APPENDIX C

TRANSPORTATION IMPACT ANALYSIS, PEER REVIEW, AND PARKING STUDY

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Carolan Avenue And Rollins Road Residential Development

Draft Traffic Impact Analysis Report

Prepared for:

SummerHill Apartment Communities

August 21, 2014

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Hexagon Job Number: 13GB60
Hexagon File Name: Carolan Avenue Residential – August 21, 2014.docx

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Executive Summary

This report presents the results of the project-level transportation impact analysis (TIA) for the proposed residential development at 1008-1028 Carolan Avenue and 1007-1025 Rollins Road in Burlingame, California. The project would consist of 268 apartments and 22 townhomes. The project would replace a number of automotive-related businesses that are currently in operation on the site. The 268 apartments would be constructed on the northern portion of the site, and the 22 townhomes would be constructed on the southern portion of the project site. Access to the proposed project would be provided via driveways on Rollins Road and Carolan Avenue.

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The impacts of the project were evaluated following the standards and methodologies set forth by the City of Burlingame, and the City/County Association of Governments (C/CAG) of San Mateo County, as described in the Congestion Management Program (CMP). The study includes an analysis of AM and PM peak-hour traffic conditions for eight signalized intersections and four unsignalized intersections in the City of Burlingame in the vicinity of the project.

Project Trip Generation

Trip Generation

AM and PM peak hour trip generation estimates for the proposed project are based on trip rates obtained from the Institute of Transportation Engineers' (ITE) publication *Trip Generation*, Ninth Edition, 2012 for Apartment (ITE Land Use 220) and Condominium/Townhouse (ITE Land Use 230). It is estimated that the proposed project will generate 151 AM peak hour trips and 182 PM peak hour trips on a regular weekday. Trips generated by existing uses were subtracted from the gross project trip generation estimates to determine the net trips that would be added to the roadway network. After applying this credit for trips generated by existing uses on site, the project is expected to generate a total of 92 net new trips during the AM peak hour and 100 net new trips during the PM peak hour period.

Project Impacts

Intersection Level of Service Analysis

The results of the intersection level of service analysis are shown in Table ES 1 and Table ES 2. The results of the intersection level of service analysis show that all signalized study intersections are expected to operate at acceptable levels under all scenarios according to standards set forth by the City of Burlingame, except for the intersection of California Drive and Broadway. This intersection currently operates at an unacceptable LOS E during the AM peak hour and would continue to operate at LOS E under baseline and

cumulative conditions. However, the project would add very little traffic to this intersection during the peak hours and consequently would not result in any significant impacts at this intersection. Therefore, the project is considered to have a less than significant impact on all the signalized study intersections.

The unsignalized intersection of Carolan Avenue and Oak Grove Avenue was analyzed in great detail. This intersection has three-way stop control with the eastbound movement uncontrolled. The *Highway Capacity Manual,* which is the basis for defining traffic methodologies and levels of service, does not speak to three-way stop controlled situations. There is a methodology for two-way stop intersections, which bases LOS on the worst movement. There is a methodology for all-way stop intersections, which bases LOS on an average of all movements. The Peninsula Corridor Electrification Project (PCEP) EIR used the two-way stop criterion and evaluated the worst movement. This intersection operates with long delays on Carolan Avenue during a portion of the AM peak hour due to traffic generated by the adjacent high school. Consequently the PCEP EIR showed this intersection operating at LOS F under existing conditions. The railroad electrification project was found to create a significant impact at this intersection. The EIR analyzed a potential traffic signal as a mitigation measure. However, signalization of the Carolan/Oak Grove intersection would result in secondary impacts at the intersection of California Drive and Oak Grove Avenue. Therefore, a traffic signal was not recommended.

Hexagon consulted with Burlingame staff and the author of the PCEP EIR, and it was determined that a better way to characterize this intersection is to look at the weighted average delay of all movements and to consider that the high school congestion lasts for only about 20 minutes out of the AM peak hour. Based on these criteria, the intersection operates at LOS B under existing conditions and would operate at LOS D or better under background and cumulative conditions with the project. Therefore, the project is found to have a less than significant impact at the Carolan & Oak Grove intersection. Also, as a practical matter, it is unlikely that project traffic would choose to travel through the Carolan & Oak Grove intersection during the high school drop-off period. Project traffic would either travel earlier or later or would use alternate routes, such as Rollins Road or California Drive.

Other Transportation Issues

Transit Service, Pedestrian and Bicycle Facilities

Transit service in the project vicinity is provided by Caltrain, Samtrans, and BART (via shuttle service to the Millbrae BART station). Currently only weekend (Saturday and Sunday) service is provided at the Broadway Caltrain station. Free shuttle service to the nearby Millbrae station is provided during weekdays. With the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, weekday service at the Broadway station is expected to be restored. The PCEP is expected to increase service so that there could be as high as six Caltrain trains per peak hour per direction by 2019. With the proposed electrification project, it is expected that the transit ridership at the Broadway station will increase. Given the nearby Caltrain station, development of the Carolan Avenue residential project would result in new transit riders, thus reducing vehicle trips. It is estimated that the project vehicle trips would be reduced by 9% (research shows 9% train mode split versus 3% if only bus service) with the Caltrain service restored at the Broadway station. The existing and planned transit facilities would be adequate to serve the estimated project transit demand. Therefore, the impacts associated with the addition of project transit demand would be less than significant.

Pedestrian traffic primarily would be generated by residents of the project walking to and from the transit stops and nearby schools and businesses. Most of the roadways in the vicinity of the project site currently have sidewalks on both sides of the street. Rollins Road has sidewalks only on the west side of the road. The project would construct sidewalks along its frontage on Carolan Avenue and Rollins Road. Crosswalks with pedestrian signal heads and push buttons are present at all signalized intersections in the study area. The unsignalized intersection of Oak Grove Avenue/Carolan Avenue has painted crosswalks on the north, south and east legs.

The Burlingame Bicycle Route Map (City of Burlingame 2008) identifies Bayshore Highway, Airport Boulevard, Broadway (east of California Drive), Rollins Road (north of Broadway), and California Drive as official bike routes. As part of the “Complete Streets” Improvement Project, the City is planning to construct

class II bike lanes in both directions on Carolan Avenue between Broadway and Oak Grove Avenue. On the east side of Burlingame, Airport Boulevard has a shared sidewalk and bike path (the Bay Trail). Bayshore Highway has bike lanes between Airport Boulevard and the intersection with the /US 101 northbound on and off-ramps. The bicycle demand created by the proposed project could be accommodated by the existing and planned bicycle facilities in the area.

Site Access and Circulation

This review is based on the site plan dated June 13, 2014 prepared by Seidel Architects (see Figures 12A, 12B and 12C). Vehicular access to the project will be provided via driveways on Rollins Road and Carolan Avenue. Parking for the apartments is proposed under the buildings in two levels. Vehicles will be able to access the parking garage via one driveway on Rollins Road and one driveway on Carolan Avenue. There will be a second entrance located on Carolan Avenue, just south of the garage entrance that will connect to a paved turn-around arrival court that accesses the lobby area. Loading and unloading for the apartments will occur in the arrival court. A 20 foot emergency access road with a 6 foot wide pedestrian walkway will connect the arrival court to Rollins Road. This emergency access road will be bollarded at Rollins Road and will be restricted to emergency vehicles and pedestrian use. The townhomes will be served by a separate gated 20-foot private lane that will be constructed to the south of the main entry way on the southern boundary of the site. Vehicles will be able to access the townhomes via both Carolan Avenue and Rollins Road.

The parking lot design for the upper and lower garages allows for efficient flow of traffic with 90 degree parking stalls. The parking aisles are shown to be 24 feet wide which is adequate for two-way circulation of traffic.

The City's proposed "Complete Streets" Improvement Project on Carolan Avenue is expected to be completed before the occupancy of the proposed Carolan Avenue residential project. We understand that Carolan Avenue will be reconfigured to consist of two lanes, with one lane in each direction and a center-turn lane. Driveway operations on Carolan Avenue are expected to improve with the implementation of the "Complete Streets" Improvement Project. With the proposed center-turn lane on Carolan Avenue, vehicles exiting the project can turn left into the turn-lane on Carolan Avenue before merging into the southbound traffic on Carolan Avenue. Also vehicles turning left into the parking garage from southbound Carolan Avenue can wait in the center turn-lane to find gaps in the northbound traffic on Carolan Avenue without impeding the through traffic.

Sight Distance

According to the site plan, the project driveways would be free and clear of any obstructions, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on Carolan Avenue and Rollins Road. The parking garage grade transition and ramp break are flat to allow a level exit approach onto Carolan Avenue for maximum visibility.

Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection, and provides drivers with the ability to exit a driveway or locate sufficient gaps in traffic. Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. For driveways on Carolan Avenue and Rollins Road, which have a posted speed limit of 35 mph, the Caltrans stopping sight distance is 300 feet (based on a design speed of 40 mph). Thus, a driver must be able to see 300 feet down Carolan Avenue and Rollins Road in order to stop and avoid a collision. Adequate sight distance would be provided at the project driveways.

Parking

Based on the City of Burlingame Municipal Code requirements, the proposed project should provide a total of 466 parking spaces for the apartments and 55 parking spaces for the townhomes.

The site plan shows a total of 466 parking spaces provided for the apartments and 58 parking spaces provided for the townhomes on site. According to the site plan, a total of 462 parking spaces will be provided for the apartments in the parking garage. All parking in the garage will be gated except for 27 parking spaces

in the upper garage that can be used by short-term visitors. In addition to the parking provided in the garage, 4 parking spaces will be provided at grade for short-term visitors to the apartments, which can be accessed via the secondary entryway on Carolan Avenue.

The 22 townhomes will each have an attached garage, with 2 car garages for 14 townhomes, and 3 car garages for 8 townhomes that can accommodate a total of 52 vehicles on site. In addition, 6 parking spaces will be provided at grade for short-term visitors to the townhomes, accessed via the secondary entryway on Carolan Avenue. A total of 58 parking spaces will be provided for the townhomes.

Guests to the apartments and the townhomes can either use the at-grade parking spaces provided at the secondary entryway on Carolan Avenue or use the guest parking spaces provided in the upper parking garage.

The site plan for the proposed project shows a bike repair/storage room that can accommodate 134 bicycles in the lower garage.

Table ES- 1
Intersection Level of Service Summary – Signalized Intersections

				Existing		Existing With Interchange Improvements				Cumulative (Year 2020) Conditions				
						No Project		With Project		No Project		With Project		
#	Study Intersection	Peak Hour	Count Date	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Incr. In Avg. Delay	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Incr. In Avg. Delay
1	US 101 NB Ramps & Bayshore Hwy.	AM	11/19/13	14.9	B	19.0	B	19.1	B	0.1	20.8	C	21.1	C	0.3
		PM	11/19/13	10.9	B	19.7	B	20.0	B	0.3	22.5	C	22.9	C	0.4
2	Broadway/Airport Blvd. & Bayshore Hwy.	AM	11/19/13	17.2	B	10.3	B	10.3	B	0.0	10.8	B	10.9	B	0.1
		PM	11/19/13	11.0	B	12.2	B	12.2	B	0.0	12.6	B	12.6	B	0.0
3	US 101 SB Ramps & Broadway[2]	AM	11/19/13	0.0	A	22.7	C	22.7	C	0.0	23.5	C	23.5	C	0.0
		PM	11/19/13	0.0	A	26.1	C	26.2	C	0.1	27.4	C	27.5	C	0.1
4	Rollins Rd. & Broadway	AM	11/19/13	37.0	D	32.6	C	33.9	C	1.3	33.3	C	34.6	C	1.3
		PM	11/19/13	40.4	D	34.7	C	34.7	C	0.0	35.7	D	35.7	D	0.0
5	Rollins Rd. & Cadillac Way	AM	11/19/13	37.3	D	18.9	B	18.3	B	-0.6	19.2	B	18.7	B	-0.5
		PM	11/19/13	38.3	D	8.5	A	8.3	A	-0.2	8.7	A	8.6	A	-0.1
7	Carolan Ave. & Broadway	AM	11/19/13	29.7	C	29.7	C	30.1	C	0.4	31.5	C	31.9	C	0.4
		PM	11/19/13	42.1	D	42.1	D	42.6	D	0.5	44.3	D	44.9	D	0.6
9	California Dr. & Broadway	AM	11/19/13	**60.2**	**E**	**60.2**	**E**	**60.3**	**E**	0.1	**66.0**	**E**	**66.1**	**E**	0.1
		PM	11/19/13	52.8	D	52.8	D	52.9	D	0.1	**62.1**	**E**	**62.4**	**E**	0.3
12	California Ave. & Oak Grove Ave.	AM	11/19/13	34.6	C	34.6	C	34.9	C	0.3	52.1	D	53.1	D	1.0
		PM	11/19/13	25.0	C	25.0	C	25.4	C	0.4	32.7	C	33.0	C	0.3

Notes:
[1] Delay shown for the signalized intersections is the weighted average control delay for all turning movements approaching the intersection.
[2] Currently this intersection is uncontrolled with no conflicting traffic movements. With the proposed US 101/Broadway Interchange improvements, this intersection will be signalized.
BOLD font indicates unacceptable LOS.

Table ES- 2
Intersection Level of Service Summary – Unsignalized Intersections

				Existing		Existing With Interchange Improvements				Cumulative (Year 2020) Conditions				
						No Project		With Project			No Project		With Project	
#	Study Intersection	Peak Hour	Count Date	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Added Vehicles [3]	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Added Vehicles [3]
6	Rollins Rd. & Toyon Dr. (One-way stop)	AM	11/19/13	13.2	B	13.2	B	13.2	B	3	13.9	B	13.9	B	3
		PM	11/19/13	15.9	C	15.9	C	16.0	C	3	17.9	C	18.0	C	3
8	Carolan Ave. & Cadillac Way (One-way stop)	AM	11/19/13	20.6	C	20.6	C	21.5	C	25	24.2	C	25.5	D	25
		PM	11/19/13	17.5	C	17.5	C	18.0	C	27	21.7	C	22.5	C	27
10	Chula Vista Ave. & Broadway (Two-way stop)	AM	11/19/13	14.1	B	14.1	B	14.2	B	10	15.1	C	15.2	C	10
		PM	11/19/13	15.2	C	15.2	C	15.4	C	10	17.5	C	17.6	C	10
11	Carolan Ave. & Oak Grove Ave. (Three-way stop)[2]	AM	11/19/13	14.7	B	14.7	B	15.0	B	23	17.0	C	17.2	C	23
		PM	11/19/13	11.8	B	11.8	B	12.2	B	25	23.8	C	26.1	D	25

Notes:

[1] Delay shown for one-way and two-way stop controlled unsignalized intersections is the worst delay experienced by vehicles on the minor street approach and the delay shown for all-way stop controlled intersections is the average delay per vehicle of all vehicles approaching the intersection.

[2] Due to the limits of the software, this intersection was analyzed as an all-way stop. Delay shown is the weighted average delay for all turning movements approaching the intersection.

[3] The number of vehicles the project adds to the intersection.

1. Introduction

This report presents the results of the project-level transportation impact analysis (TIA) for the proposed residential development at 1008-1028 Carolan Avenue and 1007-1025 Rollins Road in Burlingame, California. The project would consist of 268 apartments and 22 townhomes. The project would replace a number of automotive-related businesses that are currently in operation on the site. The 268 apartments would be constructed on the northern portion of the site, and the 22 townhomes would be constructed on the southern portion of the project site. Access to the proposed project would be provided via driveways on Rollins Road and Carolan Avenue.

Scope of Study

This study was conducted for the purpose of identifying the potential transportation impacts related to the proposed development. The impacts of the project were evaluated following the standards and methodologies set forth by the City of Burlingame, and the City/County Association of Governments (C/CAG) of San Mateo County, as described in the Congestion Management Program (CMP). The study includes an analysis of AM and PM peak-hour traffic conditions for eight signalized intersections and four unsignalized intersections in the City of Burlingame in the vicinity of the project. The study intersections are identified below.

Study Intersections

1. US 101 NB Ramps & Bayshore Highway
2. Broadway/Airport Boulevard & Bayshore Highway
3. US 101 SB Ramps & Broadway
4. Rollins Road & Broadway
5. Rollins Road & Cadillac Way
6. Rollins Road & Toyon Drive (unsignalized)
7. Carolan Avenue & Broadway
8. Carolan Avenue & Cadillac Way (unsignalized)
9. California Drive & Broadway
10. Chula Vista Avenue & Broadway (unsignalized)
11. Carolan Avenue & Oak Grove Avenue (unsignalized)
12. California Drive & Oak Grove Avenue

Some of these intersections will be modified with the US 101/Broadway interchange reconstruction, which will be started in 2014 and completed before the Carolan Avenue residential project is occupied. Therefore, this study assumes that the US 101/Broadway interchange will be reconstructed and fully operational before the

project is completed and occupied. Also, the City of Burlingame is planning to implement the "Complete Streets" Improvement Project on Carolan Avenue, which also will be completed prior to occupancy of the residential project.

Traffic conditions at the intersections were analyzed for the weekday AM and PM peak hours of traffic. The AM peak hour of traffic is generally between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average weekday.

Traffic conditions were evaluated for the following scenarios:

1. ***Existing Conditions.*** Existing traffic volumes are based on new traffic counts conducted in November 2013.

2. ***Baseline Conditions.*** This condition analyzes traffic volumes that will exist with the completion of the US 101/Broadway interchange improvements and the Carolan Avenue Complete Streets project. Some of the study intersections will be reconfigured with these projects prior to occupancy of the residential project. A baseline scenario that reassigns existing traffic to the new interchange configuration was prepared.

3. ***Baseline Plus Project Conditions.*** Traffic volumes with the project (hereafter called *project traffic volumes*) were estimated by adding trips generated by the proposed residential project to the baseline conditions. Project generated traffic was estimated using the vehicular trip generation rates recommended by the Institute of Transportation Engineers manual entitled *Trip Generation, 9th Edition*. Existing traffic generated by the automobile related businesses on site was subtracted from the project traffic volumes.

4. ***Cumulative (2020) No Project Conditions.*** Year 2020 traffic projections are based on the Year 2020 cumulative volumes presented in the Peninsula Corridor Electrification Project (PCEP) Environmental Impact Report (EIR) which assumes that the railroad corridor will be electrified by Year 2020.

5. ***Cumulative (2020) With Project Conditions.*** Cumulative traffic volumes with the project were estimated by adding trips generated by the proposed residential project to the cumulative no project volumes.

