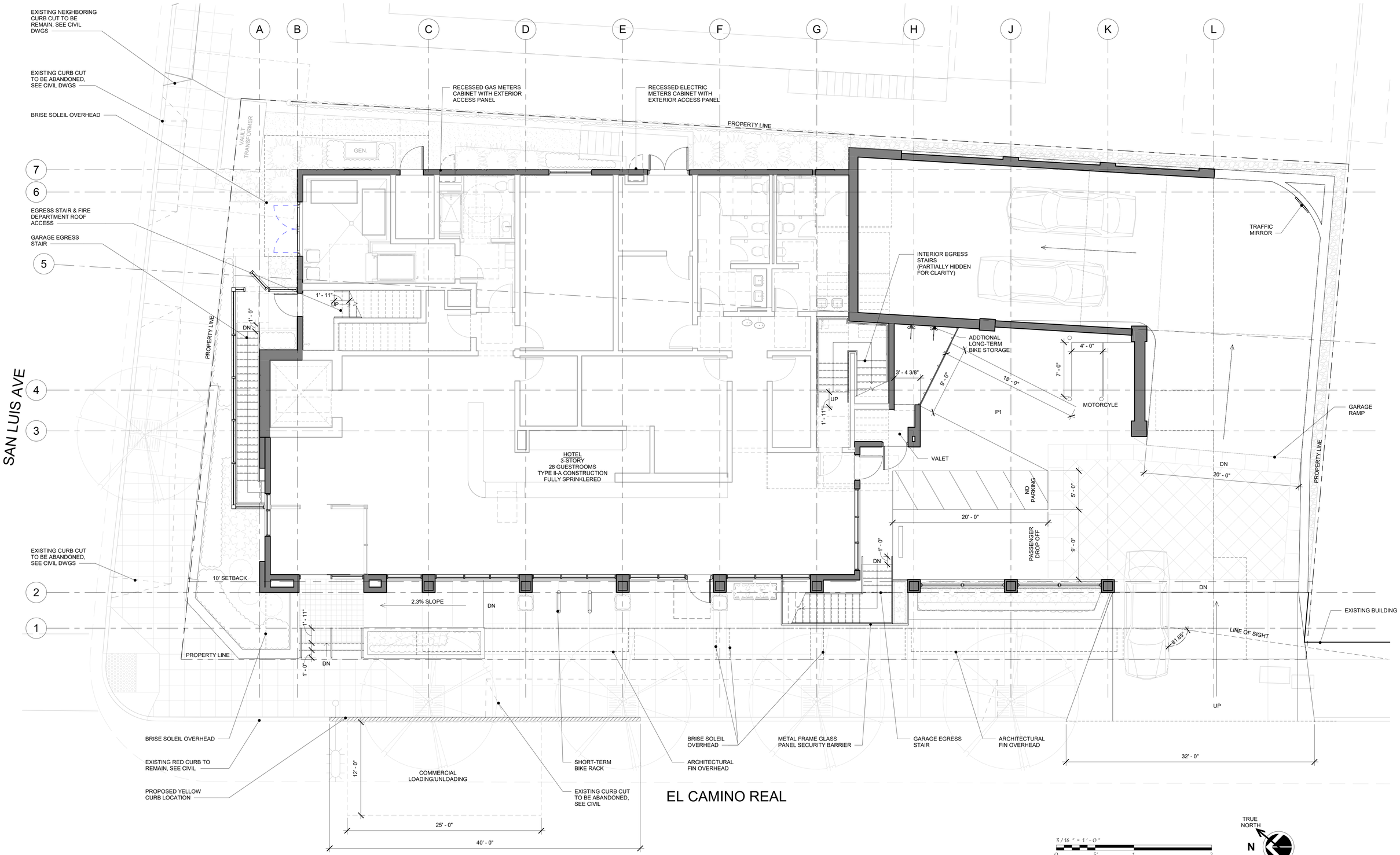
	Aloft Hotel Cupertino		Hotel Vue Mountain View	Average	ITE Average Parking Rate
	Wed. 6/11/2014	Sat. 6/14/2014	Wed. 1/9/2019		
Total Rooms	123	123	56	128	25
Occupied Rooms	123	121	48	108	n/a
Total Parking Spaces	n/a	n/a	56	142	n/a
Occupied Parking Spaces	76	67	20	81	21
Parking Demand Ratio	0.62	0.55	0.42	0.75	0.83

Table 2
ITE Hotel Parking Demand

Land Use	Size		Weekday Peak Parking Demand Rate	Weekday Peak Parking Demand Total
Proposed Use				
Hotel[1]	28	rooms	0.83	23

Notes:

[1] Hotel (Land Use 310) average rates published in ITE's Parking Generation Manual, 5th Edition.



SITE PLAN

A1

DOWELL

DOWELL GROUP INVESTMENT COMPANY

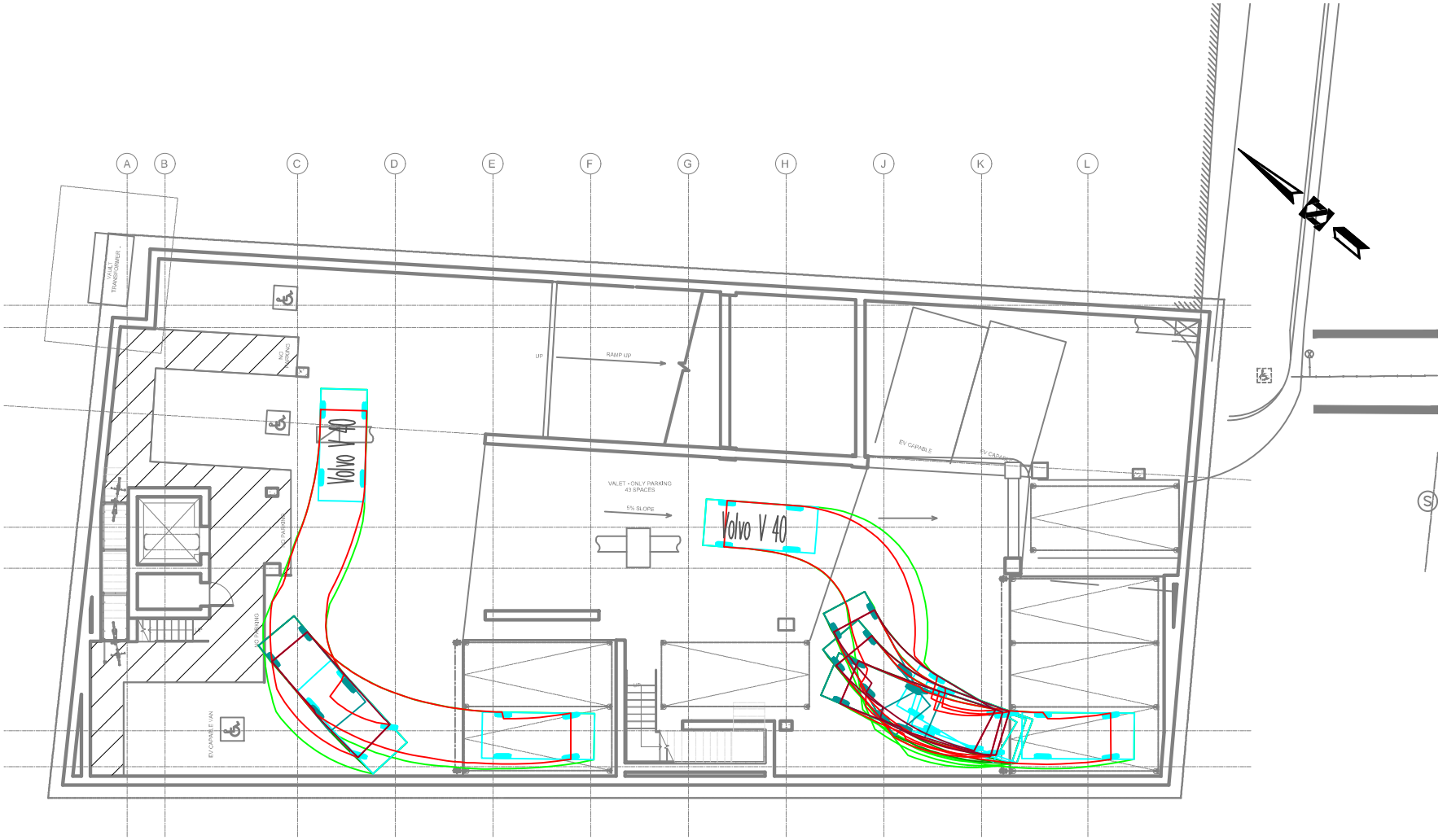
160 EL CAMINO REAL HOTEL SAN BRUNO, CALIFORNIA

