
3.11 TRAFFIC AND CIRCULATION

Introduction

This section summarizes the transportation and circulation impacts resulting from implementation of the proposed project. The information is based on current traffic volumes and traffic demand models included in the Transportation Impact Analysis (TIA) produced for this DEIR by DKS Associates (see Appendix G) and the Transportation Demand Management (TDM) Program, also prepared by DKS Associates (see Appendix J). The TIA for the proposed project was prepared according to the methodology recommended in the *Transportation Impact Analysis Guidelines* dated November 2003. Potential impacts to highways, local roadways, intersections, transit, bicycle, and pedestrian systems were evaluated following standards and methodologies set forth by the City of Menlo Park and the San Mateo County Congestion Management Program (CMP). Particular attention is given to vehicular impacts to transportation facilities located within the City of Menlo Park and the Town of Atherton.

The California Department of Transportation (Caltrans) and the San Mateo County Transit District (SamTrans) both submitted responses to the NOP (see Appendix C). Each letter stated that the respective agencies would look forward to reviewing the DEIR when the DEIR was available for public review. Comments received in response to the Notice of Preparation included concerns associated with the increase in traffic and potential conflicts with the City's General Plan goals and policies; potential impact to the Marsh Road/US 101 interchange; a desire to see a shuttle service to downtown and the Caltrain station, as well as bicycle-related improvements within the project area. All of these concerns are addressed in this section. In addition, the Initial Study (see Appendix B) prepared for the project determined that the proposed project would not adversely affect air traffic patterns; therefore, this issue is not evaluated in this section.

Traffic conditions were evaluated for the following scenarios:

- Existing Conditions (2007)
- Near Term No Project Conditions (2010)
- Near Term plus Project Conditions (2010)
- Cumulative No Project Conditions (2027)
- Cumulative plus Project Conditions (2027)

Setting

Study Intersections and Roadway Segments

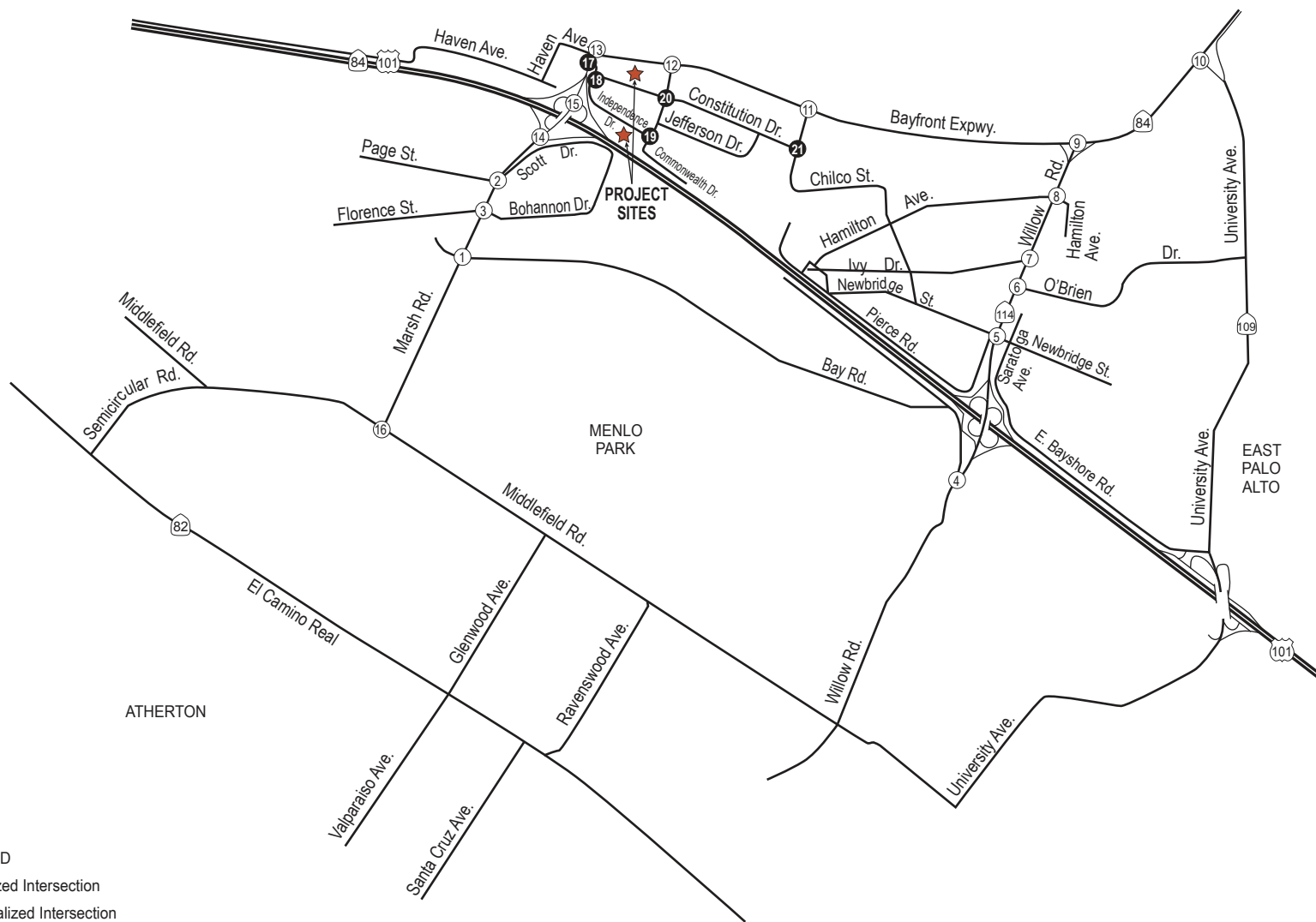
Based on a determination of which intersections would be impacted by the proposed project, City staff selected twenty-one (21) intersections for inclusion in the analysis. Of these 21 intersections, 16 are signalized and five are unsignalized. One of the study intersections (Marsh Road/Middlefield Road) is

located in the Town of Atherton. The remaining study intersections are located within the City of Menlo Park. In addition, a total of nine roadway segments were analyzed. The study intersections, shown on Figure 3.11-1, Study Area, include:

1. Marsh Road/Bay Road
2. Marsh Road/Scott Drive
3. Marsh Road/Bohannon
4. Willow Road/Bay Road
5. Willow Road/Newbridge Street
6. Willow Road/O'Brien Drive
7. Willow Road/Ivy Drive
8. Willow Road/Hamilton Avenue
9. Bayfront Expressway/Willow Road
10. Bayfront Expressway/University Avenue
11. Bayfront Expressway/Chilco Street
12. Bayfront Expressway/Chrysler Drive
13. Bayfront Expressway/Marsh Road
14. Marsh Road/US 101 SB Off-Ramp
15. Marsh Road/US 101 NB Off-Ramp
16. Marsh Road/Middlefield Road (Atherton)
17. Independence Drive/Marsh Road (unsignalized)
18. Independence Drive/Constitution Drive (unsignalized)
19. Independence Drive/Chrysler Drive (unsignalized)
20. Constitution Drive/Chrysler Drive (unsignalized)
21. Constitution Drive/Chilco Street (unsignalized)

The roadway segments analyzed include the following nine segments:

1. Marsh Road between Scott Drive and Bohannon Drive
2. Marsh Road between Bohannon Drive and Bay Road
3. Constitution Drive between Independence Drive and Chrysler Drive
4. Constitution Drive between Chrysler Drive and Chilco Street
5. Independence Drive between Constitution Drive and Chrysler Drive
6. Chrysler Drive between Bayfront Expressway and Constitution Drive



LEGEND

- Signalized Intersection
- Unsignalized Intersection
- Project Site



Source: DKS Associates, 2009



FIGURE 3.11-1
Study Area

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7. Chrysler Drive between Constitution Drive and Jefferson Drive
8. Chilco Street between Constitution Drive and Bayfront Expressway
9. Chilco Street between Constitution Drive and Hamilton Avenue

Roadway Network

The existing roadway network within the project vicinity is also illustrated in Figure 3.11-1. Arterial streets within the project area include Marsh Road, Willow Road, and Middlefield Road. A number of collector streets serve the project vicinity, which include Haven Avenue, Bay Road, and a portion of Constitution Drive between Chrysler Drive and Chilco Street, Chrysler Drive between Bayfront Expressway and Constitution Drive, and Chilco Street between Bayfront Expressway and Constitution Drive. Independence Drive, Constitution Drive between Independence Drive and Chrysler Drive, Chrysler Drive between Constitution Drive and Jefferson Drive, and Chilco Street between Constitution Drive and Hamilton Avenue are classified as local streets. In the vicinity of the project area, sidewalks generally do not exist, including along the frontage of the Constitution or Independence sites.

A summary of the roadway network is included below.

Marsh Road. Marsh Road is a minor arterial that runs in the east-west direction between Middlefield Road in the Town of Atherton and ends at the Bayfront Expressway, east of US 101. Between Middlefield Road and Bay Road, there is typically one lane in each direction with on-street parking, and a speed limit of 35 mph. East of Bay Road, there are typically two lanes in each direction with on-street parking permitted in some areas, and a speed limit of 35 mph. Between US 101 and Bayfront Expressway, there are three lanes in each direction with no on-street parking permitted, and a speed limit of 35 mph.

Bayfront Expressway (SR 84). Bayfront Expressway is State Route 84 (SR 84) under Caltrans jurisdiction. It is a divided roadway with three lanes in each direction connecting Marsh Road with the Dumbarton Bridge and, in the area of Menlo Park, runs in an east-west direction. Each of the intersections along the Bayfront Expressway is signalized, with the exception of one unsignalized intersection between Chilco Street and Willow Road. The free-flow movements of Bayfront Expressway are not disrupted at this unsignalized intersection except for those making a westbound left-turn onto the Tyco campus, west of Bayfront Expressway. On-street parking is not permitted on Bayfront Expressway and the speed limit is 50 mph.

Willow Road. Willow Road is a two-lane street west of US 101 and a four-lane street east of US 101. The road runs in the east-west direction, south of the project site, and is classified as a minor arterial. Willow Road serves mainly residential with some commercial areas. There are bike lanes along Willow Road. Willow Road is classified as a minor arterial east of Middlefield Road. On-street parking is not allowed on Willow Road and the speed limit is 40 mph. Additionally, Willow Road east of US 101 is State Route 114 and state controlled.

Middlefield Road. Middlefield Road is a four-lane, north-south facility that stretches across Menlo Park and Atherton. Middlefield Road is two lanes wide north of Ringwood Avenue and four lanes wide south of Ringwood. Near Marsh Road in Atherton, one lane of traffic operates in each direction. On-street parking is not permitted on Middlefield Road and the speed limit is 30 mph. Middlefield Road provides access mainly to residential and school areas along with some office use in the project vicinity. There are bike lanes along Middlefield Road, and it is classified as a minor arterial.

Constitution Drive. Constitution Drive is an east-west roadway classified as a local street between Independence Drive and Chrysler Drive and a collector between Chrysler Drive and Chilco Street. The roadway has one lane of travel in each direction and would front the proposed project. The speed limit on Constitution Drive is 35 mph and on-street parking is permitted in some areas.

Independence Drive. Independence Drive is an east-west roadway classified as a local street between Constitution Drive and Chrysler Drive. The speed limit on Independence Drive is 35 mph and on-street parking is permitted in some areas. Additionally, Independence Drive would front the proposed project and has one lane of travel in each direction.

Chrysler Drive. Chrysler Drive is classified as a collector street between Bayfront Expressway and Constitution Drive and a local street between Constitution Drive and Jefferson Drive. The roadway follows a north-south alignment and on-street parking is permitted in some areas south of Constitution Drive. The speed limit on Chrysler Drive is 35 mph with one lane of travel in each direction south of Constitution Drive and two northbound lanes and one southbound lane between Constitution Drive and Bayfront Expressway.

Chilco Street. Chilco Street is classified as a collector street between Bayfront Expressway and Constitution Drive and a local street between Constitution Drive and Hamilton Avenue. The roadway connects Bayfront Expressway and Newbridge Street and generally runs in a north-south direction. On-street parking is permitted in some areas and the roadway has one travel lane in each direction. Posted speed limits along the road include 25 mph in the Belle Haven neighborhood, 35 mph near Bayfront Expressway and 40 mph when the road is parallel to the railroad tracks between Jefferson Court and Terminal Avenue.

For the purpose of this study, it is assumed that US 101 and Bayfront Expressway provide travel in the north-south direction, and Marsh Road and Willow Road provide travel in the east-west direction.

Routes of Regional Significance

The project area is accessible to regional origins and destinations by various routes including US Route 101 and State Route 84. Access from US Route 101 is via Marsh Road to the west of the project site. For this analysis, US 101 north of Marsh Road and South of Willow Road were analyzed as Routes of Regional Significance. Trips coming from or going toward SR 84 East travel on Bayfront Expressway. SR 84 east of University Avenue is also analyzed as a Route of Regional Significance. These Routes of Regional Significance are currently operating at or close to their respective LOS Standard. Per the 2007 Congestion Management Program Monitoring Report (CMP, Fehr and Peers Associates, July

2007) the analysis segments of US 101 and SR 84 currently operate at LOS F. Per the CMP, if the existing (1990/1991) level of service was LOS F under the original monitoring program, then the standard was set to be LOS F.

Transit Facilities

Bus service in the project vicinity is primarily provided by the San Mateo County Transit District (SamTrans) and AC Transit. Few bus routes currently serve the project area, with SamTrans line 281 located in closest approximation several blocks away from the proposed project area. Route 281 serves Stanford Shopping Center, Palo Alto Caltrain Station, East Palo Alto, and the Onetta Harris Community Center, which is the closest bus stop located in the Belle Haven neighborhood. Several SamTrans routes, such as 296 and 297, travel along Willow Road and serve other parts of San Mateo County. Also, AC Transit provides service between Hayward, Castro Valley, Union City, and Fremont in the East Bay and San Mateo, Foster City, Redwood Park, and Menlo Park on the Peninsula via the M line, which runs over the San Mateo Bridge. In addition, the Dumbarton Express connects the East Bay with stops along Willow Road. A shuttle service operated by the City of Menlo Park, between the project area and the Menlo Park Caltrain Station, currently operates along Constitution Drive with two shuttle stops during the peak hours and is currently operating near capacity. Figure 3.11-2, Area Transit Routes, details the existing transit and shuttle services in the area.

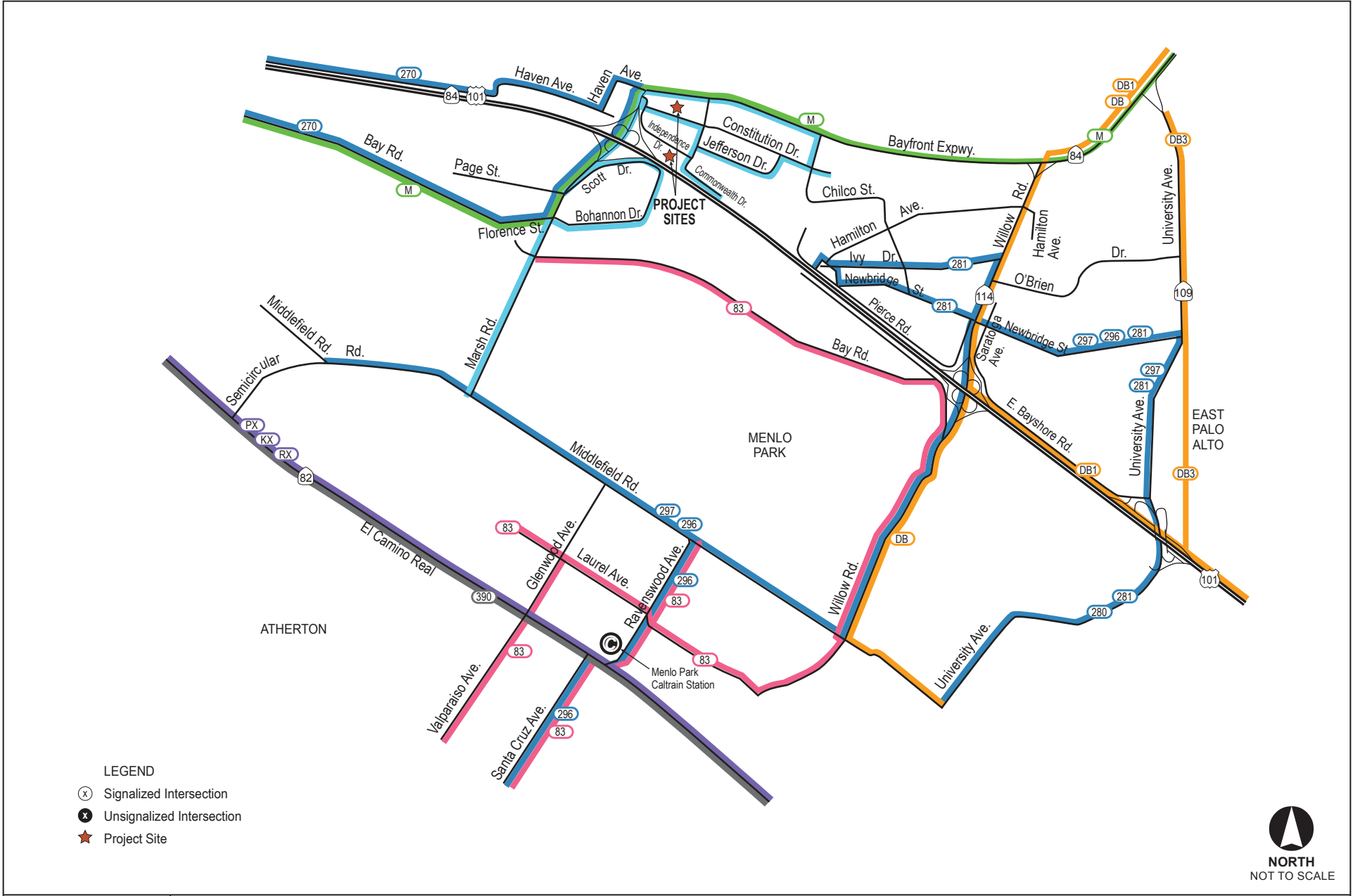
Bicycle and Pedestrian Facilities

In the vicinity of the project area, there are Class II bicycle facilities on Willow Road and on Bay Road. There is a Class I bicycle facility along Bayfront Expressway between Haven Avenue and the Dumbarton Bridge, which provides a separated bicycle facility. In the immediate vicinity of the project area, there are no bicycle lanes on the local and collector streets, and cyclists must share the roadways with vehicular traffic. There are no sidewalks along the frontage of the Constitution and Independence sites.

Existing Traffic Demand and Levels of Service

Existing conditions at the study intersections during the AM and PM peak periods were based on counts provided by City of Menlo Park staff, collected in April and May 2006, for the 16 signalized intersections in Menlo Park. Data for the remainder of the study intersections during the AM and PM peak periods were collected in April 2007. Existing intersection lane geometrics are provided in Figure 3.11-3. Existing peak hour traffic volumes and ADT estimates for the study segments are provided in Figure 3.11-4 and Figure 3.11-5, respectively.