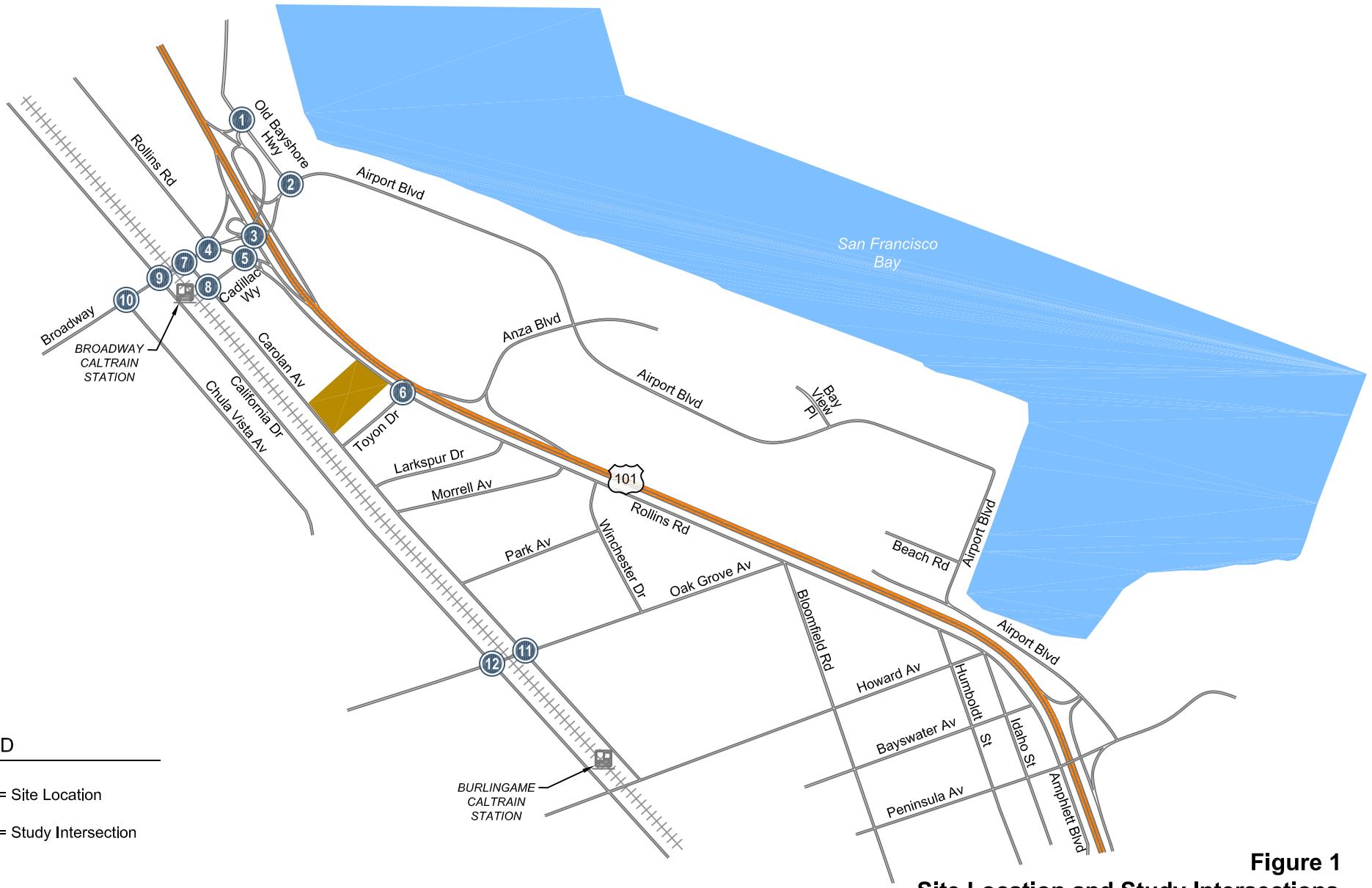


Figure 1
Site Location and Study Intersections

NORTH
Not to Scale

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 November 2013 traffic counts, field observations, previous traffic studies, the City of Burlingame, and the C/CAG model. The following data were collected from these sources:

- existing traffic volumes
- lane configurations
- signal timing and phasing, and
- year 2020 traffic forecasts

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

The City of Burlingame evaluates level of service at signalized intersections based on the *2000 Highway Capacity Manual* (HCM) level of service methodology. This method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. While the City of Burlingame does not have a Council-adopted level of service threshold, a standard of LOS D or better has typically been applied in traffic studies and EIRs. Table 1 shows the level of service definitions for signalized intersections. For intersections on Broadway and Oak Grove Avenue that are directly adjacent to the Caltrain tracks, the additional delay incurred due to gate down times have been accounted for in the average delay and LOS calculations. The gate down time was accounted for by adjusting the loss time inputs for intersections adjacent to the tracks. The signalized intersection of Broadway/Rollins Road/US 101 SB Ramps intersection currently operates as a five legged intersection. Due to the limits of the software, the traffic volumes on the east leg and the northeast leg were combined, and the intersection was analyzed as a four legged intersection under existing conditions.

Unsignalized Intersections

There are four unsignalized study intersections in the project vicinity. While the City of Burlingame does not have a Council-adopted level of service threshold, a standard of LOS D or better has typically been applied in traffic studies. Table 2 shows the level of service definitions for unsignalized intersections.

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes existing conditions for the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 describes traffic conditions that would exist under baseline conditions with the US 101/Broadway interchange improvements. Chapter 4 describes the method used to estimate project traffic and its impact on the transportation system. It also contains an evaluation of other transportation-related issues, such as transit services and pedestrian facilities. Chapter 5 presents the traffic conditions in the study area under 2020 cumulative conditions, both without and with the project. Chapter 6 presents the conclusions of the traffic impact analysis.

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

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p10-16.

Table 2
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Delay Per Vehicle (Sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0

Source: Transportation Research Board, *2000 Highway Capacity Manual* (Washington, D.C., 2000) p17-2.

2. Existing Conditions

This chapter describes the existing transportation system in the vicinity of the site and presents an analysis of existing operations of key study intersections and freeway facilities.

Existing Roadway Network

Regional access to the site is provided via US 101.

US 101 is an eight-lane north-south freeway in the vicinity of the project site. US 101 extends northward through San Francisco and southward through San Jose. Access to the project is provided via the Broadway interchange

Broadway is a two- to four-lane east-west arterial in the City of Burlingame. In the project vicinity, Broadway intersects Carolan Avenue and Rollins Road to the west, crosses US 101 on a four-lane structure, and intersects Bayshore Highway. Just past the Bayshore Highway intersection, Broadway becomes Airport Boulevard. Broadway provides access to the project via Rollins Road and Carolan Avenue.

Rollins Road is a two-lane north-south collector road that intersects Broadway, Cadillac Way, and the southbound US 101/Broadway on-ramp and off-ramp. North of Broadway, Rollins Road is four lanes. South of Cadillac Way, Rollins Road parallels southbound US 101 and provides direct access to the project.

Carolan Avenue is a two- to four-lane street that extends between Broadway to the north and Burlingame Avenue to the south, parallel to and east of the Caltrain tracks. It is a four lane roadway between Broadway and Oak Grove Avenue with on-street parking along both sides of Carolan Avenue. The City of Burlingame is planning to implement a road-diet on Carolan Avenue between Broadway and Oak Grove Avenue by removing one lane and converting it to a two-lane roadway with center turn-lane. Carolan Avenue provides direct access to the project.

Cadillac Way is a one-block-long, two-lane street that extends between Rollins Road to the east and Carolan Avenue to the west, parallel to and south of Broadway.

California Drive is a four-lane road that extends from Millbrae Avenue in the City of Millbrae to Peninsula Avenue in San Mateo to the south, after which it becomes North San Mateo Drive. California Drive is parallel to and west of the Caltrain tracks.

Bayshore Highway is a four-lane road that extends from just north of Millbrae Avenue in the City of Millbrae to its intersection with Broadway, Airport Boulevard, and the Crowne Plaza Hotel access road to the south.

Airport Boulevard is a two- to four-lane road that extends from its intersection with Broadway, Bayshore Highway, and the Crowne Plaza Hotel access road to the north to Coyote Point Drive in San Mateo to the south.

Oak Grove Avenue is an east-west two lane road that extends from its intersection with El Camino Real to its intersection with Rollins Road. Oak Grove Avenue provides access to the Burlingame High School that is located in the south east corner of Oak Grove Avenue/Carolan Avenue intersection.

Existing Bicycle and Pedestrian Facilities

The City designated bikeways within the vicinity of the project site are shown on Figure 2. A pedestrian overcrossing exists just south of the Broadway overcrossing. The pedestrian overcrossing extends from the intersection of Rollins Road and Broadway west of US 101 to the intersection of the Broadway off-ramp and Bayshore Highway east of US 101. The pedestrian overcrossing also serves as a Class I Bikeway—a paved multiuse trail separated from the road—and has a traveled way of 12 feet.

Other pedestrian and bicycle facilities in the project area include the following:

- The Broadway overcrossing has narrow (3-to-4-foot) sidewalks on both sides. The eastern end of the sidewalk on the north side of the overcrossing is partially blocked by a barrier rail. The overcrossing has no striped bike lanes.
- East of the overcrossing, Airport Boulevard has a shared sidewalk and bike path (the Bay Trail). Bayshore Highway has a sidewalk on the east side only and bike lanes on both sides between Airport Boulevard and the intersection with the US 101 northbound on and off-ramps. To the north of the on-ramp, Bayshore Highway has sidewalks on both sides but no striped bike lanes.
- West of the overcrossing, Broadway, Carolan Avenue and Cadillac Way have sidewalks on both sides. Rollins Road has sidewalk on the west side only. No roadways in the project area west of the overcrossing have striped bike lanes.

The Burlingame Bicycle Route Map (City of Burlingame 2008) identifies Bayshore Highway, Airport Boulevard, Broadway east of California Drive, Rollins Road north of Broadway, Carolan Avenue, and California Drive as official bike routes.

Existing Transit Service

Existing transit service to the study area is provided by Caltrain and the San Mateo County Transit District (SamTrans). These are described below and shown on Figure 3.

Caltrain Service

Commuter rail service between San Francisco and Gilroy is provided by Caltrain. The project is less than 0.5 miles southeast of the Broadway Caltrain station, less than 1 mile from the Burlingame Caltrain station, and about three miles from the Millbrae Caltrain station. The Broadway Caltrain station is located near the intersection of California Drive and Broadway. Only weekend service is provided at the Broadway station. Weekday shuttle service is provided from the Broadway station to the Millbrae station, which is located on Millbrae Avenue at Rollins Road. At the Millbrae station, Caltrain provides service with 20- to 30-minute headways during the weekday AM and PM commute hours. With the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, weekday service at the Broadway station is expected to be reestablished, but the timing of this is still unknown.

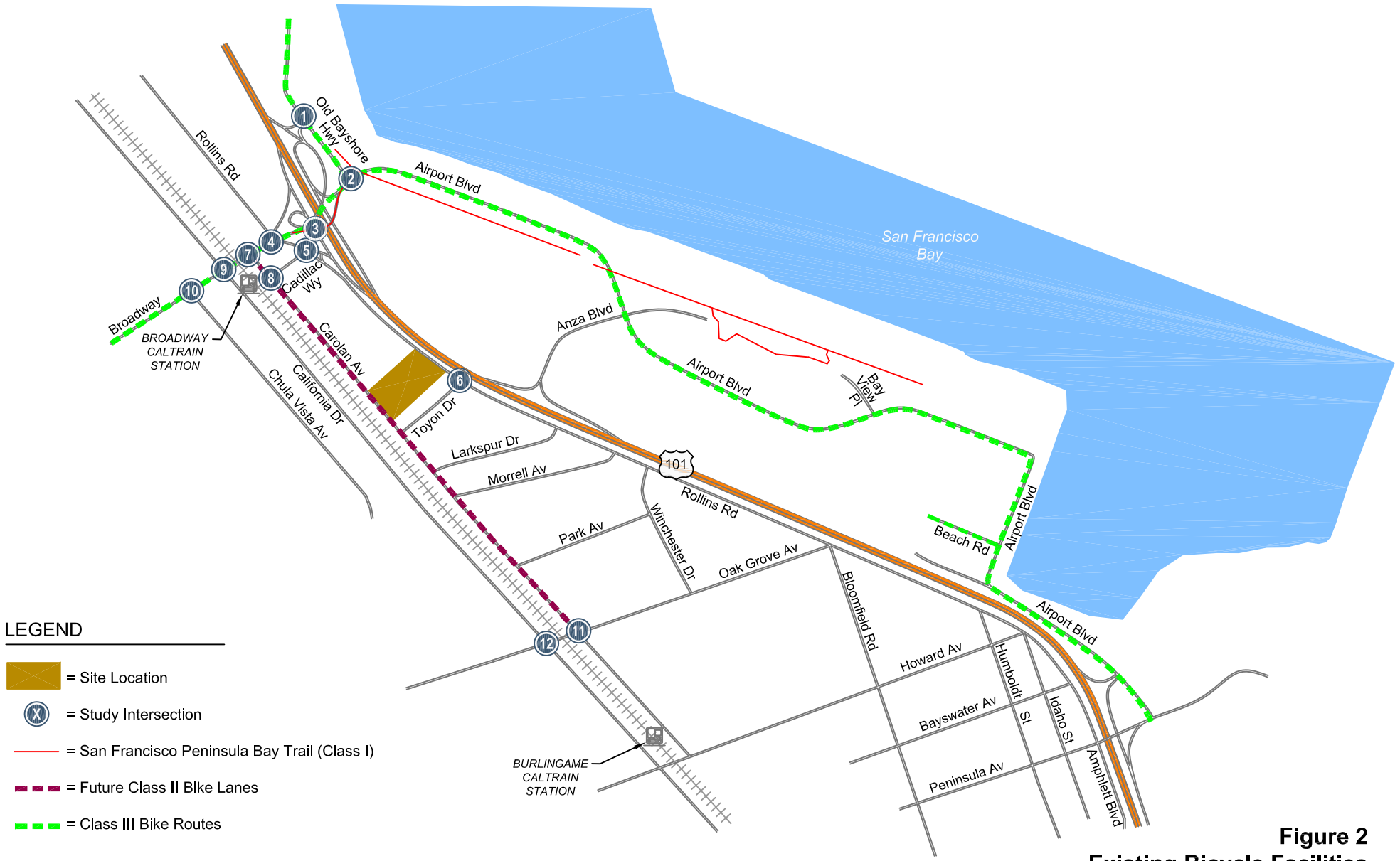


Figure 2
Existing Bicycle Facilities

NORTH
Not to Scale

Figure 3
Existing Transit Facilities

NORTH
Not to Scale

BART

Commuter rail service in the project vicinity is provided by BART from the Millbrae Station. The BART system connects Millbrae to the Peninsula, San Francisco, and the East Bay. The Millbrae BART station is located less than three miles north of the site and is accessible via the free shuttle service from the Broadway station. The Broadway station is less than half a mile from the project site. BART trains operate on 15-minute headways during the commute periods.

SamTrans Bus Service, Caltrain Shuttle, Burlingame Trolley

The project area is served directly by two local SamTrans buses, the Broadway Millbrae shuttle, and the Burlingame Trolley. The SamTrans bus lines that operate within the project study area are listed in Table 3, including their terminus points and commute hour headways. The closest bus stop on Route 46 is located at 1060 Carolan Avenue, which is within walking distance from the project (less than 500 feet). Route 46 provides connection to Route 292 at the bus stop located near the intersection of Broadway and California Drive. The Broadway Millbrae shuttle operates every day and provides a connection between the Broadway Caltrain station and the Millbrae Caltrain station. The Burlingame Trolley is a free service that operates every day and connects the hotels east of US 101 to Broadway, downtown Burlingame, and the Burlingame Caltrain station.

Table 3
SamTrans Bus Service in the Study Area

Route	Description	Headways [1] (minutes)
46	Local service between Burlingame Intermediate School and Burlingame High School, with a stop at 1060 Carolan Avenue.	varies[2]
292	Hillsdale Shopping Center to San Francisco	20 to 30

Notes:
[1] Headways during peak periods.
[2] Limited service on school days only. Adjacent to the project site, there are two trips in the morning and six trips in the afternoon.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were obtained by observations in the field (see Figure 4).

Existing Traffic Volumes

Existing traffic volumes were obtained from new counts conducted in November 2013 (see Figure 5). Detailed traffic count data are included in Appendix A.

Existing Intersection Levels of Service

The results show that all study intersections currently operate at LOS D or better during both peak hours (see Table 4 and Table 5) except for the signalized intersection of California Drive and Broadway. The intersection of California Drive and Broadway currently operates at an unacceptable LOS E during the AM peak hour. The unacceptable level of service at this intersection is attributed to the traffic volume on Broadway and the railroad gate down times on Broadway between California Drive and Carolan Avenue.

Table 4
Existing Intersection Levels of Service – Signalized Intersections

#	Study Intersection	Peak Hour	Count Date	Existing Avg. [1] Delay	Existing LOS
1	US 101 NB Ramps & Bayshore Hwy.	AM	11/19/13	14.9	B
		PM	11/19/13	10.9	B
2	Broadway/Airport Blvd. & Bayshore Hwy.	AM	11/19/13	17.2	B
		PM	11/19/13	11.0	B
3	US 101 SB Ramps & Broadway [2]	AM	11/19/13	0.0	A
		PM	11/19/13	0.0	A
4	Rollins Rd. & Broadway	AM	11/19/13	37.0	D
		PM	11/19/13	40.4	D
5	Rollins Rd. & Cadillac Way	AM	11/19/13	37.3	D
		PM	11/19/13	38.3	D
7	Carolan Ave. & Broadway	AM	11/19/13	29.7	C
		PM	11/19/13	42.1	D
9	California Dr. & Broadway	AM	11/19/13	**60.2**	**E**
		PM	11/19/13	52.8	D
12	California Ave. & Oak Grove Ave.	AM	11/19/13	34.6	C
		PM	11/19/13	25.0	C

Notes:

[1] Delay shown for the signalized intersections is the weighted average control delay for all turning movements approaching the intersection.

[2] Currently this intersection is uncontrolled with no conflicting traffic movements. With the proposed US 101/Broadway Interchange improvements, this intersection will be signalized.
BOLD font indicates unacceptable LOS.

The unsignalized intersection of Carolan Avenue and Oak Grove Avenue was analyzed as an all-way stop controlled intersection because of the unusual traffic control at this intersection. In order to prevent vehicles from queueing across the railroad tracks, this intersection currently operates as a 3-way stop controlled intersection with uncontrolled traffic flow on the eastbound approach on Oak Grove Avenue and stop control on all other approaches. This intersection was observed to experience short durations of severe congestion during the AM peak hour due to traffic associated with Burlingame High School. The school is located at the south east corner of the intersection, and vehicles on northbound Carolan Avenue were observed to queue past the school exit driveway on Carolan Avenue (more than 25 cars). The westbound approach on Oak Grove Avenue had a queue length of approximately 8 to 10 cars, and the southbound approach on Carolan Avenue was observed to have a queue length of approximately 8 to 10 cars in each of the lanes. These queues were observed to occur over a period of 20 minutes around the school start time. The queues dissipated fairly quickly once school started, and the intersection resumed operating at acceptable conditions without any significant delays on any of the approaches.

During the PM peak hour, long vehicular queues (approximately 15 to 20 cars) were observed in the right turn lane on southbound Carolan Avenue. These queues primarily occurred when the railroad gate on Oak Grove Avenue between California Drive and Carolan Avenue came down. The southbound queue in the right-turn lane on Carolan Avenue cleared fairly quickly once the railroad gate opened and the signal turned green for the westbound approach on Oak Grove Avenue at California Drive.

Thus, this intersection currently operates with LOS F conditions for the worst approach during portions of both the AM and PM peak hours. However, since the delays occur during short intervals of the peak hour periods and do not persist for the entire hour, the overall weighted average delay calculates to LOS B at this intersection.

The level of service calculation sheets are included in Appendix B.

Table 5
Existing Intersection Levels of Service – Unsignalized Intersections

#	Study Intersection	Peak Hour	Count Date	Existing Avg. [1] Delay	Existing LOS
6	Rollins Rd. & Toyon Dr. (One-way stop)	AM	11/19/13	13.2	B
		PM	11/19/13	15.9	C
8	Carolan Ave. & Cadillac Way (One-way stop)	AM	11/19/13	20.6	C
		PM	11/19/13	17.5	C
10	Chula Vista Ave. & Broadway (Two-way stop)	AM	11/19/13	14.1	B
		PM	11/19/13	15.2	C
11	Carolan Ave. & Oak Grove Ave. (Three-way stop)[2]	AM	11/19/13	14.7	B
		PM	11/19/13	11.8	B

Notes:

[1] Delay shown for one-way and two-way stop controlled unsignalized intersections is the worst delay experienced by vehicles on the minor street approach and the delay shown for all-way stop controlled intersections is the average delay per vehicle of all vehicles approaching the intersection.

[2] Due to the limits of the software, this intersection was analyzed as an all-way stop. Delay shown is the weighted average delay for all turning movements approaching the intersection.