PROGRESS DRAWINGS 10-08-20

PLANNING SUBMITTAL 03-09-18
REVISION 09-21-18
REVISION #2 03-26-20
REVISION #3 10-XX-20

17101

RYS ARCHITECTS

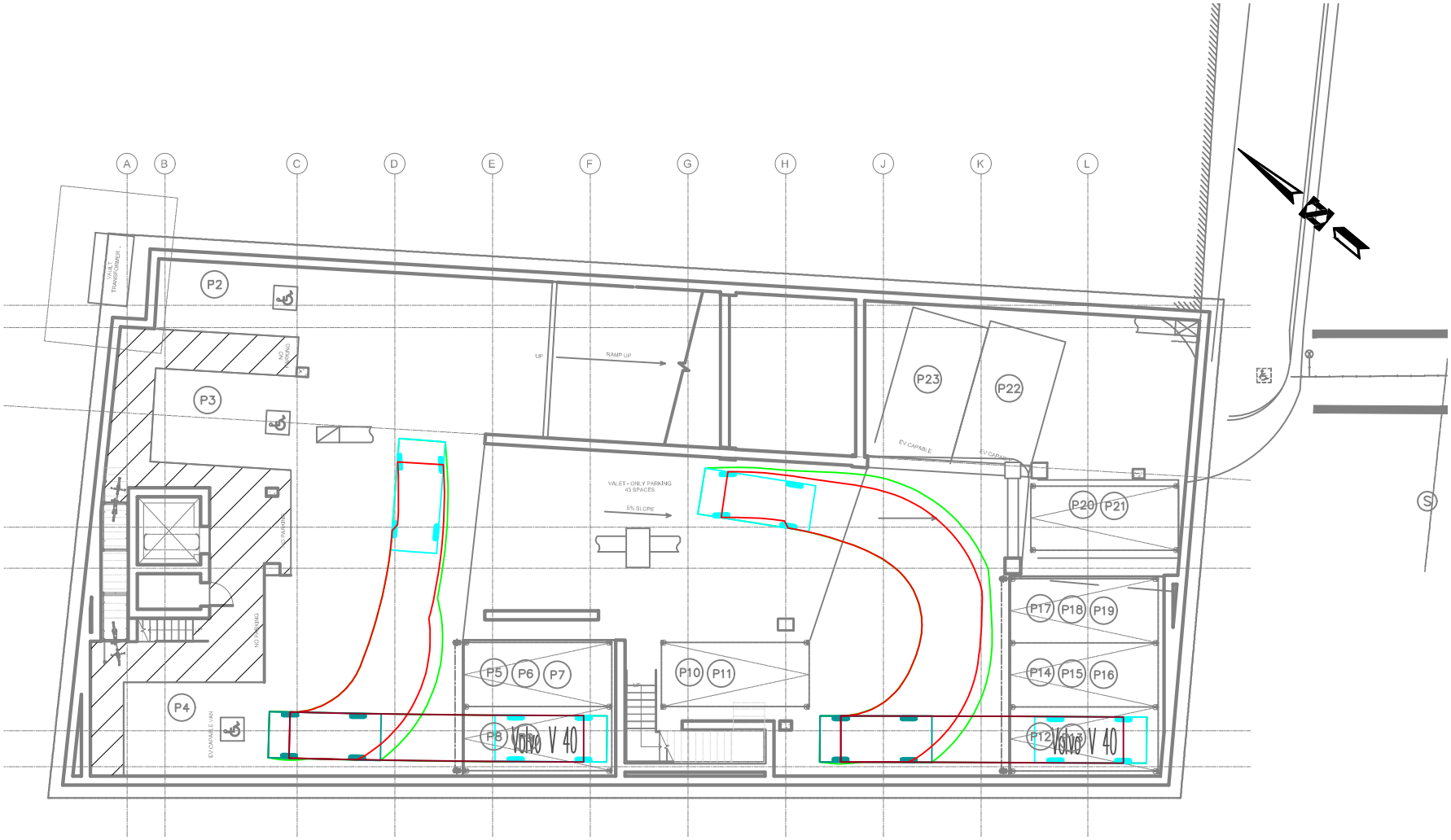


INBOUND SMALL VEHICLE

20 0 10 20 40

1 INCH = 20 FEET

DRAWN T. CHANG	SCALE 1" = 20'	HEXAGON TRANSPORTATION CONSULTANTS, INC. 4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com	**CITY OF SAN BRUNO**	DRAWING NO.
CHECKED ----	DATE 10/23/2020		160 EL CAMINO REAL TURNING TEMPLATE FOR GARAGE	



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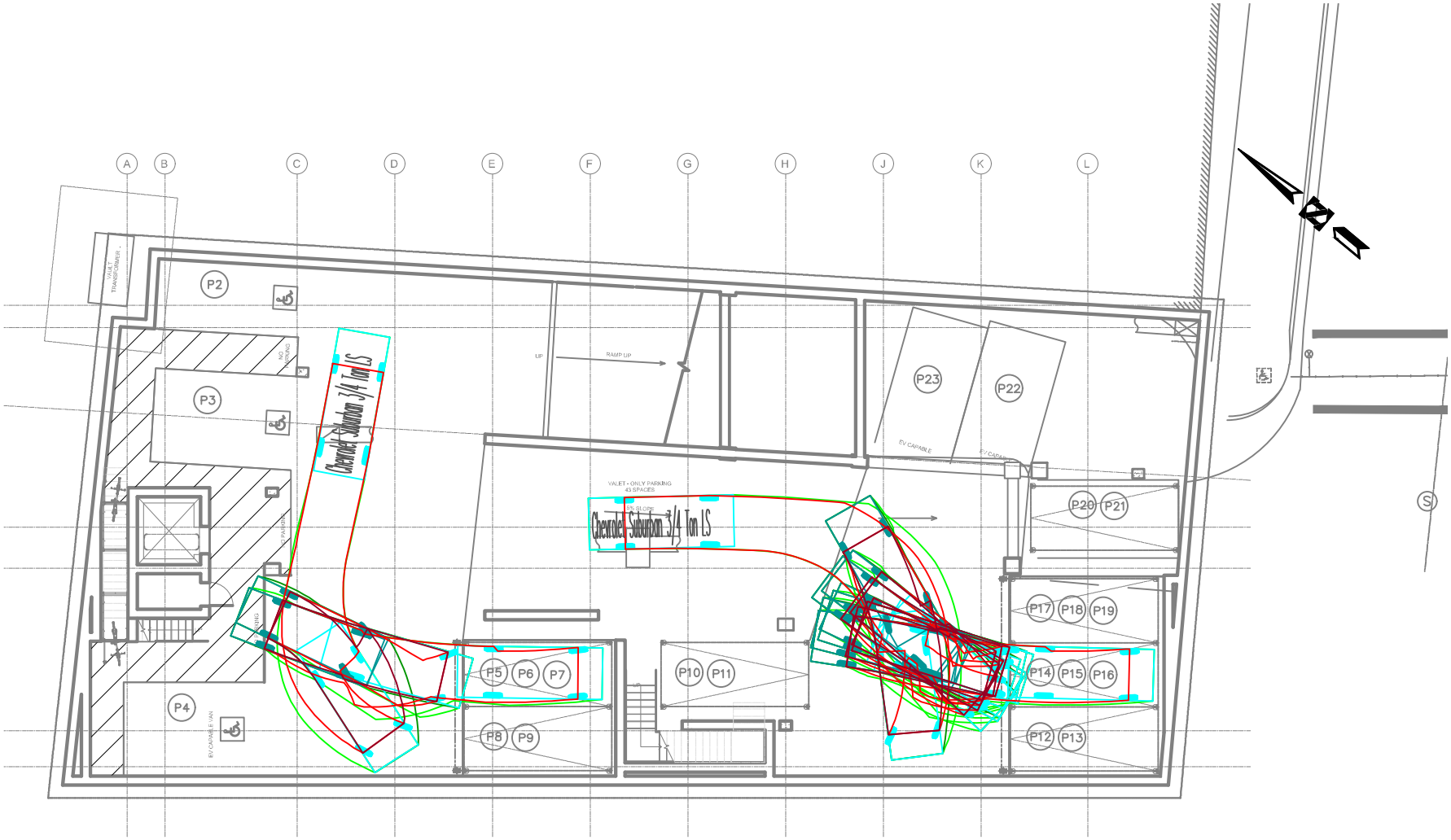