Existing peak hour intersection levels of service are summarized in Table 3.11-1. Detailed calculations are provided in the Appendix C of the TIA (see Appendix G). All study intersections currently operate at acceptable service levels during the AM while the intersection of Bayfront Expressway and Willow Road would operate at LOS E during the PM peak hour. However, some local approaches to state-controlled intersections operate at LOS E or F. Both local approaches to the intersection of Willow Road and Newbridge Street operate at LOS E during the AM and PM peak periods. The southbound



LEGEND

- (X) Signalized Intersection
- (•) Unsignalized Intersection
- ★ Project Site



FIGURE 3.11-2
Area Transit Routes

Source: DKS Associates, 2009

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Menlo Gateway Draft EIR



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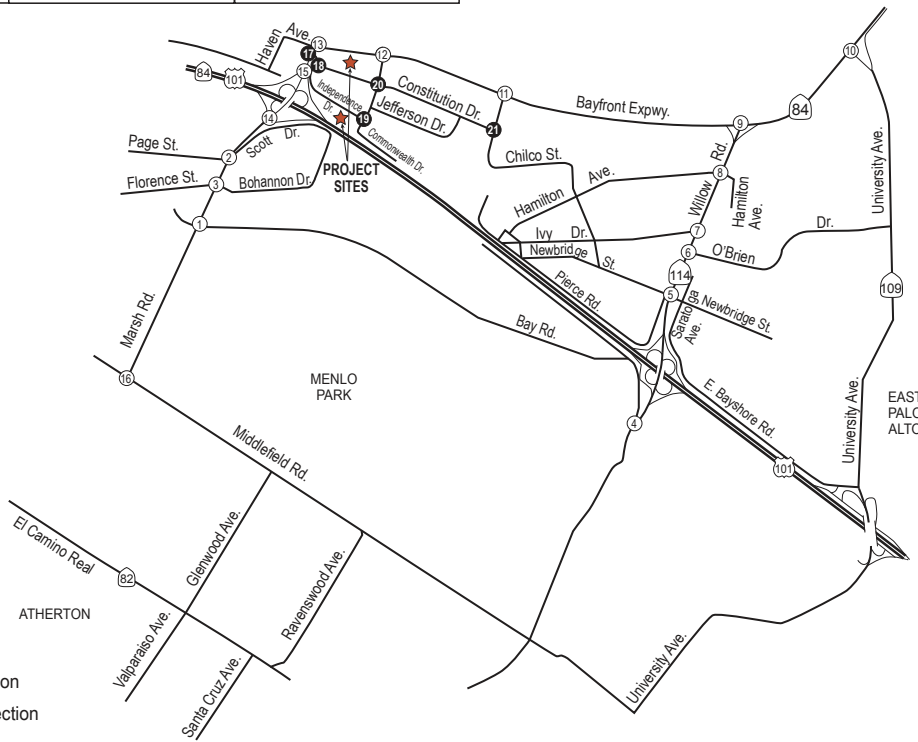
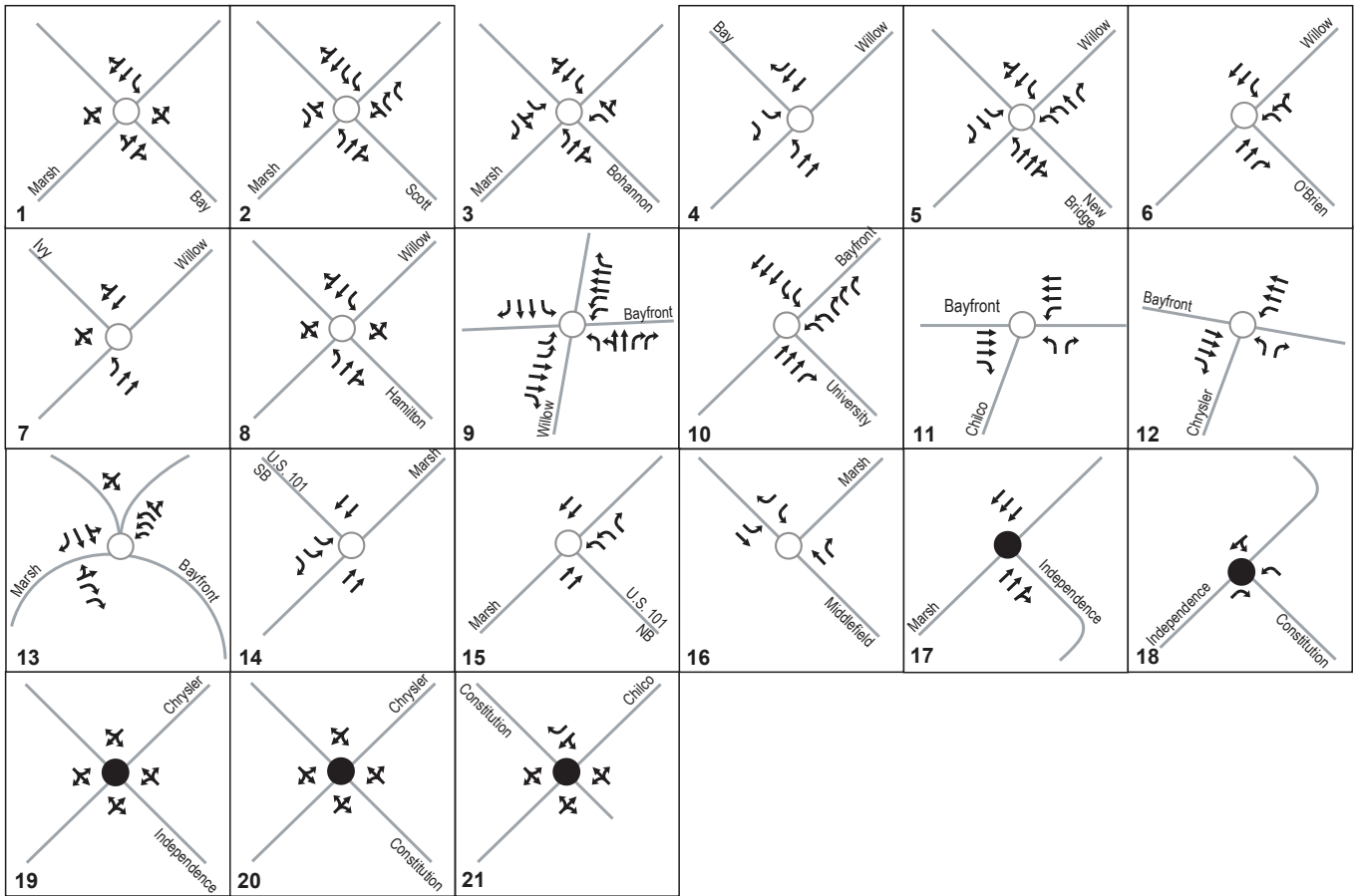
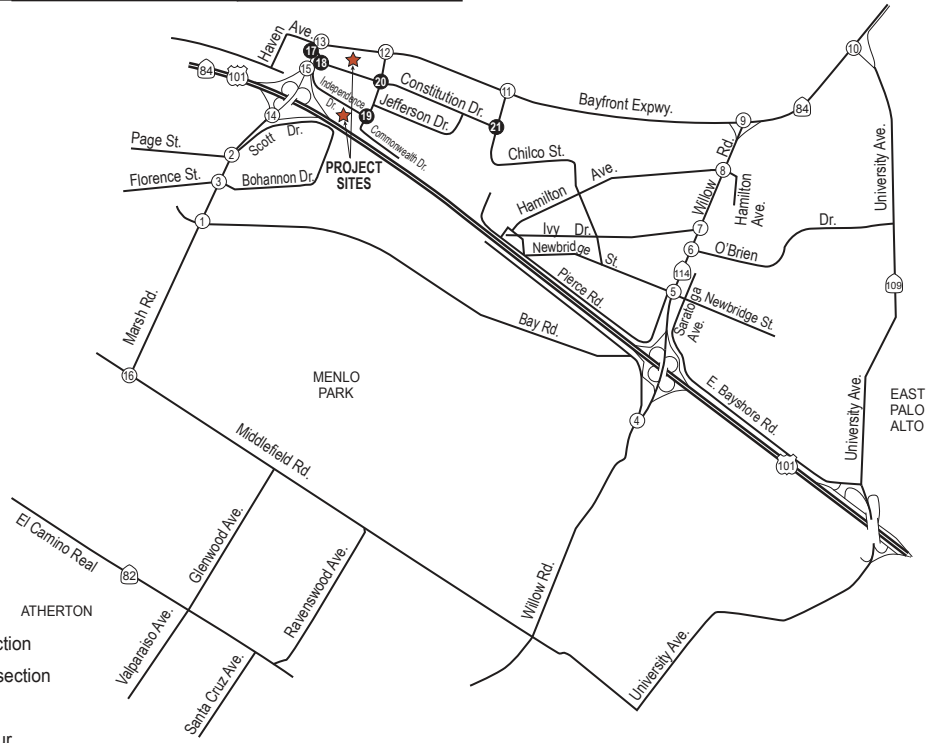
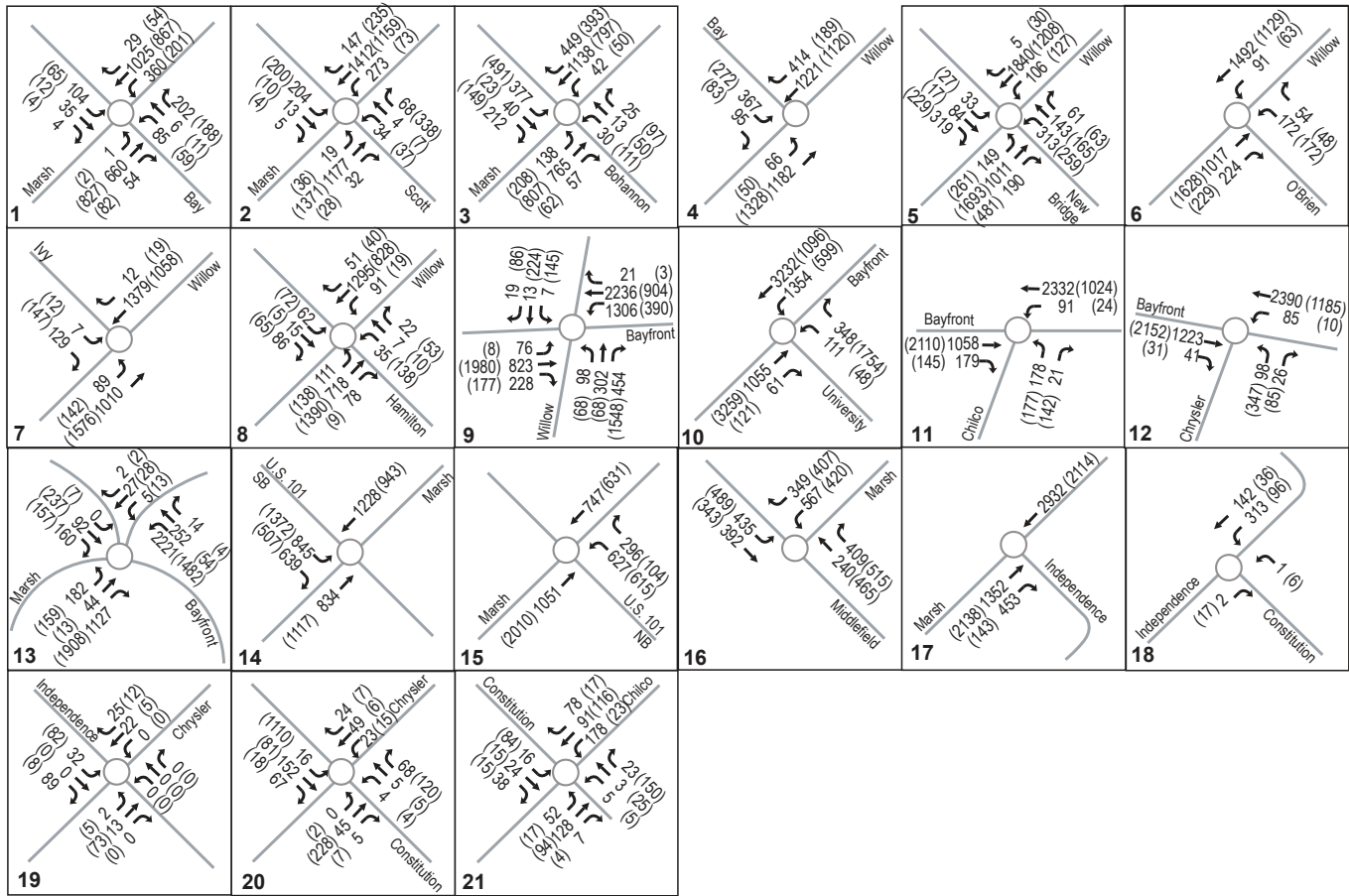


FIGURE 3.11-3
Existing Lane Designations

Source: DKS Associates, 2009

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Menlo Gateway Draft EIR



LEGEND

- ⊗ Signalized Intersection
- ⊙ Unsignalized Intersection
- ★ Project Site

xx (xx) AM (PM) Peak Hour

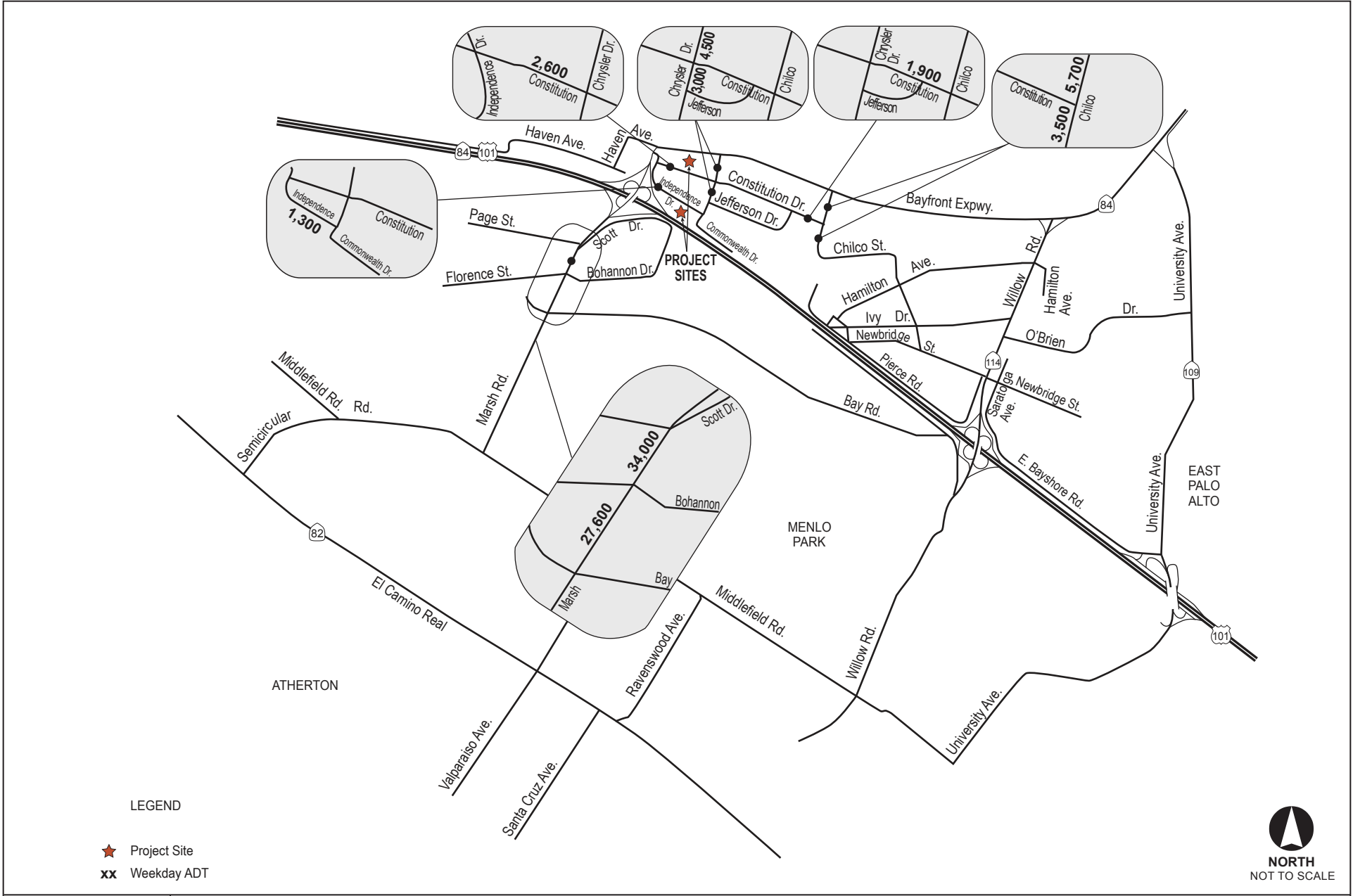


FIGURE 3.11-4
Existing Peak Hour Volumes

Source: DKS Associates, 2009

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Menlo Gateway Draft EIR



LEGEND

- ★ Project Site
- xx Weekday ADT



NORTH
NOT TO SCALE

Source: DKS Associates, 2009

FIGURE 3.11-5
Existing Average Daily Traffic (ADT)

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**Table 3.11-1
Existing Levels of Service**

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay ¹	LOS ²	Delay	LOS
1. Marsh Road/Bay Road	16.9	B	15.7	B
2. Marsh Road/Scott Dr	22.5	C	27.7	C
3. Marsh Road/Bohannon Dr	30.1	C	34.8	C
4. Willow Road/Bay Road	16.9	B	15.1	B
5. Willow Road/Newbridge St	38.7	D	35.0	C
Critical Local Approaches	73.5/63.9	E/E	73.9/72.8	E/E
6. Willow Road/O'Brien Dr	10.1	B	10.2	B
Critical Local Approaches ³	36.5/NA	D/NA	47.5/NA	D/NA
7. Willow Road/Ivy Dr	10.7	B	12.4	B
Critical Local Approaches ³	NA/41.4	NA/D	NA/40.6	NA/D
8. Willow Road/Hamilton Avenue	16.1	B	19.9	B
Critical Local Approaches ³	31.2/38.7	C/D	40.3/32.7	D/C
9. Bayfront Expressway/Willow Road	32.4	C	61.1	E
Critical Local Approaches ³	NA/ 86.8	NA/ F	NA/ 137.1	NA/ F
10. Bayfront Expressway/University Avenue	7.8	A	25.1	C
11. Bayfront Expressway/Chilco St	12.7	B	12.2	B
Critical Local Approaches ³	56.1/NA	E/NA	53.6/NA	D/NA
12. Bayfront Expressway/Chrysler Dr	8.1	A	19.2	B
Critical Local Approaches ³	61.3/NA	E/NA	47.4/NA	D/NA
13. Bayfront Expressway/Haven Avenue	17.4	B	34.9	C
Critical Local Approaches ³	78.1/NA	E/NA	93.6/NA	F/NA
14. Marsh Road/US 101 SB Off-Ramp	18.8	B	22.7	C
15. Marsh Road/US 101 NB Off-Ramp	12.4	B	17.6	B
16. Marsh Road/Middlefield Road (Atherton)	27.9	C	34.6	C
17. Independence Dr/Marsh Road (unsignalized)	0.0	A	0.0	A
18. Independence Dr/Constitution Dr (unsignalized)	19.4	C	10.4	B
19. Independence Dr/Chrysler Dr (unsignalized)	9.0	A	9.4	A
20. Constitution Dr/Chrysler Dr (unsignalized)	8.2	A	9.5	A
21. Constitution Dr/Chilco St (unsignalized)	9.7	A	9.2	A

Source: DKS Associates, 2009.

Notes:

1. Delay = average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
2. LOS = Level of service, represents average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
3. Average delay for Eastbound/Westbound or Northbound/Southbound critical movements for local approaches.

Bold = intersection operates at an unacceptable LOS.

local approach to Bayfront Expressway and Willow Avenue operates at LOS F during the AM and PM peak hours. The northbound local approaches to Bayfront Expressway at Chilco Street and Chrysler Drive each operate at LOS E during the AM peak period. The eastbound local approach to Bayfront Expressway and Haven Avenue operates at LOS E during the AM peak hour and LOS F during the PM peak hour.

During the PM Peak period, there is a high demand of vehicles traveling from Marsh Road and Willow Road to and from the Bayfront Expressway in the direction of the Dumbarton Bridge (SR 84), which affects the levels of service at the intersections along Bayfront Expressway.

The existing average daily traffic (ADT) for the roadways adjacent to the project area was provided by the City of Menlo Park for a typical weekday and is provided in Figure 3.11-5. The TIA guidelines describe the estimated ideal capacity at 20,000 vpd for minor arterials, while 10,000 vpd for collector streets, and 1,500 vpd for local streets. It should be noted that Marsh Road between Scott Drive and Bohannon Drive is classified as a primary arterial and is not subject to ADT analysis or thresholds. As shown in Figure 3.11-5, the ADT of Marsh Road increases with proximity to US 101. The existing daily traffic volumes on each of the segments of Marsh Road are greater than 90 percent of the estimated capacity (18,000 vpd).

Impacts and Mitigation Measures

Traffic and Circulation Analysis Methodology

Intersection Capacity and Level of Service. The intersection level of service (LOS) was calculated for each intersection in the study to evaluate the quality of existing traffic conditions. LOS is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. The LOS standard for each study intersection is presented in Table 3.11-2.

Study Intersection	Jurisdiction	LOS Significance Threshold	Significance Threshold for Unacceptable LOS
1. Marsh Rd/Bay Rd	City	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently E or F
2. Marsh Rd/Scott Dr	City	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently E or F
3. Marsh Rd/Bohannon Dr	City	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently E or F

**Table 3.11-2
Study Intersection Level of Service Significance Threshold**

Study Intersection	Jurisdiction	LOS Significance Threshold	Significance Threshold for Unacceptable LOS
4. Willow Rd/Bay Rd	City	D	LOS becomes E or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently E or F
5. Willow Rd/ Newbridge St	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
6. Willow Rd/O'Brien Dr	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
7. Willow Rd/Ivy Dr	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
8. Willow Rd/ Hamilton Ave	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
9. Bayfront Expressway/ Willow Rd	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
10. Bayfront Expressway/ University Ave	State	D	LOS becomes E or F <u>and</u> 4 second increase to intersection delay.
11. Bayfront Expressway/ Chilco St	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
12. Bayfront Expressway/ Chrysler Dr	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
13. Bayfront Expressway/ Haven Ave	State	D, on local approaches	LOS becomes E or F or 0.8 second increase to critical local approaches if LOS is currently E or F
14. Marsh Rd/US 101 SB Off-Ramp	State	C	LOS becomes D or worse if LOS is currently C or better
15. Marsh Rd/US 101 NB Off-Ramp	State	C	LOS becomes D or worse if LOS is currently C or better
16. Marsh Rd/Middlefield Rd (Atherton)	Atherton	D	LOS becomes E or F OR 4.0 second increase to critical worst approach if LOS is currently E or F
17. Independence Dr/ Marsh Rd (unsignalized)	City	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently D, E or F
18. Independence Dr/ Constitution Dr (unsignalized)	City	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently D, E or F
19. Independence Dr/ Chrysler Dr (unsignalized)	City	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently D, E or F
20. Constitution Dr/ Chrysler Dr (unsignalized)	City	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently D, E or F

**Table 3.11-2
Study Intersection Level of Service Significance Threshold**

Study Intersection	Jurisdiction	LOS Significance Threshold	Significance Threshold for Unacceptable LOS
21. Constitution Dr/ Chilco St (unsignalized)	City	C	LOS becomes D or worse OR delay increases 23 seconds or greater OR 0.8 second increase to critical local approaches if LOS is currently D, E or F
<i>Source:</i> DKS Associates, 2009.			