Observed Existing Traffic Conditions

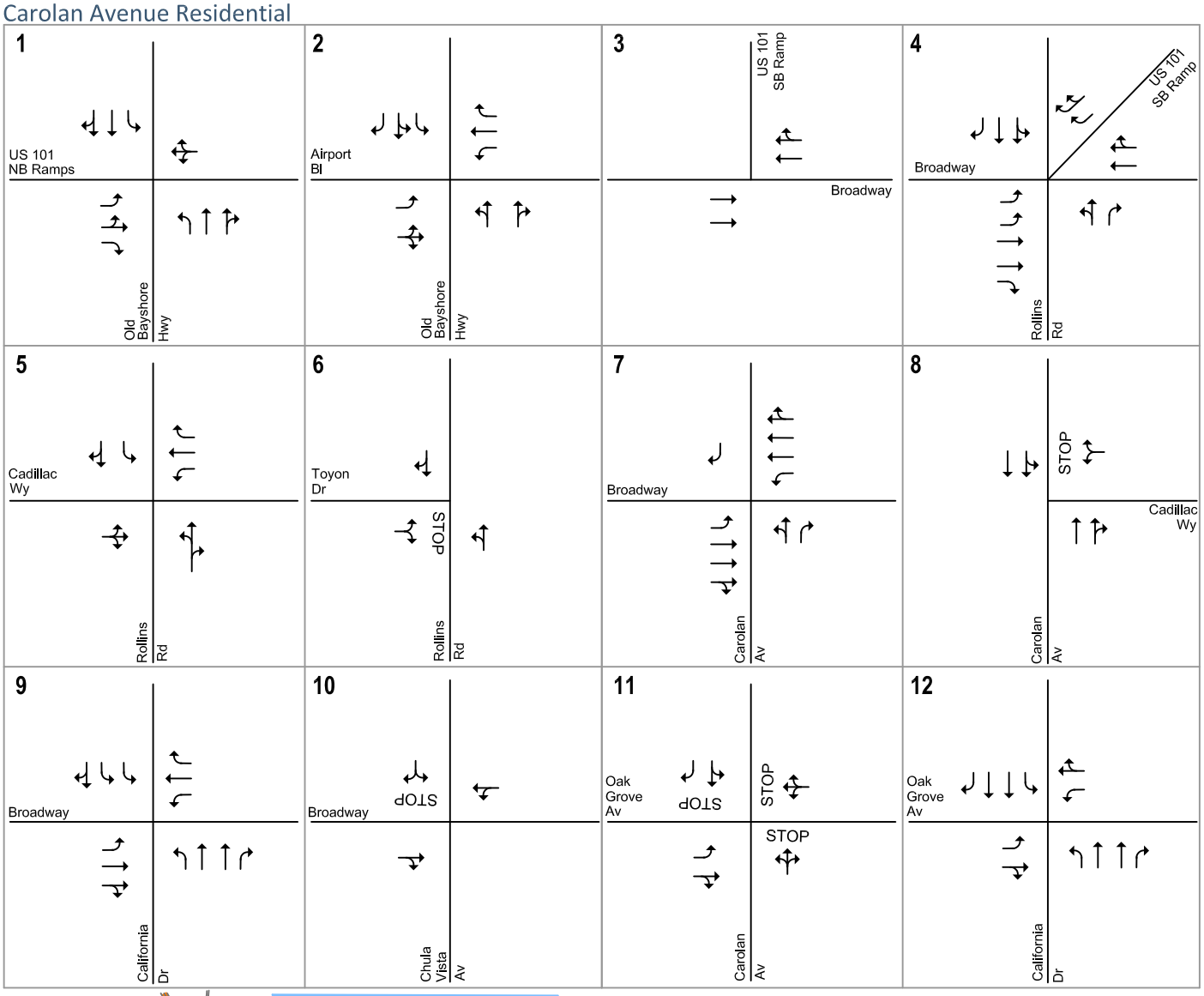
Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated intersection levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to level of service, and (2) to identify any locations where the level of service analysis does not accurately reflect existing traffic conditions.

The study intersections nearest to the project site operate well during the AM and PM peak hours of traffic, and the level of service analysis reflects actual existing traffic conditions accurately. The study intersections along Broadway in Burlingame see relatively large traffic volumes to or from US 101. The close spacing of the intersections result in spill backs, vehicles not clearing in one signal cycle, and turning vehicles occasionally blocking through lanes. Although Broadway experiences long vehicular queues on the westbound approach at Rollins Road, the other movements at this intersection have short back-ups, and the overall intersection weighted average delay calculates to LOS D. The westbound through volumes on Broadway frequently backs up on the overpass, resulting in extended wait times for vehicles attempting to access the US 101 southbound on ramp.

Northbound vehicles at the Rollins Road/Cadillac Way intersection were not all able to clear the intersection in one signal cycle. Approximately 7 to 8 vehicles out of observed queues of about 10 vehicles were able to clear the queue under both AM and PM peak hours. The other movements at the intersection all cleared in one cycle, so the overall weighted average delay calculates to LOS D.

The unsignalized intersection of Carolan Avenue and Oak Grove Avenue was observed to experience short durations of severe congestion during the AM peak hour due to the school traffic. Burlingame High School is located in the south east corner of the intersection, and vehicles on northbound Carolan Avenue were observed to queue past the school exit driveway on Carolan Avenue (more than 25 cars). The westbound approach on Oak Grove Avenue had a queue length of approximately 8 to 10 cars, and the southbound approach on Carolan Avenue was observed to have a queue length of approximately 8 to 10 cars in each of the lanes. These queues were observed to occur over a period of 20 minutes around the school start time. The queues dissipated fairly quickly once school started, and the intersection resumed operating at acceptable conditions without any significant delays on any of the approaches. During the PM peak hour, long vehicular queues (approximately 15 to 20 cars) were observed in the right turn lane on southbound Carolan

Avenue. These queues primarily occurred when the railroad gate on Oak Grove Avenue between California Drive and Carolan Avenue came down. The southbound queue in the right-turn lane on Carolan Avenue cleared fairly quickly once the railroad gate opened and the signal turned green for the westbound approach on Oak Grove Avenue at California Drive.



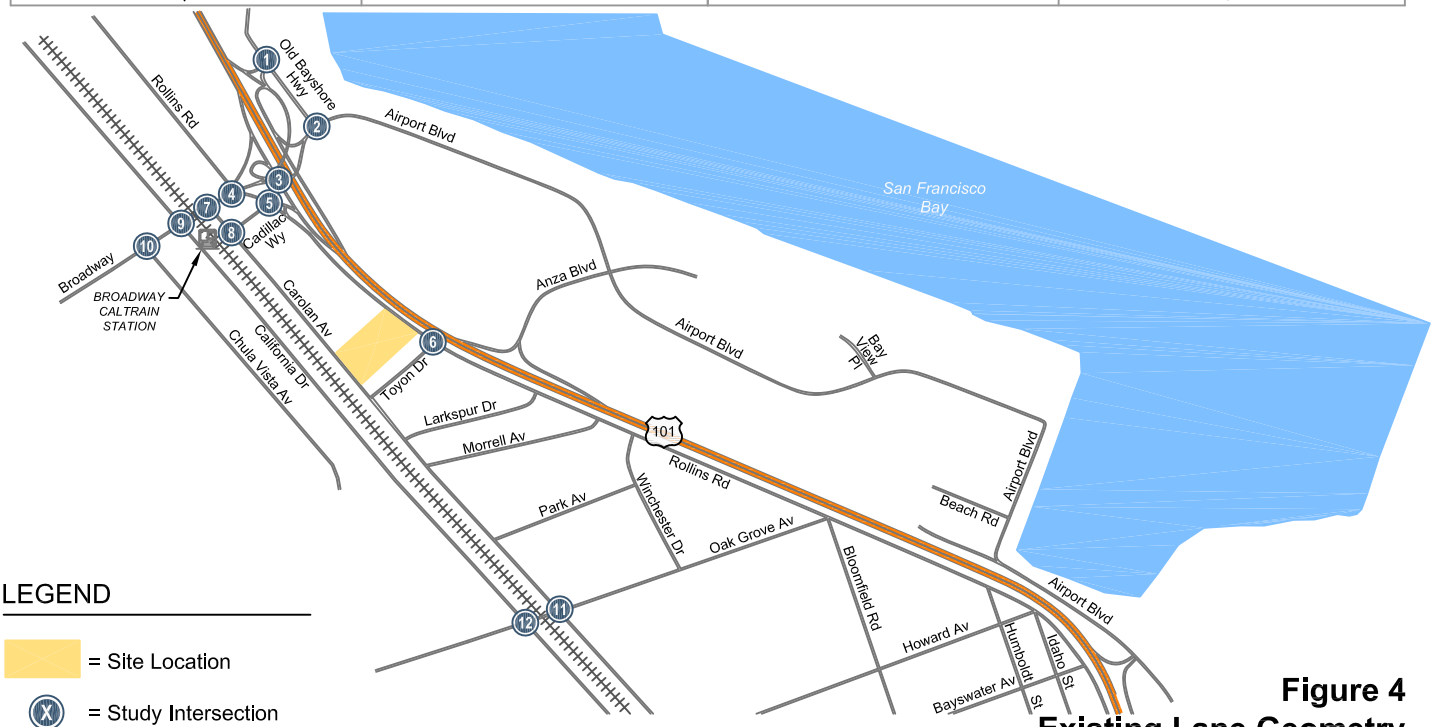
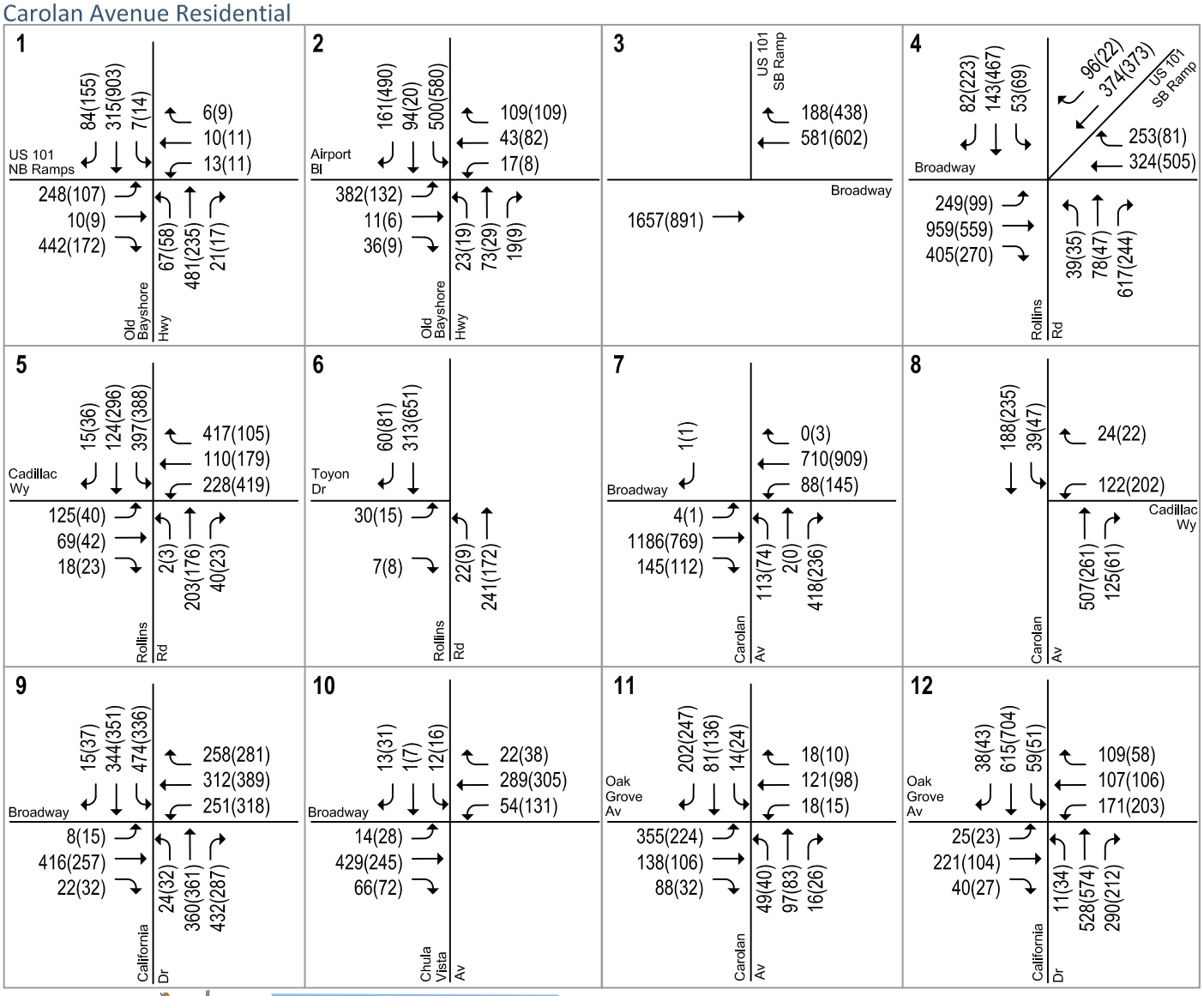


Figure 4
Existing Lane Geometry

NORTH
Not to Scale



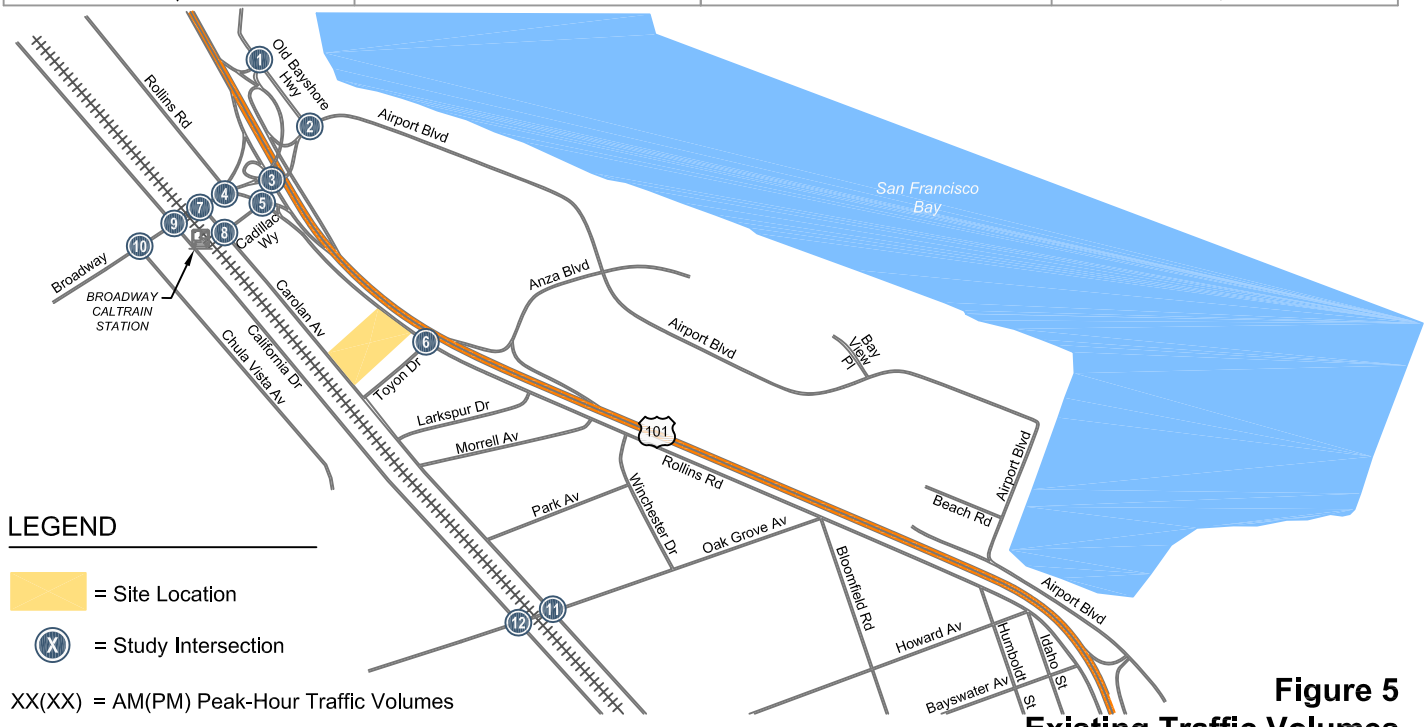


Figure 5
Existing Traffic Volumes

3. Baseline Conditions

The US 101/Broadway Interchange Improvements and the Complete Streets Improvement Project (both of which are described in detail below) will be constructed and fully operational prior to the completion of the Carolan Avenue Residential Project. As a result, these improvements will change the existing conditions over the course of the Project's environmental review, which means that the physical conditions at the start of the environmental review will not be representative of the actual conditions at the time the Project is completed. Consequently, it would be confusing and potentially misleading to compare the impacts of the Project to the existing conditions. Instead, it is more informative to compare the impacts of the Project to a baseline condition that includes the US 101/Broadway Interchange Improvements and the Complete Streets Improvement Project, because this comparison more accurately reflects the impacts on traffic that would be experienced by the public.

US 101/Broadway Interchange Improvements - Due to the topographic features of the area, access to/from Broadway from US 101 is constrained. The California Department of Transportation (Caltrans), in cooperation with San Mateo County Transportation Authority (SMCTA), proposes to reconfigure the US 101/Broadway interchange to improve traffic movements and access around the interchange. The interchange improvements will accommodate future traffic increases at adjacent intersections and improve operations at the 101 southbound ramps in addition to improving bicycle and pedestrian access. The interchange improvements are shown on Figure 6.

The interchange reconfiguration will consist of a new seven-lane Broadway overcrossing. Broadway will be realigned to extend straight across US 101 from the Broadway/Rollins Road intersection on the west to Bayshore Highway on the east, and the northern terminus of Airport Boulevard will be moved approximately 100 feet to the north to meet the new overcrossing. The existing on- and off-ramps will be replaced, and ramp metering equipment will be installed. The existing pedestrian overcrossing just south of Broadway will be retained and additional pedestrian and bicycle improvements will be provided at the interchange. The interchange improvements are expected to begin construction in 2014 and will be completed before the opening of the Carolan Avenue residential project.

Complete Streets Improvement Project - The City of Burlingame is planning to implement the “Complete Streets” Improvement Project on Carolan Avenue. Carolan Avenue currently has two through lanes for traffic in each direction. The proposed Complete Streets project will reconfigure the roadway to accommodate one through traffic lane in each direction coupled with a center turn lane to accommodate turns. The Complete Streets project on Carolan Avenue is expected to be completed before the Carolan Avenue residential project and is therefore assumed under baseline conditions.

Baseline Intersection Lane Configurations

The intersection lane configurations at some of the study intersections will change with the US 101/Broadway interchange improvements and with the Carolan Avenue Complete Streets project. The lane configurations at the study intersections with the proposed interchange improvements are shown on Figure 7.