INBOUND LARGE VEHICLE

20 0 10 20 40

1 INCH = 20 FEET

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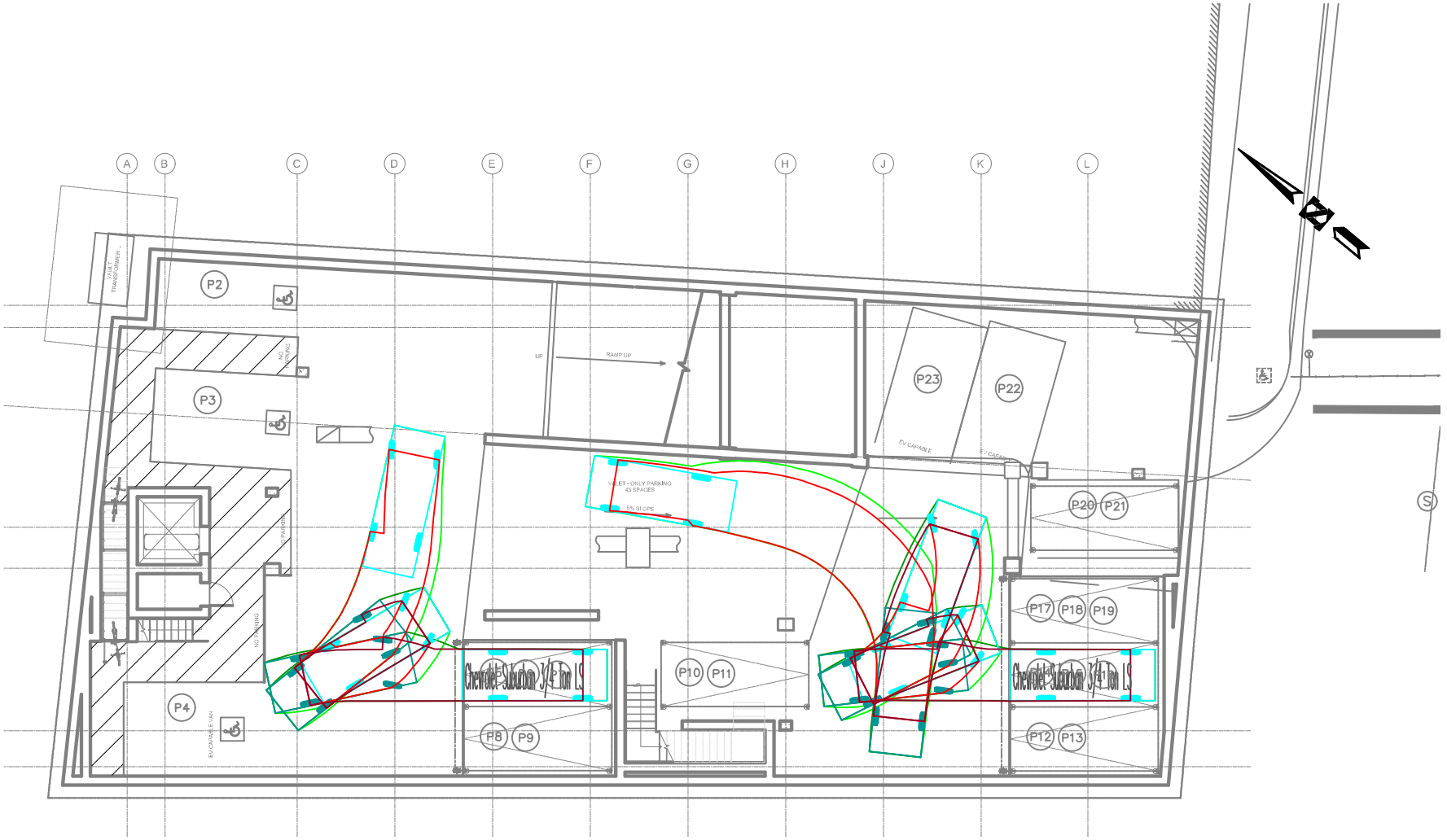

OUTBOUND LARGE VEHICLE

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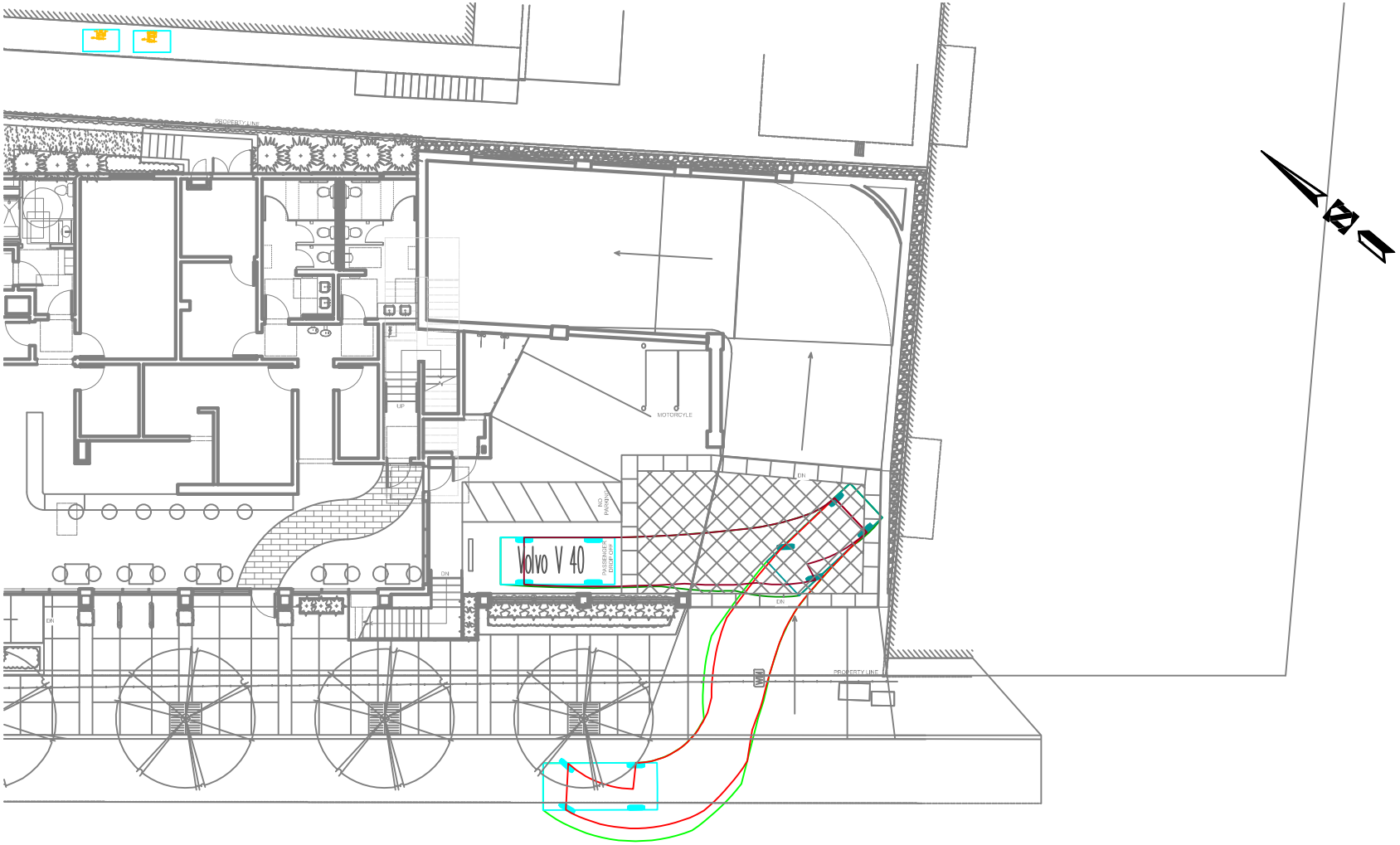