Project Components

As described in Chapter 2, Project Description, the site-specific development proposed under the Menlo Gateway project encompasses two separate blocks situated within the larger project area. The Near Term plus Project consists of the development proposed for the Independence site and the Constitution site. The existing buildings at 100 to 190 Independence Drive (west side) include approximately 85,057 square feet (s.f.) of office uses. The buildings at 115 to 155 Constitution Drive (east side) include approximately 133,694 s.f. of office uses. At the time of the traffic counts, approximately 63,360 s.f. of office space was occupied on the Independence site, and 119,964 s.f. of office space was occupied on the Constitution site. Under the GPA/ZOA and the Menlo Gateway project, the intent is to replace the existing uses with new office/Research and Development (R&D), restaurant, hotel, and health club land uses. Assuming the maximum allowable development under the GPA/ZOA, there would be approximately 694,669 s.f. of office/R&D uses, 6,947 s.f. of restaurant, a 69,467 s.f. health club, 10,420 s.f. of retail use and a 173,667 s.f./230 room hotel. It should be noted that the program evaluated herein and described above represents a conservative approach to the analysis in that the maximum office/retail development space to be developed is 694,669 s.f. but the 10,420 s.f. of retail/community facilities space would actually be deducted from the total office square footage for approval purposes. It should also be noted that this analysis is based on the GPA/ZOA square footages, the proposed Menlo Gateway project is slightly less than the maximum GPA/ZOA scenario.

Transportation Demand Management (TDM) Program. The City of Menlo Park TIA Guidelines includes TDM guidelines (see Appendix J). The intent of the TDM guidelines is to provide options for, and encourage the use of, creative ways to mitigate the traffic impacts of new development projects. Because the proposed project includes commercial/office development, standard TDM measures would typically be applicable to these uses. Furthermore, the City/County Association of Governments of San Mateo County (C/CAG) requires that if the project generates 100 or more peak hour trips, “local jurisdictions must ensure that the developer and/or tenants will reduce the demand for all new peak hour trips (including the first 100 trips) projected to be generated by the development.”¹

¹ Revised C/CAG guidelines for the Implementation of the Land Use Component of the Congestion Management Program, September 21, 2004.

Some measures that the project sponsor is proposing to implement as part of the project, include, but are not limited to:

- Bicycle lockers/racks
- Showers/changing room facilities
- Shuttle service
- Subsidized public transit tickets
- Subsidize pedestrians/bicyclists who commute to work
- Preferential carpool/vanpool parking, and implementation of a vanpool program
- Commute assistance center
- Employee commute surveys
- Alternative work schedules
- Provision of on-site amenities
- Guaranteed ride home program
- Create connections for non-motorized travel
- Install and maintain alternative transportation kiosks

Further descriptions and calculations of the proposed TDM program are included in Appendix J. Due to existing shuttle services in the area and minimal transit service in the immediate area, no additional shuttle services or trip credits are included in the proposed TDM program for shuttle services or specific transit ticket subsidies.

Traffic Scenarios

Existing Conditions (2007). This scenario represents existing, year 2007 traffic conditions. Existing turning movement counts at the study intersections for the peak periods were provided by the City of Menlo Park, collected in April and May 2006 for the signalized intersections in the City's Circulation System Assessment (CSA) Document (2006) and from traffic counts collected in April 2007 for the intersection in Atherton and the unsignalized intersections in Menlo Park. Signal timing parameters for the analysis were based on the analysis conducted for the CSA. Use of the City's most current CSA Document and corresponding traffic counts is considered standard Menlo Park practice.

Near Term No Project Conditions (2010). This scenario represents the "Near Term" or future, i.e., year 2010, traffic conditions without the proposed project. This scenario assumes full occupancy of planned/approved developments near the project vicinity that would be completed in the near term. Near Term conditions at the study intersections were based on projected volumes provided by City of Menlo Park staff in the CSA analysis. Planned or approved projects that were not included in the CSA were provided by the City of Menlo Park, and added to the Near Term conditions, for both the peak hour analysis of the study intersections and the average daily traffic (ADT) analysis. The Near Term

analysis was increased for one additional year, with a background growth of one percent, to present a three year horizon, as the CSA analysis uses a two year growth.

Near Term plus Project Conditions (2010). The Near Term plus Project conditions represents traffic conditions that would exist in the near term, plus the addition of traffic generated by the proposed project and is meant to fulfill the California Environmental Quality Act (CEQA) requirements for an “existing plus project” scenario. At the time the NOP was developed, 2010 was selected as the Near Term plus Project condition because it was assumed that the project would be fully occupied by that time and would provide a more realistic assessment of the project’s impacts. Project generated traffic would replace the estimated traffic associated with the existing facilities at 100 to 190 Independence Drive and 115 to 135 Constitution Drive.

Cumulative No Project Conditions (2027). This scenario represents future year 2027, traffic conditions without the proposed project. This scenario assumes an ambient growth of one percent per year over a 20-year growth horizon. Current occupancy in the project vicinity is assumed to remain the same, however the background growth would account for possible increases in occupancy of existing buildings. Similar to the Near Term conditions, the Cumulative No Project incorporates planned developments that were not included in the CSA.

Cumulative plus Project Conditions (2027). This scenario represents traffic conditions based on cumulative conditions plus the addition of traffic generated by the proposed project. The same project description used for the Near Term plus Project was assumed.

Near Term Condition (Baseline for Project Traffic Analysis)

A list of Near Term developments was provided by City of Menlo Park staff and includes developments that are planned (i.e., applied for a development permit) or approved in Menlo Park. The most recent list of Near Term developments includes projects that were not included in the most recent CSA document.

Approved/Planned Development Projects. Approved and planned developments in Menlo Park are listed in Appendix A of the TIA (see Appendix G). This list was provided by City of Menlo Park staff and includes projects that were planned or approved as of June, 2009, but had not yet been occupied. It is anticipated that these projects would be fully implemented and occupied as part of the Near Term Condition. These future Near Term projects are anticipated to add traffic to the Menlo Park roadway network and, in some cases, would add traffic to the roadways and intersections studied in this analysis. The peak hour trips assigned to the roadway network from these projects were provided by the City of Menlo Park in the CSA as part of the Near Term conditions analysis, as well as the addition of trips related to the projects that were determined after the creation of the CSA. For the unsignalized intersections, near term trips were manually added, as they are not included in the CSA.

Table 3.11-3 summarizes projects that were not included in the CSA; traffic from these developments was added to the study intersections and roadway segments for the Near Term conditions.

**Table 3.11-3
Near Term Development Projects in the Study Area Vicinity**

Project	Land Use	Size	Units
1421-1425 San Antonio Street	Residential	5	DU
525 El Camino Real	Commercial	-5,896	SF
1283 Willow Road	Office/Retail	3,800/5,096	SF
110 Linfield Drive	Residential/Office	22/-17,500	DU/SF
175 Linfield Drive	Residential/Office	34/-38,000	DU/SF
297 Terminal Avenue	Residential	21	DU
505-557 Hamilton Avenue	Residential	47	DU
996-1002 Willow Road	Residential	11	DU
1460 El Camino Real	Residential/Commercial/Office	16/-12,016/26,800	DU/SF/SF
145 El Camino Real	Office/Retail	7,836/2,500	SF
321 Middlefield Road	Office/Medical Office	-48,400/48,400	SF
2825 Sand Hill Road	Office/Hotel/Spa	100,000/125/16,928	SF/Rms /SF
2122 Santa Cruz Avenue	Hospital/Residential	80/7	Beds/DU
2245 Avy Avenue SF	School	9,995	SF
1250 Laurel Street School	School	9,920	SF
580 Oak Grove	Residential/Commercial	108/3,635	DU/SF
75 Willow Road	Office/Residential	39,000/32	SF/DU
1300 El Camino Real	Commercial	81,481	SF
1906 El Camino	Medical Office/Restaurant	-9,825/-5,742	SF
1706 El Camino	Medical Office/Restaurant	10,400/-6,875	SF
64 Willow	Office	6,055	SF
66 Willow Office	Office	10,000	SF
4040 Campbell Office	Office	-7,224	SF
2900 Sand Hill	Country Club	14,700	SF

Source: DKS, Menlo Gateway Development Draft Administrative TIA, June 24, 2009.

Notes:

1. Units are given as per square foot (s.f.) and single family dwelling units (DU).
2. Credits for existing land uses to be redeveloped further illustrated in Appendix A of the TIA prepared for the proposed project.

Programmed/Planned Transportation Facility Improvements. Within the project area, programmed or planned transportation facility improvements included the US 101 and Willow Road interchange, US 101 auxiliary lanes from Marsh Avenue to Embarcadero Road, Ringwood bike bridge reconstruction, and the Gateway 2020 study. The Dumbarton Bridge rail and bus depot has been planned; however, at this time, funding is unidentified and the project status is uncertain. Additionally, minor changes to signal timing parameters and lane designations that were utilized in the CSA for the Near Term analysis were used for all conditions after Existing conditions. From the transit side, the Dumbarton Rail project would connect the East Bay cities of Union City, Fremont, and Newark to

Caltrain facilities on the Peninsula. However, at this time, funding for the project is unidentified and the project status is uncertain.

It should be noted that two significant related projects in the adjacent cities of Palo Alto and Redwood City were not included in the CSA document: The Stanford Medical Center and the Stanford Medicine Outpatient Center (City of Redwood City). Traffic generated by these developments, as well as other development in adjacent jurisdictions, was considered in the cumulative analysis via the 1 percent annual growth factor applied to the existing traffic counts. This 1 percent growth includes background traffic added to the roadway network not captured by the CSA document and has been added at the discretion of the City staff based on a standard used in previous traffic studies. This growth may include traffic generated outside the city limits of Menlo Park or changes in driving patterns or demand. It should also be noted that there is a conceptual plan for a large mixed use transit oriented development at the Cargill Salt site in Redwood City including residences, schools, parks, offices, retail, and transit facilities approximately 1.5 miles west of the project area, which will be required to perform a transportation analysis at some point.

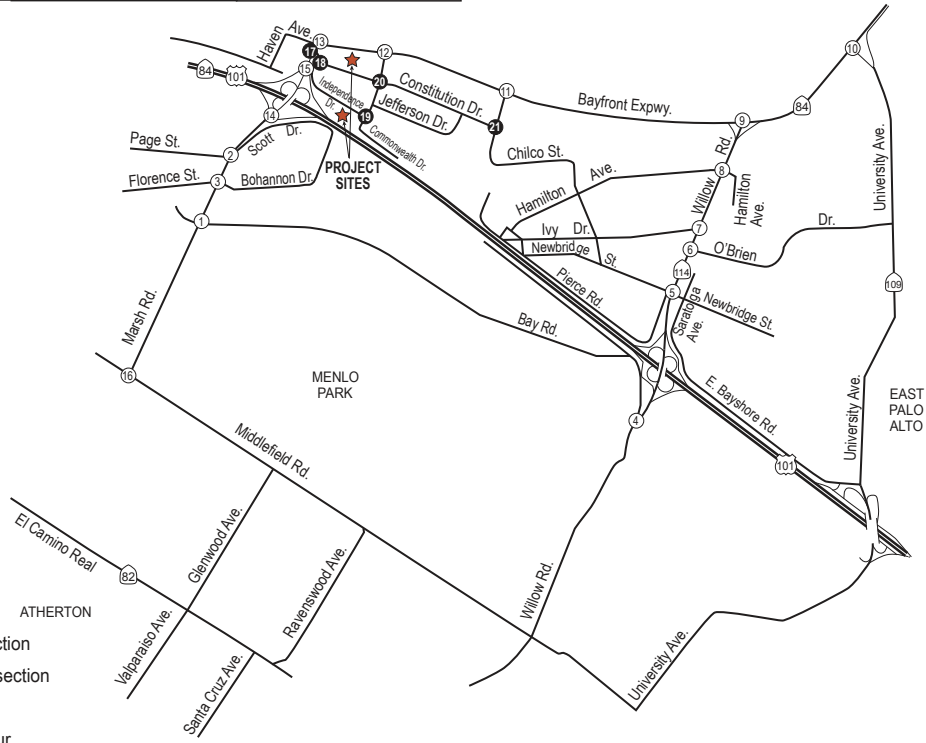
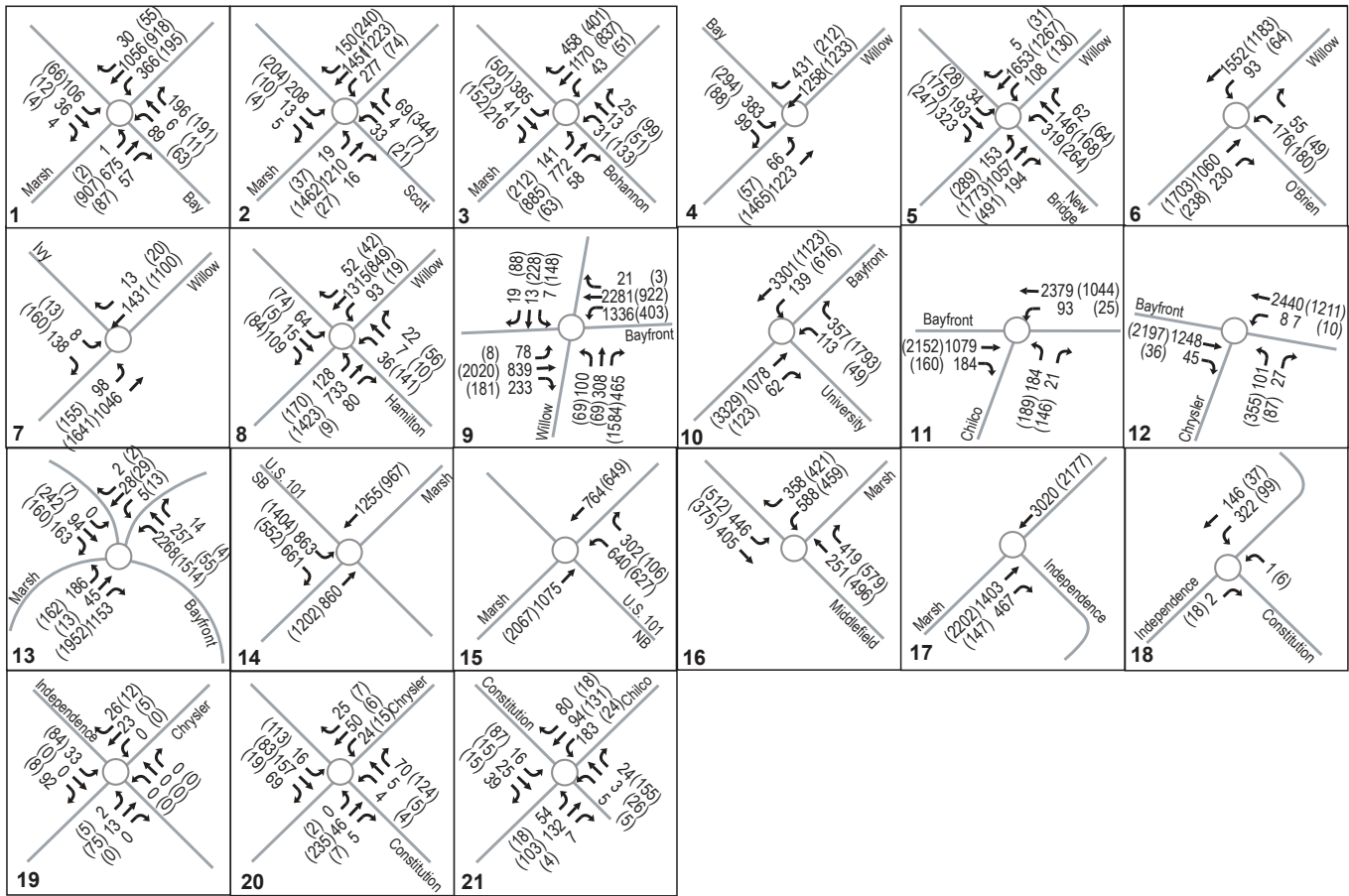
Near Term - Traffic Volumes and Levels of Service

Peak Hour traffic volumes for the Near Term were provided by City of Menlo Park for the signalized study intersections during the AM and PM peak periods based on the Near Term condition in the CSA Traffic Model. The base volumes from the CSA were increased by one percent annually for an additional year to represent a three year horizon. To be consistent with the CSA Traffic Analysis, the intersection in Atherton and the unsignalized intersections were adjusted by an ambient growth of one percent annually for three years to account for the anticipated opening of the project. In addition, the estimated net trips from the projects in the most recent list of approved and planned developments were added to the study intersections and roadway segments.

The Near Term peak hour intersection turning movement volumes are illustrated in Figure 3.11-6. No planned/programmed mitigation measures would be implemented by the time the near term developments are built and occupied. Intersection geometrics will remain the same as with existing conditions. Slight changes to signal timing parameters are based on the CSA. Table 3.11-4 summarizes the intersection operating conditions during the Near Term AM and PM peak hours.

Most City-controlled study intersections are expected to operate at an acceptable service level under the Near Term conditions. Additionally, four local approaches to State-controlled intersections would operate at unacceptable levels of service under Near Term conditions. These local approaches include:

- Willow Road/Newbridge Street
- Bayfront Expressway/Willow Road
- Bayfront Expressway/Chrysler Avenue
- Bayfront Expressway/Haven Avenue



LEGEND

- (X) Signalized Intersection
- (•) Unsignalized Intersection
- ★ Project Site

xx (xx) AM (PM) Peak Hour



FIGURE 3.11-6
Near Term No Project Peak Hour Volumes

Source: DKS Associates, 2009



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**Table 3.11-4
Near Term Levels of Service**

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay ¹	LOS ²	Delay	LOS
1. Marsh Rd/Bay Rd	18.4	B	15.6	B
2. Marsh Rd/Scott Dr	22.2	C	27.8	C
3. Marsh Rd/Bohannon Dr	27.3	C	34.4	C
4. Willow Rd/Bay Rd	16.6	B	15.0	B
5. Willow Rd/Newbridge St	37.2	D	35.0	D
Critical Local Approaches ³	71.7/63.0	E/E	72.9/71.9	E/E
6. Willow Rd/O'Brien Dr	10.9	B	10.1	B
Critical Local Approaches ³	42.5/NA	D/NA	47.3/NA	D/NA
7. Willow Rd/Ivy Dr	10.7	B	12.6	B
Critical Local Approaches ³	NA/40.2	NA/D	NA/39.2	NA/D
8. Willow Rd/Hamilton Ave	19.0	B	21.0	C
Critical Local Approaches ³	35.0/43.1	C/D	40.5/32.7	D/C
9. Bayfront Expressway/Willow Rd	25.7	C	57.5	E
Critical Local Approaches ³	NA/ 61.0	NA/E	NA/ 131.7	NA/F
10. Bayfront Expressway/University Ave	7.6	A	25.3	C
11. Bayfront Expressway/Chilco St	12.4	B	12.4	B
Critical Local Approaches ³	54.6/NA	D/NA	52.7/NA	D/NA
12. Bayfront Expressway/Chrysler Dr	8.1	A	19.1	B
Critical Local Approaches ³	61.5/NA	E/NA	47.0/NA	D/NA
13. Bayfront Expressway/Haven Ave	17.5	B	32.8	C
Critical Local Approaches ³	79.2/NA	E/NA	88.9/NA	F/NA
14. Marsh Rd/US 101 SB Off-Ramp	19.1	B	18.9	B
15. Marsh Rd/US 101 NB Off-Ramp	12.3	B	14.6	B
16. Marsh Rd/Middlefield Rd (Atherton)	27.0	C	36.5	D
17. Independence Dr/Marsh Rd (unsignalized)	0.0	A	0.0	A
18. Independence Dr/Constitution Dr (unsignalized)	17.3	C	10.0	A
19. Independence Dr/Chrysler Dr (unsignalized)	9.0	A	9.4	A
20. Constitution Dr /Chrysler Dr (unsignalized)	8.3	A	9.3	A
21. Constitution Dr/Chilco St (unsignalized)	9.8	A	8.9	A

Source: DKS Associates, 2009.

Notes:

1. Delay = average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
2. LOS = Level of service, represents average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
3. Average delay for Eastbound/Westbound or Northbound/Southbound critical movements for local approaches.

Bold = intersection operates at an unacceptable LOS.

The Near Term ADT volumes are illustrated in Figure 3.11-7. The Near Term ADT was derived using the existing ADT and the projected traffic growth in the Near Term. The Near Term ADT was adjusted for the planned and approved projects provided by the City of Menlo Park.