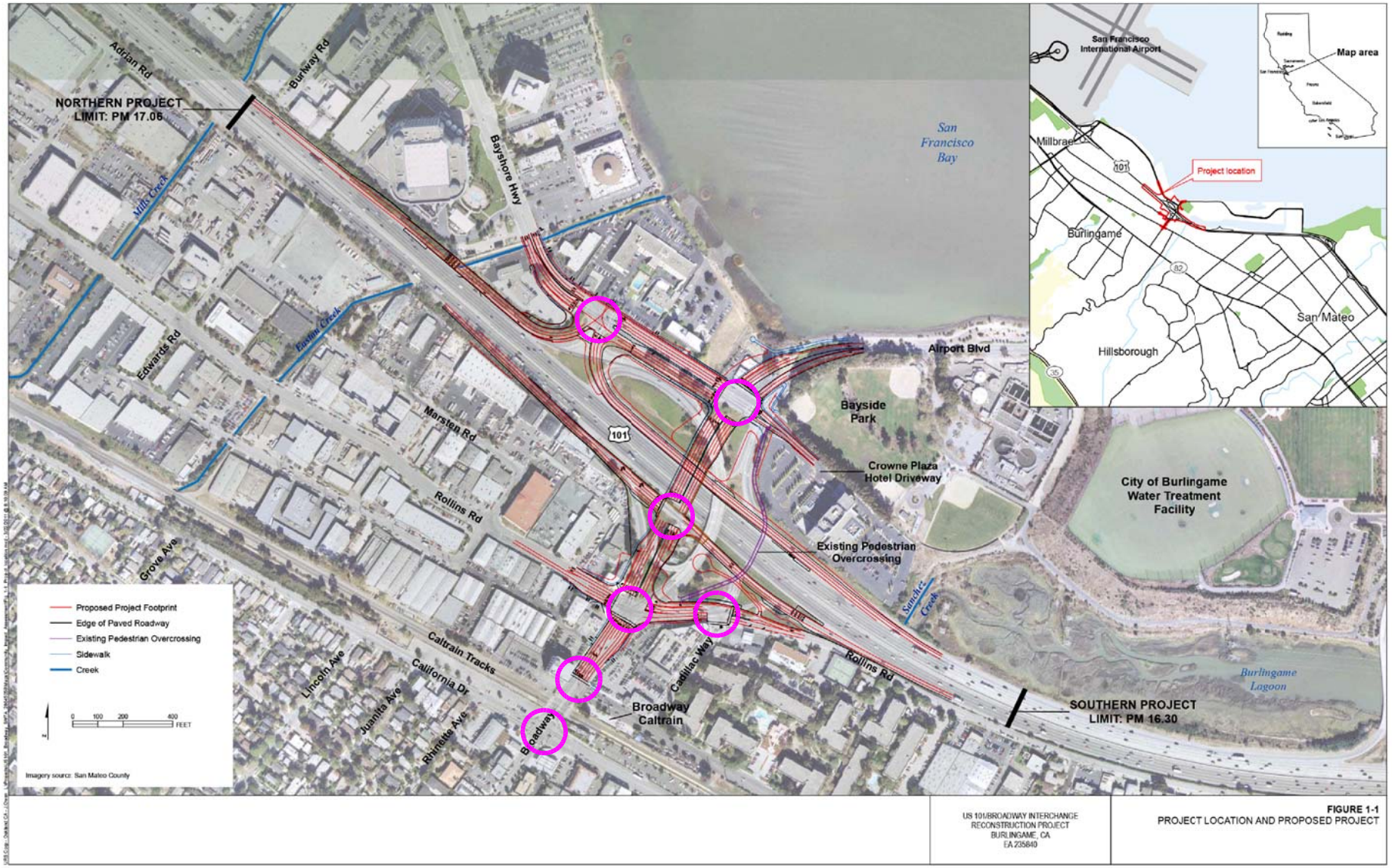


Figure 6
US 101 / Broadway Interchange Reconfiguration

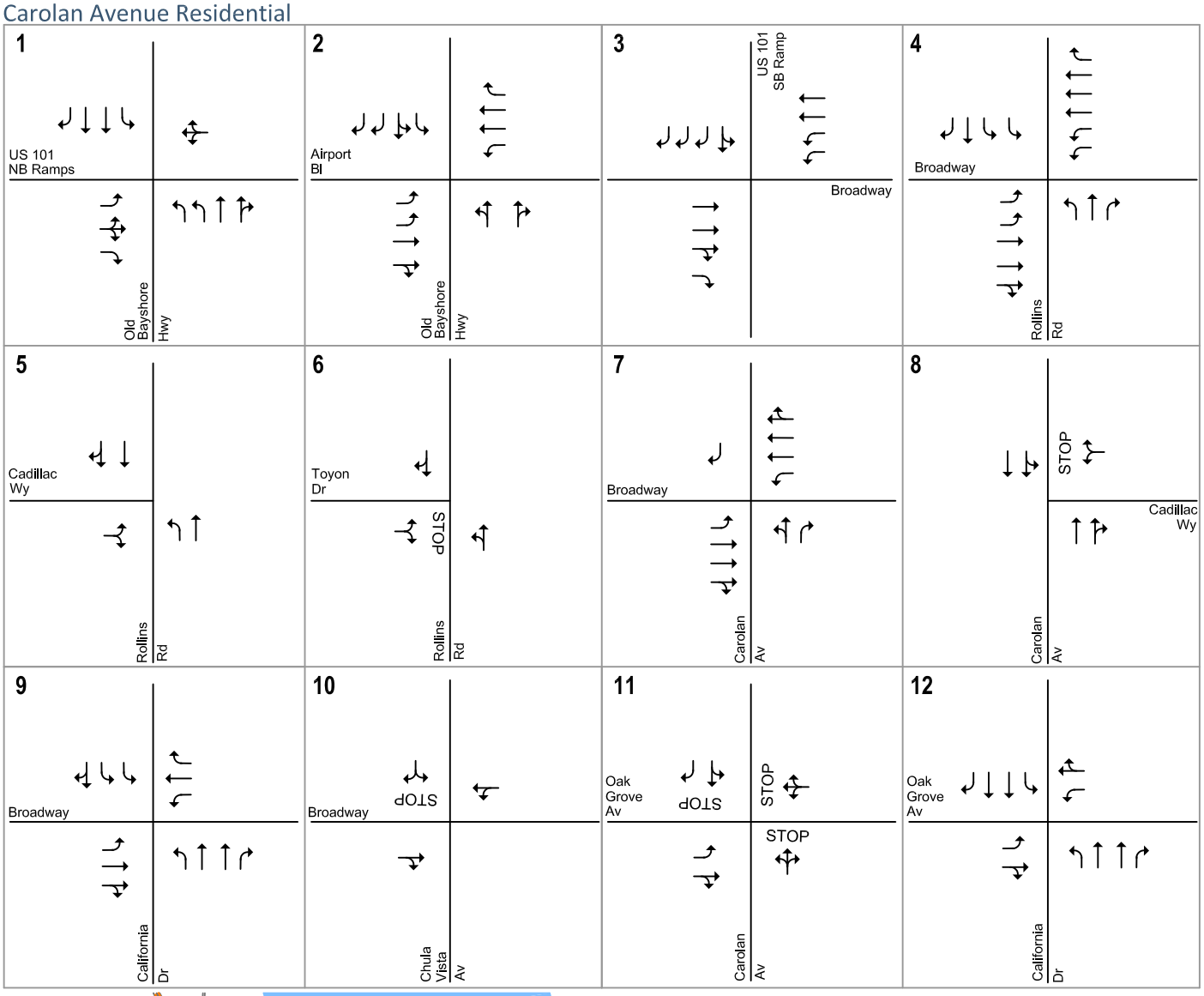


Figure 7
Geometry with US 101 / Broadway Interchange Reconfiguration

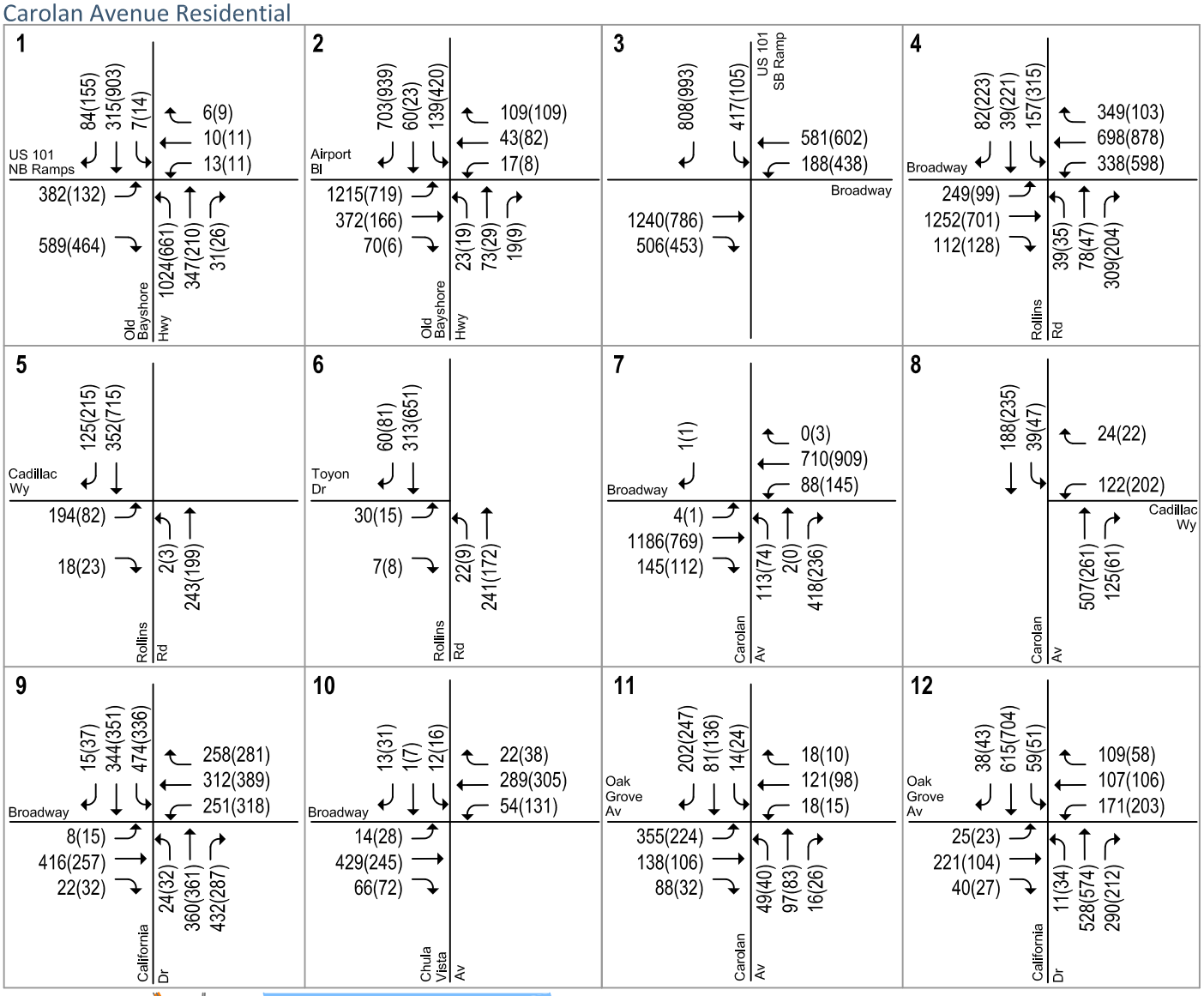


Figure 8
Baseline Traffic Volumes

Baseline Traffic Volumes

Hexagon prepared traffic estimates for the new intersections by reassigning the traffic using current traffic counts. Projected traffic volumes immediately following the interchange reconstruction are shown on Figure 8. These volumes, consistent with the US 101/Broadway Interchange Reconstruction Project, were considered as the baseline volumes to analyze project impacts.

Baseline Intersection Levels of Service

The results show that operations at all study intersections would be improved to LOS C or better during both peak hours (see Table 6 and Table 7) with the interchange improvements except for the intersection of California Drive and Broadway. This intersection would continue to operate at an unacceptable LOS E during the AM peak hour period with the proposed interchange improvements at US 101/Broadway. The level of service calculation sheets are included in Appendix B.

Table 6
Baseline Conditions Intersection Levels of Service – Signalized Intersections

				Existing		With US 101/Broadway Interchange Improvements	
#	Study Intersection	Peak Hour	Count Date	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS
1	US 101 NB Ramps & Bayshore Hwy.	AM	11/19/13	14.9	B	19.0	B
		PM	11/19/13	10.9	B	19.7	B
2	Broadway/Airport Blvd. & Bayshore Hwy.	AM	11/19/13	17.2	B	10.3	B
		PM	11/19/13	11.0	B	12.2	B
3	US 101 SB Ramps & Broadway [2]	AM	11/19/13	0.0	A	22.7	C
		PM	11/19/13	0.0	A	26.1	C
4	Rollins Rd. & Broadway	AM	11/19/13	37.0	D	32.6	C
		PM	11/19/13	40.4	D	34.7	C
5	Rollins Rd. & Cadillac Way	AM	11/19/13	37.3	D	18.9	B
		PM	11/19/13	38.3	D	8.5	A
7	Carolan Ave. & Broadway	AM	11/19/13	29.7	C	[3]	[3]
		PM	11/19/13	42.1	D	[3]	[3]
9	California Dr. & Broadway	AM	11/19/13	**60.2**	**E**	[3]	[3]
		PM	11/19/13	52.8	D	[3]	[3]
12	California Ave. & Oak Grove Ave.	AM	11/19/13	34.6	C	[3]	[3]
		PM	11/19/13	25.0	C	[3]	[3]

Notes:
[1] Delay shown for the signalized intersections is the weighted average control delay for all turning movements approaching the intersection.
[2] Currently this intersection is uncontrolled with no conflicting traffic movements. With the proposed US 101/Broadway Interchange improvements, this intersection will be signalized.
[3] Delay and LOS remains unchanged from existing conditions.
BOLD font indicates unacceptable LOS.

Table 7
Baseline Conditions Intersection Levels of Service – Unsignalized Intersections

				Existing		With US 101/Broadway	
#	Study Intersection	Peak Hour	Count Date	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS
6	Rollins Rd. & Toyon Dr. (One-way stop)	AM	11/19/13	13.2	B	[3]	[3]
		PM	11/19/13	15.9	C	[3]	[3]
8	Carolan Ave. & Cadillac Way (One-way stop)	AM	11/19/13	20.6	C	[3]	[3]
		PM	11/19/13	17.5	C	[3]	[3]
10	Chula Vista Ave. & Broadway (Two-way stop)	AM	11/19/13	14.1	B	[3]	[3]
		PM	11/19/13	15.2	C	[3]	[3]
11	Carolan Ave. & Oak Grove Ave. (Three-way stop)[2]	AM	11/19/13	14.7	B	[3]	[3]
		PM	11/19/13	11.8	B	[3]	[3]

Notes:

[1] Delay shown for one-way and two-way stop controlled unsignalized intersections is the worst delay experienced by vehicles on the minor street approach and the delay shown for all-way stop controlled intersections is the average delay per vehicle of all vehicles approaching the intersection.

[2] Due to the limits of the software, this intersection was analyzed as an all-way stop. Delay shown is the weighted average delay for all turning movements approaching the intersection.

[3] Delay and LOS remains unchanged from existing conditions.

4. Baseline Plus Project Conditions

As noted in Chapter 3, the US 101/Broadway Interchange Improvements and the Complete Streets Improvement Project will be constructed and fully operational prior to the completion of the Project, and therefore the Baseline Plus Project conditions represent near-term traffic conditions that are expected to occur with the addition of traffic from the Project. In this case, reliance on a Baseline Plus Project conditions analysis instead of an Existing Plus Project conditions analysis is justified because verifiable data exists relative to the certainty of these improvements being implemented.

Project Description

This traffic analysis assumes the project includes the development of up to 268 apartments and 22 townhomes and would replace the existing automobile related businesses on site. Access to the project site would be provided via full access driveways on Carolan Avenue and Rollins Road.

Transportation Network Under Baseline Plus Project Conditions

It is assumed in this analysis that the transportation network under project conditions would be the same as the transportation network discussed under baseline conditions in Chapter 3.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine significant impacts on signalized intersections are based on City of Burlingame Level of Service standards.

Project impacts on other transportation facilities, such as pedestrian facilities, bicycle facilities, and transit service were determined on the basis of engineering judgment and are discussed at the end of this chapter.

Definition of Significant Signalized Intersection Impacts – City of Burlingame

The City of Burlingame does not have any Council-adopted definitions of significant traffic impacts. The following standards typically have been used in traffic studies and EIRs.

The project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the City of Burlingame if for any peak-hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under existing conditions to an unacceptable LOS E or F under existing plus project conditions, or

2. The level of service at the intersection is an unacceptable LOS E or F under existing conditions and the addition of project trips causes average delay at the intersection to increase by five (5) or more seconds.

Definition of Significant Unsignalized Intersection Impacts – City of Burlingame

The City of Burlingame does not have any definitions or thresholds for significant traffic impacts at unsignalized intersections. However previous traffic studies completed in the City of Burlingame have stated that a project would have a significant adverse impact on traffic conditions at an unsignalized intersection with an unacceptable level of service (LOS E or LOS F) if the project adds at least 10 trips for any peak-hour.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are 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 entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets. These procedures are described further in the following sections.

Trip Generation

AM and PM peak hour trip generation estimates for the proposed project are based on trip rates obtained from the Institute of Transportation Engineers' (ITE) publication *Trip Generation*, Ninth Edition, 2012 for Apartment (ITE Land Use 220) and Condominium/Townhouse (ITE Land Use 230) and are shown in Table 8. It is estimated that the proposed project will generate 151 AM peak hour trips and 182 PM peak hour trips on a regular weekday.

Existing Uses

Currently, the existing automobile related businesses on the site generate trips, which the project would remove. The existing uses on site are served by two or more driveways on Rollins Road and Carolan Avenue. Driveway counts were conducted during three typical weekdays on 12/18/2013, 1/10/2014 and 1/14/2014 during the AM and PM peak hour periods to determine the existing AM and PM peak hour trips generated by the existing busineses. Based on the driveways counts, the existing uses on site generated an average of 59 trips during the AM peak hour and 82 trips during the PM peak hour. It was observed that the existing automobile related businessed frequently moved their vehicles within the site via the existing driveways (internal trips). The driveway counts excluded these internal trips made within the site.

Net Project Trips

Trips generated by existing uses were subtracted from the gross project trip generation estimates to determine the net trips that would be added to the roadway network. As shown in Table 8, after receiving credit for trips generated by existing uses on site, the project is expected to generate a total of 92 net new trips during the AM peak hour and 100 net new trips during the PM peak hour period.

Table 8
Project Trip Generation Estimates

		AM Peak Hour				PM Peak Hour			
Land Use	Size[1]	Pk-Hr Rate	In	Out	Total	Pk-Hr Rate	In	Out	Total
Proposed Uses:									
Apartment[2]	268	0.51	27	109	136	0.62	107	58	165
Townhomes[3]	22	0.70	3	12	15	0.789	12	5	17
Total Primary Trips			30	121	151		119	63	182
Existing Automobile Uses4:									
Rollins Rd Drwys (Drwys 1 & 2)			(13)	(6)	(19)		(8)	(16)	(24)
Carolan Ave Drwys (Drwys 3 through 7)			(21)	(19)	(40)		(29)	(29)	(58)
Total Existing Trips			(34)	(25)	(59)		(37)	(45)	(82)
Net Project Trips			**-4**	**96**	**92**		**82**	**18**	**100**

[1] Apartment/Townhomes size expressed in number of dwelling units.
[2] Source: Apartment (220) ITE Trip Generation, 9th Edition, regression equations.
[3] Source: Residential Condominium/Townhouse (230) ITE Trip Generation, 9th Edition, regression equations.
[4] Source: Driveway counts for the existing automobile related busineses were based on the average trips counted on 12/18/2013, 1/10/14 and 1/14/14.

Trip Distribution Pattern and Trip Assignment

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses (see Figure 9). The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern (see Figure 10).

Baseline Plus Project Traffic Volumes

The project trips were added to the baseline traffic volumes to obtain baseline plus project traffic volumes (see Figure 11). Traffic volumes for all components of traffic are tabulated in Appendix C.