OUTBOUND SMALL VEHICLE AT PROJECT DRIVEWAY

20 0 10 20 40

1 INCH = 20 FEET

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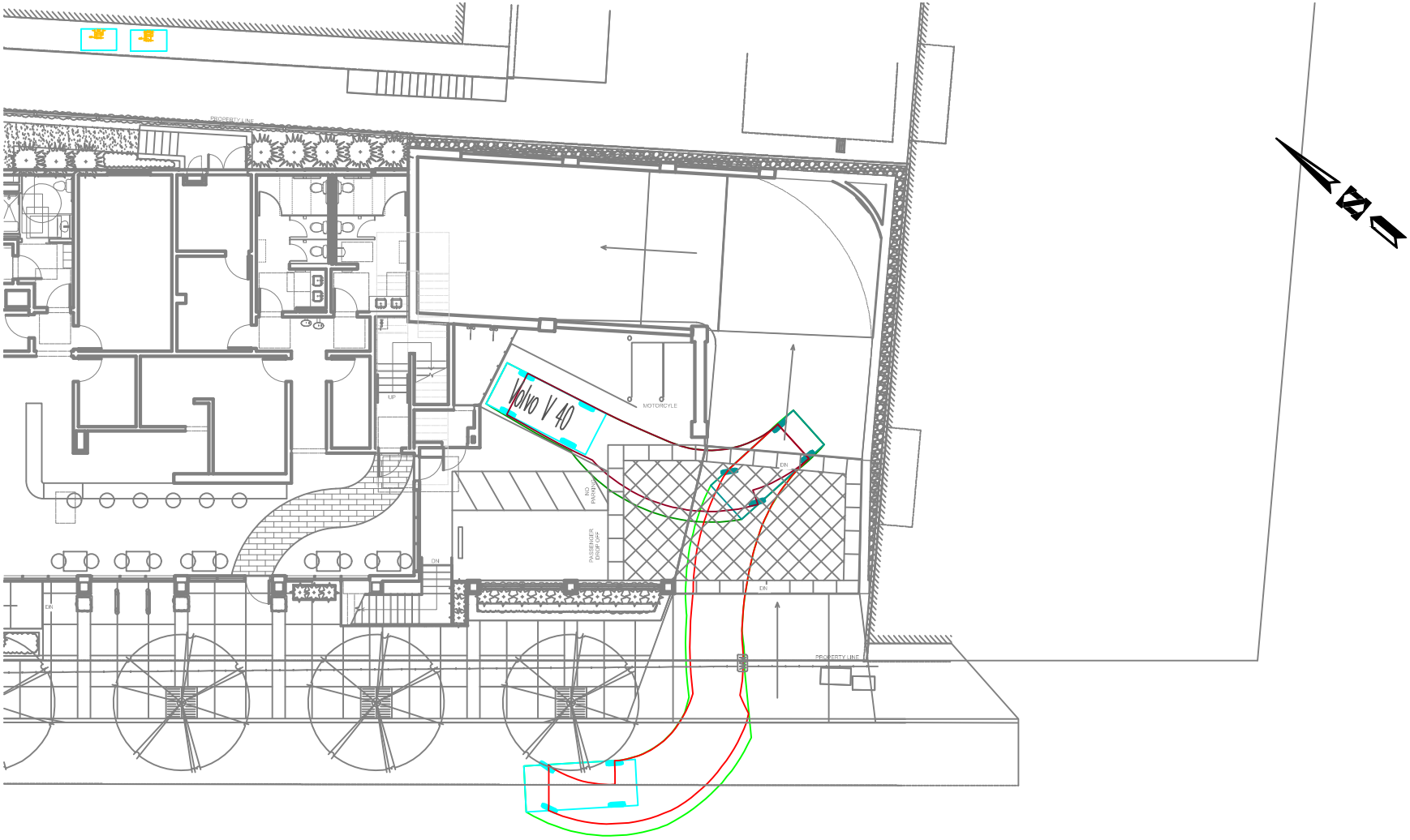

OUTBOUND SMALL VEHICLE AT PROJECT DRIVEWAY

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1 INCH = 20 FEET

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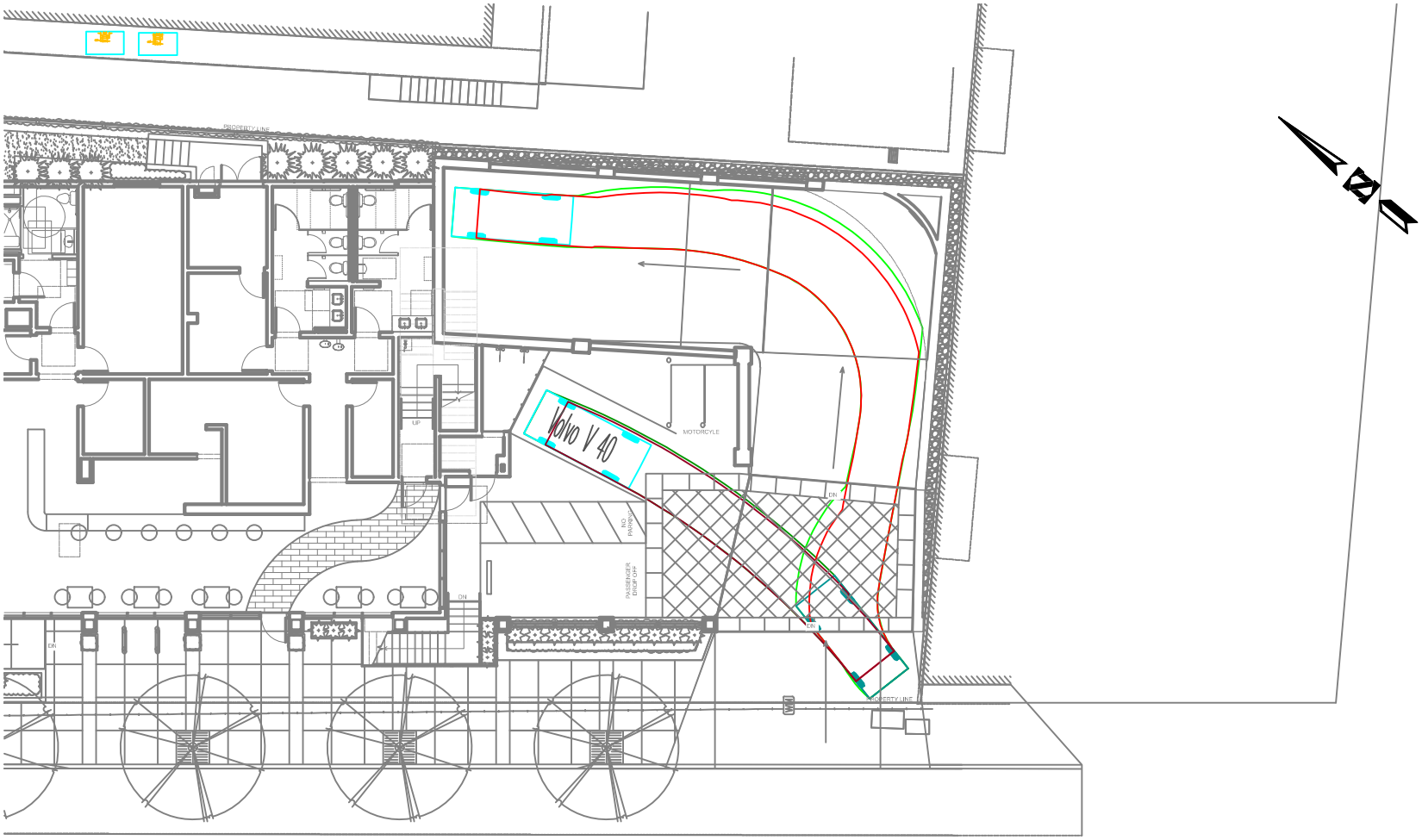