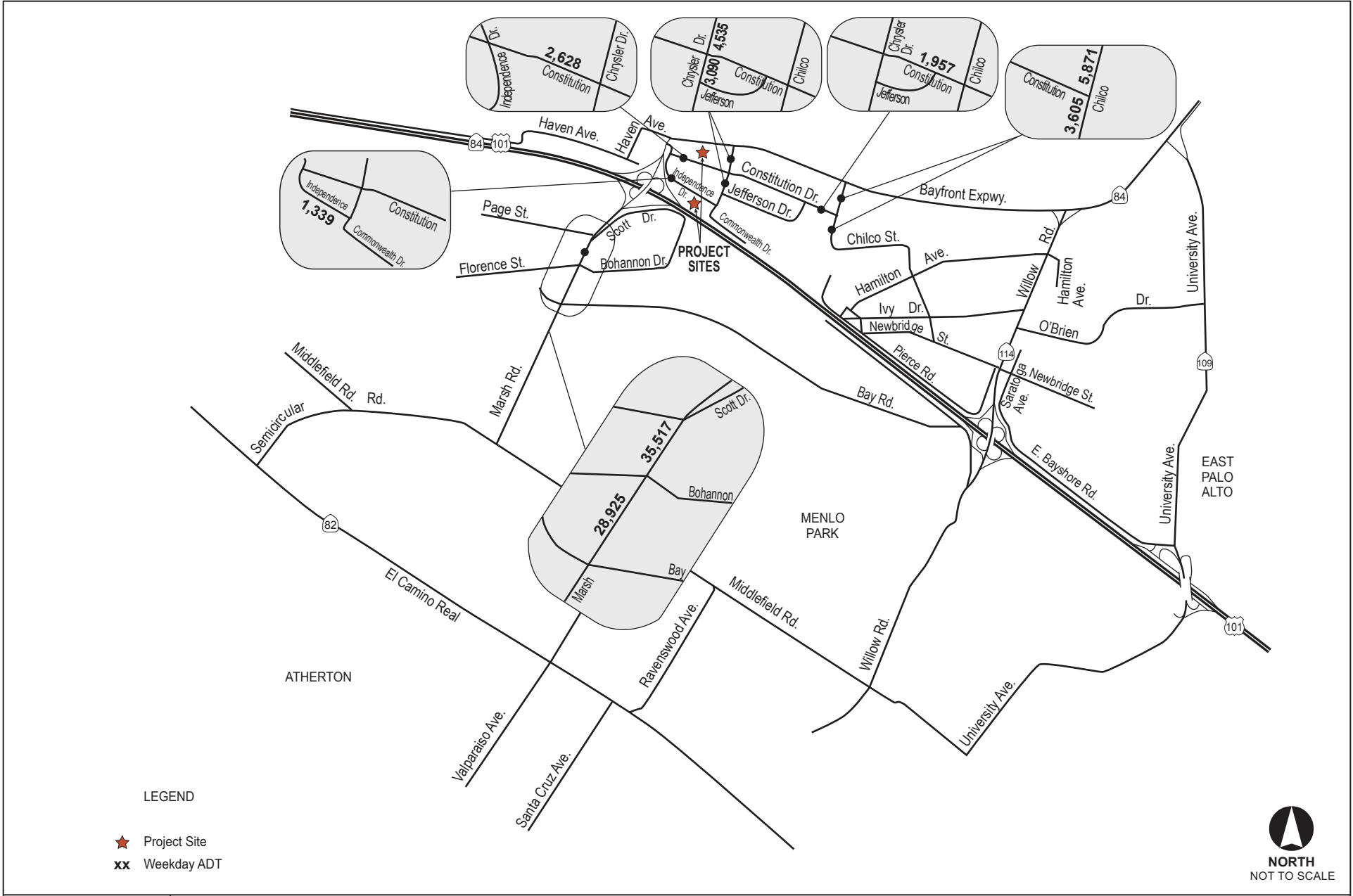
Standards of Significance

As discussed above, the City of Menlo Park's Circulation Element establishes a LOS standard for City-controlled intersections involving arterial streets, a LOS standard for City-controlled intersections involving only collector or smaller streets, and a LOS standard for State-controlled intersections.

It should be noted that the City does not have a threshold or standard to evaluate potential impacts to transit providers.

The proposed project would result in a significant impact if it would:

- **Impact Criterion #1: City Arterial Intersections/Local Approaches to State-Controlled Intersections.** Project traffic increment causes an intersection operating at LOS D or better to reach LOS E or worse, or to have an increase greater than 23 seconds or greater in average delay per vehicle OR, the project traffic increment causes an intersection already operating at LOS E or worse to experience an increase of more than 0.8 seconds of average delay to vehicles on all of the critical movements for City arterial intersections, or for any local approaches to State controlled intersections.
- **Impact Criterion #2: Other City Intersections (Collector and Local streets).** Project traffic increment causes an intersection operating at LOS C or better to reach LOS D or worse OR, to have an increase of 23 seconds or greater in average delay, whichever comes first. A project is also considered to have a significant traffic impact if the addition of project traffic causes an increase of more than 0.8 seconds of average delay to vehicles on all critical movements for intersections operating at a near term LOS D through F for collector streets.
- **Impact Criterion #3: State Controlled Intersections.** At State-controlled intersections currently operating at LOS D or better, the project would have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand would result in the intersection operating at a level of service that violates the standard adopted and the proposed project increases average control delay at the intersection by four (4) seconds or more. For intersections operating at LOS E or F, the project would have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand would result in increasing the average control delay at the intersection by four (4) seconds or more.



LEGEND

- ★ Project Site
- xx Weekday ADT



Source: DKS Associates, 2009

FIGURE 3.11-7
Near Term No Project Average Daily Traffic (ADT)

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- Impact Criterion #4: Freeways (Roadways of Regional Significance).** LOS for freeway segments was based on the C/CAG impact criteria from the 2007 CMP. According to the 2007 CMP, for freeway segments currently in compliance with the adopted LOS standard, a project is considered to have an impact if the project causes the freeway segment to operate at a level of service that violates the standard adopted. Additionally, a project would have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand result in the freeway segment operating at a level of service that violates the standard adopted and the proposed project increases traffic demand on the freeway segment by an amount equal to one (1) percent or more of the segment capacity, or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one (1) percent. If the freeway is not in compliance with the adopted LOS standard, the project would have an impact if the project adds traffic demand equal to one (1) percent or more of the segment capacity or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one (1) percent.
- Impact Criterion #5: City Arterials.** The existing ADT is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000 and the project-related traffic increases the ADT by 25 percent.
- Impact Criterion #6: City Collectors.** The existing ADT is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000 and the project-related traffic increases the ADT by 25 percent.
- Impact Criterion #7: Local Streets.** The existing ADT is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750 and the project related-traffic increases the ADT by 25 percent.
- Impact Criterion #8: Pedestrian and Bicycle Facilities.** The project would not provide adequate pedestrian or bicycle facilities to connect to the area circulation system, or vehicles would cross pedestrian facilities on a regular basis without adequate design and/or warning systems, causing safety hazards, or project design would cause increased potential for bicycle/vehicle conflicts.

Project Evaluation

This section discusses the potential impacts of the maximum allowable development that would be permitted under the GPA/ZOA. The traffic analysis is based on the allowable square footage under the

GPA/ZOA, which is slightly higher than what is currently proposed under the Menlo Gateway project application.

Near Term plus Project Conditions

Trip Generation and Distribution. The estimated trip generation for the proposed office, restaurant, retail, and hotel uses, as well as for the existing office uses was based upon the trip generation rates from the ITE Trip Generation (7th Edition, 2003). Trip generation for the health club use has been developed from a survey of a health club facility in a mixed use development in Walnut Creek. This trip generation survey and rate has been approved by the City of Menlo Park and is used in this report. Trip credits were applied assuming the existing office land uses are partially occupied. Currently, approximately 63,360 s.f. of office space is occupied on the Independence site, and 119,964 s.f. of office space is occupied on the Constitution site. It is assumed that the proposed land uses would replace existing office facilities not just the occupied space. Thus, the proposed project would replace approximately 85,057 s.f. of office uses on the Independence site, and 133,674 s.f. of office uses on the Constitution site. The proposed project would generate approximately 1,146 net AM peak hour trips (937 inbound trips and 209 outbound trips) and 1,235 net PM peak hour trips (380 inbound trips and 855 outbound trips). The existing occupied office uses currently generate a total of 284 AM peak hour trips (250 inbound trips and 34 outbound trips) and 273 PM peak hour trips (46 inbound trips and 226 outbound trips).

Table 3.11-5 further illustrates the net-new trip generation by land use and direction of trips. Trips generated by the existing land uses and the proposed project were assumed to have distribution patterns consistent with the employment patterns outlined in Table 6 of the City's CSA. Office and R&D uses were based on employment patterns, hotel trips were assumed to follow residential distribution patterns, and the restaurant and health club would use commercial trip distribution patterns. Figure 3.11-8 illustrates the trip distribution patterns for the existing and proposed land uses and Figure 3.11-9 illustrates the proposed project peak hour volumes.

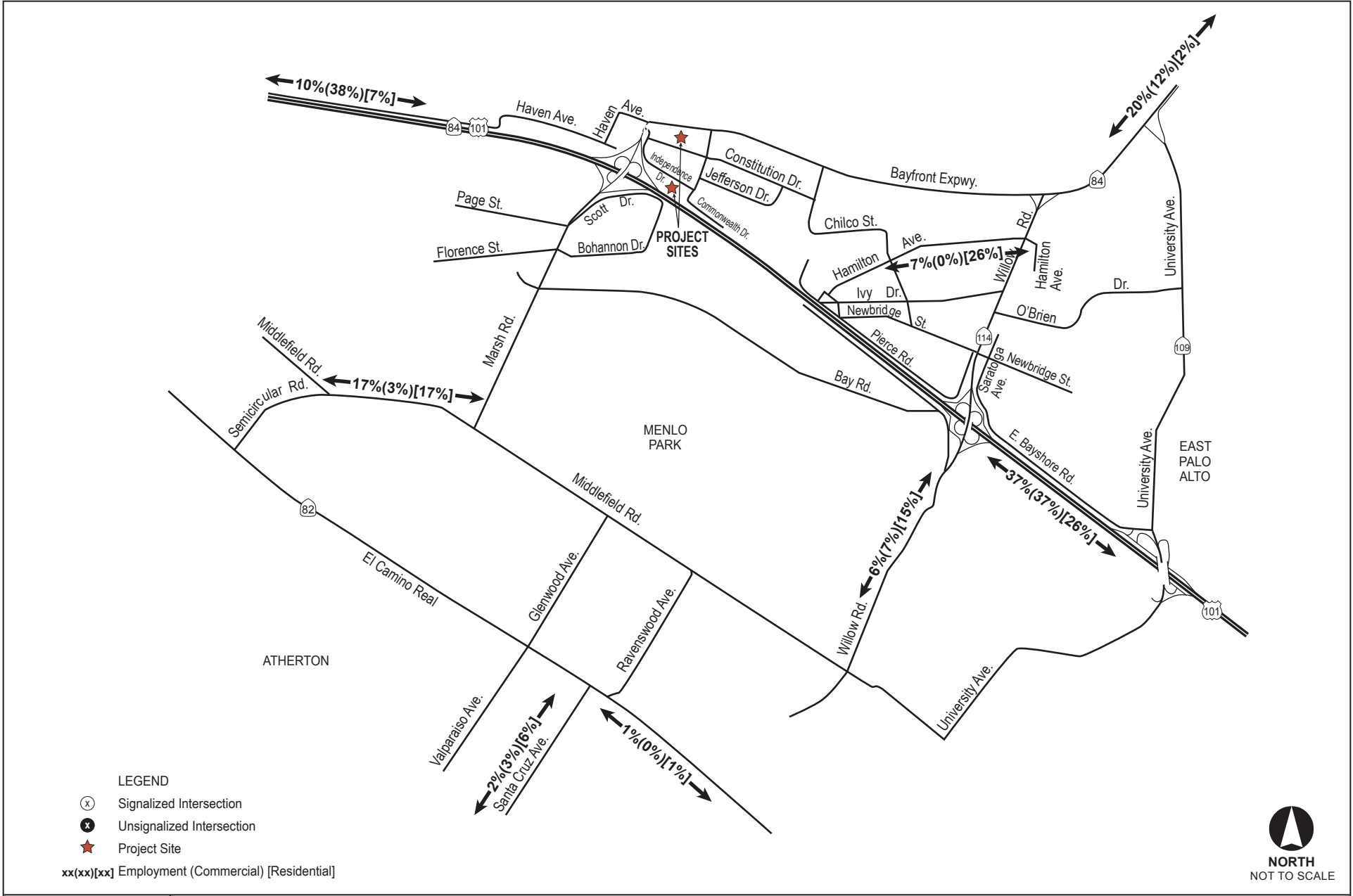
Impact TR-1: Increases in traffic associated with the proposed project under the Near Term plus Project conditions would result in increased delays at several intersections during peak hours causing a significant impact to the operation of the intersections under Criterion #1, Criterion #2 and/or Criterion #3. (S)

As shown in Table 3.11-6, the net-new project traffic would have little effect on the average delay at most of the study intersections when compared to the Near Term conditions during the AM peak hour. Several intersections would experience decreases in average delay due to the addition of trips to movements with delays less than the intersection average.

Several intersections would experience increases in average delay between zero and six seconds; one intersection, Independence Drive at Constitution Drive, would operate at LOS F and would be a significant impact. All other intersections would operate at an acceptable LOS during the AM peak hour. During the PM peak hour, the net-new project trips would result in increased delay at several intersections. While one intersection would operate at unacceptable levels of service during the Near

**Table 3.11-5
Project Trip Generation**

Existing Uses	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	
Existing Office Use – Independence (63,360 s.f.)	-86	-12	-98	-16	-78	-94	-698
Existing Office Use – Constitution (133,690 s.f.)	-164	-22	-186	-30	-148	-179	-1,321
Proposed Uses¹							
<i>Independence Site</i>							
Proposed Office (200,000 s.f.)	273	37	310	51	247	298	2,202
Proposed Hotel (230 rooms)	79	50	129	72	64	136	1,879
Proposed Health Club (69,467 s.f.)	158	61	219	131	126	258	2,517
Proposed Restaurant (6,947 s.f.)	3	3	6	35	17	52	625
Proposed Retail (3,000 s.f.)	-	-	-	4	5	8	133
Total for Independence Site	512	151	664	292	459	751	7,355
<i>Constitution Site</i>							
Proposed Office (494,726 s.f.)	675	92	767	125	612	737	5,447
Proposed Retail (7,420 s.f.)	-	-	-	9	11	20	329
Total for Constitution Site	675	92	767	134	623	757	5,776
Total Net New Trips	937	209	1,146	380	855	1,235	11,113
<i>Source:</i> DKS Associates, 2009.							
<i>Note:</i> The existing trip credit represents the occupied office space on the Independence and Constitution sites.							
1. The square footage amounts represent the maximum allowable square footage under the GPA/ZOA.							



Source: DKS Associates, 2009



FIGURE 3.11-8
Trip Distribution Percentages

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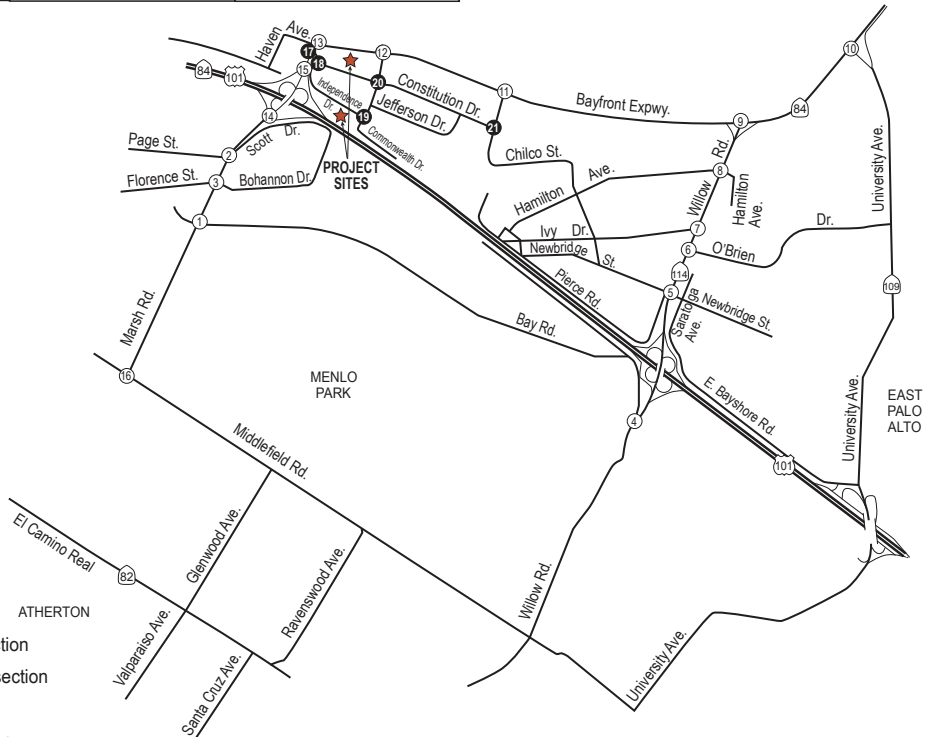
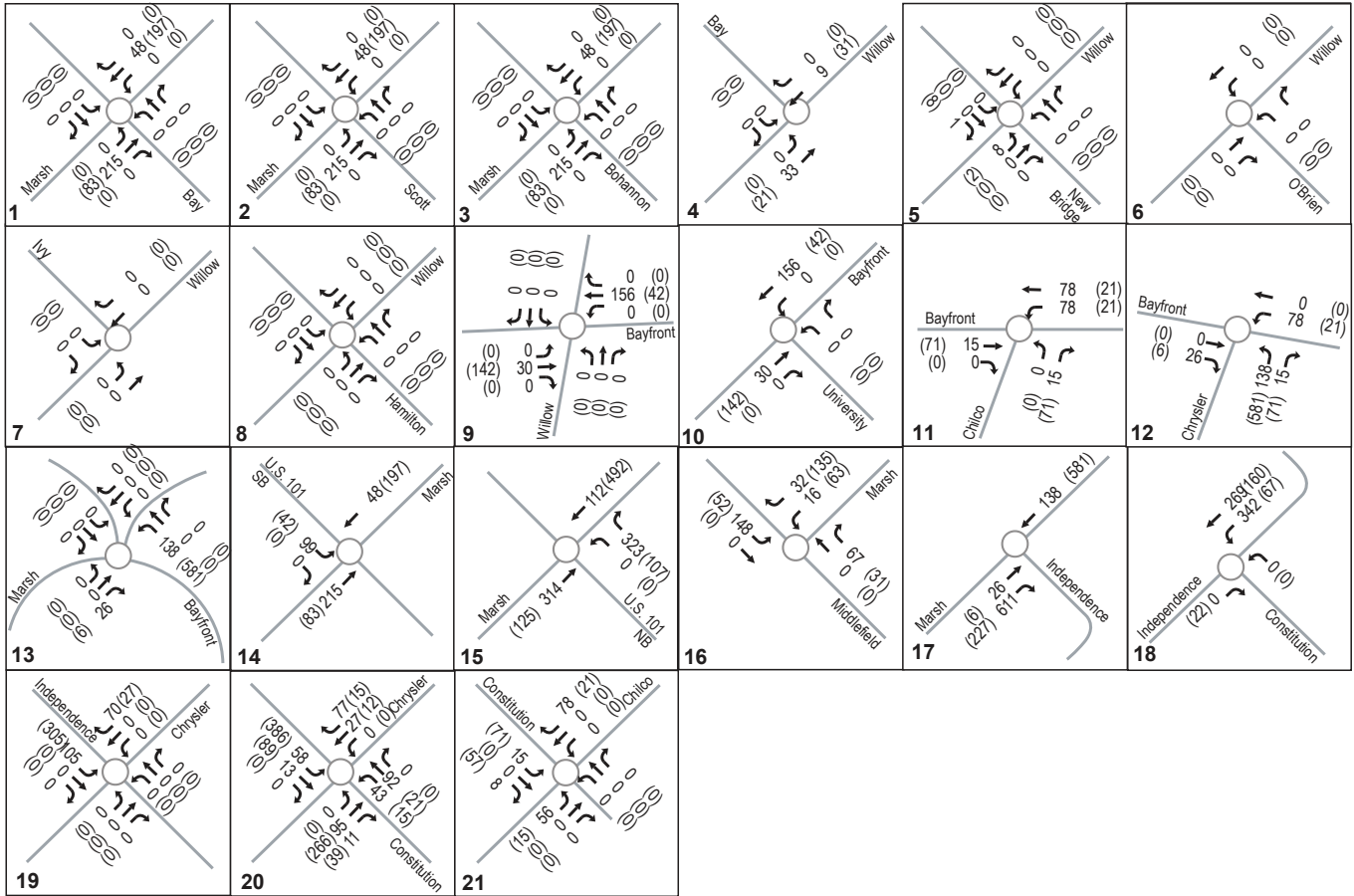


FIGURE 3.11-9
Project Peak Hour Volumes

Source: DKS Associates, 2009

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**Table 3.11-6
Near Term plus Project Conditions Levels of Service**

Study Intersection	AM Peak Hour		PM Peak Hour	
	Delay ¹	LOS ²	Delay	LOS
1. Marsh Road/Bay Road	20.0	B	15.6	B
2. Marsh Road/Scott Drive	22.4	C	30.3	C
3. Marsh Road/Bohannon Drive	27.5	C	38.3	D
4. Willow Road/Bay Road	16.8	B	15.2	B
5. Willow Road/Newbridge Street	38.0	D	35.4	D
Critical Local Approaches ³	71.3/67.3	E/E	74.3/73.2	E/E
6. Willow Road/O'Brien Drive	11.0	B	10.2	B
Critical Local Approaches ³	42.6/NA	D/NA	47.6/NA	D/NA
7. Willow Road/Ivy Drive	10.8	B	12.7	B
Critical Local Approaches ³	NA/40.6	NA/D	NA/39.5	NA/D
8. Willow Road/Hamilton Avenue	19.1	B	21.2	C
Critical Local Approaches ³	35.0/43.4	D/D	40.9/32.8	D/C
9. Bayfront Expressway/Willow Road	25.6	C	62.3	E
Critical Local Approaches ³	NA/61.0	NA/E	NA/140.3	NA/F
10. Bayfront Expressway/University Avenue	7.9	A	29.4	C
11. Bayfront Expressway/Chilco Street	14.8	B	15.4	B
Critical Local Approaches ³	56.0/NA	E/NA	52.0/NA	D/NA
12. Bayfront Expressway/Chrysler Drive	17.2	B	68.0	E
Critical Local Approaches ³	53.1/NA	D/NA	89.0/NA	F/NA
13. Bayfront Expressway/Haven Avenue	17.8	B	31.4	C
Critical Local Approaches ³	83.6/NA	F/NA	90.9/NA	F/NA
14. Marsh Road/US 101 South Bound Off-Ramp	20.6	C	21.6	C
15. Marsh Road/US 101 North Bound Off-Ramp	21.2	B	16.2	B
16. Marsh Road/Middlefield Road (Atherton)	33.5	D	51.7	D
17. Independence Drive/Marsh Road (unsignalized)	0.0	A	0.0	A
18. Independence Drive/Constitution Drive (unsignalized)	85.7	F	12.8	B
19. Independence Drive/Chrysler Drive (unsignalized)	10.0	A	12.2	B
20. Constitution Drive/Chrysler Drive (unsignalized)	10.9	B	83.0	F
21. Constitution Drive/Chilco Street (unsignalized)	10.2	B	9.9	A

Source: DKS Associates, 2009.

