389 El Camino Real Project
Traffic Impact Analysis

Final Report

Prepared for

City of Menlo Park

By

DKS Associates
1970 Broadway
Suite 740
Oakland, California 94612

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TABLE OF CONTENTS

Executive Summary **5**

1 Introduction **6**

Project Description 6
Study Methodology 6
Approved/Planned Developments 9
Level of Service Significance Criteria 9

2 Existing Condition **11**

Project Site 11
Roadway Network 11
Level of Service Significance Threshold 12
Traffic Demand and Levels of Service 13
Roadway Segment Analysis 17
Parking 18
Transit 18
Bicycle and Pedestrian Facilities 19

3 Near Term Conditions **21**

Traffic Volumes and Levels of Service 21
Roadway Segment Analysis 24
Parking 25
Transit, Bicycle, and Pedestrian Facilities 25

4 Near Term Plus Project Condition **27**

Trip Generation and Distribution 27
Traffic Volumes and Levels of Service 32
Roadway Segment Analysis 32
Parking 32
Transit, Bicycle, and Pedestrian Facilities 32
Site Circulation and Emergency Access 32

5 Long Term Condition **37**

Traffic Volumes and Levels of Service 37
Roadway Segment Analysis 39
Parking 39
Transit, Bicycle, and Pedestrian Facilities 39

6 Long Term Plus Project Condition **42**

Traffic Volumes and Levels of Service 42
Roadway Segment Analysis 42

7 Project Alternative Analysis **47**

Alternative 1 (Reduced Residential Alternative) 47

Alternative 2 (Baseline Zoning Alternative) 60
8 Mitigation Measures 74
9 Conclusion 77

Appendix A Level of Service Calculations

LIST OF FIGURES

Figure 1 - Study Area 8
Figure 2 - Existing Intersection Lane Geometry 14
Figure 3 - Existing Peak Hour Traffic Volumes 15
Figure 4 - Existing Average Daily Traffic 16
Figure 5 - Existing Area Transit 20
Figure 6 - Near Term Conditions Peak Hour Volumes 23
Figure 7 - Near Term Conditions Average Daily Traffic 26
Figure 8 - Site Plan 28
Figure 9 - Trip Distribution 29
Figure 10 - Peak Hour Project Generated Trips 30
Figure 11 - Project Generated Average Daily Traffic 31
Figure 12 - Near Term Plus Project Condition Peak Hour Volumes 34
Figure 13 - Near Term Plus Project Condition Average Daily Traffic 35
Figure 14 - Long Term Condition Peak Hour Volumes 38
Figure 15 - Long Term Condition Average Daily Traffic 41
Figure 16 - Long Term Plus Project Condition Peak Hour Volumes 44
Figure 17 - Long Term Plus Project Condition Average Daily Traffic 45
Figure 18 - Project Alternative 1 Peak Hour Trips 48
Figure 19 - Project Alternative 1 Average Daily Traffic 49
Figure 20 - Near Term Plus Project Alternative 1 Condition Peak Hour Volumes 52
Figure 21 - Near Term Plus Project Alternative 1 Condition Average Daily Traffic 53
Figure 22 - Long Term Plus Project Alternative 1 Conditions Peak Hour Volumes 57
Figure 23 - Long Term Plus Project Alternative 1 Conditions Average Daily Traffic 58
Figure 24 - Project Alternative 2 Peak Hour Trips 64
Figure 25 - Project Alternative 2 Average Daily Traffic 65
Figure 26 - Near Term Plus Project Alternative 2 Condition Peak Hour Volumes 66
Figure 27 - Near Term Plus Project Alternative 2 Condition Average Daily Traffic 67
Figure 28 - Long Term Plus Project Alternative 2 Condition Peak Hour Volumes 71
Figure 29 - Long Term Plus Project Alternative 2 Condition Average Daily Traffic 72