INBOUND SMALL VEHICLE FROM FIRST FLOOR TO GARAGE

20 0 10 20 40

1 INCH = 20 FEET

DRAWN T. CHANG	SCALE 1" = 20'	HEXAGON TRANSPORTATION CONSULTANTS, INC. 4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com	**CITY OF SAN BRUNO**	DRAWING NO.
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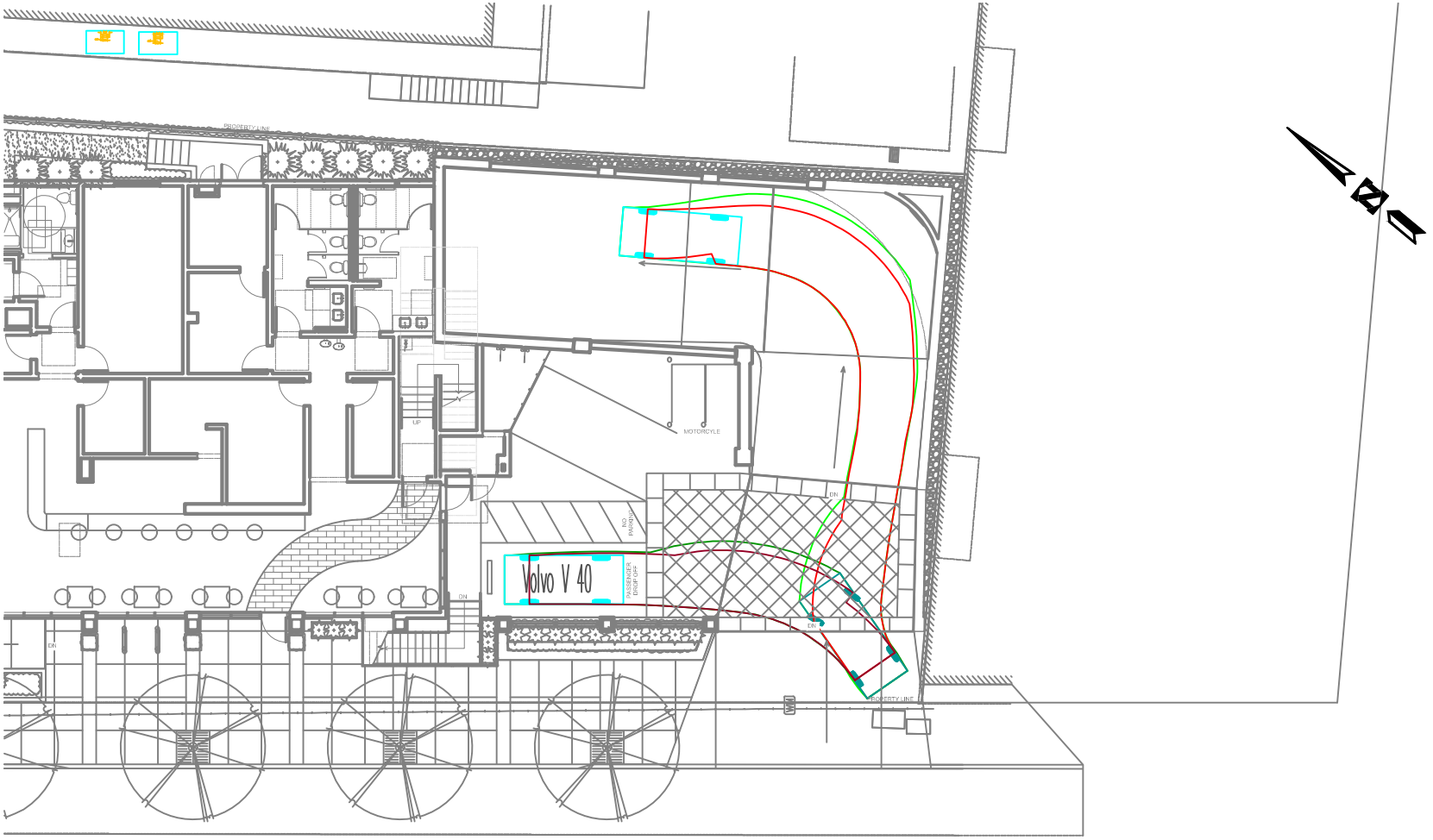

INBOUND SMALL VEHICLE FROM FIRST FLOOR TO GARAGE

20 0 10 20 40

1 INCH = 20 FEET

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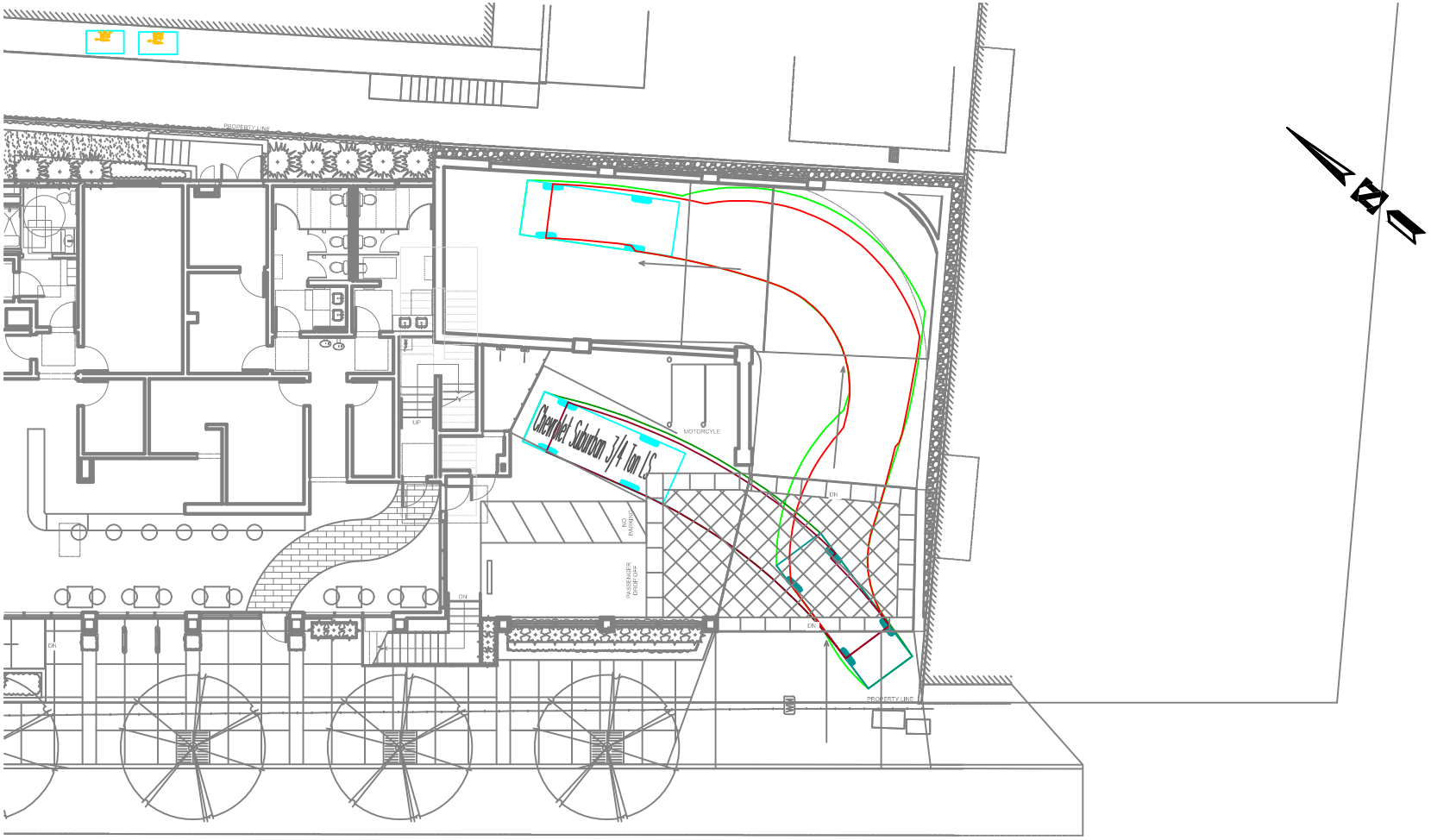

INBOUND LARGE VEHICLE FROM FIRST FLOOR TO GARAGE

20 0 10 20 40

1 INCH = 20 FEET

DRAWN T. CHANG	SCALE 1" = 20'	HEXAGON TRANSPORTATION CONSULTANTS, INC. 4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com	**CITY OF SAN BRUNO**	DRAWING NO.
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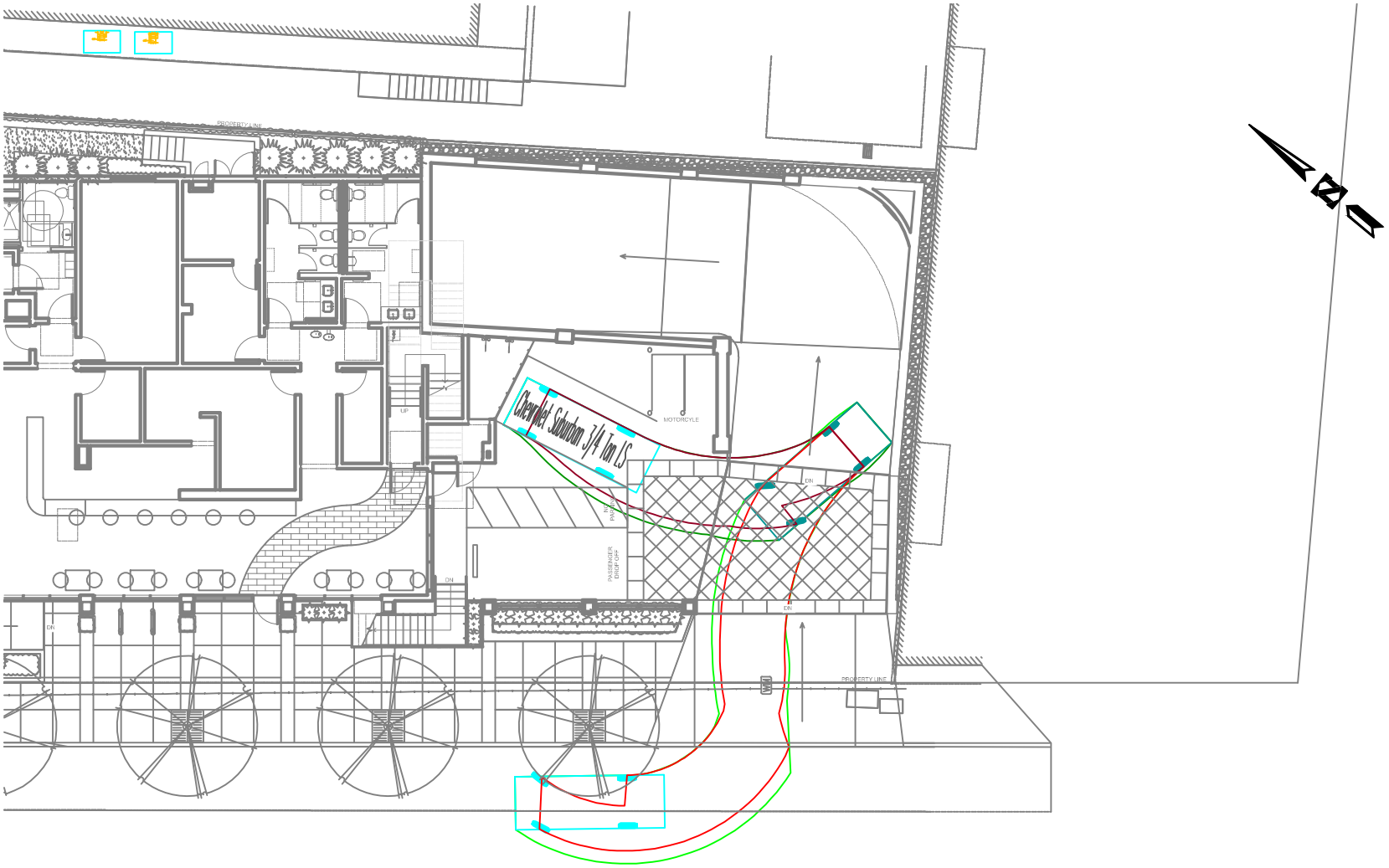