Notes:

1. Delay = Average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
2. LOS = Level of service, represents Average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
3. Average delay for Eastbound/Westbound or Northbound/Southbound critical movements for local approaches.

Bold = Intersection projected to operate at an unacceptable level of service.

Term conditions, one intersection would also operate with significant impacts under the Near Term plus Project conditions: Constitution Drive at Chrysler Drive. During the AM peak hour, three local approaches to state intersections would operate with potentially significant impacts.

These local approaches are at the following intersections:

- Willow Road/Newbridge Street
- Bayfront Expressway/Chilco Street
- Bayfront Expressway/Haven Avenue

Additionally, two local approaches to a state controlled intersection would experience potentially significant impacts during the PM peak hour:

- Bayfront Expressway/Willow Road
- Bayfront Expressway/Chrysler Street

The respective increases in delay at these intersections would be above the significance threshold resulting in potentially significant impacts for these local approaches.

Intersection levels of service for the Near Term plus Project are provided in Table 3.11-6. Figure 3.11-10 illustrates the Near Term plus Project Peak Hour Volumes. An intersection LOS comparison summary between Existing conditions, Near Term No Project conditions, and Near Term plus Project conditions is shown in Table 3.11-7 (AM peak) and Table 3.11-8 (PM peak).

Under Near Term plus Project, traffic associated with the proposed project would result in increased delays at the following intersections:

- Willow Road/Newbridge Street
- Bayfront Expressway/Willow Road
- Bayfront Expressway/Chilco Street
- Bayfront Expressway/Chrysler Street
- Bayfront Expressway/Haven Avenue
- Independence Drive/Constitution Drive
- Constitution Drive/Chrysler Drive

Peak hour traffic volumes under Near Term plus Project are depicted in Figure 3.11-10. Intersection levels of service for the Near Term plus Project are provided in Table 3.11-6. An intersection LOS comparison summary between Existing, Near Term No Project, and Near Term plus Project is shown in Table 3.11-7 (AM peak) and Table 3.11-8 (PM peak). Because the project would increase delays at these intersections, this is considered a significant impact.

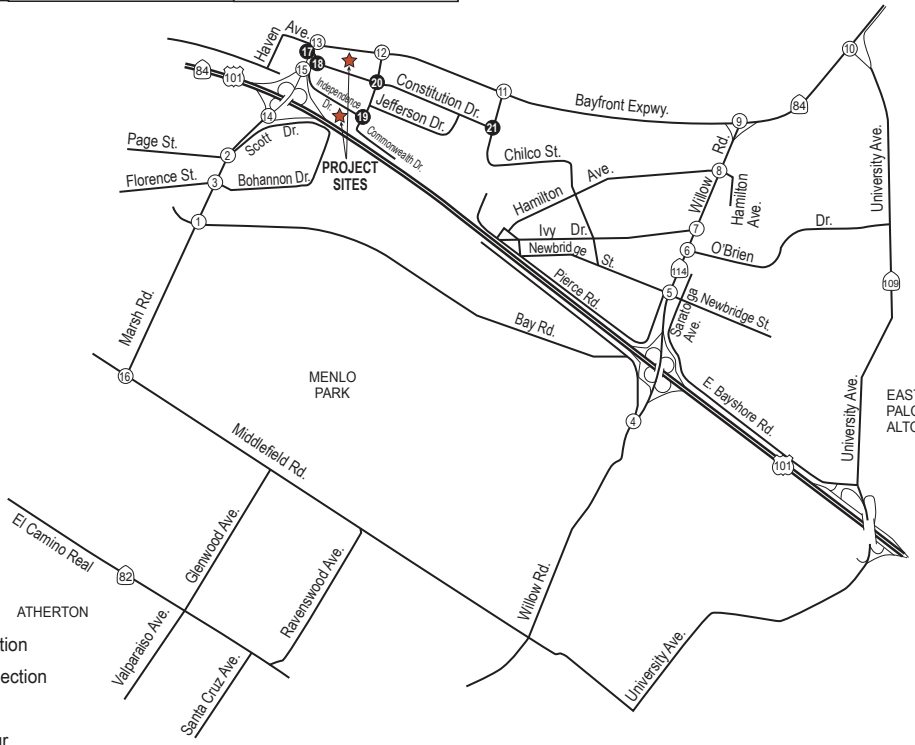
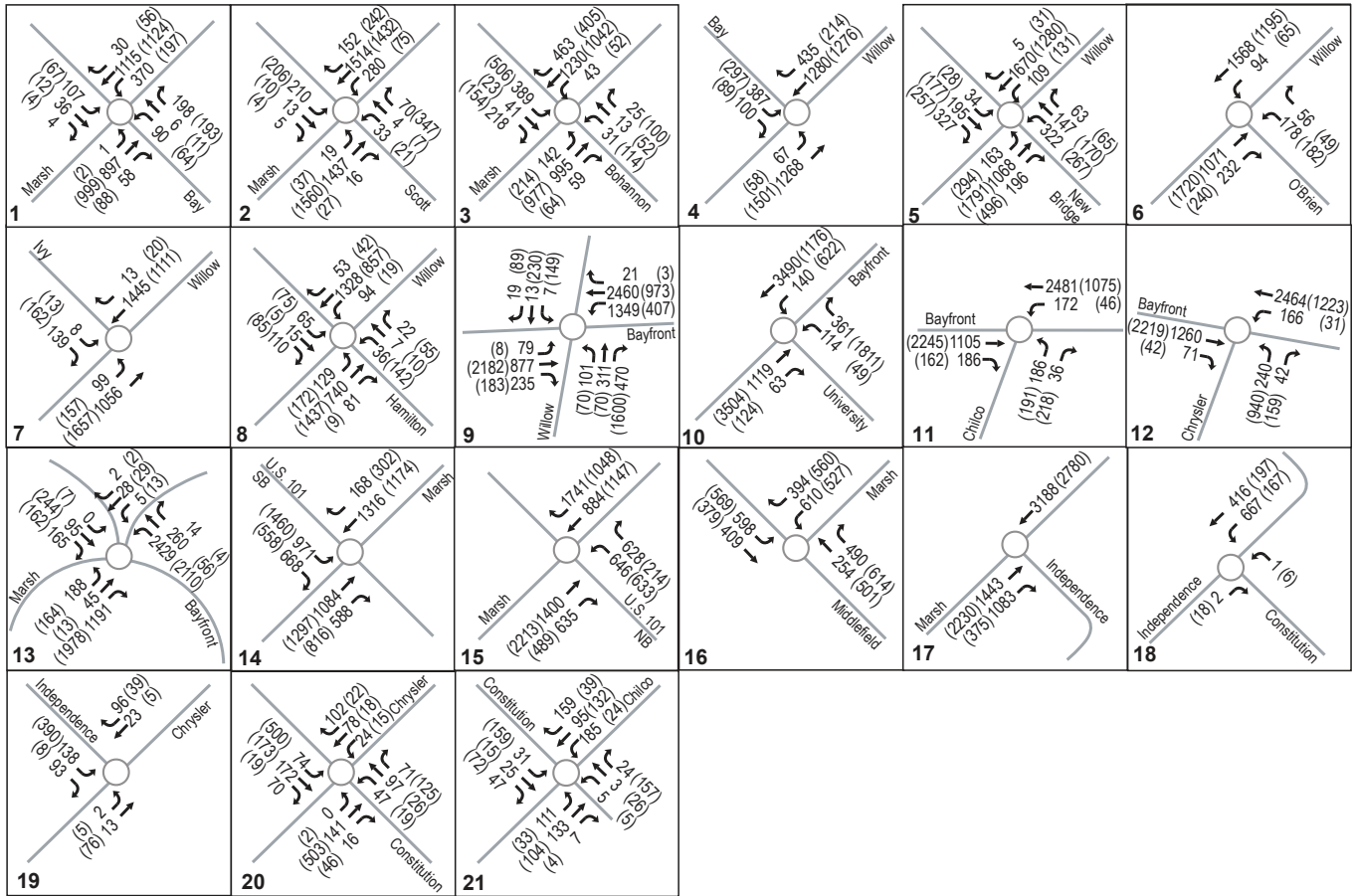


FIGURE 3.11-10
Near Term Plus Project Peak Hour Volumes

Source: DKS Associates, 2009

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**Table 3.11-7
Near Term AM Peak Hour Intersection Levels of Service Comparison Summary**

Study Intersection	Existing		Near Term No Project				Near Term plus Project			
	Delay ¹	LOS ²	Delay ^a	LOS ^b	Increase in Delay from Existing	% Increase in Delay from Existing	Delay ^a	LOS ^b	Increase in Delay from Near Term	% Increase in Delay from Near Term
1. Marsh Road/Bay Road	16.9	B	18.4	B	1.5	8.9%	20.0	B	1.6	8.7%
2. Marsh Road/Scott Drive	22.5	C	22.2	C	-0.3	-1.3%	22.4	C	0.2	0.9%
3. Marsh Road/Bohannon Drive	30.1	C	27.3	C	-2.8	-9.3%	27.5	C	0.2	0.7%
4. Willow Road/Bay Road	16.9	B	16.6	B	-0.3	-1.8%	16.8	B	0.2	1.2%
5. Willow Road/Newbridge Street	38.7	D	37.2	D	-1.5	-3.9%	37.4	D	0.2	0.5%
Critical Local Approaches ³	73.5/63.9	E/E	71.7/63.0	E/E	-1.8/0.8		71.9/66.5	E/E	0.2/3.5	
6. Willow Road/O'Brien Drive	10.1	B	10.9	B	0.8	7.9%	11.0	B	0.1	0.9%
Critical Local Approaches	36.5/NA	D/NA	42.5/NA	D/NA	6.0/NA		42.6/NA	D/NA	0.1/NA	
7. Willow Road/Ivy Drive	10.7	B	10.7	B	0.0	0.0%	10.8	B	0.1	0.9%
Critical Local Approaches ³	NA/41.4	NA/D	NA/40.2	NA/D	NA/-1.2		NA40.6	NA/D	NA/0.4	
8. Willow Road/Hamilton Avenue	16.1	B	19.0	B	2.9	18.0%	19.1	B	0.1	0.5%
Critical Local Approaches ³	31.2/38.7	C/D	35.0/43.1	C/D	3.8/4.4		35.0/43.4	D/D	0.0/0.3	
9. Bayfront Expressway/Willow Road	32.4	C	25.7	C	-6.7	-20.7%	25.6	C	0.1	0.4%
Critical Local Approaches ³	NA/86.8	NA/F	NA/61.0	NA/E	NA/-25.8		NA/61.0	NA/E	0.0	
10. Bayfront Expressway/University Avenue	7.8	A	7.6	A	-0.2	-2.6%	7.9	A	0.3	3.9%
11. Bayfront Expressway/Chilco Street	12.7	B	12.4	B	-0.3	-2.4%	14.8	B	2.4	19.4%
Critical Local Approaches ³	56.1/NA	E/NA	54.6/NA	D/NA	-1.5/NA		56.0/NA	E/NA	1.4/NA	
12. Bayfront Expressway/Chrysler Drive	8.1	A	8.1	A	0.0	0.0%	17.2	B	9.1	112.3%
Critical Local Approaches ³	61.3/NA	E/NA	61.5/NA	E/NA	0.2/NA		53.1/NA	D/NA	8.4/NA	
13. Bayfront Expressway/Haven Avenue	17.4	B	17.5	B	0.1	0.6%	17.8	B	0.3	1.7%
Critical Local Approaches ³	78.1/NA	E/NA	79.2/NA	E/NA	1.1/NA		83.6/NA	F/NA	4.4/NA	
14. Marsh Road/US 101 SB Off-Ramp	18.8	B	19.1	B	0.3	-17.0%	20.6	C	2.5	13.1%
15. Marsh Road/US 101 NB Off-Ramp	12.4	B	12.3	B	-0.1	-0.8%	21.2	B	8.9	72.4%
16. Marsh Road/Middlefield Road (Atherton)	27.9	C	27.0	C	-0.9	-3.2%	33.5	D	6.5	24.1%
17. Independence Drive/Marsh Road (unsignalized)	0.0	A	0.0	A	0.0	0.0%	0.0	A	0	0.0%
18. Independence Drive/Constitution Drive (unsignalized)	19.4	C	17.3	C	-2.1	-10.8%	85.7	F	68.4	395.4%
19. Independence Drive/Chrysler Drive (unsignalized)	9.0	A	9.0	A	0.0	0.0%	10.0	A	1	11.1%
20. Constitution Drive/Chrysler Drive (unsignalized)	8.2	A	8.3	A	0.1	1.2%	10.9	B	2.6	31.3%
21. Constitution Drive/Chilco Street (unsignalized) ^d	9.7	A	9.8	A	0.1	1.0%	10.2	B	0.4	4.1%

Source: DKS Associates, 2009.

Notes:

1. Delay = Average delay per vehicle for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
2. LOS = Level of service, represents Average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
3. Average delay for Eastbound/Westbound or Northbound/Southbound critical movements for local approaches.

Bold = Intersection projected to operate at an unacceptable level of service.

**Table 3.11-8
Near Term PM Peak Hour Intersection Levels of Service Comparison Summary**

Study Intersection	Existing		Near Term No Project				Near Term plus Project			
	Delay ¹	LOS ²	Delay ¹	LOS ²	Increase in Delay from Existing	% Increase in Delay from Existing	Delay ¹	LOS ²	Increase in Delay from Near Term	% Increase in Delay from Near Term
1. Marsh Road/Bay Road	15.7	B	15.6	B	-0.1	8.90%	15.6	B	0.0	0.0%
2. Marsh Road/Scott Drive	27.7	C	27.8	C	-0.3	-1.30%	30.3	C	2.5	9.0%
3. Marsh Road/Bohannon Drive	34.8	C	34.4	C	-2.8	-9.30%	38.3	D	3.9	11.3%
4. Willow Road/Bay Road	15.1	B	15.0	B	-0.3	-1.80%	15.2	B	0.2	1.3%
5. Willow Road/Newbridge Street	35.0	D	35.0	D	-1.5	-3.90%	35.0	D	0.0	0.0%
Critical Local Approaches ³	73.9/72.8	E/E	72.9/71.9	E/E	-1.0/-0.9		73.1/72.1	E/E	0.2/0.2	
6. Willow Road/O'Brien Drive	10.2	B	10.1	B	0.8	7.90%	10.2	B	0.1	1.0%
Critical Local Approaches ³	47.5/NA	D/NA	47.3/NA	D/NA	-0.2/NA		47.6/NA	D/NA	0.3/NA	
7. Willow Road/Ivy Drive	12.4	B	12.6	B	0.0	0.00%	12.7	B	0.1	0.8%
Critical Local Approaches ³	NA/40.6	NA/D	NA/39.2	NA/D	NA/-0.8		NA/39.5	NA/D	NA/0.3	
8. Willow Road/Hamilton Avenue	19.9	B	21.0	C	2.9	18.00%	21.2	C	0.2	1.0%
Critical Local Approaches ³	40.3/32.7	D/C	40.5/32.7	D/C	0.2/0.0		40.9/32.8	D/C	0.4/.01	
9. Bayfront Expressway/Willow Road	61.1	E	57.5	E	-6.7	-20.70%	62.3	E	4.8	8.3%
Critical Local Approaches ³	NA/137.1	NA/F	NA/131.7	NA/F	0.6		NA/140.3	NA/F	8.6	
10. Bayfront Expressway/University Avenue	25.1	C	25.3	C	-0.2	-2.60%	29.4	C	4.1	16.2%
11. Bayfront Expressway/Chilco Street	12.2	B	12.4	B	-0.3	-2.40%	15.4	B	3.0	24.2%
Critical Local Approaches ³	53.6/NA	D/NA	52.7/NA	D/NA	-0.9/NA		52.0/NA	D/NA	-0.7/NA	
12. Bayfront Expressway/Chrysler Drive	19.2	B	19.1	B	0.0	0.00%	68.0	E	48.9	256.0%
Critical Local Approaches ³	47.4/NA	D/NA	47.0/NA	D/NA	-0.4/NA		89.0/NA	F/NA	48.9/NA	
13. Bayfront Expressway/Haven Avenue	34.9	C	32.8	C	0.1	0.60%	31.4	C	-1.4	-4.3%
Critical Local Approaches ³	93.6/NA	F/NA	91.4/NA	F/NA	-1.8/NA		90.9/NA		F/NA	-0.5/NA
14. Marsh Road/US 101 SB Off-Ramp	22.7	C	18.9	B	-3.8	-16.70%	27.1	C	2.7	14.3%
15. Marsh Road/US 101 NB Off-Ramp	17.6	B	14.6	B	-0.1	-0.80%	16.2	B	1.6	11.0%
16. Marsh Road/Middlefield Road (Atherton)	34.6	C	36.5	D	-0.9	-3.20%	51.7	D	15.2	41.6%
17. Independence Drive/Marsh Road (unsignalized)	0.0	A	0.0	A	0.0	0.00%	0.0	A	0.0	0.0%
18. Independence Drive/Constitution Drive (unsignalized)	10.4	B	10.0	A	-2.1	-10.80%	12.8	B	2.8	28.0%
19. Independence Drive/Chrysler Drive (unsignalized)	9.4	A	9.4	A	0.0	0.00%	12.2	B	2.8	29.9%
20. Constitution Drive/Chrysler Drive (unsignalized)	9.5	A	9.3	A	0.1	1.20%	83.0	F	73.7	792.5%
21. Constitution Drive/Chilco Street (unsignalized)	9.2	A	8.9	A	0.1	1.00%	9.9	A	1.0	11.2%

Source: DKS Associates, 2009.

Notes:

1. Delay = Average delay per vehicle for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
2. LOS = Level of service, represents Average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
3. Average delay for Eastbound/Westbound or Northbound/Southbound critical movements for local approaches.

Bold = Intersection projected to operate at an unacceptable level of service.

MITIGATION MEASURES.