LIST OF TABLES

Table 1 - Intersection Level of Service Significance 12
Table 2 - Roadway Level of Service Significance 13
Table 3 - Existing Levels of Service 17
Table 4 - Existing Average Daily Traffic Summary 17
Table 5 - Near Term Developments in the Project Vicinity 21
Table 6 - Near Term Condition Level of Service 22
Table 8 - Project Trip Generation 27
Table 9 - Near Term Plus Project Condition Levels of Service 33
Table 10 - Near Term Condition Average Daily Traffic Summary 36
Table 11 - Long Term Developments in the Project Vicinity 37
Table 12 - Long Term Condition Levels of Service 37
Table 13 - Long Term Condition Average Daily Traffic Summary 39
Table 14 - Long Term Plus Project Condition Levels of Service 43
Table 15 - Long Term Plus Project Condition Average Daily Traffic Summary 46
Table 16 - Project Alternative 1 Trip Generation 47
Table 17 - Near Term Plus Project Alternative 1 Condition Levels of Service 51
Table 18 - Near Term Plus Project Alternative 1 Condition Average Daily Traffic Summary 54
Table 19 - Long Term Plus Project Alternative 1 Condition Levels of Service 56
Table 20 - Long Term Plus Project Alternative 1 Condition Average Daily Traffic Summary 59
Table 21 - Trip Generation for Baseline Zoning Alternative Option 60
Table 22 - Trip Generation for Mixed Use Alternative Option 60
Table 23 - Trip Generation for Senior Housing Alternative Option 61
Table 24 - Near Term Plus Project Alternative 2 Condition Levels of Service 62
Table 25 - Near Term Plus Project Alternative 2 Condition Average Daily Traffic Summary 68
Table 26 - Long Term Plus Project Alternative 2 Condition Levels of Service 70
Table 27 - Long Term Plus Project Alternative 2 Condition Average Daily Traffic Summary 73

EXECUTIVE SUMMARY

The purpose of this study is to determine the potential transportation impacts of the proposed development of the 389 El Camino Real Project located in the City of Menlo Park. The proposed project consists of 26 residential units, with 9 single family detached housing units and 17 residential condominium/townhouse units. However, this transportation impact analysis evaluates the development of 27 residential units (including 10 single family detached housing units and 17 residential condominium/townhouse units) – the maximum number of units that could be developed on the site in accordance with the State's Density Bonus Law (Government Code Section 65915). The existing project site includes four contiguous land segments: a large vacant parking lot along the El Camino frontage at 389 El Camino Real, a residential rental house at 612 Partridge Avenue, a residential rental triplex at 603 College and Avenue, and Alto Lane, a service alley now functioning as the rental triplex's driveway.

The report analyzes the transportation conditions of 4 intersections and 6 roadway segments during the weekday AM and PM peak hours. The AM peak hour is defined as the busiest traffic hour between 7-9 AM while the PM peak hour is defined as the busiest hour between 4-6 PM. The operation of these intersections and roadway segments is evaluated for the following scenarios: Existing Condition, Near Term Conditions, Near Term Plus Project Condition, Long Term Condition, and Long Term Plus Project Condition.

The traffic analysis has been conducted for the weekday AM and PM peak hours. The analysis was performed using the 2009 CSA document provided by the Menlo Park and was analyzed in accordance with the Menlo Park Transportation Impact Analysis Guidelines.

The proposed project would not result in any potentially significant impacts to study intersections but would result in two significant and unavoidable impacts to the roadway segments of University Drive between Middle Avenue and Cambridge Avenue in the Near Term Plus Project and Long Term Plus Project Condition and Middle Avenue between University Drive and El Camino Real in the Long Term Plus Project Condition.

No intersections or roadway segments would experience significant and unavoidable impacts in Alternative 1.

Two intersections and 3 intersections would experience significant and unavoidable impacts for the respective Near Term Plus Alternative 2 Condition and Long Term Plus Alternative 2 Condition. Four roadway segments for the Near Term Plus Alternative 2 Condition and 3 roadway segments for the Long Term Plus Alternative 2 Condition would experience significant and unavoidable impacts.

All of the significant and unavoidable intersection impacts would require signal timing modifications which would require approval and coordination with Caltrans and are outside the jurisdiction of the City of Menlo Park. The roadway segment impacts may require right-of-way acquisition and would require further analysis to determine the feasibility of this measure.