OUTBOUND LARGE VEHICLE AT PROJECT DRIVEWAY

20 0 10 20 40

1 INCH = 20 FEET

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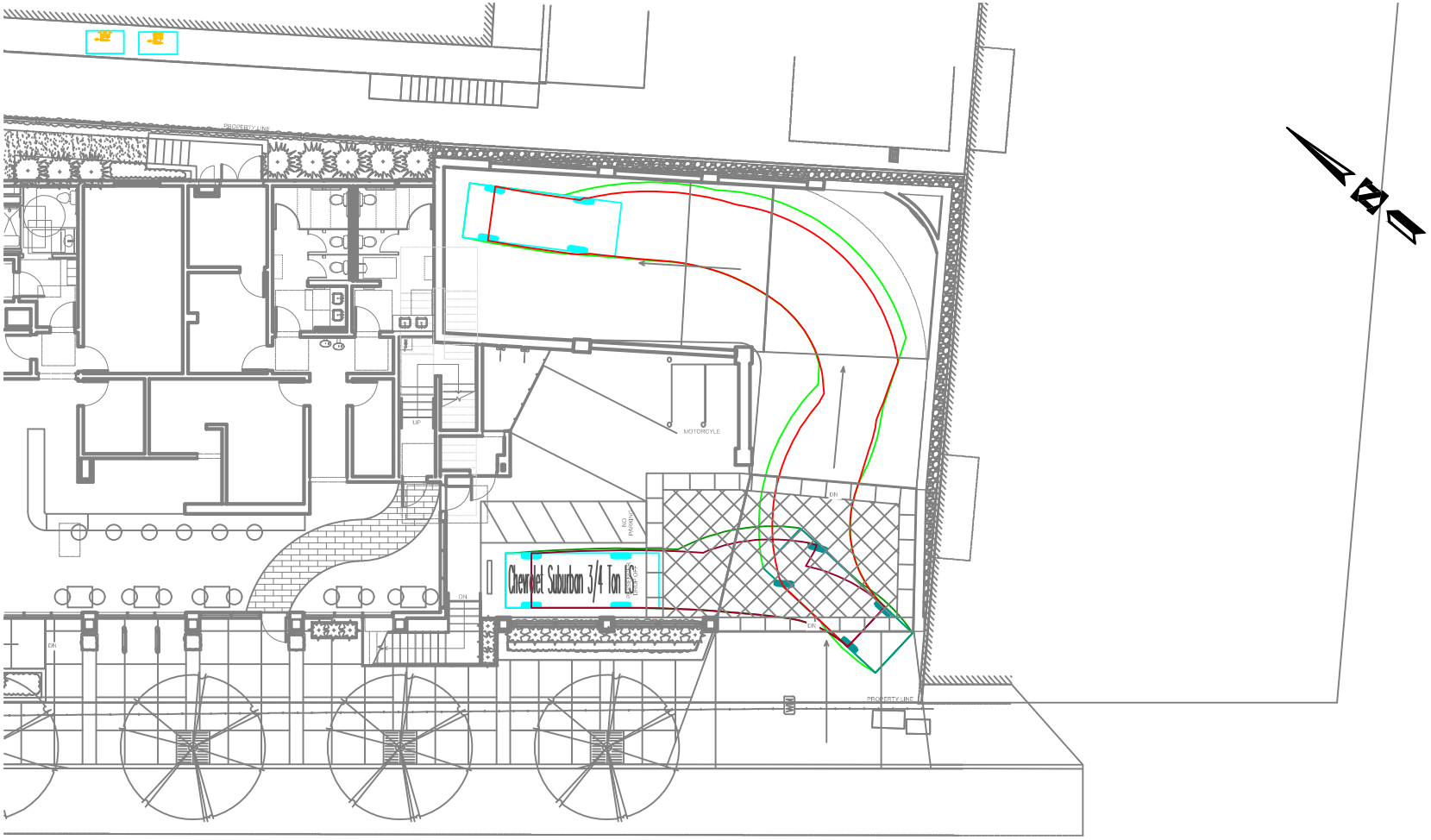

INBOUND LARGE VEHICLE FROM FIRST FLOOR TO GARAGE

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1 INCH = 20 FEET

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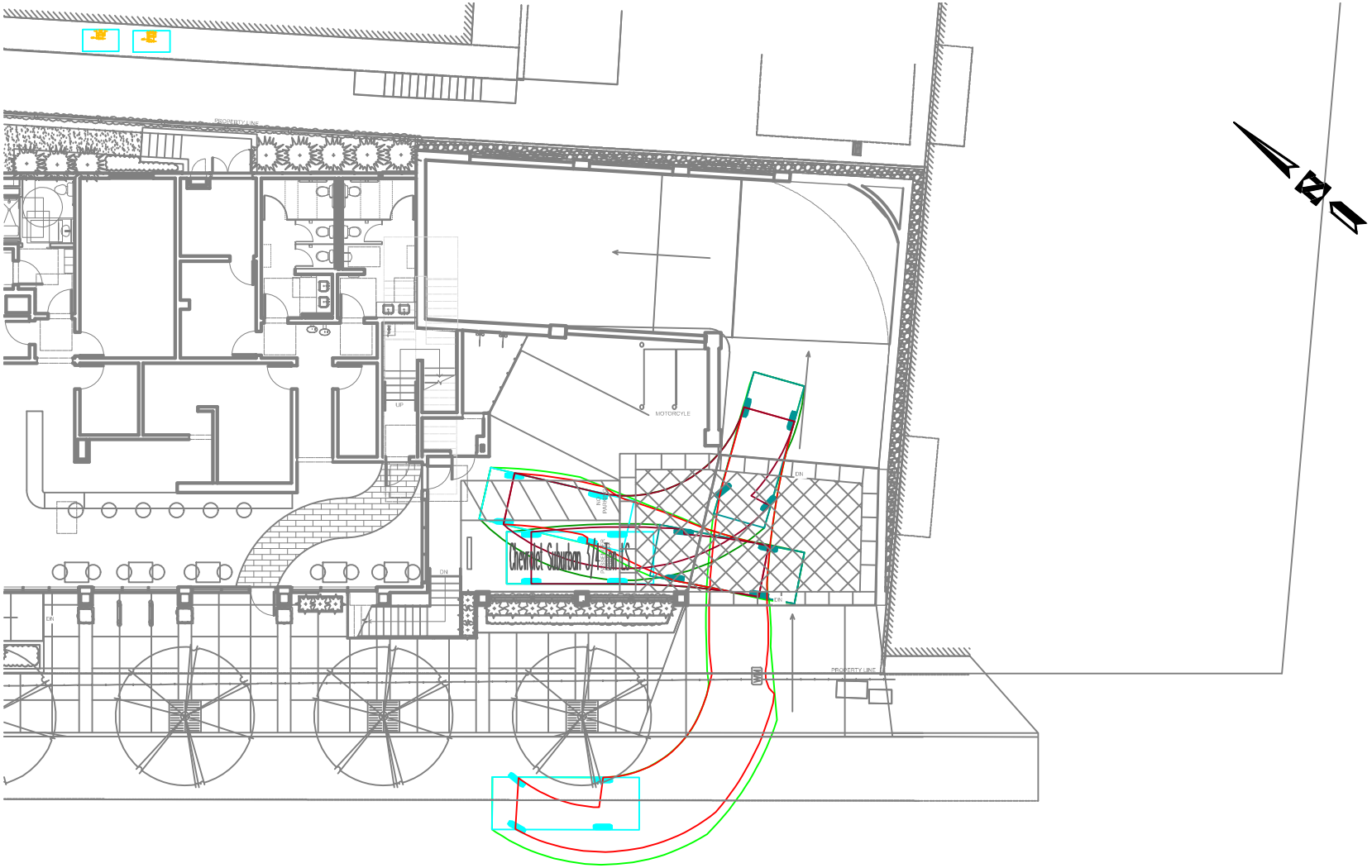