- TR-1.1* *A) Willow Road/Newbridge Street Intersection Improvements.* For impacts related to this intersection, the recommended mitigation measure is to add capacity to the southbound through movement. While this could be accomplished by restriping the southbound right lane to a through-right lane, additional receiving capacity would be needed. Due to existing right-of-way and various signal and utility equipment, this measure would require obtaining additional right-of way in order to implement significant intersection modifications, some of which are under Caltrans jurisdiction. Also, adaptive signal timing, traffic impact fees, and the transportation demand management program would serve as partial mitigation measures. Because the improvement is under Caltrans jurisdiction and the City cannot guarantee it would be implemented or there is no feasible mitigation to reduce the significance of the impact, the impact remains significant and unavoidable. (SU)
- B) Bayfront Expressway/Willow Road Intersection Improvements.* For impacts related to the Bayfront Expressway/Willow Road intersection, the recommended mitigation measure is to convert the existing eastbound shared left-through lane into a left only lane, and add a second westbound left-turn only lane. Additionally, the addition of an eastbound right turn overlap phase and a third right turn lane have been examined. This mitigation measure would substantially reduce the average delay to an acceptable LOS D. Each of these mitigation measures may be completed separately. Additionally, adaptive signal timing, traffic impact fees, and the transportation demand management program would serve as partial mitigation measures. Implementation of this mitigation measure also would require coordination with and approval by Caltrans. Because the improvement is under Caltrans jurisdiction and the City cannot guarantee it would be implemented, the impact remains significant and unavoidable. (SU)
- C) Bayfront Expressway and Chilco Street Intersection Improvements.* For this intersection, an additional eastbound left turn lane would reduce the delay at this intersection to below No Project condition levels. This measure may require additional right of way and would require coordination with and approval by Caltrans. However, adaptive signal timing, traffic impact fees, and the transportation demand management program would serve as partial mitigation measures. Because the improvement is under Caltrans jurisdiction and the City cannot guarantee it would be implemented, the impact remains significant and unavoidable. (SU)
- D) Bayfront Expressway and Chrysler Drive Intersection Improvements.* For impacts related to the Bayfront Expressway and Chrysler Drive intersection, the recommended mitigation measure is to convert the existing right turn lane

to a left turn lane and add a shared left turn and right turn lane to reduce the impact to a less-than-significant level. This would result in an approach with two left turn only lanes and one shared left turn/right turn lane. However, this measure is under the jurisdiction of Caltrans and would require coordination with and approval by Caltrans. Additionally, adaptive signal timing, traffic impact fees, and the transportation demand management program would serve as partial mitigation measures. Because the improvement is under Caltrans jurisdiction and the City cannot guarantee it would be implemented, the impact remains significant and unavoidable. (SU)

- E) *Bayfront Expressway and Haven Avenue Intersection Improvements.* For impacts related to the Bayfront Expressway and Haven Avenue intersection, there is no feasible mitigation within the current right-of-way that would significantly reduce delay. The project sponsor shall make a contribution toward installing an adaptive signal timing program to include each of the signalized intersections on Bayfront Expressway between University Avenue and Haven Avenue. This mitigation measure would improve the operation of the intersection, but would not reduce the operating conditions to a less-than-significant level. Additionally, traffic impact fees, and the transportation demand management program would serve as partial mitigation measures. Because the improvement is under Caltrans jurisdiction and the City cannot guarantee it would be implemented, the impact remains significant and unavoidable. (SU)
- F) *Independence Drive/Constitution Drive Intersection Improvements.* For impacts related to the Independence Drive/Constitution Drive intersection, there would be less than five vehicles that would experience high delays (up to approximately 150 seconds). This impact could be mitigated by blocking access to Independence Drive from Constitution, and requiring vehicles to access Independence via Chrysler Drive, which would remove delays from this approach. However, due to the low number of vehicles experiencing high delays, re-circulating traffic for less than five vehicles would not be feasible, and these vehicles would find alternative routes on their own when conditions dictate. Additionally, traffic impact fees, and the transportation demand management program would serve as partial mitigation measures. Without the access restriction mitigation measure, the impact remains significant and unavoidable. (SU)
- G) *Constitution Drive/Chrysler Drive Intersection Improvements.* This intersection is currently a stop controlled intersection for each of the approaches (four-way stop). Signalization of the intersection plus modifications to the lane geometry would result in an acceptable LOS D at the intersection. The lane geometry modifications would involve restriping the southbound approach to include a dedicated left-turn lane, and a shared through/right-turn lane and restriping the

eastbound approach from one shared left-through/right lane to include two approach lanes (one shared through-left and one shared through/right). This measure could require widening the current curb to curb distance and possibly obtaining additional right-of way, but the impact would be less than significant. (LTS)

The following measures would provide partial mitigation for the proposed project.

- H) Prior to building permit issuance, the project sponsor shall pay the applicable Transportation Impact Fee (TIF), based on the type and size of the proposed land uses and the existing land uses to be replaced, to be used for various traffic improvement projects throughout the City. While the fees paid would help improve traffic conditions by funding needed transportation projects, they would not reduce the proposed project's impacts to a less-than-significant level.
- I) Upon occupancy of the first building of the proposed project, the applicant shall implement a Transportation Demand Management (TDM) program consistent with the preliminary TDM plan (Appendix J). Any modifications to the specifics or phasing of the TDM measures shall be subject to review and approval of the City of Menlo Park and the City/County Association of Governments (C/CAG) of San Mateo County. While the effectiveness of particular TDM measures varies from development to development depending upon location and the features of the surrounding transportation network, it is unlikely that the proposed TDM program would result in trip reductions substantial enough to mitigate traffic impacts to a less-than-significant level.
- J) Prior to building permit issuance, the project applicant shall pay a fee as a contribution toward adaptive signal timing improvements based on impacts to the following four intersections:
 - Willow Road/Newbridge Street;
 - Bayfront Expressway/University Avenue;
 - Bayfront Expressway/Haven Avenue; and
 - Marsh Road/US 101 NB Off-Ramp.

If Caltrans does not support the implementation of adaptive signal timing for the corridors in its jurisdiction, then the City shall have the discretion to use the funds for various traffic improvement projects throughout the City. While the adaptive signal timing improvements would optimize the performance of the traffic signals, the improvements would not reduce the traffic impacts to a less-than-significant level.

Impact TR-2: *Increases in traffic associated with the proposed project under the Near Term plus Project conditions would result in increased volumes on project area roadway segments during peak hours causing a potentially significant impact under Criterion #5, Criterion #6 or Criterion #7. (PS)*

The proposed project would generate approximately 11,113 net daily trips during a typical weekday. It should be noted that Marsh Road between Scott Drive and Bohannon Drive is classified as a primary arterial and is not subject to ADT analysis or thresholds. Table 3.11-9 shows the comparison between the existing, Near Term, and Near Term with Project conditions and the corresponding ADT increases between them. Figure 3.11-11 illustrates the Near Term plus Project ADT.

For the Marsh Road segments, the net volume added for the proposed project is approximately 2,508 vehicles, which is higher than the corresponding 100 vehicle threshold. Additionally, the amount of traffic added to the segments of Constitution Drive, Independence Drive, and Chrysler Drive would also be higher than their respective thresholds. The same is true for the two analyzed segments of Chilco Street.

It should be noted that some net-new project related trips would travel to destinations in the Belle Haven neighborhood. However, cut-through traffic through the Belle Haven neighborhood is anticipated to be minimal due to the projected average delays at intersections on Bayfront Expressway and on Willow Road, recently implemented traffic calming, and improvements along Bayfront Expressway. Existing turning movement restrictions include no left turns from Chilco Street onto Hamilton Avenue between 3:30 and 7:00 p.m. While no other turn restrictions are anticipated for the Belle Haven neighborhood, intersection improvements near the project site, including added turning lanes at Chrysler Drive and Bayfront Expressway, and Chilco and Bayfront Expressway, would increase traffic flow and keep queues to a minimum. With these improvements, traffic would access Bayfront Expressway and US 101 closer to the project site and cut-through traffic through the Belle Haven neighborhood would be minimized.

As shown in Table 3.11-9, the net-new project trips would result in increased daily volumes on the study roadway segments. To summarize, increases in traffic associated with the proposed project under the Near Term plus Project would result in potentially significant impacts to the following study roadway segments:

- Marsh Road (Bohannon Drive to Bay Road)
- Constitution Drive (Independence Drive to Chilco Street)
- Constitution Drive (Chrysler Drive to Chilco Street)
- Independence Drive (Constitution Drive to Chrysler Drive)
- Chrysler Drive (Bayfront Expressway to Constitution Drive)
- Chrysler Drive (Constitution Drive to Jefferson Drive)
- Chilco Street (Constitution Drive to Bayfront Expressway)
- Chilco Street (Constitution Drive to Hamilton Avenue)

**Table 3.11-9
Near Term Plus Project Average Daily Traffic Comparison Summary**

Study Roadway Segment	Roadway Class	Capacity Vehicles Trips per Day	Existing ADT	Near Term						
				No Project			Plus Project			
				ADT	Background Volume Added	% Change from Existing	ADT	Project Volume Added	% Change from Existing	Potentially significant impact?
Marsh Road (Scott Drive to Bohannon Drive)	PA	20,000	34,000	35,517	1,517	4.5%	38,025	2,508	7.4%	Exempt
Marsh Road (Bohannon Drive to Bay Road)	MA	20,000	27,600	28,925	1,325	4.8%	31,433	2,508	9.1%	Yes
Constitution Drive (Independence Drive to Chrysler Drive)	L	1,500	2,600	2,678	78	3.0%	6,808	4,130	158.8%	Yes
Constitution Drive (Chrysler Drive to Chilco Street)	C	10,000	1,900	1,957	57	3.0%	3,351	1,394	73.4%	Yes
Independence Drive (Constitution Drive to Chrysler Drive)	L	1,500	1,300	1,339	39	3.0%	4,182	2,843	218.7%	Yes
Chrysler Drive (Bayfront Expressway to Constitution Drive)	C	10,000	4,500	4,635	135	3.0%	10,539	5,904	131.2%	Yes
Chrysler Drive (Constitution Drive to Jefferson Drive)	L	1,500	3,000	3,090	90	3.0%	5,977	2,887	96.2%	Yes
Chilco Street (Constitution Drive to Bayfront Expressway)	C	10,000	5,700	5,871	171	3.0%	6,641	770	13.5%	Yes
Chilco Street (Constitution Drive to Hamilton)	L	1,500	3,500	3,065	105	3.0%	4,231	626	17.9%	Yes

Source: DKS Associates, 2009.

Notes:

Key: City of Menlo Park Segment Criteria:

L = Local Street. Impact if ADT is > 1,350 vehicles and project adds > 25 trips, or ADT is > 750 and project increases ADT by 12.5%, or ADT is < 750 and project increases ADT by 25%.

C = Collector Street. Impact if ADT is > 9,000 vehicles and project adds > 50 trips, or ADT is > 5,000 and project increases ADT by 12.5%, or ADT is < 5,000 and project increases ADT by 25%.

MA = Minor Arterial. Impact if ADT is > 18,000 vehicles and project adds > 100 trips, or ADT is > 10,000 and project increases ADT by 12.5%, or ADT is < 10,000 and project increases ADT by 25%.

PA = Primary Arterial. Primary arterials are exempt from ADT thresholds but are included for informational purposes.

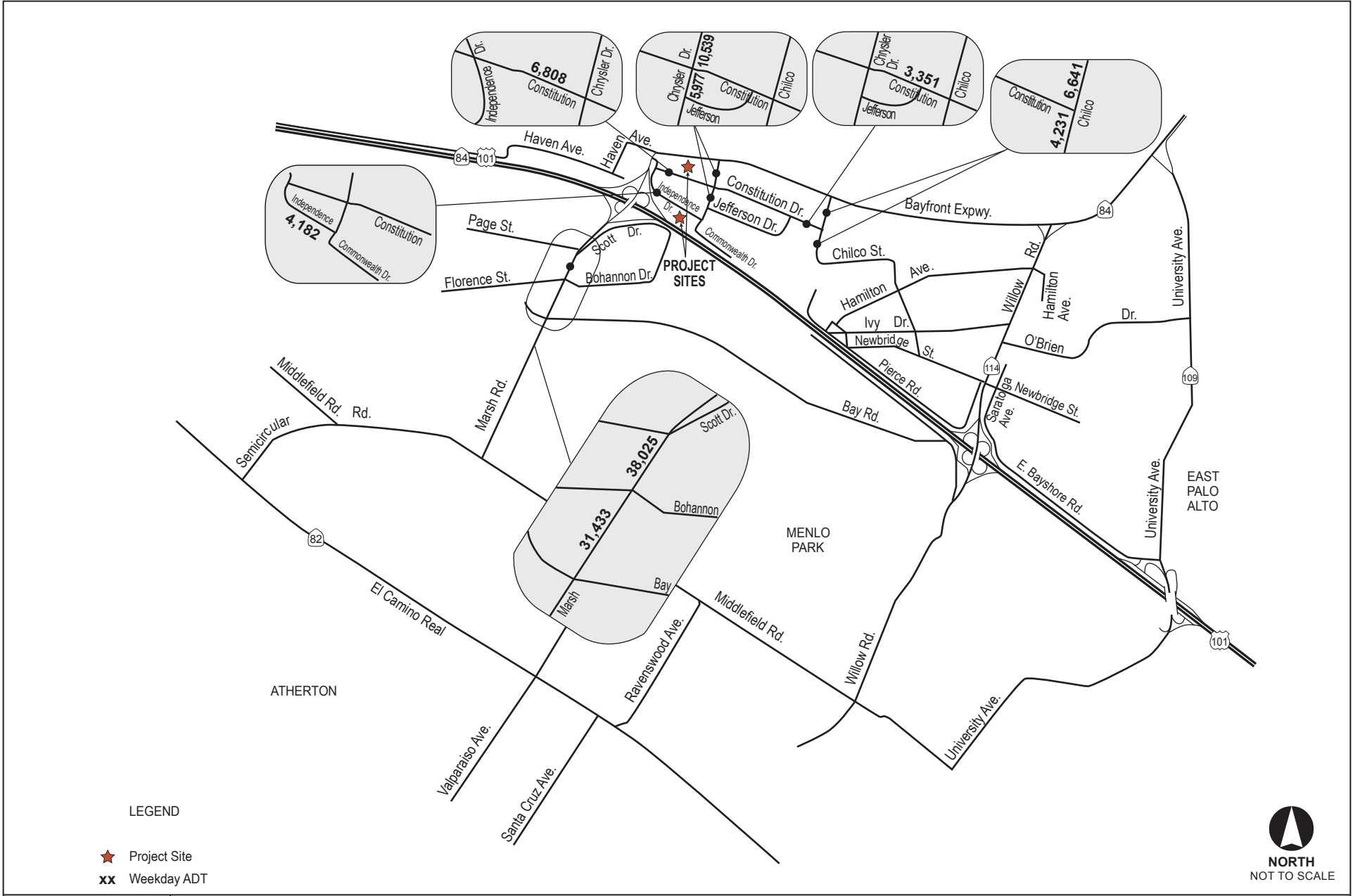


FIGURE 3.11-11
Near Term Plus Project Average Daily Traffic (ADT)

Source: DKS Associates, 2009

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MITIGATION MEASURES.

- TR-2.1 A) Marsh Road between Bohannon Drive and Bay Road.* There is no feasible mitigation measure to reduce the proposed project-related traffic impacts to the segment of Marsh Road between Bohannon Drive to Bay Road to less-than-significant levels. An additional travel lane would increase capacity, but lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)
- B) Constitution Drive between Independence Drive and Chrysler Drive.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity, but lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)
- C) Constitution Drive between Chrysler Drive and Chilco Street.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity, but lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)
- D) Independence Drive between Constitution Drive and Chrysler Drive.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity, but lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)
- E) Chrysler Drive between Bayfront Expressway and Constitution Drive.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity but

lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)

- F) *Chrysler Drive between Constitution Drive and Jefferson Drive.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity but lack of sufficient right-of way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)
- G) *Chilco Street between Constitution Drive and Bayfront Expressway.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity but lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)
- H) *Chilco Street between Constitution Drive and Hamilton Avenue.* There is no feasible mitigation measure to reduce this impact to less-than-significant levels. An additional lane of travel would provide an increase in capacity but lack of sufficient right-of-way for the improvement does not permit this as a feasible measure. This mitigation measure would mitigate the impacts to the roadway segment; however, the mitigation is not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, the impacts to the roadway segments would be significant and unavoidable. (SU)

Impact TR-3: Increases in traffic associated with the proposed project under Near Term plus Project conditions would result in significant impacts to several Routes of Regional Significance segments as defined under Criterion #4. (S)

Three selected roadways within the project vicinity on SR 84 and US 101 are considered Routes of Regional Significance by the San Mateo County 2007 CMP. Project generated traffic would not change the levels of service on Regional Routes of Significance in the project area. The proposed project would add approximately 1.1 percent of the estimated capacity to US 101 north of Marsh Road, 3.5 percent of the estimated capacity to US 101 south of Willow Road (approximately 323 vehicles), and 2.2 percent of the estimated capacity on SR 84 east of University Avenue (approximately 156

vehicles). Because these roadway segments are already operating at their respective LOS standard, this would be considered a potentially significant impact. Table 3.11-10 summarizes the estimated percent of capacity added to the Regional Routes of Significance.

Route	Segment	Existing LOS¹	LOS Standard¹	Estimated Capacity (vph)²	Net-New Project Trips³	Percent of Capacity	Significant Impact?
SR 84	East of University	F	F	6,900	156	2.2 %	Y
US 101	South of Willow Road	F	F	9,200	323	3.5 %	Y
US 101	North of Marsh Road	F	F	9,200	99	1.1 %	Y

Source: DKS Associates, 2009.

Notes:

1. Source: 2007 San Mateo County CMP Monitoring Report.
2. Based on 60 percent green time of 1900 vehicles per hour per lane saturation flow rate.
3. For peak direction of project traffic.

Under Near Term plus Project conditions, the following routes of Regional Significance would be impacted by the project.

- SR 84 East of University Avenue
- US 101 South of Willow Road
- US 101 North of Marsh Road

The project would increase traffic that would exceed the current thresholds resulting in a significant impact.

MITIGATION MEASURES.

- TR-3.1* *A) SR 84 East of University Avenue.* There is no feasible mitigation measure to reduce this impact to less than significant. An additional travel lane would increase capacity, but adding a lane to the freeway is not a feasible mitigation measure. Adding an additional travel lane would increase capacity, but adding an additional lane to the freeway is not a feasible mitigation due to cost and because it is under the jurisdiction of another agency. Therefore, the impact is significant and unavoidable. (SU)
- B) US 101 South of Willow Road.* There is no feasible mitigation measure to reduce this impact to less than significant. An additional travel lane would increase capacity, but adding a lane to the freeway is not a feasible mitigation measure. Adding an additional travel lane would increase capacity, but adding an additional lane to the freeway is not a feasible mitigation due to cost and

because it is under the jurisdiction of another agency. Therefore, the impact is significant and unavoidable. (SU)

- C) *US 101 North of Marsh Road.* There is no feasible mitigation measure to reduce this impact to less than significant. An additional travel lane would increase capacity, but adding a lane to the freeway is not a feasible mitigation measure. Adding an additional travel lane would increase capacity, but adding an additional lane to the freeway is not a feasible mitigation due to cost and because it is under the jurisdiction of another agency. Therefore, the impact is significant and unavoidable. (SU)

Impact TR-4: *Under Near Term plus Project conditions, the proposed project would not result in any impacts to the local transit system. This impact is less than significant. (LTS)*

Current bus service in the project vicinity is somewhat limited, with the closest SamTrans line located several blocks away at the Onetta Harris Community Center in the Belle Haven neighborhood. A conservative estimate of two to four percent transit mode share on local bus services would result in approximately 20 peak directional transit trips. Load factors and operations of current transit services in the area would not be impacted by net-new transit trips related to the proposed project. Shuttle services to regional transit stations, such as Caltrain, currently operate near capacity. With implementation of the project's proposed TDM plan, additional shuttles to meet the increase in rider demand would be provided, in conjunction with the existing shuttle services. Therefore, the proposed project is not anticipated to create significant impacts to the existing transit services and therefore, the impact is less than significant.

Impact TR-5: *Under Near Term plus Project conditions, the proposed project would not result in any impacts to local bicycle or pedestrian facilities. This impact is less than significant. (LTS)*

Class II bicycle facilities currently exist in the project vicinity and near the project area along Willow Road and Bay Road. A Class I bicycle facility exists along Bayfront Expressway between Haven Avenue and the Dumbarton Bridge, which provides a divided bicycle facility. In the immediate vicinity of the project area, there are no bicycle lanes on local and collector streets, and cyclists must share the roadways with vehicular traffic. The proposed project includes a TDM program, as detailed in Chapter 2, Project Description and is included as Appendix J. The TDM program would incorporate small plazas and public gathering spaces that would encourage pedestrian use. Sidewalks would be provided adjacent to and within the project area, and would promote linkages to and from the Bayfront Park area, as well as to blocks located in the center of the project area. Additionally, as part of the project, landscaping would be provided to encourage pedestrian and bicycle trips. Additionally, walkway linkages would be provided between the two sites. The project proposes to promote bicycle use and provides storage lockers, showers and bike racks in accordance with the TDM plan. The various bicycle-related TDM measures are anticipated to result in a small reduction of vehicle trips. Similar land uses in the vicinity of the proposed project currently generate a relatively low number of bicycle trips and the proposed project is anticipated to generate a low number of bicycle trips.

Potentially significant impacts to bicycle and pedestrian access, safety and facilities are not anticipated. The City of Menlo Park has several projects listed in the City's Bicycle Development Plan.

1. Class I Connector Path along Independence Drive – a combined bike and pedestrian path from Constitution Drive to the corner of Marsh Road and Bayfront Expressway
2. Class II Bike Lanes on Marsh Road between Bay Road and Bayfront Expressway
3. Class III Bike Route on Constitution Drive from Marsh Road to Chilco Street

The first and third bike project is include as a part of the proposed project. The Class I connector path along Independence Drive would be constructed by the project sponsor and the Class III bike route signs would be installed along Constitution Drive. The Class II bike lanes on Marsh Road between Bay Road and Bayfront Expressway would include lateral space concerns and is partially in Caltrans' jurisdiction. As such, this improvement is not a part of the project. With these bikeway and pedestrian improvements, the proposed project is not anticipated to create significant impacts to bike and pedestrian facilities and the impact is less than significant.

Cumulative Impacts

Cumulative with and without Project Conditions. This scenario focuses on a cumulative forecast of the operating conditions at the study intersections for both No Project and plus Project conditions. The No Project condition assumes similar growth related to Near Term planned or approved developments and a 20-year horizon with an assumed ambient growth of one percent per year. The Cumulative plus Project condition follows similar assumptions to the Near Term plus Project condition, with the exception of a longer background growth period. Additionally, the Dumbarton Rail project would connect Union City, Fremont, and Newark to Caltrans on the Peninsula. However, as project funding remains unidentified and the project status is uncertain, project traffic was not reduced.

Traffic Volumes and Levels of Service

To obtain cumulative traffic volumes, the baseline volumes used in the previous conditions were assumed to increase with an ambient growth of one percent per year over twenty years. For the No Project condition, current occupancy at the existing buildings was assumed to remain the same as described previously; however, the background ambient growth would account for general increases in traffic within the area.