A Transportation Demand Management (TDM) Program may also be considered in the future as a means to reduce the number of vehicle trips to and from the project site.

1 INTRODUCTION

This study provides an evaluation of traffic and transportation issued related to replacing 4 existing residential units on several lots bordered by El Camino Real, College Avenue, Partridge Avenue. Alto Lane terminates in the southwestern portion of the site. For the purpose of this transportation impact analysis, the proposed project would consist of 27 new residential units.

Project Description

The project site includes four contiguous land segments: a large vacant parking lot along the El Camino frontage at 389 El Camino Real, a residential rental house at 612 Partridge Avenue, a residential rental triplex at 603 College Avenue, and Alto Lane, a public right-of-way now functioning as the rental triplex's driveway. The residential development would include the construction of 27 residential units with 10 small lot single family homes and 17 townhome units. Additionally, 62 on-site parking spaces would be provided. These would include 44 covered standard spaces, 8 covered tandem spaces, 8 uncovered guest spaces, and 2 accessible spaces. The project site would front El Camino Real between Partridge Avenue and College Avenue and most units would be accessible to and from El Camino Real via two access points. The study area is generally defined as the area bounded by El Camino Real, Menlo Avenue, University Drive, and Cambridge Ave. The property is currently zoned under the C-4(ECR) General Commercial District (applicable to El Camino Real) and R-3 Apartment Zoning District. The existing facilities are assumed to be occupied and estimates of existing trips were provided for the project condition.

Study Methodology

This study is prepared according to the methodology recommended in the Transportation Impact Analysis (TIA) Guidelines (City of Menlo Park, 2003). City staff has selected 4 signalized intersections for analysis. These 4 intersections are anticipated to capture the most severe potentially significant impacts due to their proximity to the project site. These intersections include:

1. El Camino Real / Menlo Avenue / Ravenswood Avenue
2. El Camino Real / Roble Avenue
3. El Camino Real / Middle Avenue
4. El Camino Real / Cambridge Avenue

The analysis of intersections concentrated on the AM and PM commute times for a typical week. In addition, an analysis was conducted for the impacts related to average daily traffic (ADT) added to local street segments. The study segments analyzed include the following six segments:

1. Middle Avenue between University Drive and El Camino Real
2. College Avenue between University Drive and El Camino Real
3. Partridge Avenue between University Drive and El Camino Real
4. Cambridge Avenue between University Drive and El Camino Real
5. University Drive between Middle Avenue and Cambridge Avenue
6. Alto Lane between Middle Avenue and College Avenue

The following conditions were evaluated as part of this study:

- Existing Condition. This condition represents traffic conditions that exist today. Existing turning movement counts at the study intersections for the PM peak hour have been obtained from the City's Circulation System Assessment Document (2009 CSA). Signal timing parameters for the analysis are based on the analysis conducted for the CSA.

- Near Term Condition. This condition assumes full occupancy of planned/approved developments near the project vicinity that would be competed in the near term future. Near term conditions at the study intersections are based on project volumes provided by City of Menlo Park staff in the CSA analysis. Planned or approved projects that are not included in the CSA have been provided by the City of Menlo Park, and are added to the Near Term Condition for both the peak hour analysis of the study intersections and the ADT analysis.

- Near Term Plus Project Condition. This condition represents traffic conditions that would be based on the near term future, plus the addition of project generated traffic.

- Near Term Plus Project Condition Alternative 1. This condition includes the Near Term Condition with the existing uses replaced by 5 single family detached housing units and 7 residential condominium/townhouse units.

- Near Term Plus Project Condition Alternative 2. This condition includes the Near Term Condition with the existing uses replaced by the baseline zoning which would include 3 single family detached housing units and 23,000 square feet of retail commercial space

- Long Term Condition. This condition represents traffic conditions based on the Near Term condition with an assumed growth rate of one percent per year to account for future development over a 20-year growth horizon. Similar to the Near Term Conditions, this condition incorporates approved developments that were not included in the CSA

- Long Term Plus Project Condition. This condition represents traffic conditions based on the Long Term Conditions plus the addition of project generated traffic. The same project description used for the Near Term plus Project Condition is assumed.