OUTBOUND LARGE VEHICLE AT PROJECT DRIVEWAY

20 0 10 20 40

1 INCH = 20 FEET

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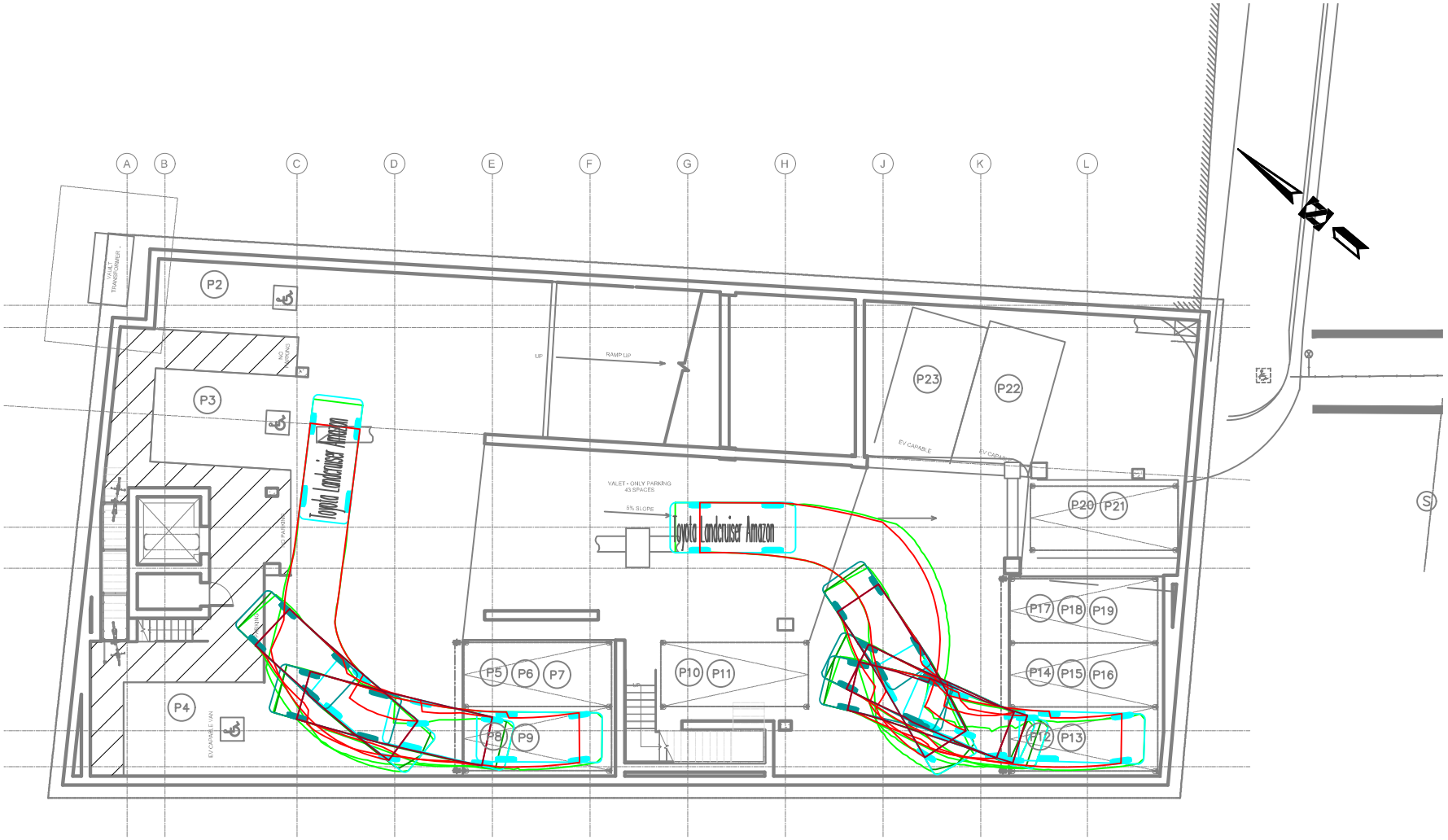
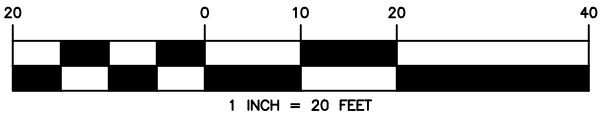


INBOUND MIDSIZE VEHICLE



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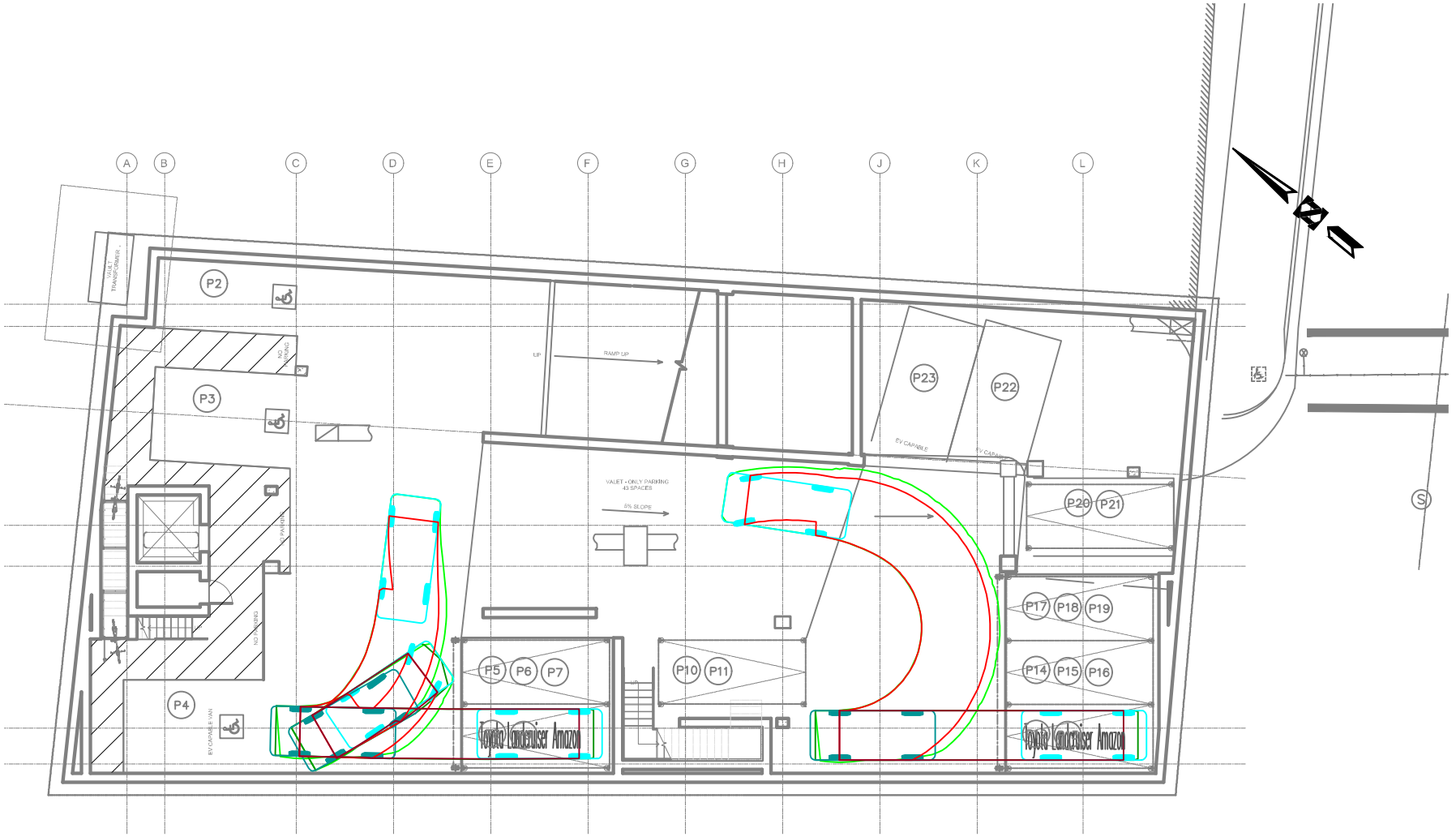