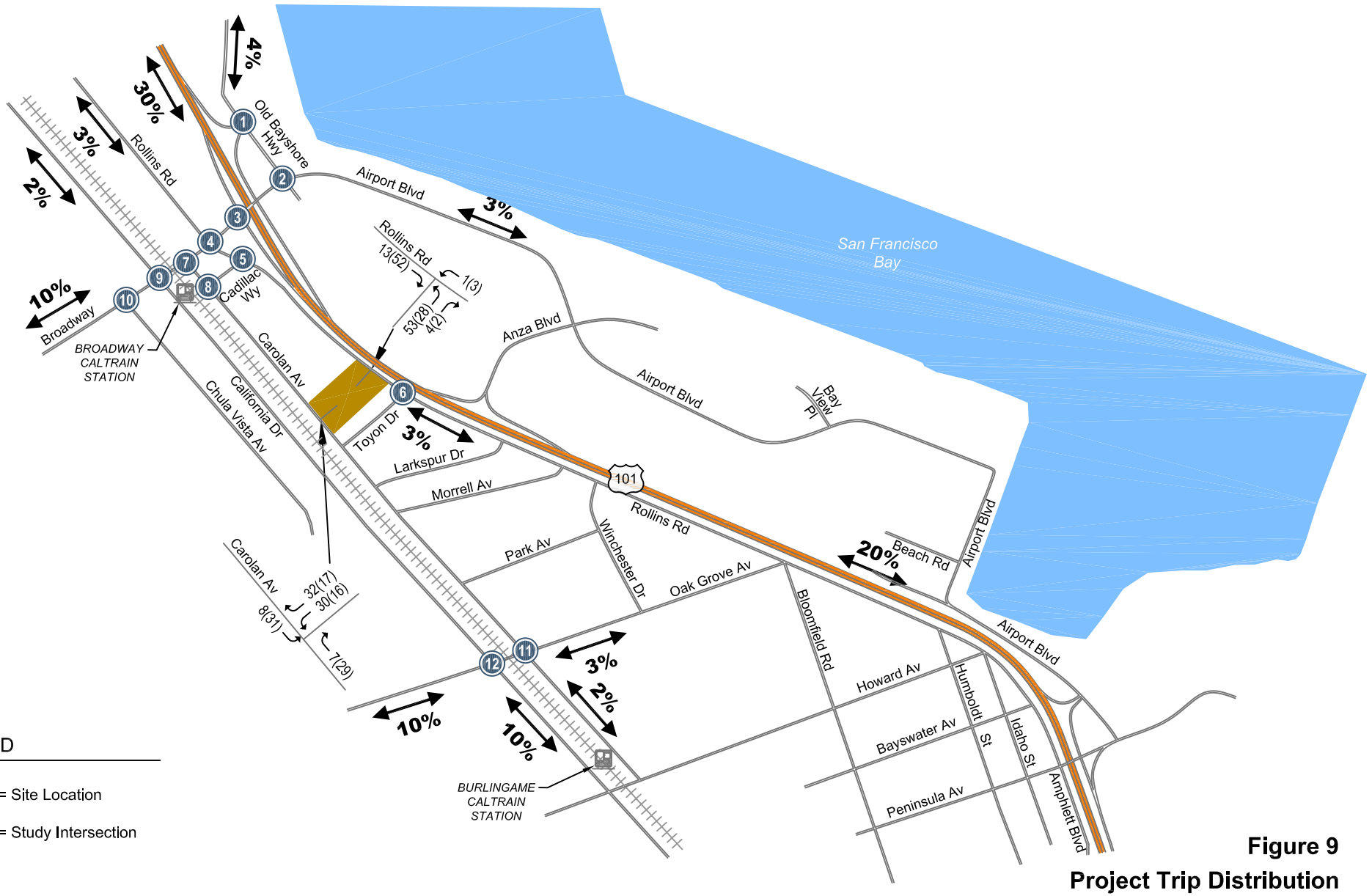


Figure 9
Project Trip Distribution

NORTH
Not to Scale

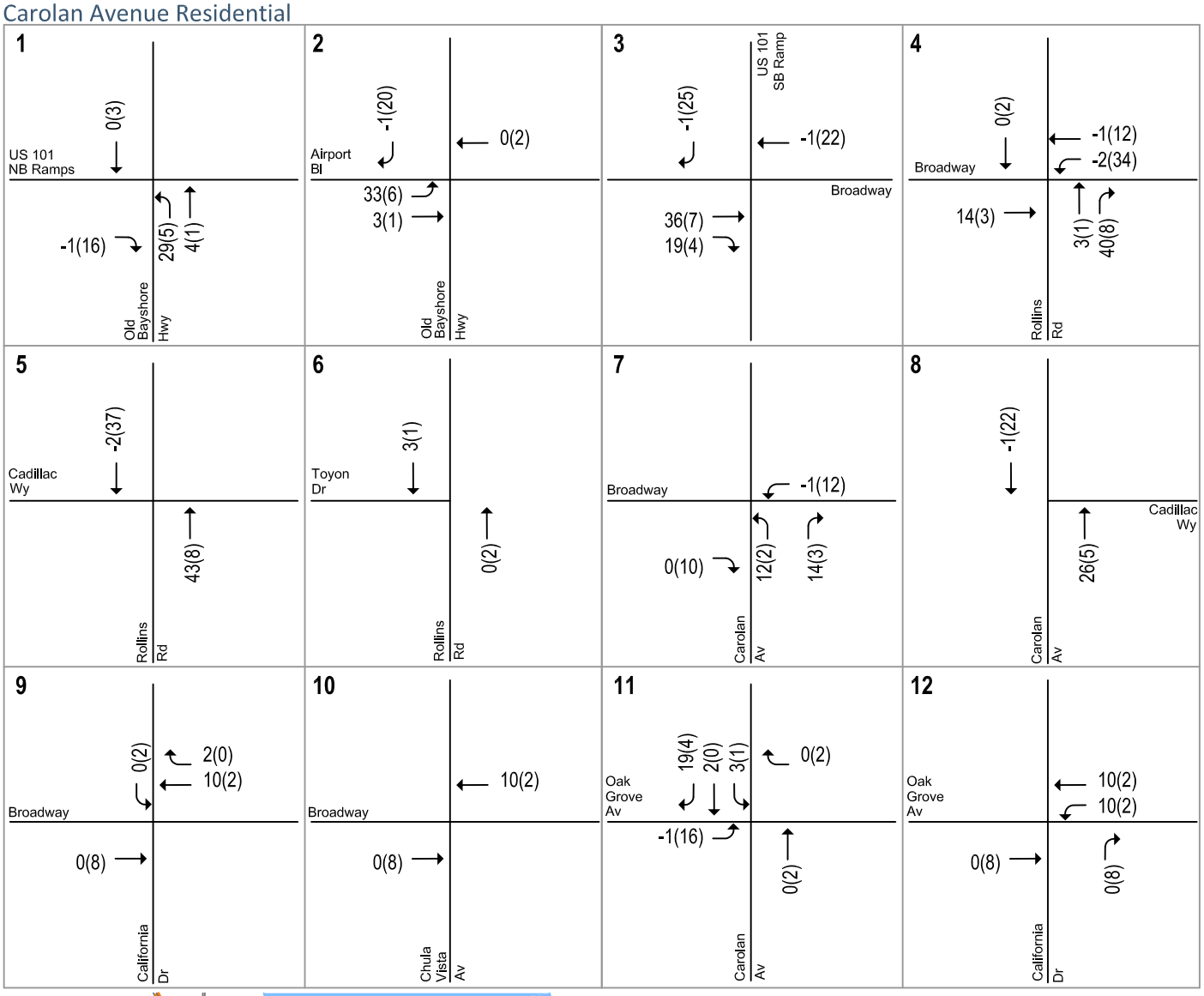


Figure 10
Project Trip Assignment

NORTH
Not to Scale

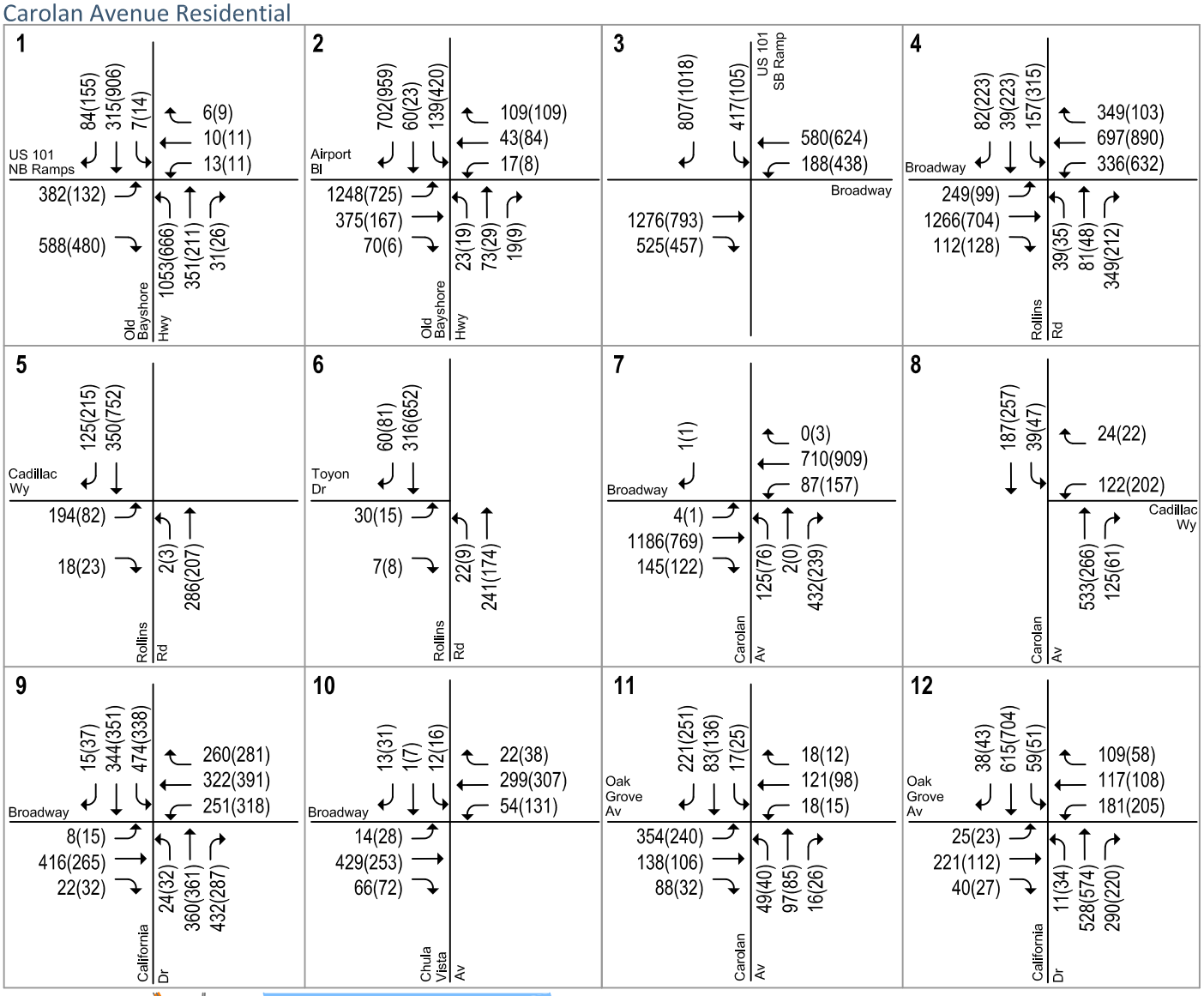


Figure 11
Baseline Plus Project Traffic Volumes

NORTH
Not to Scale

Intersection Levels of Service Under Baseline Plus Project Conditions

The results of the intersection level of service analysis under baseline plus project conditions show that all of the study intersections would operate at an acceptable level of service C or better during both the AM and PM peak hours of traffic (see Table 9 and Table 10), except for the intersection of California Drive and Broadway. This intersection would continue to operate at an unacceptable LOS E during the AM peak hour with the addition of the project traffic. However, the addition of the project traffic would not create a significant impact at this intersection because the weighted average delay per vehicle would increase by only 0.4 seconds, which is less than the City's 4 second threshold for a significant impact. The intersection of Rollins Road/Cadillac Way shows an improvement with the increased traffic from the project. This can happen when traffic is added to intersection turning movements that have low delay. The overall weighted average delay can improve.

The intersection level of service calculation sheets are included in Appendix D.

Table 9
Baseline Plus Project Intersection Levels of Service – Signalized Intersections

				With US 101/Broadway Interchange Improvements				
				No Project		With Project		
#	Study Intersection	Peak Hour	Count Date	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Incr. In Avg. Delay
1	US 101 NB Ramps & Bayshore Hwy.	AM	11/19/13	19.0	B	19.1	B	0.1
		PM	11/19/13	19.7	B	20.0	B	0.3
2	Broadway/Airport Blvd. & Bayshore Hwy.	AM	11/19/13	10.3	B	10.3	B	0.0
		PM	11/19/13	12.2	B	12.2	B	0.0
3	US 101 SB Ramps & Broadway [2]	AM	11/19/13	22.7	C	22.7	C	0.0
		PM	11/19/13	26.1	C	26.2	C	0.1
4	Rollins Rd. & Broadway	AM	11/19/13	32.6	C	33.9	C	1.3
		PM	11/19/13	34.7	C	34.7	C	0.0
5	Rollins Rd. & Cadillac Way	AM	11/19/13	18.9	B	18.3	B	-0.6
		PM	11/19/13	8.5	A	8.3	A	-0.2
7	Carolan Ave. & Broadway	AM	11/19/13	29.7	C	30.1	C	0.4
		PM	11/19/13	42.1	D	42.6	D	0.5
9	California Dr. & Broadway	AM	11/19/13	**60.2**	**E**	**60.3**	**E**	0.1
		PM	11/19/13	52.8	D	52.9	D	0.1
12	California Ave. & Oak Grove Ave.	AM	11/19/13	34.6	C	34.9	C	0.3
		PM	11/19/13	25.0	C	25.4	C	0.4

Notes:
[1] Delay shown for the signalized intersections is the weighted average control delay for all turning movements approaching the intersection.
[2] Currently this intersection is uncontrolled with no conflicting traffic movements. With the proposed US 101/Broadway Interchange
BOLD font indicates unacceptable LOS.

Table 10
Baseline Plus Project Intersection Levels of Service – Unsignalized Intersections

				With US 101/Broadway Interchange Improvements				
				No Project		With Project		
#	Study Intersection	Peak Hour	Count Date	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Added Vehicles [3]
6	Rollins Rd. & Toyon Dr. (One-way stop)	AM	11/19/13	13.2	B	13.2	B	3
		PM	11/19/13	15.9	C	16.0	C	3
8	Carolan Ave. & Cadillac Way (One-way stop)	AM	11/19/13	20.6	C	21.5	C	25
		PM	11/19/13	17.5	C	18.0	C	27
10	Chula Vista Ave. & Broadway (Two-way stop)	AM	11/19/13	14.1	B	14.2	B	10
		PM	11/19/13	15.2	C	15.4	C	10
11	Carolan Ave. & Oak Grove Ave. (Three-way stop)[2]	AM	11/19/13	14.7	B	15.0	B	23
		PM	11/19/13	11.8	B	12.2	B	25

Notes:

[1] Delay shown for one-way and two-way stop controlled unsignalized intersections is the worst delay experienced by vehicles on the minor street approach and the delay shown for all-way stop controlled intersections is the average delay per vehicle of all vehicles approaching the intersection.

[2] Due to the limits of the software, this intersection was analyzed as an all-way stop. Delay shown is the weighted average delay for all turning movements approaching the intersection.

[3] The number of vehicles the project adds to the intersection.

The unsignalized intersection of Carolan Avenue and Oak Grove Avenue was analyzed in great detail. This intersection has three-way stop control with the eastbound movement uncontrolled. The *Highway Capacity Manual,* which is the basis for defining traffic methodologies and levels of service, does not speak to three-way stop controlled situations. There is a methodology for two-way stop intersections, which bases LOS on the worst movement. There is a methodology for all-way stop intersections, which bases LOS on an average of all movements. The Peninsula Corridor Electrification Project (PCEP) EIR used the two-way stop criterion and evaluated the worst movement. This intersection operates with long delays on Carolan Avenue during a portion of the AM peak hour due to traffic generated by the adjacent high school. Consequently the PCEP EIR showed this intersection operating at LOS F under existing conditions. The railroad electrification project was found to create a significant impact at this intersection. The EIR analyzed a potential traffic signal as a mitigation measure. However, signalization of the Carolan/Oak Grove intersection would result in secondary impacts at the intersection of California Drive and Oak Grove Avenue. Therefore, a traffic signal was not recommended.

Hexagon consulted with Burlingame staff and the author of the PCEP EIR, and it was determined that a better way to characterize this intersection is to look at the weighted average delay of all movements and to consider that the high school congestion lasts for only about 20 minutes out of the AM peak hour. Based on these criteria, the intersection operates at LOS B under existing conditions and would operate at LOS C or better under baseline conditions with the project. Therefore, the project is found to have a less than significant impact at the Carolan & Oak Grove intersection. Also, as a practical matter, it is unlikely that project traffic would choose to travel through the Carolan & Oak Grove intersection during the high school drop-off period. Project traffic would either travel earlier or later or would use alternate routes, such as Rollins Road or California Drive.

Other Transportation Issues

The analyses in this section are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Transit Service, Pedestrian and Bicycle Facilities

Transit service in the project vicinity is provided by Caltrain, Samtrans, and BART (via shuttle service to the Millbrae BART station). Currently only weekend (Saturday and Sunday) service is provided at the Broadway Caltrain station. Free shuttle service to the nearby Millbrae and Burlingame stations is provided during weekdays. With the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, weekday service at the Broadway station is expected to be restored. The

PCEP is expected to increase service by up to six Caltrain trains per peak hour per direction by 2019. With the proposed electrification project, it is expected that the transit ridership at the Broadway station will increase. Given the nearby Caltrain station, development of the Carolan Avenue residential project would result in new transit riders, thus reducing vehicle trips. It is estimated that the project vehicle trips would be reduced by 9% (research shows 9% train mode split versus 3% if only bus service) with the Caltrain service restored at the Broadway station. The existing and planned transit facilities would be adequate to serve the estimated project transit demand. Therefore, the impacts associated with the addition of project transit demand would be less than significant.

Pedestrian traffic primarily would be generated by residents of the project walking to and from the transit stops and nearby schools and businesses. Most of the roadways in the vicinity of the project site currently have sidewalks on both sides of the street. Rollins Road has sidewalks only on the west side of the road. The project would construct sidewalks along its frontage on Carolan Avenue and Rollins Road. Crosswalks with pedestrian signal heads and push buttons are present at all signalized intersections in the study area. The unsignalized intersection of Oak Grove Avenue/Carolan Avenue has painted crosswalks on the north, south and east legs.

The Burlingame Bicycle Route Map (City of Burlingame 2008) identifies Bayshore Highway, Airport Boulevard, Broadway (east of California Drive), Rollins Road (north of Broadway), and California Drive as official bike routes. As part of the "Complete Streets" Improvement Project, the City is planning to construct class II bike lanes in both directions on Carolan Avenue between Broadway and Oak Grove Avenue. East of the interchange, Airport Boulevard has a shared sidewalk and bike path (the Bay Trail). Bayshore has bike lanes on both sides between Airport Boulevard and the intersection with the eastern touchdown of the Broadway overcrossing/US 101 northbound on-ramp. The bicycle demand created by the proposed project could be accommodated by the existing and planned bicycle facilities in the area.