Impact TR-1CM: *Increase in traffic associated with the proposed project under Cumulative plus Project conditions would result in increased delays at ten study intersections causing a significant cumulative impact to the operation of these intersections under Criterion #1, Criterion #2 and Criterion #3. (S)*

Under the Cumulative No Project condition, the ambient growth over 20 years plus planned or approved traffic would add a large amount of traffic to the area and would result in two intersections during the AM peak hour and eight study intersections during the PM peak hour operating at unacceptable levels. Additionally, this ambient growth would result in five AM peak hour and seven

local approaches to state intersections operating at unacceptable levels. Figure 3.11-12 illustrates Cumulative No Project traffic volumes.

Net-new project related traffic described in the previous section was added to the Cumulative No Project volumes to determine impacts related to the proposed project under cumulative conditions. Intersection levels of service for the Cumulative with No Project and plus Project conditions are provided in Table 3.11-11. Figure 3.11-13 illustrates the Cumulative plus Project traffic volumes.

During the AM peak hour, four intersections would operate at unacceptable levels of service under Cumulative plus Project. The addition of net-new project trips would result in a small increase in average delay. The signalized intersection of Marsh Road and US 101 northbound off-ramps would deteriorate to LOS D due to project-related traffic causing an impact at this intersection. The addition of project-generated peak hour traffic would result in the unsignalized intersection of Independence Drive/Constitution Drive deteriorating to LOS F in the AM peak hour, resulting in an impact at this location.

Also, during the AM peak hour, five local approaches to state intersections would operate at unacceptable LOS. Two of these approaches (Bayfront Expressway at Chilco Street and Haven Avenue) would experience a potentially significant impact.

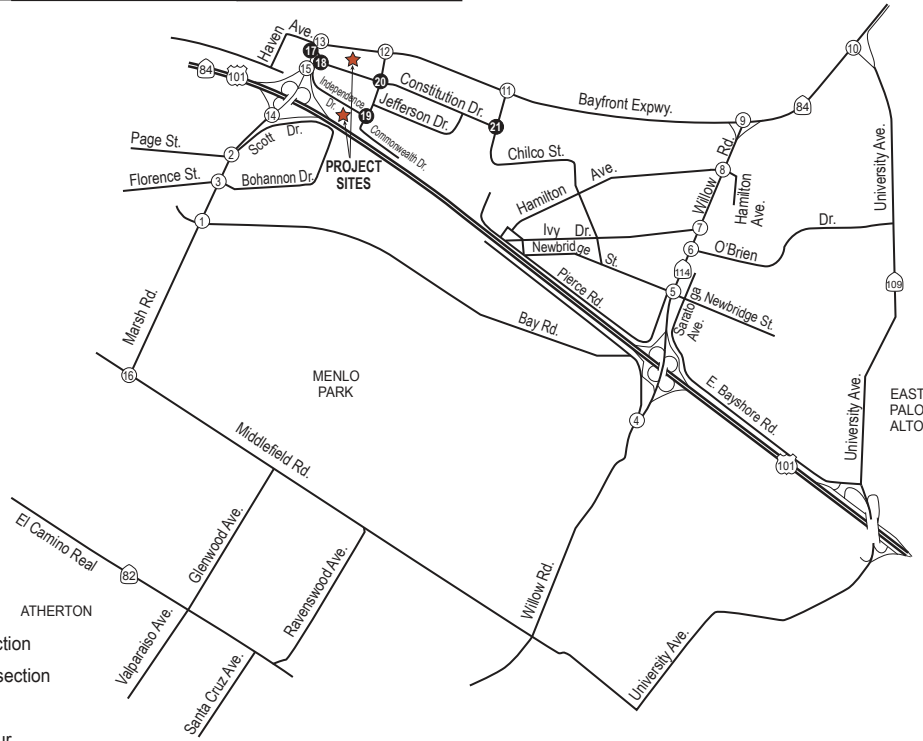
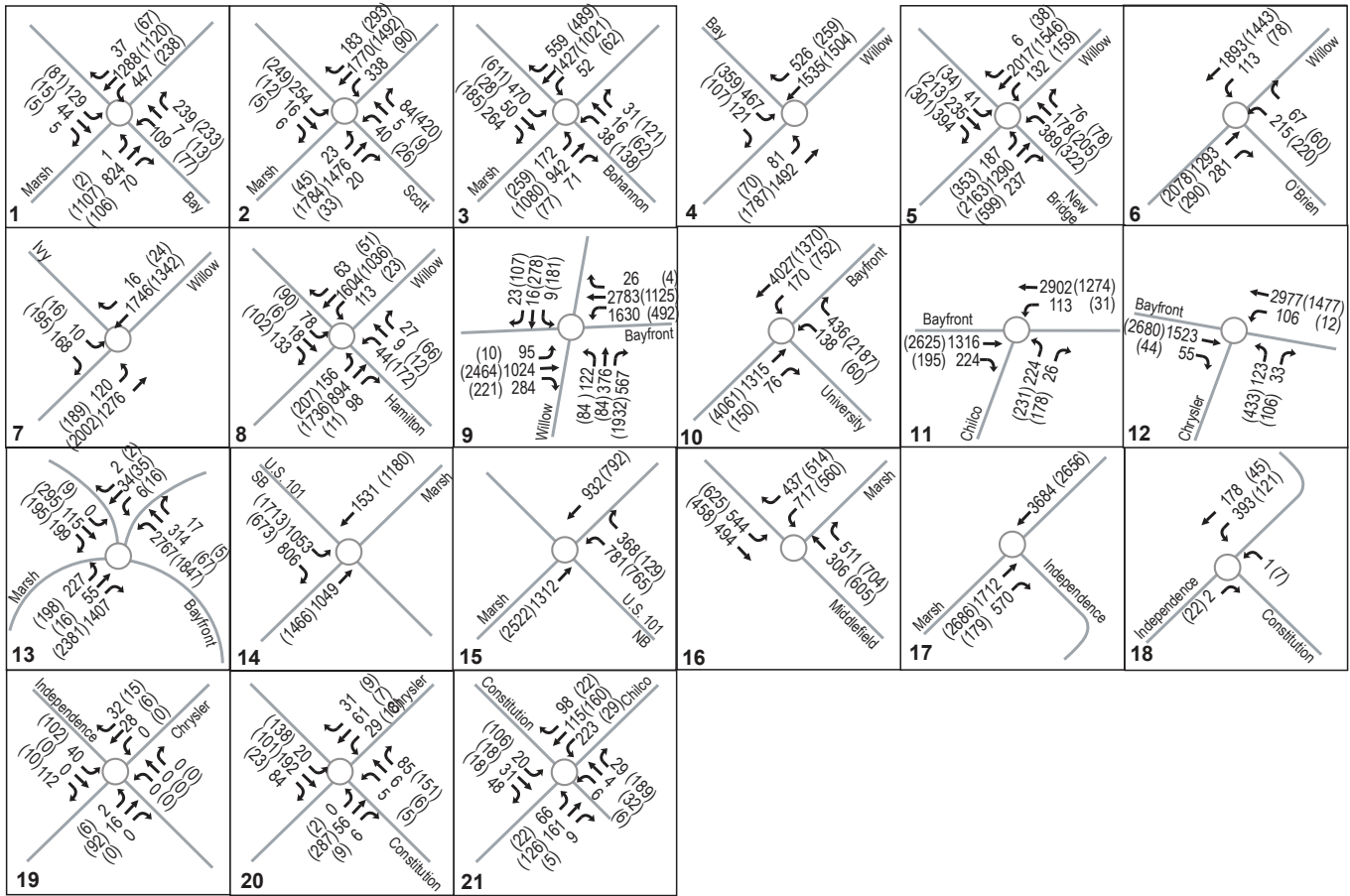
During the PM peak hour, ten intersections would operate at unacceptable levels of service under Cumulative plus Project conditions, with four of these experiencing potentially significant impacts due to project related traffic. These intersections include:

- Marsh Road/Bohannon Drive
- Bayfront Expressway/University Avenue
- Marsh Road/Middlefield Road (Atherton)
- Constitution Drive/Chrysler Drive

Also during the PM peak hour, seven local approaches to state intersections would operate at unacceptable LOS. Four of these approaches (Bayfront Expressway at Willow Road, Chilco Street, Chrysler Drive, and Haven Avenue) would experience a potentially significant impact.

An increase in traffic associated with the proposed project, under Cumulative plus Project conditions, would result in significant impacts to the following study intersections:

- Marsh Road/Bohannon Dr – PM Peak
- Bayfront Expressway/Willow Road – PM Peak
- Bayfront Expressway/University Ave – PM Peak
- Bayfront Expressway/Chilco St – AM/PM Peak
- Bayfront Expressway/Chrysler Dr – PM Peak
- Bayfront Expressway/Haven Ave – AM/PM Peak



LEGEND

- (x) Signalized Intersection
- (*) Unsignalized Intersection
- ★ Project Site
- xx (xx) AM (PM) Peak Hour



FIGURE 3.11-12
Cumulative No Project Peak Hour Volumes

Source: DKS Associates, 2009

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**Table 3.11-11
Cumulative No Project Conditions and Cumulative plus Project Conditions Peak Hour Levels of Service**

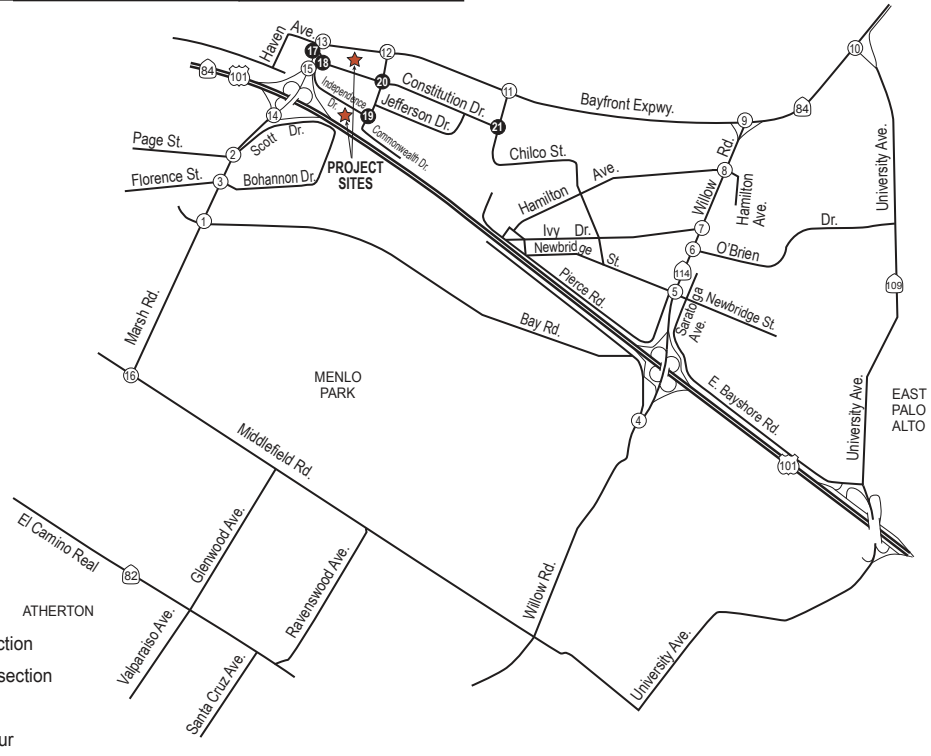
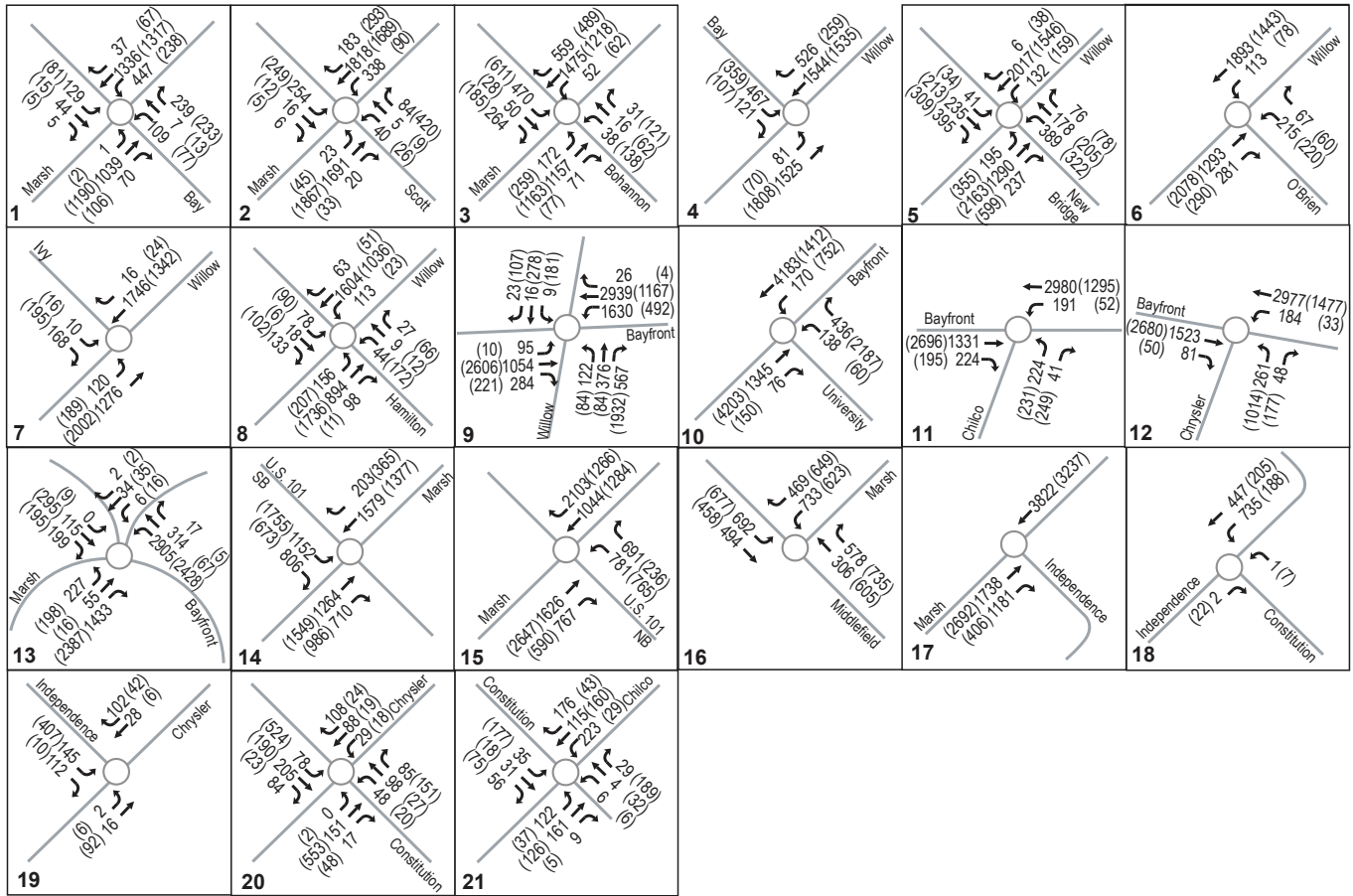
Study Intersection	Cumulative - No Project Scenario				Cumulative plus Project Scenario			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²
1. Marsh Road/Bay Road	24.8	C	19.4	B	30.6	C	20.0	B
2. Marsh Road/Scott Dr	29.5	C	43.3	D	30.7	C	54.4	D
3. Marsh Road/Bohannon Dr	47.2	D	55.9	E	48.9	D	68.7	E
4. Willow Road/Bay Road	21.0	C	18.2	B	21.2	C	18.3	B
5. Willow Road/Newbridge St	63.0	E	55.4	E	63.5 ³	E	55.5 ³	E
Critical Local Approaches ³	116.5/108.5	F/F	112.4/110.9	F/F	116.7/108.6	F/F	112.8/111/3	F/F
6. Willow Road/O'Brien Dr	12.4	B	12.8	B	12.4	B	12.8	B
Critical Local Approaches ³	47.1/NA	D/NA	57.4/NA	E/NA	47.1/NA	D/NA	57.4/NA	E/NA
7. Willow Road/Ivy Dr	13.4	B	15.8	B	13.4	B	15.8	B
Critical Local Approaches ³	NA/50.5	NA/D	NA/50.0	NA/D	NA/50.5	NA/D	NA/50.0	NA/D
8. Willow Road/Hamilton Ave	22.7	C	26.1	C	22.7	C	26.1	C
Critical Local Approaches ³	35.9/53.8	D/D	34.3/55.4	C/E	35.9/53.8	D/D	34.3/55.4	C/E
9. Bayfront Expressway/Willow Road	30.4	C	117.1	F	30.4	C	125.4	F
Critical Local Approaches ³	NA/61.2	NA/E	NA/202.1	NA/F	NA/61.2	NA/E	NA/ 212.9	NA/F
10. Bayfront Expressway/University Ave	11.0	B	71.3	E	12.5	B	80.9	F
11. Bayfront Expressway/Chilco St	14.4	B	14.3	B	16.6	B	17.3	B
Critical Local Approaches ³	62.2/NA	E/NA	54.3/NA	D/NA	64.0/NA	E/NA	60.3/NA	E/NA
12. Bayfront Expressway/Chrysler Dr	9.3	A	23.6	C	18.2	B	108.7	F
Critical Local Approaches ³	69.7/NA	E/NA	59.3/NA	E/NA	62.9/NA	E/NA	149.9/NA	F/NA
13. Bayfront Expressway/Haven Ave	21.5	C	70.5	E	22.3	C	69.8 ⁴	E
Critical Local Approaches ³	98.9/NA	F/NA	137.9/NA	F/NA	106.1/NA	E/NA	139.0/NA	F/NA
14. Marsh Road/US 101 SB Off-Ramp	39.7	D	38.1	D	42.4	D	48.4	D
15. Marsh Road/US 101 NB Off-Ramp	14.0	B	40.5	D	35.2	D	47.2	D
16. Marsh Road/Middlefield Road (Atherton)	38.6	D	68.1	E	54.0	D	92.0	F
17. Independence Dr/Marsh Road (unsignalized)	0.0	A	0.0	A	0.0	A	0.0	A
18. Independence Dr/Constitution Dr (unsignalized)	21.6	C	10.5	B	138.3	F	13.5	B
19. Independence Dr/Chrysler Dr (unsignalized)	9.2	A	9.6	A	10.3	A	12.9	B
20. Constitution Dr /Chrysler Dr (unsignalized)	8.9	A	10.4	B	12.1	B	114.0	F
21. Constitution./Chilco St (unsignalized)	11.0	B	9.4	A	11.5	B	10.9	B

Source: DKS Associates, 2009.

Notes:

1. Delay = average delay per vehicle for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections.
2. LOS = Level of service, represents average for signalized and 4-way stop controlled intersections, and worst approach for 2-way stop controlled intersections. Delay values greater than 90 seconds are not accurately predictable due to limitations of the analysis equations.
3. Average delay for Eastbound/Westbound or Northbound/Southbound critical movements for local approaches.

Bold = Intersection where a significant delay is anticipated under Cumulative Project Conditions.



LEGEND

- X Signalized Intersection
- Unsignalized Intersection
- ★ Project Site

xx (xx) AM (PM) Peak Hour



FIGURE 3.11-13
Cumulative Plus Project Peak Hour Volumes

Source: DKS Associates, 2009

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- Marsh Road/US 101 NB Off-Ramp – AM Peak
- Marsh Road/Middlefield Road (Atherton) – PM Peak
- Independence Dr/Constitution Dr (unsignalized) – AM Peak
- Constitution Dr/Chrysler Dr (unsignalized) – PM Peak

As shown in Table 3.11-12 the net-new traffic related to the proposed project would have little effect on the average delay at most of the study intersections when compared to the Cumulative No Project during the AM peak hour (as illustrated in Figure 3.11-12). Most intersections would experience increases in average delay between zero and six seconds and would continue to operate at an acceptable LOS.

However under Cumulative plus Project conditions, four local and six state controlled intersections would be impacted; therefore, this is a significant cumulative impact.

MITIGATION MEASURES.