OUTBOUND MIDSIZE VEHICLE

20 0 10 20 40

1 INCH = 20 FEET

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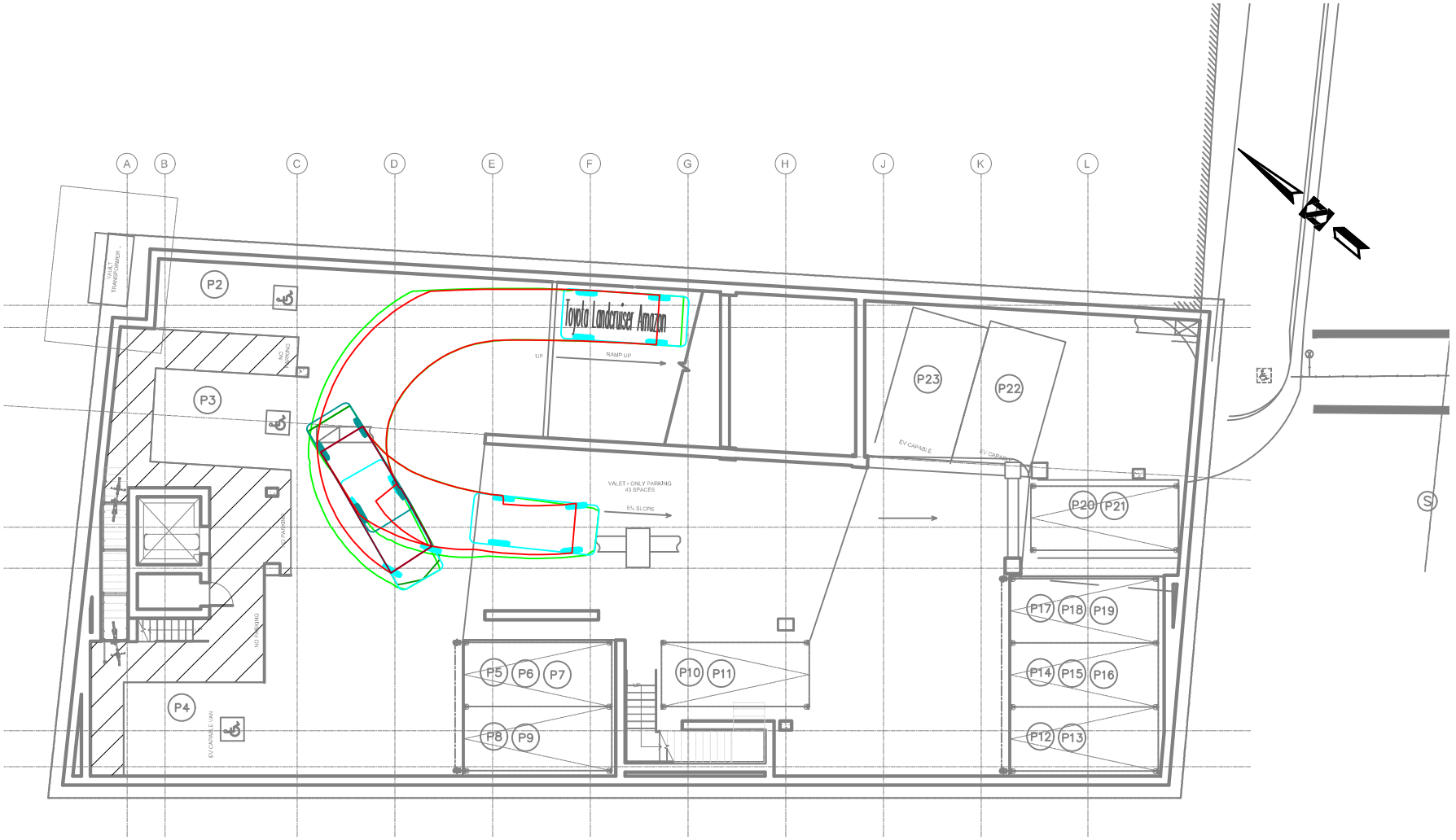

INBOUND MIDSIZE VEHICLE

20 0 10 20 40

1 INCH = 20 FEET

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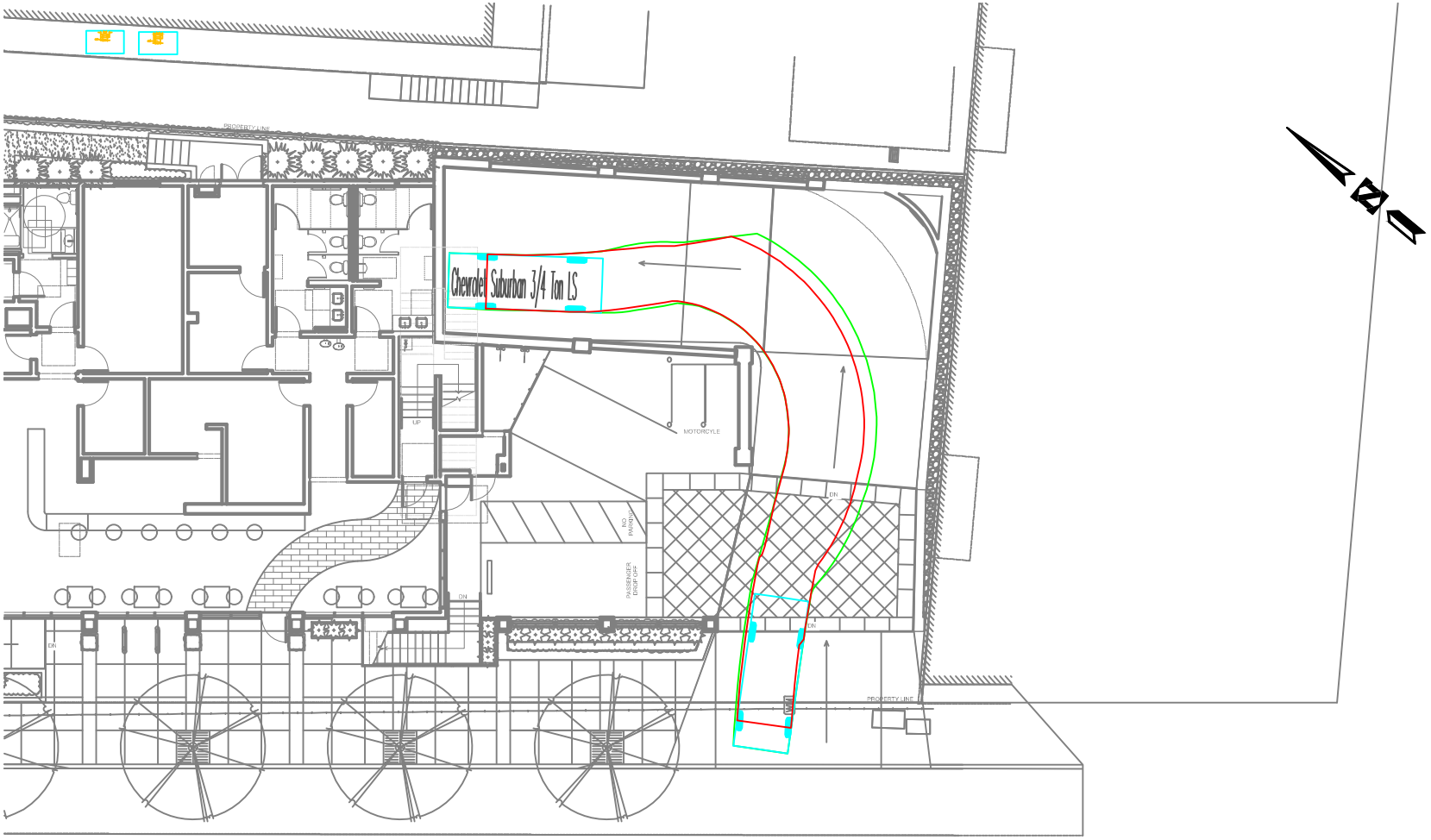

OUTBOUND LARGE VEHICLE FROM GARAGE TO FIRST FLOOR

20 0 10 20 40

1 INCH = 20 FEET

DRAWN T. CHANG	SCALE 1" = 20'	HEXAGON TRANSPORTATION CONSULTANTS, INC. 4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com	**CITY OF SAN BRUNO**	DRAWING NO.
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