Site Access and Circulation

This review is based on the site plan dated June 13, 2014 prepared by Seidel Architects (see Figures 12A, 12B and 12C). Vehicular access to the project will be provided via driveways on Rollins Road and Carolan Avenue. Parking for the apartments is proposed under the buildings in two levels. Vehicles will be able to access the parking garage via one driveway on Rollins Road and one driveway on Carolan Avenue. There will be a second entrance located on Carolan Avenue, just south of the garage entrance that will connect to a paved turn-around arrival court that accesses the lobby area. Loading and unloading for the apartments will occur in the arrival court. The secondary entryway will provide access to 5 at-grade guest parking spaces and 4 handicapped parking spaces but will not provide access to the parking garage. A 20 foot emergency access road with 6 foot wide pedestrian walkway will connect the arrival court to Rollins Road. This emergency access road will be bollarded at Rollins Road and will be restricted to emergency vehicles and pedestrian use. The townhomes will be served by a separate gated 20-foot private lane that will be constructed to the south of the main entry way on the southern boundary of the site. Vehicles will be able to access the townhomes via both Carolan Avenue and Rollins Road.

The parking lot design for the upper and lower garages allows efficient flow of traffic with 90 degree parking stalls. The parking aisles are shown to be 24 feet wide which is adequate for two-way circulation of traffic.

The City's proposed "Complete Streets" Improvement Project on Carolan Avenue is expected to be completed before the occupancy of the proposed Carolan Avenue residential project. We understand that Carolan Avenue will be reconfigured to consist of two lanes, with one lane in each direction and a center-turn lane. Driveway operations on Carolan Avenue are expected to improve with the implementation of the "Complete Streets" Improvement Project. With the proposed center-turn lane on Carolan Avenue, vehicles exiting the project can turn left into the turn-lane on Carolan Avenue before merging into the southbound traffic on Carolan Avenue. Also vehicles turning left into the parking garage from southbound Carolan Avenue can wait in the center turn-lane to find gaps in the northbound traffic on Carolan Avenue without impeding the through traffic.

Sight Distance

According to the site plan, the project driveways would be free and clear of any obstructions, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on Carolan Avenue and

Rollins Road. The parking garage grade transition and ramp break are flat to allow a level exit approach onto Carolan Avenue for maximum visibility.

Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection, and provides drivers with the ability to exit a driveway or locate sufficient gaps in traffic. Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. For driveways on Carolan Avenue and Rollins Road, which have a posted speed limit of 35 mph, the Caltrans stopping sight distance is 300 feet (based on a design speed of 40 mph). Thus, a driver must be able to see 300 feet down Carolan Avenue and Rollins Road in order to stop and avoid a collision. Adequate sight distance would be provided at the project driveways.

Parking

For duplexes, apartments, apartment hotels and condominiums, the City of Burlingame Municipal Code requires at least one and one-half permanently maintained parking spaces on the same lot for studio and one-bedroom dwelling units, at least two parking spaces for two-bedroom units and two and one-half parking spaces for three or more bedroom units. The code also stipulates that at least 3 guest parking spaces should be provided for residential condominiums with more than 15 dwelling units. The required number of parking spaces for the apartments and the townhomes are calculated in the table below.

	Parking Ratio	# of Units	Required Spaces
Apartments			
1 bed	1.5	149	224
2 bed	2	111	222
3 bed	2.5	8	20
	Total	268	466
Townhouse			
2 bed	2	6	12
3 bed	2.5	8	20
3+ bed	2.5	8	20
Guest			3
	Total	22	55

The site plan shows a total of 466 parking spaces provided for the apartments and 58 parking spaces provided for the townhomes on site. According to the site plan, a total of 462 parking spaces are provided for the apartments in the parking garage. All parking in the garage will be gated except for 27 parking spaces in the upper garage that can be used by short-term visitors. In addition to the parking provided in the garage, 4 parking spaces will be provided at grade for short-term visitors to the apartments, which can be accessed via the secondary entryway on Carolan Avenue.

The 22 townhomes will each have an attached, with 2 car garages for 14 townhomes, and 3 car garages for 8 townhomes that can accommodate a total of 52 vehicles on site. In addition, 6 parking spaces will be provided at grade for short-term visitors to the townhomes, accessed via the secondary entryway on Carolan Avenue. A total of 58 parking spaces will be provided for the townhomes.

Guests to the apartments and the townhomes can either use the at-grade parking spaces provided at the secondary entryway on Carolan Avenue or use the guest parking spaces provided in the upper garage.

The site plan for the proposed project shows a bike repair/storage room that can accommodate 134 bicycles in the lower garage.

* REFER TO LANDSCAPE SHEETS L 1.1 AND L 1.2 FOR LEGEND INFORMATION

SEIDEL ARCHITECTS
777 S. CALIFORNIA AVENUE PALO ALTO, CA 94304
SUMMERHILL COMMUNITIES OF DISTINCTION
SUMMERHILL HOMES COMMUNITIES OF DISTINCTION
BKF
THE GUZZARDO PARTNERSHIP INC. Landscape Architects · Land Planners

Carolan Avenue / Rollins Road
Burlingame, CA

A0.5
Rendered Site Plan
6/12/2014

Figure 12A
Project Site Layout

NORTH
Not to Scale

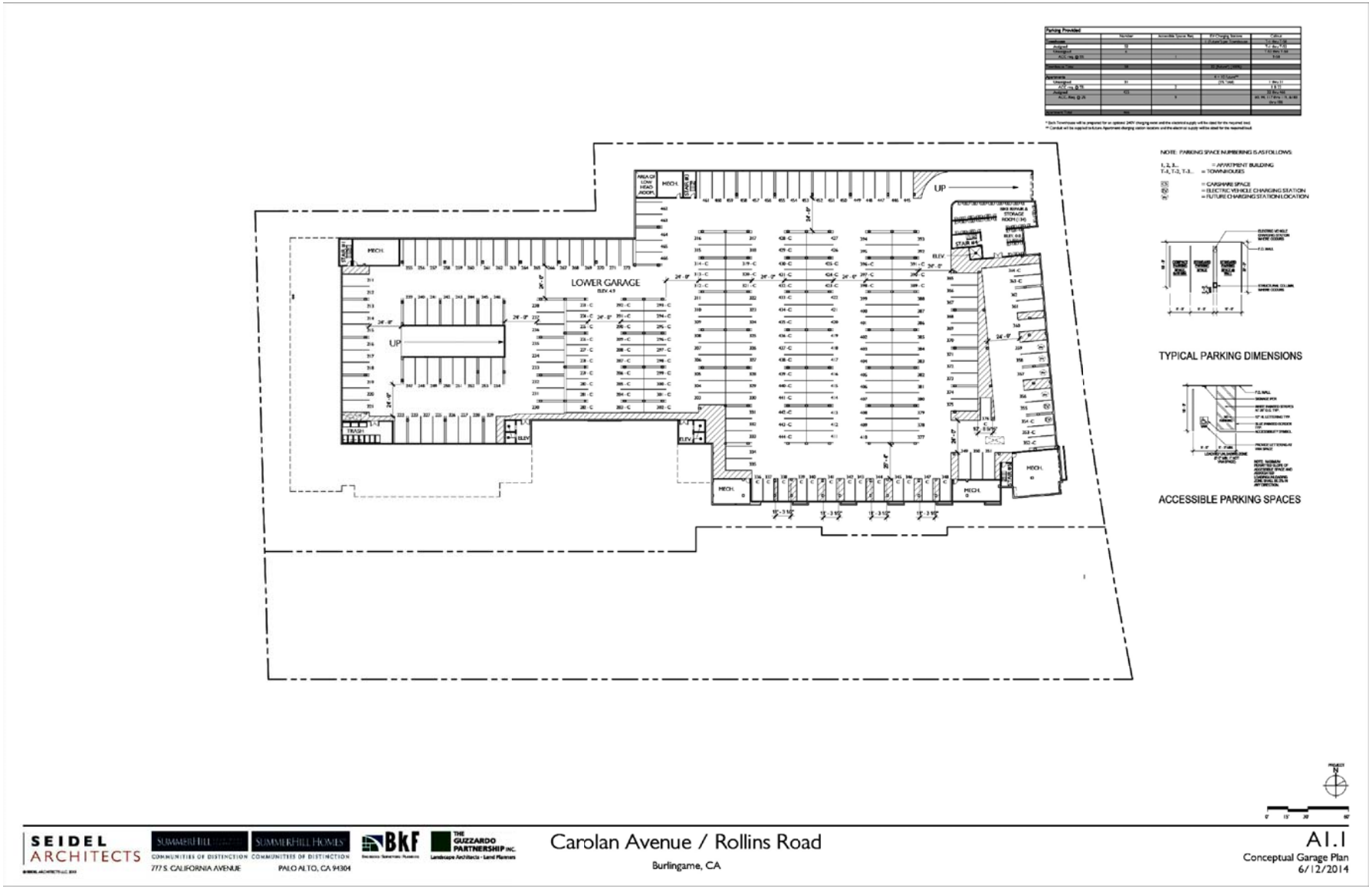


Figure 12B
Lower Garage Conceptual Plan

NORTH
Not to Scale

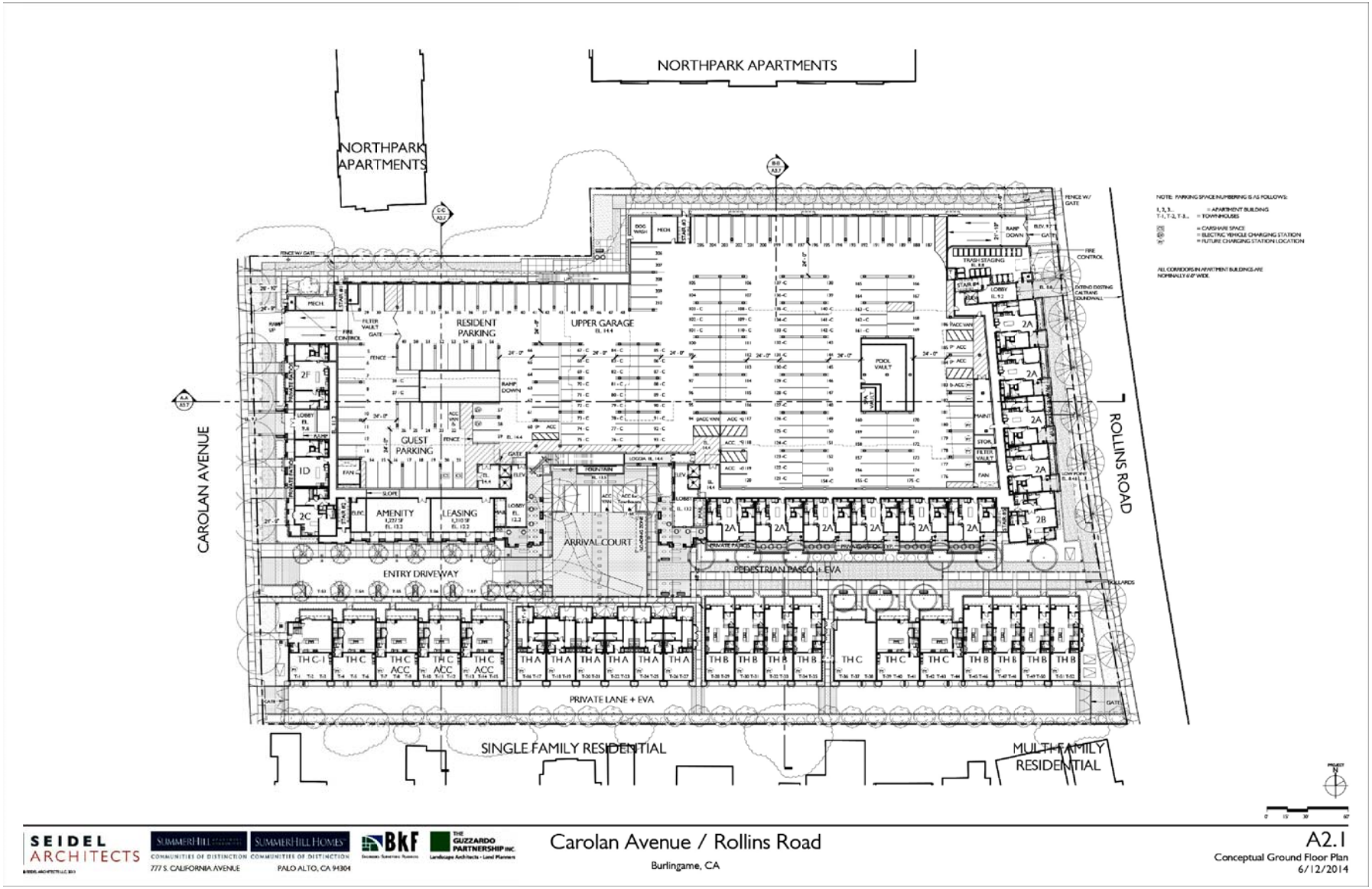


Figure 12C
Upper Garage Conceptual Plan

NORTH
Not to Scale

5. Cumulative Conditions

This chapter presents an analysis of the traffic conditions that would occur under near-term cumulative conditions, which are assumed to occur in 2020.

Cumulative Transportation Network and Traffic Volumes

It is assumed in this analysis that the transportation network under cumulative conditions would be the same as baseline conditions. The baseline conditions assumed that the US 101/Broadway Interchange Reconstruction project will be completed before the occupancy of the Carolan Avenue residential project. In addition to the US 101/Broadway interchange reconfiguration, it was assumed under baseline conditions that the "Complete Streets" Improvement Project on Carolan Avenue will be completed before the occupancy of the Carolan Avenue residential project.

Under cumulative conditions, it is also assumed that the proposed Peninsula Corridor Electrification Project (PCEP), which is a key component of the Caltrain Modernization program, will be completed. Weekday service at the Broadway station is expected to be restored with the implementation of the PCEP. The PCEP is expected to increase service by up to six Caltrain trains per peak hour per direction by 2020.

Cumulative traffic volumes for the Broadway and Oak Grove Avenue intersections on Carolan Avenue and California Drive were obtained directly from the cumulative Year 2020 volumes presented in the Peninsula Corridor Electrification Project EIR. For the rest of the study intersections, growth rates of 8.6% and 13.0% were applied to the AM and PM peak hour baseline volumes, respectively, to derive Year 2020 cumulative volumes. These growth factors represent an average of the growth at all of the intersections in the study area presented in the PCEP EIR. The peak hour cumulative traffic volumes are shown on Figure 13 and the cumulative traffic volumes with the project are shown on Figure 14.

Cumulative Intersection Level of Service Analysis

The results show that all signalized study intersections would continue to operate at LOS D or better during both peak hours (see Table 11 and Table 12) under cumulative conditions with and without the project, except for the intersection of California Drive and Broadway. The intersection of California Drive and Broadway would continue to operate at unacceptable LOS E under cumulative conditions with and without the project. The project would add very little traffic to this intersection and would increase the average weighted delay by only 0.4 seconds, resulting in a less than significant impact.

Table 11
Intersection Levels of Service Under Cumulative Conditions – Signalized Intersections

			Cumulative Conditions				
			No Project		With Project		
#	Study Intersection	Peak Hour	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Incr. In Avg. Delay
Signalized Intersections							
1	US 101 NB Ramps & Bayshore Hwy.	AM	20.8	C	21.1	C	0.3
		PM	22.5	C	22.9	C	0.4
2	Broadway/Airport Blvd. & Bayshore Hwy.	AM	10.8	B	10.9	B	0.1
		PM	12.6	B	12.6	B	0.0
3	US 101 SB Ramps & Broadway [2]	AM	23.5	C	23.5	C	0.0
		PM	27.4	C	27.5	C	0.1
4	Rollins Rd. & Broadway	AM	33.3	C	34.6	C	1.3
		PM	35.7	D	35.7	D	0.0
5	Rollins Rd. & Cadillac Way	AM	19.2	B	18.7	B	-0.5
		PM	8.7	A	8.6	A	-0.1
7	Carolan Ave. & Broadway	AM	31.5	C	31.9	C	0.4
		PM	44.3	D	44.9	D	0.6
9	California Dr. & Broadway	AM	**66.0**	**E**	**66.1**	**E**	0.1
		PM	**62.1**	**E**	**62.4**	**E**	0.3
12	California Ave. & Oak Grove Ave.	AM	52.1	D	53.1	D	1.0
		PM	32.7	C	33.0	C	0.3

Notes:
[1] Delay shown for the signalized intersections is the weighted average control delay for all turning movements approaching the intersection.
[2] Currently this intersection is uncontrolled with no conflicting traffic movements. With the proposed US 101/Broadway Interchange improvements, this intersection will be signalized.

BOLD font indicates unacceptable LOS.

Table 12
Intersection Levels of Service Under Cumulative Conditions – Unsignalized Intersections

			Cumulative Conditions				
			No Project		With Project		
#	Study Intersection	Peak Hour	Avg. [1] Delay	LOS	Avg. [1] Delay	LOS	Added Vehicles [3]
6	Rollins Rd. & Toyon Dr. (One-way stop)	AM	13.9	B	13.9	B	3
		PM	17.9	C	18.0	C	3
8	Carolan Ave. & Cadillac Way (One-way stop)	AM	24.2	C	25.5	D	25
		PM	21.7	C	22.5	C	27
10	Chula Vista Ave. & Broadway (Two-way stop)	AM	15.1	C	15.2	C	10
		PM	17.5	C	17.6	C	10
11	Carolan Ave. & Oak Grove Ave. (Three-way stop)[2]	AM	17.0	C	17.2	C	23
		PM	23.8	C	26.1	D	25

Notes:

[1] Delay shown for one-way and two-way stop controlled unsignalized intersections is the worst delay experienced by vehicles on the minor street approach and the delay shown for all-way stop controlled intersections is the average delay per vehicle of all vehicles approaching the intersection.

[2] Due to the limits of the software, this intersection was analyzed as an all-way stop. Delay shown is the weighted average delay for all turning movements approaching the intersection.

[3] The number of vehicles the project adds to the intersection.

The unsignalized intersection of Carolan Avenue and Oak Grove Avenue was analyzed in great detail. This intersection has three-way stop control with the eastbound movement uncontrolled. The *Highway Capacity Manual,* which is the basis for defining traffic methodologies and levels of service, does not speak to three-way stop controlled situations. There is a methodology for two-way stop intersections, which bases LOS on the worst movement. There is a methodology for all-way stop intersections, which bases LOS on an average of all movements. The Peninsula Corridor Electrification Project (PCEP) EIR used the two-way stop criterion and evaluated the worst movement. This intersection operates with long delays on Carolan Avenue during a portion of the AM peak hour due to traffic generated by the adjacent high school. Consequently the PCEP EIR showed this intersection operating at LOS F under existing conditions. The railroad electrification project was found to create a significant impact at this intersection. The EIR analyzed a potential traffic signal as a mitigation measure. However, signalization of the Carolan/Oak Grove intersection would result in secondary impacts at the intersection of California Drive and Oak Grove Avenue. Therefore, a traffic signal was not recommended.

Hexagon consulted with Burlingame staff and the author of the PCEP EIR, and it was determined that a better way to characterize this intersection is to look at the weighted average delay of all movements and to consider that the high school congestion lasts for only about 20 minutes out of the AM peak hour. Based on these criteria, the intersection operates at LOS B under existing conditions and would operate at LOS D or better under cumulative conditions with the project. Therefore, the project is found to have a less than significant impact at the Carolan & Oak Grove intersection. Also, as a practical matter, it is unlikely that project traffic would choose to travel through the Carolan & Oak Grove intersection during the high school drop-off period. Project traffic would either travel earlier or later or would use alternate routes, such as Rollins Road or California Drive.