The following mitigation measures from the Near Term would also be applicable to cumulative impacts:

- TR-1.1*
- A) *Willow Road/Newbridge Street Intersection Improvements.* See Impact TR-1, above.
 - B) *Bayfront Expressway/Willow Road Intersection Improvements.* See Impact TR-1, above.
 - C) *Bayfront Expressway and Chilco Street Intersection Improvements.* See Impact TR-1, above.
 - D) *Bayfront Expressway and Chrysler Drive Intersection Improvements.* See Impact TR-1, above.
 - E) *Bayfront Expressway and Haven Avenue Intersection Improvements.* See Impact TR-1, above.
 - F) *Independence Drive/Constitution Drive Intersection Improvements.* See Impact TR-1, above.
 - G) *Constitution Drive/Chrysler Drive Intersection Improvements.* See Impact TR-1, above.
- TR-1CM.1 (A) Marsh Road/Bohannon Drive.* A preliminary design has found that the addition of a westbound right turn lane of 350 feet would mitigate the impact and the addition of a right turn lane of 150 feet would alleviate some of the vehicle delay associated with this turning movement. The necessary right-of-way for improvements at either 150 feet or 350 feet appears to exist. The right-of-way is located within the City of Menlo Park, but the single-family

**Table 3.11-12
Cumulative plus Project Conditions Average Daily Traffic Comparison Summary**

Study Roadway Segment	Roadway Class	Capacity Vehicles Trips per Day	Existing ADT	Future Cumulative				Potentially Significant Impact?
				No Project ADT	With Project Traffic			
					ADT	Project Volume Added	% Change from Existing	
Marsh Road (Scott Drive to Bohannon Drive)	PA	20,000	34,000	41,977	44,485	2,508	7.4%	Exempt
Marsh Road (Bohannon Drive to Bay Road)	MA	20,000	27,600	34,169	36,677	2,508	9.1%	Yes
Constitution Drive (Independence Drive to Chilco Street)	L	1,500	2,600	3,172	7,302	4,130	158.8%	Yes
Constitution Drive (Chrysler Drive to Chilco Street)	C	10,000	1,900	2,318	3,712	1,394	73.4%	Yes
Independence Drive (Constitution Drive to Chrysler Drive)	L	1,500	1,300	1,586	4,429	2,843	218.7%	Yes
Chrysler Drive (Bayfront Expressway to Constitution Drive)	C	10,000	4,500	5,490	11,394	5,904	131.2%	Yes
Chrysler Drive (Constitution Drive to Jefferson Drive)	L	1,500	3,000	3,660	6,547	2,887	96.2%	Yes
Chilco Street (Constitution Drive to Bayfront Expressway)	C	10,000	5,700	6,954	7,724	770	13.5%	Yes
Chilco Street (Constitution Drive to Hamilton)	L	1,500	3,500	4,270	4,896	626	17.9%	Yes

Source: DKS Associates, 2009.

Notes:

Key: City of Menlo Park Segment Criteria:

L = Local Street. Impact if ADT is > 1,350 vehicles and project adds > 25 trips, or ADT is > 750 and project increases ADT by 12.5%, or ADT is < 750 and project increases ADT by 25%.

C = Collector Street. Impact if ADT is > 9,000 vehicles and project adds > 50 trips, or ADT is > 5,000 and project increases ADT by 12.5%, or ADT is < 5,000 and project increases ADT by 25%.

MA = Minor Arterial. Impact if ADT is > 18,000 vehicles and project adds > 100 trips, or ADT is > 10,000 and project increases ADT by 12.5%, or ADT is < 10,000 and project increases ADT by 25%.

PA = Primary Arterial. Primary arterials are exempt from ADT thresholds but are included for informational purposes.

residences and driveways that front Marsh Road are located in the City of Redwood City. The 350-foot improvement would necessitate the removal of two heritage walnut trees and abuts approximately seven residences. The 150-foot improvement would necessitate the removal of one heritage walnut tree and abuts three residences, but only two driveways. Additionally, traffic impact fees and the Transportation Demand Management program, also would serve as partial mitigation measures. An option that is currently being implemented at other busy roadways in Menlo Park is the implementation of an adaptive signal timing program that would operate in real time, adjusting signal timing to accommodate changing traffic patterns. The timing programs adjust the split, offset, cycle lengths, and phase order of the signals using sensors to interpret characteristics of traffic approaching an intersection, and using mathematical and predictive algorithms, adapts the signal timings accordingly, optimizing their performance. The impact would remain significant and unavoidable with implementation of this mitigation measure due to potential tree impacts and the need for coordination with the City of Redwood City. (SU)

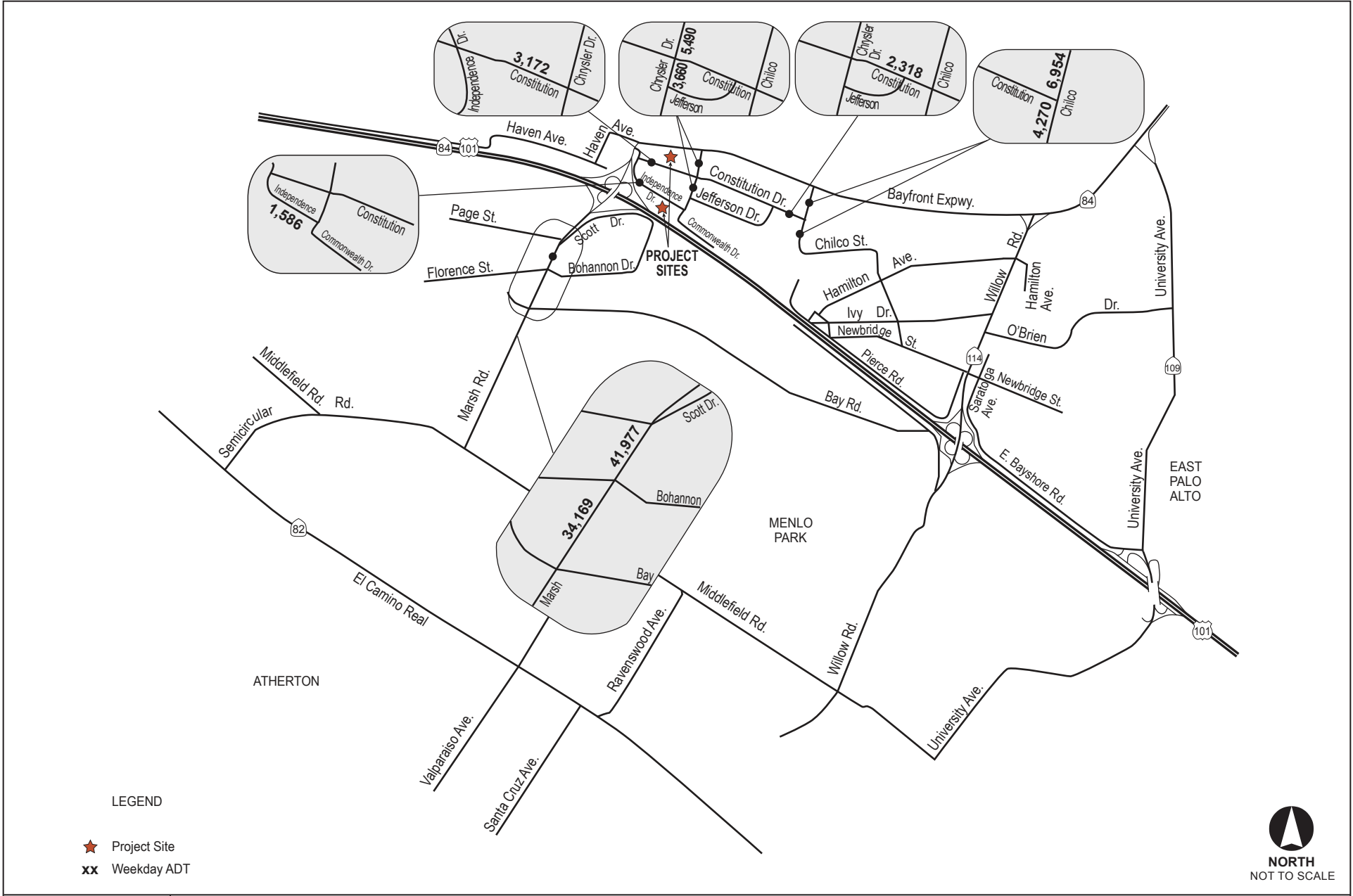
TR-1CM.1 (B) Bayfront Expressway/University Avenue. For this intersection, there is no feasible mitigation within the current right-of-way that would significantly reduce delay. An option that is currently being implemented at other busy intersections in Menlo Park is the implementation of adaptive signal timing. Any potential mitigation measure would require coordination with and approval by Caltrans. Adaptive signal timing, traffic impact fees, and the transportation demand management program would also serve as partial mitigation measures. The specified improvements to the intersection would reduce delays and improve their operation, but would not reduce cumulative impacts to less-than-significant levels under Cumulative plus Project conditions resulting in the project's contribution to a significant and unavoidable impact at those intersections (SU).

TR-1CM.1 (C) Marsh Road/US 101 NB Off-Ramp. For this intersection, there is no feasible mitigation within the current right-of-way that would significantly reduce delay of the ramp. This freeway interchange was recently modified and additional widening or construction is not envisioned at this time. Even with signal timing improvements, potential impacts at this intersection would not be reduced to a less-than-significant level. Adaptive signal timing, traffic impact fees, and the transportation demand management program would also serve as partial mitigation measures. Any potential mitigation measure would require coordination with Caltrans. The specified improvements to the intersection would reduce delays and improve their operation, but would not reduce cumulative impacts to less-than-significant levels under Cumulative plus Project conditions resulting in the project's contribution to a significant and unavoidable impact at those intersections (SU).

TR-1CM.1 (D) Marsh Road/Middlefield Road (Atherton). In order to improve the operating condition for the PM peak hour to an acceptable level, a potential mitigation measure would involve adding a second southbound left-turn only lane. On Middlefield Road, this measure would also require widening Middlefield Road on either side of Marsh Road. This measure would also require widening the east leg of Marsh Road to provide two receiving lanes, in order to accept the two southbound left-turn lanes from Middlefield Road. This measure may require obtaining additional right-of way and coordination with and approval by the Town of Atherton. The mitigation measure described would improve average delays and reduce the potential impacts to a less-than-significant level. However, the implementation of this mitigation measure is under the jurisdiction of the City of Atherton, and therefore, the impact to this intersection would not be reduced to a less-than-significant level. The transportation demand management program would serve as a partial mitigation measure. The specified improvements to the intersection would reduce delays and improve their operation, but would not reduce cumulative impacts to less-than-significant levels under Cumulative plus Project conditions resulting in the project's contribution to a significant and unavoidable impact at those intersections (SU)

Impact TR-2CM: *Increase in traffic associated with the proposed project under Cumulative plus Project conditions would result in a significant cumulative impact on roadway segments in the project area under Criterion #5, Criterion #6, and Criterion #7. (S)*

The number of daily trips added under Cumulative plus Project due to the proposed project would be the same as in the Near Term plus Project. The project would generate approximately 11,113 net new daily trips during a typical weekday and add approximately 2,508 net new trips on Marsh Road, which already has two sections, Scott Drive to Bohannon Drive and Bohannon Drive to Bay Road, with volumes exceeding capacity under Cumulative No Project conditions. The additional project trips on one section of Marsh Road is a significant impact. The proposed development at the Constitution site would add approximately 1,394 net new daily trips to Constitution Drive south of Chrysler, which is also greater than the threshold for potentially significant impacts. The net-new project related trips added to Constitution Drive are presumed to travel to destinations in the Belle Haven Area. Cut-through traffic through the Belle Haven Neighborhood is anticipated to be minimal due to the projected average delays at intersections on Bayfront Expressway and on Willow Road, recently implemented traffic calming, and improvements along Bayfront Expressway. Due to the location of the project, traffic to and from Bayfront Expressway would use Chrysler Street and approximately 770 net new daily trips are anticipated to use Chilco Street between Constitution Drive and Bayfront Expressway. The increase in trips along Chilco Street would not result in a significant impact. No new trips are anticipated on Haven Avenue north of Bayfront Expressway. Table 3.11-12 provides a comparison between the Cumulative No Project and Cumulative plus Project for roadway segments. Figure 3.11-14 illustrates the Cumulative No Project ADT, and Figure 3.11-15 illustrates the Cumulative plus Project Average ADT.



Source: DKS Associates, 2009

FIGURE 3.11-14
Cumulative No Project Average Daily Traffic (ADT)

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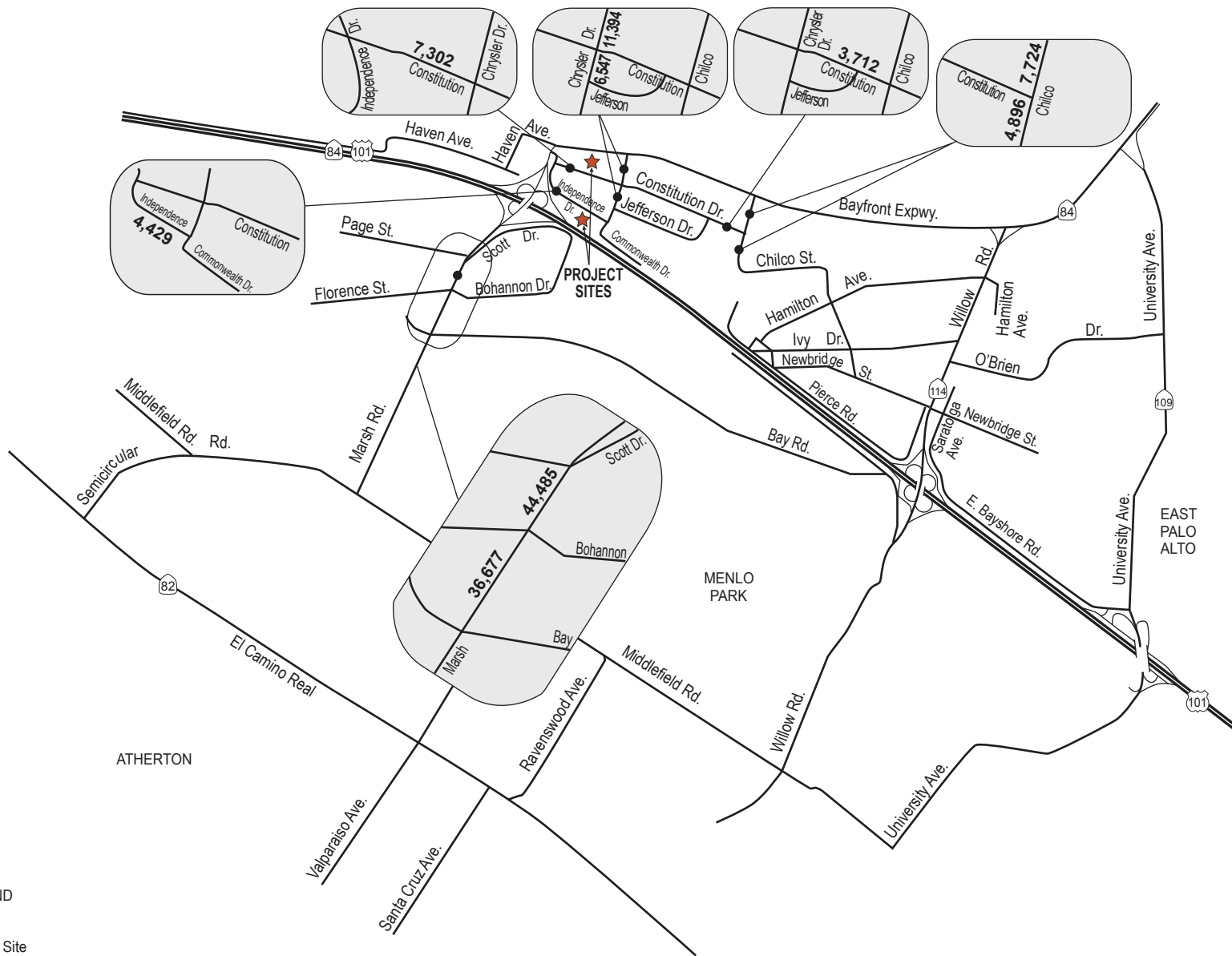


FIGURE 3.11-15
Cumulative Plus Project Average Daily Traffic (ADT)

Source: DKS Associates, 2009

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MITIGATION MEASURES. As previously discussed, Mitigation Measures TR-2.1(A) through (H) would mitigate the impacts to the roadway segments shown in Table 3.11-12; however, the mitigations are not feasible because there is a lack of sufficient available right-of-way to construct the improvements. Therefore, impacts to the roadway segments under cumulative conditions would be significant and unavoidable. (SU)

Impact TR-3CM: Increase in traffic associated with the proposed project under Cumulative plus Project conditions would result in a significant impact on Routes of Regional Significance in the project area under Criterion #4. (S)

Similar to the Near Term plus Project, development of the project area under Cumulative plus Project would add approximately more than one percent of the estimated capacity to US 101 south of Willow Road and to SR 84 east of University Avenue. This would be considered a significant impact. For reference, the estimated capacity and amount of added project-related traffic was previously summarized in Table 3.11-10. An overall summary of regional route impacts for both Existing plus Project (Near Term) and Cumulative is shown in Table 3.11-13.

MITIGATION MEASURES. As previously discussed, Mitigation Measures TR-3.1(A) through (C) would mitigate the impacts to the routes of regional significance shown in Table 3.11-13; however, the mitigations are not feasible because of the costs associated with constructing additional freeway lanes. Therefore, impacts to the routes of regional significance under cumulative conditions would be significant and unavoidable (SU)

Route of Regional Significance	Significant Impact?		Jurisdiction	Potential Mitigation	Fully Mitigates Impact?	Feasible? ¹	Additional ROW Required?
	Near Term	Cumulative					
Description							
SR 84 east of University Avenue	Y	Y	Caltrans	Add an additional travel lane.	Y	N	Y
US 101 South of Willow Road	Y	Y	Caltrans	Add an additional travel lane.	Y	N	Y
US 101 North of Marsh Road	Y	Y	Caltrans	Add an additional travel lane.	Y	N	Y

Source: DKS Associates, 2009.

Note:

1. The mitigation is not feasible because it is under Caltrans jurisdiction so the City cannot guarantee it will be implemented.

Impact TR-4 CM: *Under Cumulative plus Project conditions, the proposed project would not result in any impacts to the local pedestrian, bicycle, or transit system. This impact is less than significant. (LTS)*

Current bus service in the project vicinity is somewhat limited with the closest SamTrans line located several blocks away at the Onetta Harris Community Center in the Belle Haven Neighborhood. A conservative estimate of two to four percent transit mode share on local bus services would result in approximately 20 peak directional transit trips with implementation of the development proposed at the Independence site and the Constitution site. Load factors and operations of current transit services in the area would not be impacted by net-new transit trips related to the proposed projects. Shuttle services to regional transit stations, such as Caltrain, typically adjust capacity to actual demand; therefore, under cumulative conditions the proposed project's contribution is not anticipated to be considerable resulting in a less-than-significant impact.

As discussed previously, the project proposes a TDM program, which would include landscaping, small plazas and public gathering spaces that would encourage pedestrian use. Sidewalks would be provided adjacent to the project at both sites, and would promote linkages to and from the Bayfront area. In addition, in order to promote bicycle usage, the project proposes storage lockers or racks. The various bicycle-related TDM measures are anticipated to result in a small reduction of vehicle trips. Similar land uses in the vicinity of the proposed project currently generate a relatively low number of bicycle trips and the proposed project is anticipated to generate a low number of bicycle trips. Under cumulative conditions the proposed project's contribution is not anticipated to be considerable resulting in a less-than-significant impact to pedestrian and bicycle facilities.

Other Considerations

Parking Impact Analysis. The primary purpose of this analysis is to determine the adequacy of the proposed parking requirements for the M-3 zoning district and whether the proposed parking supply at the project site could be accommodated, or "shared," between the proposed uses on-site. Since the project proposes a combination of retail, hotel, health club, office, and restaurant uses on-site, a shared parking analysis has been prepared consistent with the Institute of Transportation Engineers (ITE) Parking Generation (3rd Edition, 2004) and the Urban Land Institute (ULI) Shared Parking methodologies (2nd Edition, 2005). The proposed project consists of a mix of office, health club, hotel, restaurant, and retail land uses. The proposed M-3 parking rates provide parking rate standards appropriate to the proposed project site. While the use based rates and the M-2 rates are used by the City, the proposed M-3 rates provide an update to the City of Menlo Park parking standards that is more appropriate for the proposed project site. It should be noted that the proposed M-3 rates are based on the nationally recognized ITE parking rate standards and are suitable for this project. These proposed rates must adequately accommodate the project's entire parking demand since there is no potential for overflow parking into adjacent neighborhoods. Additionally, it should be noted that with the implementation of the proposed TDM measures, parking demand may decrease as people chose to use alternative modes of transportation.

Under the proposed rates, the Independence site would require 1,198 parking spaces while the Constitution Site would require 1,405 spaces for a combined total of 2,603 spaces. The proposed project includes the construction of a five story parking garage, consisting of 1,017 parking spaces, at the Independence site. The Constitution site includes 1,504 parking spaces in two garages and 145 surface parking spaces for a total of 1,649 parking spaces. The combined parking total is 2,666 spaces. It should be noted, however, that use of the required rates as per the ITE standards assumes that all of the proposed uses experience peak parking demand at the same time during the day. To account for each land use's individual peak parking characteristics, a Shared Parking Analysis was prepared. The Urban Land Institute publishes the Shared Parking Guidebook, which gives transportation and parking practitioners' tools and analysis techniques to conduct shared parking analyses. Under the ULI methodology, the percentage of parking that each land use requires at any given hour of the day is applied to the maximum demand for that land use. Under this method, the actual overlapping demands of parking throughout the day can be analyzed.

For this shared parking analysis, the Independence and Constitution sites were considered independently from one another. According to the analysis, the peak weekday shared parking demand would be 1,002 parking spaces at 11:00 a.m. for the Independence Site. The Independence site would provide 1,017 parking spaces and, therefore, the Independence site would provide adequate parking under the shared parking analysis.

A shared parking analysis was also conducted for the Constitution site. According to the analysis the peak weekday shared parking demand would be 1,405 parking spaces at 10:00 a.m, 11:00 a.m, 2:00 p.m., and 3:00 p.m. for the Constitution site. The Constitution site would provide approximately 1,649 parking spaces and, therefore, the Constitution site would provide adequate parking for this site under the shared parking analysis. Therefore, the proposed project would provide adequate parking to meet the increase in demand associated with the project.