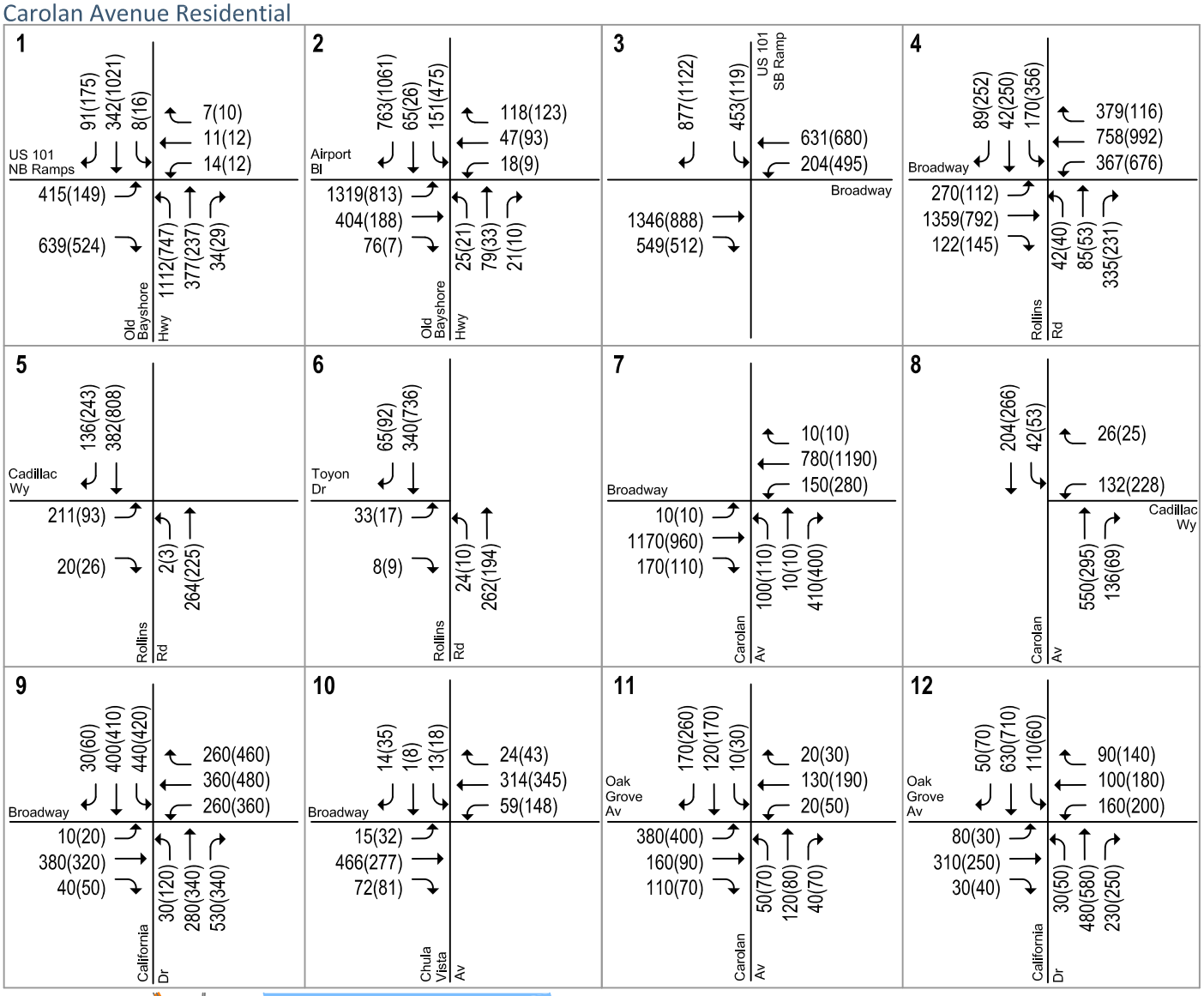


Figure 13
Cumulative (Year 2020) Traffic Volumes

NORTH
Not to Scale

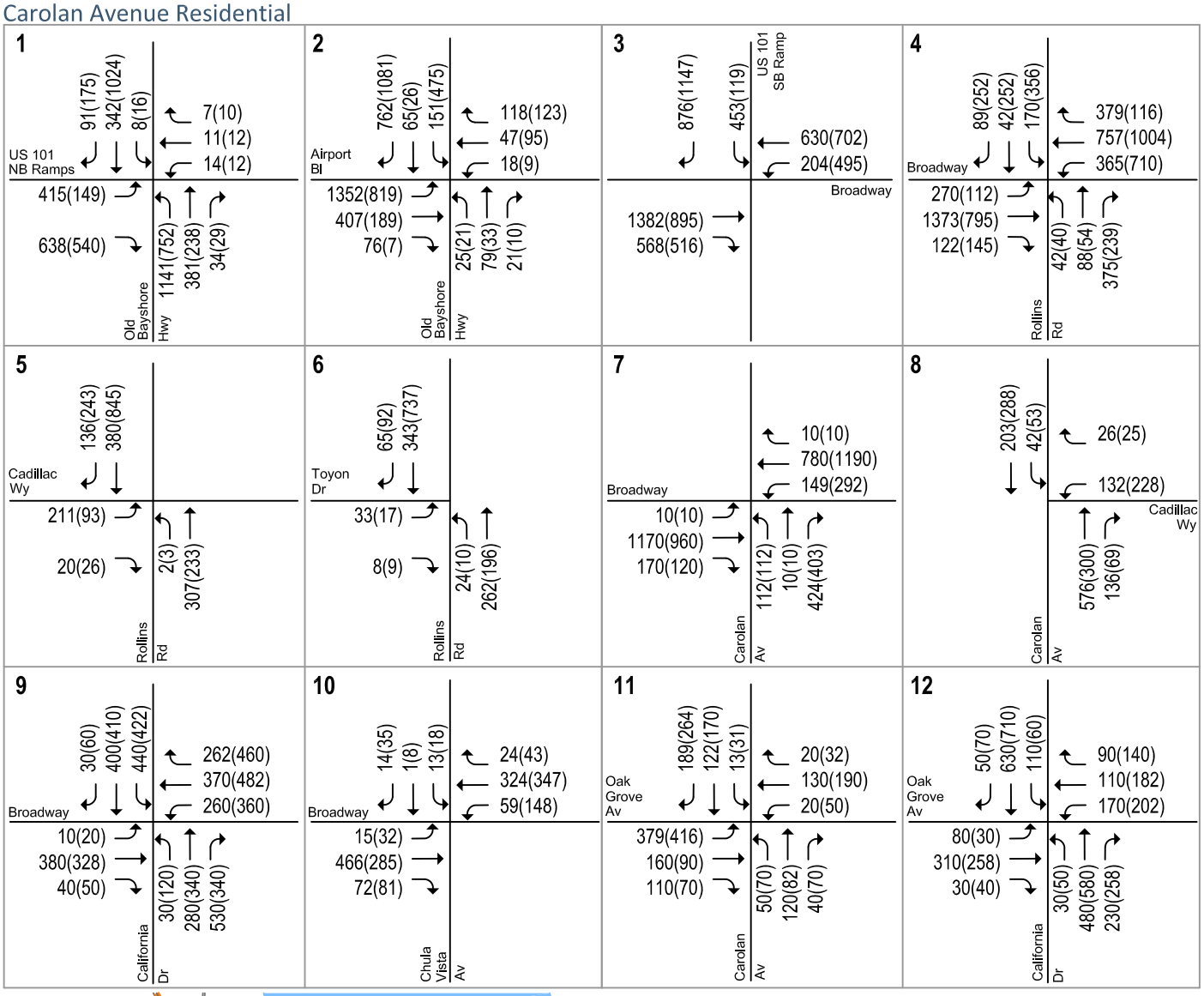


Figure 14
Cumulative (Year 2020) Plus Project Traffic Volumes

6. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of Burlingame. The study included the analysis of traffic conditions at eight signalized study intersections, and four unsignalized intersection during the weekday AM and PM peak hour durations. The weekday AM peak hour is typically between 7:00 AM and 9:00 AM and the PM peak hour is typically between 4:00 PM and 6:00 PM.

Project Impacts

The results of the intersection level of service analysis show that all signalized study intersections are expected to operate at acceptable levels under all scenarios according to standards set forth by the City of Burlingame except for the intersection of California Drive and Broadway. This intersection currently operates at an unacceptable LOS E during the AM peak hour and would continue to operate at LOS E, under baseline and cumulative conditions. However, the project would add very little traffic to this intersection during the peak hours and consequently would not result in any significant impacts at this intersection. Therefore, the project is considered to have a less than significant impact on all the signalized study intersections.

The unsignalized intersection of Carolan Avenue and Oak Grove Avenue was analyzed in great detail. This intersection has three-way stop control with the eastbound movement uncontrolled. The *Highway Capacity Manual,* which is the basis for defining traffic methodologies and levels of service, does not speak to three-way stop controlled situations. There is a methodology for two-way stop intersections, which bases LOS on the worst movement. There is a methodology for all-way stop intersections, which bases LOS on an average of all movements. The Peninsula Corridor Electrification Project (PCEP) EIR used the two-way stop criterion and evaluated the worst movement. This intersection operates with long delays on Carolan Avenue during a portion of the AM peak hour due to traffic generated by the adjacent high school. Consequently the PCEP EIR showed this intersection operating at LOS F under existing conditions. The railroad electrification project was found to create a significant impact at this intersection. The EIR analyzed a potential traffic signal as a mitigation measure. However, signalization of the Carolan/Oak Grove intersection would result in secondary impacts at the intersection of California Drive and Oak Grove Avenue. Therefore, a traffic signal was not recommended.

Hexagon consulted with Burlingame staff and the author of the PCEP EIR, and it was determined that a better way to characterize this intersection is to look at the weighted average delay of all movements and to consider that the high school congestion lasts for only about 20 minutes out of the AM peak hour. Based on these criteria, the intersection operates at LOS B under existing conditions and would operate at LOS D or better under baseline and cumulative conditions with the project. Therefore, the project is found to have a less than significant impact at the Carolan & Oak Grove intersection. Also, as a practical matter, it is unlikely that

project traffic would choose to travel through the Carolan & Oak Grove intersection during the high school drop-off period. Project traffic would either travel earlier or later or would use alternate routes, such as Rollins Road or California Drive.

PEER REIVEW

Prepared By: Fehr & Peers

FEHR PEERS

September 2, 2014

Ms. Kristy Weis
Project Manager
David J. Powers & Associates
1871 The Alameda, Suite 200
San Jose, CA 95126

Re: Peer Review Comments on the Carolan Avenue and Rollins Road Residential Development Draft Traffic Impact Analysis Report

Dear Ms. Weis:

Fehr & Peers has completed a second round peer review of the *Draft Transportation Impact Analysis (TIA) Report for the Carolan Avenue and Rollins Road Residential Development*. The TIA was originally prepared by Hexagon Transportation Consultants, Inc. (July 1, 2014) and revised per comments received from Fehr & Peers on July 31, 2014. Our second round peer review considers the adequacy of the traffic study as it relates to CEQA standards and technical accuracy. In this review, we evaluated the Traffic Study dated August 21, 2014 for whether or not the project addressed comments provided by Fehr & Peers in July 2014 and conducted a detailed technical review of the operational analysis. The questions below provide the framework for our review:

- Does the analysis include all of the scenarios required by CEQA?
- Does the study estimate traffic generation correctly?
- Does the analysis address all of the impact areas related to transportation as required by CEQA?
- Is the geographic scope of the analysis adequate so that the report adequately discloses traffic impacts?
- Is the cumulative analysis adequate in that appropriate forecasting procedures (list-based or model-based) are applied?
- Was the traffic operations analysis conducted using appropriate methodologies and analysis tools?
- Is the mitigation compliant with CEQA, and is it feasible and reasonable?

Our second peer review of the Traffic Study dated August 21, 2014 found that many of the comments provided in July 2014 were addressed in the new Traffic study and that the report continues to be consistent with industry standards and generally conservative with respect to project impacts.

FEHR PEERS

COMMENTS PROVIDED IN JULY 2014 REVIEW OF TRAFFIC STUDY

Comment 1: Existing Plus Project Analysis – Fehr & Peers noted that the Traffic Study includes the appropriate scenarios as required by CEQA and C/CAG with the exception of an Existing plus Project scenario. This was based on a separate conference call discussion in which Hexagon staff indicated that an Existing plus Project scenario would be purely theoretical since major roadway improvements are planned to be completed before the project's construction. Fehr & Peers recommended that the document should be updated to state that an Existing plus Project analysis scenario was considered by ultimately omitted for the reason stated above.

The revised Traffic Study includes an explanation for the omission of the existing plus project scenario analysis.

Comment 2: Trip Generation – Fehr & Peers recommended updating the trip generation based on the regression equations provided in the ITE Trip Generation, 9th Edition. The initial Traffic Study gave a credit for traffic generated by the existing land uses on the site based on data obtained from traffic counts collected at each of the existing driveways. Fehr & Peers requested these driveway traffic counts be included in the appendices of the Traffic Study.

The revised Traffic Study includes trip generation based on the regressions equations for each of the land uses and includes the driveway traffic counts in the Appendix.

Comment 3: Trip Distribution and Trip Assignment – Fehr & Peers noted that the project trip assignment on the figures and in the intersection level of service (LOS) analysis included traffic from both the proposed land uses and the project's primary trips. This project trip assignment with the total number of residential trips (and not the net new number) was used in both the Baseline plus Project Conditions analysis and the Cumulative plus Project Conditions analysis. This approach caused the project's intersection impacts to be overstated even though the project does not result in any significant impacts under either future scenario. Fehr & Peers recommended that the figures and LOS analysis be updated to only analyze the impact of the net new trips associated with the project.

The revised Traffic Study analyses the Baseline plus Project conditions and the Cumulative plus Project Conditions based on the net new trips associated with the project.

Comment 4: Cumulative 2020 Volumes – Fehr & Peers noted some discrepancies between the cumulative traffic volumes for the Broadway and Oak Grove intersections on Carolan Avenue and California Drive which were obtained directly from the cumulative year 2020 volumes presented in the Caltrain Electrification Project Draft EIR (DEIR), which is currently undergoing public review.

Upon further consultation with the traffic consultant for the DEIR, these intersections were revised to reflect the correct traffic volumes at the Broadway and Oak Grove intersection on Carolan Avenue and California Drive.

FEHR & PEERS

For the remaining study intersections, Fehr & Peers noted that the document stated that growth rates of 8.6% and 13.0% were applied to the AM and PM peak hour baseline volumes, respectively, to derive the Cumulative 2020 Volumes. However, it was not clear exactly how these growth rates were derived especially since they are relatively precise. We recommended that the text of the Traffic Study be revised to include an explanation of these growth rates.

> *The Traffic Study was revised to explain that the identified growth rates represent an average of the growth at all of the intersections in the study area presented in the DEIR, which were then applied to the study intersections indicated in the Traffic Study.*

Comment 5: Baseline and Cumulative Analysis – Fehr & Peers noted the discussion under the Methodologies: Signalized Intersection section on Page 4 states that the TIA accounted for the gate down time in the level of service analysis. However, there was no indication of how it was accounted for. For transparency, Fehr & Peers recommended the TIA should explain this adjustment in the body of the document.

> *The Traffic Study was revised to state that the TIA accounted for the increased gate down time in the level of service analysis by increasing the loss time inputs at intersections adjacent to the tracks.*

Editorial Discrepancies:

Fehr & Peers noted several discrepancies in the Traffic Study between tables, figures, and appendix worksheets. The revised Traffic Study was updated to address all discrepancies, and no new discrepancies were identified.

We hope this information is useful in supplementing the defensibility of the document. If you have any questions or comments, please do not hesitate to contact me at (691) 758-3002.

Sincerely,

FEHR & PEERS

Sohrab Rashid
Principal

Anjuli Bakhru
Transportation Engineer

SD14-0123

PARKING STUDY
FOR INFORMATIONAL PURPOSES ONLY

Prepared By: Hexagon Transportation Consultants

HEXAGON TRANSPORTATION CONSULTANTS, INC.

October 24, 2014

Mr. John A. Hickey
SummerHill Homes
777 California Avenue
Palo Alto, CA 94304

Re: Results of Parking Study for Apartments in Burlingame, California

Dear Mr. Hickey:

This memo presents the results of parking demand counts that were conducted relative to your proposed residential project at 1008-1028 Carolan Avenue and 1007-1025 Rollins Road in Burlingame, California. The project would consist of 268 apartments and 22 townhomes. The proposed project would provide 466 parking spaces for the apartment complex, and 58 parking spaces for the townhouse units.

At your request, Hexagon completed parking counts at existing apartment complexes to determine the ratios of parked cars to units and to bedrooms. The purpose of the study was to survey the parking demand at comparable apartment complexes to determine the typical peak ratio of parked cars per unit and parked cars per bedroom. We counted four comparable apartment complexes that are large-scale, highly amenitized, constructed within the last 15 years, and in San Mateo County. The study did not survey any townhome developments. The proposed project would provide approximately 2.64 parking spaces per townhome, consistent with City of Burlingame standards.

Each apartment complex was counted on September 10th, 11th, and 12th in 2014. Peak parking demand for residential development begins at 12:00 AM. Hexagon began the counts at midnight on each of the survey days. Hexagon counted all of the garage parking, on-property surface parking, and on-street parking that was clearly associated with the respective apartment complexes. The four comparable apartments that were surveyed are as follows:

- The Plaza at 1 Plaza View Lane, Foster City, CA
- Avalon San Bruno at 1099 Admiral Court, San Bruno, CA
- Metropolitan Apartments at 338 S. Fremont Street, San Mateo, CA
- Archstone San Mateo Apartments at 1101 Park Plaza, San Mateo, CA

An aerial photo showing the four apartment complexes' locations can be found in Figure 1. Parking occupancy counts were performed after midnight in order to ensure peak residential demand. Results for the parking counts can be found in Table 1. Overall, the weighted average occupied parking spaces to unit ratio was 1.34, and the weighted average occupied parking spaces to bedroom ratio was 0.80. The average occupied parking spaces to unit ratios for the four developments were 1.37, 1.37, 1.39 and 1.27 respectively. The average occupied parking spaces to bedroom ratios for the four developments were 0.87, 0.82, 0.91, and 0.71 respectively. For each apartment complex, the supply of off-street parking exceeded the total parking demand.

During the week of the parking surveys, all apartment complexes were 90% to 95% occupied. According to industry standards, a 95% occupancy is considered fully occupied due to apartment turnover.

Based on our study, we conclude that the typical average peak parking demand for apartment complexes comparable to the proposed project is approximately 1.34 parking spaces per unit and approximately 0.80 parking spaces per bedroom.

We appreciate the opportunity to submit this data for your review. Please do not hesitate to contact us if additional information is needed.

Sincerely,

HEXAGON TRANSPORTATION CONSULTANTS, INC.

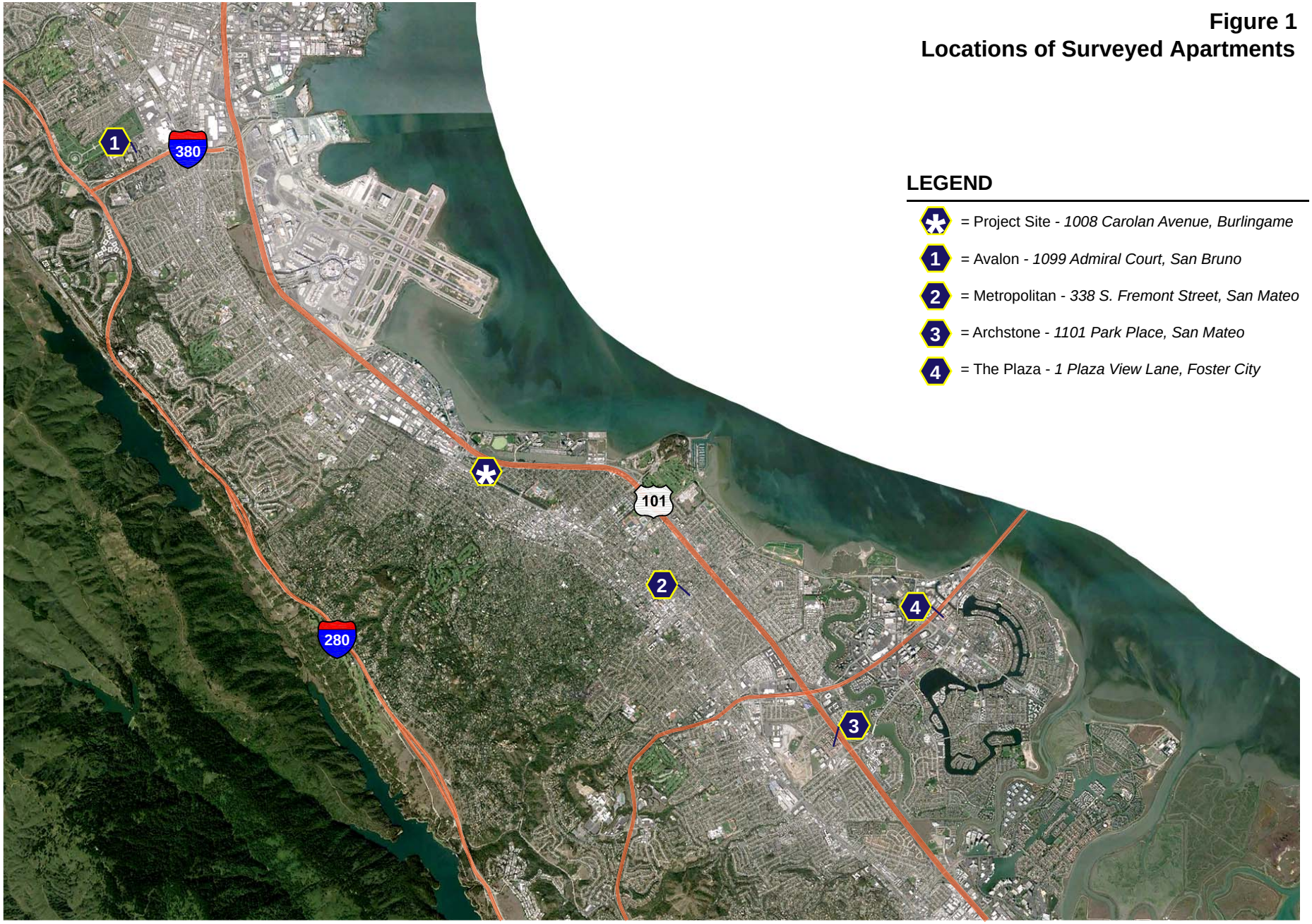
Gary Black, President

111 W. St. John Street, Suite 850 • San Jose, California 95113
phone 408.971.6100 • fax 408.971.6102 • www.hextrans.com

Table 1
Summary of Parking Survey

	The Plaza	Avalon San Bruno	Metropolitan Apartments	Archstone San Mateo
1 bedroom units	150	291	115	212
2 bedroom units	138	318	91	279
3 bedroom units	19	63	12	84
Total Apartment Units	307	672	218	575
Total Bedrooms	483	1116	333	1022
Count Date	9/10/14 - 9/12/14	9/10/14 - 9/12/14	9/10/14 - 9/12/14	9/10/14 - 9/12/14
Average Occupied Parking Spaces	421	918	302	730
Total Parking Spaces	729	1223	507	1153
Ratio: Provided spaces to units	2.35	1.75	1.94	1.87
Ratio: Average occupied spaces to units	1.37	1.37	1.39	1.27
Ratio: Provided spaces to bedrooms	1.49	1.05	1.27	1.05
Ratio: Average occupied spaces to bedrooms	0.87	0.82	0.91	0.71

Figure 1
Locations of Surveyed Apartments



LEGEND

- * = Project Site - *1008 Carolan Avenue, Burlingame*
- 1 = Avalon - *1099 Admiral Court, San Bruno*
- 2 = Metropolitan - *338 S. Fremont Street, San Mateo*
- 3 = Archstone - *1101 Park Place, San Mateo*
- 4 = The Plaza - *1 Plaza View Lane, Foster City*

HEXAGON

NORTH
Not to Scale

Burlingame Parking Study
Technical Appendix

Appendix A

Parking Survey Data

Parking Survey Day 1

			Gated																Ungated														
			Reserved										Non-Reserved						Reserved								Non-Reserved						Total		
			Conventional			Handicap			EV			Tandem [1]			Conventional			Handicap			Conventional			Handicap			Other [2]			Conventional			Handicap					
Apartment	Garage	Level	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied
The Plaza, Foster City	Main Garage	Ground	44	80	55%	1	4	25%	1	3	33%																										
		2nd	14	16	88%	0	2	0%																													
		3rd	75	123	61%	0	2	0%																													
		4th	73	122	60%	0	2	0%																													
		5th	50	123	41%	0	1	0%																													
		Roof	4	57	7%																																
		SubTotal	260	521	50%	1	11	9%	1	3	33%																				95	96	99%	0	1	0%	357	632	56%
	On Property																										11	20	55%	54	59	92%	4	10	40%	69	89	78%
	On-Street																													3	8	38%				3	8	38%
	Total		**260**	**521**	**50%**	**1**	**11**	**9%**	**1**	**3**	**33%**																**11**	**20**	**55%**	**152**	**163**	**93%**	**4**	**11**	**36%**	**429**	**729**	**59%**
The Avalon, San Bruno	Building 1	Ground	9	19	47%														5	5	100%	2	2	100%	5	8	63%										
		2nd	59	71	83%	1	2	50%																													
		3rd	58	71	82%	0	2	0%																													
		4th	56	71	79%	2	2	100%																													
		5th	60	72	83%	1	1	100%																													
		6th	6	73	8%																																
		Roof	48	58	83%																																
		SubTotal	296	435	68%	4	7	57%											5	5	100%	2	2	100%	5	8	63%								312	457	68%
	Building 2	G	94	129	73%	7	8	88%				5	6	83%																							
		G2 [3]	48	67	72%							23	42	55%	59	62	95%																				
		SubTotal	142	196	72%	7	8	88%				28	48	58%	59	62	95%																		236	314	75%
	Building 3	P1	93	134	69%	2	4	50%							39	40	98%	1	3	33%																	
		P2	122	178	69%										44	45	98%																				
		SubTotal	215	312	69%	2	4	50%							83	85	98%	1	3	33%															301	404	75%
	On-Street [4]																										3	3	100%	43	44	98%	1	1	100%	47	48	98%
	Total		**653**	**943**	**69%**	**13**	**19**	**68%**				**28**	**48**	**58%**	**142**	**147**	**97%**	**1**	**3**	**33%**	**5**	**5**	**100%**	**2**	**2**	**100%**	**8**	**11**	**73%**	**43**	**44**	**98%**	**1**	**1**	**100%**	**896**	**1223**	**73%**
Metropolitan, San Mateo	Garage 337		67	111	60%	0	3	0%	2	2	100%	20	44	45%							8	17	47%	0	1	0%									97	178	54%
	Garage 338		137	210	65%	3	5	60%	0	3	0%										4	7	57%	0	2	0%	2	10	20%	7	7	100%				153	244	63%
	On-Street [5]																													42	85	49%				42	85	49%
	Total		**204**	**321**	**64%**	**3**	**8**	**38%**	**2**	**5**	**40%**	**20**	**44**	**45%**							**12**	**24**	**50%**	**0**	**3**	**0%**	**2**	**10**	**20%**	**49**	**92**	**53%**				**292**	**507**	**58%**
Archstone, San Mateo	Garage A [6]		338	544	62%	1	7	14%					10	0%																					339	561	60%
	Garage B [7]		227	431	53%	3	8	38%																											230	439	52%
	On Property [8]																													62	70	89%	0	3	0%	62	73	85%
	On-Street [9]																													80	80	100%				80	80	100%
	Total		**565**	**975**	**58%**	**4**	**15**	**27%**					**10**	**0%**																**142**	**150**	**95%**	**0**	**3**	**0%**	**711**	**1153**	**62%**

Note:

1. Tandem spaces are calculated as 2 spaces per tandem space. The reported spaces represent the total number of parking spaces. For example, if there are 9 tandem spaces, then there are a total of 18 parking spaces. The 18 parking spaces would be noted as the total number of spaces.
2. Parking spaces listed under the "Other" category represent parking spaces that are not designated for residential use. For The Plaza in Foster City, the "Other" parking spaces are for retail uses. For The Avalon in San Bruno, the "Other" parking spaces are for employee uses only. For Metropolitan in San Mateo, the "Other" parking spaces are for Future Residents.
3. 15 of the 18 tandem spaces were either partially or fully occupied.
4. 11 curb parking spaces on National Avenue and Commodore Drive are marked with yellow curbs, 3 parking spaces on Admiral Court are marked with white curbs. Parking on Commodore Drive at the south end of the property is shared between Avalon and the Acapella. Based on unit ratios, Hexagon proportioned 67% of all parking on Commodore Drive at the south end of the property towards Avalon.
5. At Metropolitan, on-street parking spaces were counted on the south side of E 3rd Avenue, the east side of S. Eldorado Street, both sides of S. Fremont Street, the west side of S. Grant Street, and the north side of E. 4th Street. On-street parking fronting the building on the northwest corner at the intersection of S. Grant Street and E. 4th Avenue was not counted because this building does not belong to Metropolitan.
6. Garage A is the garage between Wayne Way and David Street.
7. Garage B is the garage between David Street and Saratoga Road.
8. At Archstone, 12 spaces on Wayne Way are passenger loading zones between 7-6, 6 spaces on David Street are 1-Hr parking zones between 7-6, 26 spaces on WB Park Place are 1-Hr parking zones between 7-6, 19 spaces on EB Park Place are 2-Hr parking zones between 8-6.
9. At Archstone, on-street parking was counted on the south side of Yates Way, west side of Wayne Way, and both sides of David Street

Parking Survey Day 2

			Gated																		Ungated																	
			Reserved										Non-Reserved								Reserved										Non-Reserved							
			Conventional			Handicap			EV			Tandem [1]			Conventional			Handicap			Conventional			Handicap			Other [2]			Conventional			Handicap			Total		
					%			%			%			%			%			%			%			%			%			%			%			%
Apartment	Garage	Level	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied	Parked	Total	Occupied
The Plaza, Foster City	Main Garage	Ground	41	80	51%	1	4	25%	1	3	33%																											
		2nd	14	16	88%	0	2	0%																														
		3rd	72	123	59%	0	2	0%																														
		4th	71	122	58%	0	2	0%																														
		5th	48	123	39%	0	1	0%																														
		Roof	3	57	5%																																	
		SubTotal	249	521	48%	1	11	9%	1	3	33%																				95	96	99%	1	1	100%			
	On Property																										3	20	15%	54	59	92%	4	10	40%	61	89	69%
	On-Street																													4	8	50%				4	8	50%
	Total		**249**	**521**	**48%**	**1**	**11**	**9%**	**1**	**3**	**33%**																**3**	**20**	**15%**	**153**	**163**	**94%**	**5**	**11**	**45%**	**412**	**729**	**57%**
The Avalon, San Bruno	Building 1	Ground	9	19	47%																5	5	100%	2	2	100%	5	8	63%									
		2nd	57	71	80%	2	2	100%																														
		3rd	56	71	79%	1	2	50%																														
		4th	57	71	80%	1	2	50%																														
		5th	58	72	81%	1	1	100%																														
		6th	59	73	81%																																	
		Roof	41	58	71%																																	
		SubTotal	337	435	77%	5	7	71%													5	5	100%	2	2	100%	5	8	63%							354	457	77%
	Building 2	G	95	129	74%	7	8	88%				6	6	100%																								
		G2 [3]	48	67	72%							23	42	55%	60	62	97%																					
		SubTotal	143	196	73%	7	8	88%				29	48	60%	60	62	97%																			239	314	76%
	Building 3	P1	81	134	60%	2	4	50%							39	40	98%	0	3	0%																		
		P2	119	178	67%										42	45	93%																					
		SubTotal	200	312	64%	2	4	50%							81	85	95%	0	3	0%																	283	404	70%
	On-Street [4]																										3	3	100%	40	44	91%	0	1	0%	43	48	90%
	Total		**680**	**943**	**72%**	**14**	**19**	**74%**				**29**	**48**	**60%**	**141**	**147**	**96%**	**0**	**3**	**0%**	**5**	**5**	**100%**	**2**	**2**	**100%**	**8**	**11**	**73%**	**40**	**44**	**91%**	**0**	**1**	**0%**	**919**	**1223**	**75%**
Metropolitan, San Mateo	Garage 337		72	111	65%	0	3	0%	2	2	100%	20	44	45%							8	17	47%	0	1	0%	3										105	178	59%
	Garage 338		142	210	68%	3	5	60%	1	3	33%										4	7	57%	0	2	0%	3	10	30%	6	7	86%				159	244	65%
	On-Street [5]																													44	85	52%				44	85	52%
	Total		**214**	**321**	**67%**	**3**	**8**	**38%**	**3**	**5**	**60%**	**20**	**44**	**45%**							**12**	**24**	**50%**	**0**	**3**	**0%**	**6**	**10**	**60%**	**50**	**92**	**54%**				**308**	**507**	**61%**
Archstone, San Mateo	Garage A [6]		342	544	63%	2	7	29%				6	10	60%																							350	561	62%
	Garage B [7]		272	431	63%	6	8	75%																													278	439	63%
	On Property [8]																													30	70	43%	0	3	0%	30	73	41%
	On-Street [9]																													78	80	98%				78	80	98%
	Total		**614**	**975**	**63%**	**8**	**15**	**53%**				**6**	**10**	**60%**																**108**	**150**	**72%**	**0**	**3**	**0%**	**736**	**1153**	**64%**

Note:

1. Tandem spaces are calculated as 2 spaces per tandem space. The reported spaces represent the total number of parking spaces. For example, if there are 9 tandem spaces, then there are a total of 18 parking spaces. The 18 parking spaces would be noted as the total number of spaces.
2. Parking spaces listed under the "Other" category represent parking spaces that are not designated for residential use. For The Plaza in Foster City, the "Other" parking spaces are for retail uses. For The Avalon in San Bruno, the "Other" parking spaces are for employee uses only. For Metropolitan in San Mateo, the "Other" parking spaces are for Future Residents.
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5. At Metropolitan, on-street parking spaces were counted on the south side of E 3rd Avenue, the east side of S. Eldorado Street, both sides of S. Fremont Street, the west side of S. Grant Street, and the north side of E. 4th Street. On-street parking fronting the building on the northwest corner at the intersection of S. Grant Street and E. 4th Avenue was not counted because this building does not belong to Metropolitan.
6. Garage A is the garage between Wayne Way and David Street.
7. Garage B is the garage between David Street and Saratoga Road.
8. At Archstone, 12 spaces on Wayne Way are passenger loading zones between 7-6, 6 spaces on David Street are 1-Hr parking zones between 7-6, 26 spaces on WB Park Place are 1-Hr parking zones between 7-6, 19 spaces on EB Park Place are 2-Hr parking zones between 8-6.
9. At Archstone, on-street parking was counted on the south side of Yates Way, west side of Wayne Way, and both sides of David Street

Parking Survey Day 3

			Gated																Ungated														
			Reserved										Non-Reserved						Reserved								Non-Reserved						Total		
			Conventional			Handicap			EV			Tandem [1]			Conventional			Handicap			Conventional			Handicap			Other [2]			Conventional			Handicap					
Apartment	Garage	Level	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied	Parked	Total	% Occupied
The Plaza, Foster City	Main Garage	Ground	41	80	51%	1	4	25%	1	3	33%																										
		2nd	13	16	81%	0	2	0%																													
		3rd	72	123	59%	0	2	0%																													
		4th	71	122	58%	0	2	0%																													
		5th	51	123	41%	0	1	0%																													
		Roof	3	57	5%																																
		SubTotal	251	521	48%	1	11	9%	1	3	33%																				95	96	99%	1	1	100%	349	632	55%
	On Property																										7	20	35%	59	59	100%	4	10	40%	70	89	79%
	On-Street																													3	8	38%				3	8	38%
	Total		**251**	**521**	**48%**	**1**	**11**	**9%**	**1**	**3**	**33%**																**7**	**20**	**35%**	**157**	**163**	**96%**	**5**	**11**	**45%**	**422**	**729**	**58%**
The Avalon, San Bruno	Building 1	Ground	9	19	47%														5	5	100%	2	2	100%	4	8	50%									
		2nd	57	71	80%	2	2	100%																												
		3rd	57	71	80%	0	2	0%																												
		4th	58	71	82%	2	2	100%																												
		5th	58	72	81%	1	1	100%																												
		6th	59	73	81%																															
		Roof	42	58	72%																															
		SubTotal	340	435	78%	5	7	71%											5	5	100%	2	2	100%	4	8	50%								356	457	78%
	Building 2	G	98	129	76%	6	8	75%				6	6	100%																						
		G2 [3]	50	67	75%							22	42	52%	61	62	98%																			
		SubTotal	148	196	76%	6	8	75%				28	48	58%	61	62	98%																		243	314	77%
	Building 3	P1	87	134	65%	2	4	50%							40	40	100%	3	3	100%																	
		P2	117	178	66%										45	45	100%																			
		SubTotal	204	312	65%	2	4	50%							85	85	100%	3	3	100%															294	404	73%
	On-Street [4]																										3	3	100%	43	44	98%	0	1	0%	46	48	96%
	Total		**692**	**943**	**73%**	**13**	**19**	**68%**				**28**	**48**	**58%**	**146**	**147**	**99%**	**3**	**3**	**100%**	**5**	**5**	**100%**	**2**	**2**	**100%**	**7**	**11**	**64%**	**43**	**44**	**98%**	**0**	**1**	**0%**	**939**	**1223**	**77%**
Metropolitan, San Mateo	Garage 337		69	111	62%	0	3	0%	2	2	100%	19	44	43%							12	17	71%	0	1	0%									102	178	57%
	Garage 338		128	210	61%	3	5	60%	1	3	33%										4	7	57%	0	2	0%	7	10	70%	6	7	86%				149	244	61%
	On-Street [5]																													55	85	65%				55	85	65%
	Total		**197**	**321**	**61%**	**3**	**8**	**38%**	**3**	**5**	**60%**	**19**	**44**	**43%**							**16**	**24**	**67%**	**0**	**3**	**0%**	**7**	**10**	**70%**	**61**	**92**	**66%**				**306**	**507**	**60%**
Archstone, San Mateo	Garage A [6]		341	544	63%	1	7	14%				6	10	60%																					348	561	62%
	Garage B [7]		274	431	64%	6	8	75%																											280	439	64%
	On Property [8]																													38	70	54%	0	3	0%	38	73	52%
	On-Street [9]																													77	80	96%				77	80	96%
	Total		**615**	**975**	**63%**	**7**	**15**	**47%**				**6**	**10**	**60%**																**115**	**150**	**77%**	**0**	**3**	**0%**	**743**	**1153**	**64%**

Note:

1. Tandem spaces are calculated as 2 spaces per tandem space. The reported spaces represent the total number of parking spaces. For example, if there are 9 tandem spaces, then there are a total of 18 parking spaces. The 18 parking spaces would be noted as the total number of spaces.
2. Parking spaces listed under the "Other" category represent parking spaces that are not designated for residential use. For The Plaza in Foster City, the "Other" parking spaces are for retail uses. For The Avalon in San Bruno, the "Other" parking spaces are for employee uses only. For Metropolitan in San Mateo, the "Other" parking spaces are for Future Residents.
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5. At Metropolitan, on-street parking spaces were counted on the south side of E 3rd Avenue, the east side of S. Eldorado Street, both sides of S. Fremont Street, the west side of S. Grant Street, and the north side of E. 4th Street. On-street parking fronting the building on the northwest corner at the intersection of S. Grant Street and E. 4th Avenue was not counted because this building does not belong to Metropolitan.
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9. At Archstone, on-street parking was counted on the south side of Yates Way, west side of Wayne Way, and both sides of David Street