- Long Term Plus Project Condition Alternative 1. This condition includes the Long Term Condition with the existing uses replaced by 5 single family detached housing units and 7 residential condominium/townhouse units.

- Long Term Plus Project Condition Alternative 2. This condition includes the Long Term Condition with the existing uses replaced by the baseline zoning which would include 3 single family detached housing units and 23,000 square feet of retail commercial space

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FIGURE 1
Study Area

Approved/Planned Developments

Approved and planned developments in Menlo Park are listed in **Appendix A**. This list was provided by City of Menlo Park staff and includes projects that are planned or approved as of August, 2010, but had not yet been occupied. It is anticipated that these projects would be fully implemented and occupied as part of the Near Term Conditions with the exception of the El Camino Real/Downtown Specific Plan (ECR/D) which would only be included in the Long Term Conditions. 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 are 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.

Level of Service Significance Criteria

Levels of service for this study are calculated based on the City of Menlo Park *TIA Guidelines* dated 2003 and the San Mateo County guidelines described in the 2009 CMP. Levels of service (LOS) are calculated using the 2000 Highway Capacity Methodology and a definition of Levels of Service for Signalized Intersections. A definition of Levels of Service for Signalized Intersections and for Unsignalized Intersections is provided in **Appendix B**.

The City of Menlo Park's Circulation Element establishes a LOS standard for State-controlled intersections. Project impacts to study intersections and roadway segments are considered significant as determined by the following criteria.

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 (greater than 23 seconds average delay per vehicle) or worse 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 the most critical movements for City arterial intersections, or for local approaches to state controlled intersections.

State Controlled Intersections At state controlled intersections currently operating at LOS D or better, the project will be considered to have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will cause the intersection to operate 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 will be considered to have an impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in increasing the average control delay at the intersection by four (4) seconds or more.

Collector Streets. 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.

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.

2 EXISTING CONDITION

This section summarizes the Existing Condition in the project vicinity including a description of the existing project site, the roadway network, and vehicular traffic conditions within the project vicinity.

Project Site

The proposed project site currently consists of three contiguous parcels which include a large vacant parking lot at 389 El Camino Real, a residential triplex building at 603 College Avenue, and a single family residence at 612 Partridge Avenue. For the purposes of this analysis all residential units on the project site are assumed to be inhabited. The site also includes an approximately 0.07 acre segment of Alto Lane.

Roadway Network

The existing roadway network within the project vicinity is illustrated **Figure 1**. El Camino Real is a primary arterial street in the vicinity of the project site. Middle Avenue between Valparaiso Avenue and El Camino Real and University Drive between Middle Avenue and Valparaiso Avenue are collector streets. Olive Street is west of the study area, and Valparaiso Avenue is north of the study area. All other roadway segments near the project site are local streets.

El Camino Real (SR 82). El Camino Read is State Route 82 (SR 82) under Caltrans jurisdiction and is classified as a primary arterial street with a speed limit of 35 miles per hour. It runs in the north-south direction along the eastern boundary of the project site and is divided by a short curb median with three lanes in each direction. El Camino Real runs through the City of Menlo Park in a north-south direction. Signalized intersections near the project site along El Camino Real occur at Menlo Avenue/Ravenswood Avenue, Roble Avenue, Middle Avenue, and Cambridge Avenue while unsignalized intersections occur at Live Oak Avenue, College Avenue, Partridge Avenue, Harvard Avenue, and Creek Drive. The free-flow movements of El Camino Real are not disrupted at these unsignalized intersections. Near the project site, limited on-street parking is permitted along the eastern side of the street while it is permitted in certain areas along the western side of El Camino Real.

Middle Avenue. Middle Avenue is a collector street between Olive Street and El Camino Real that runs in the east-west direction along the northern border of the project site. The roadway has one lane of travel in each direction and on-street parking is generally permitted but utilized at low levels. Additionally, the speed limit along Middle Avenue is 30 miles per hour.

University Drive. University Drive is a north-south collector street from Valparaiso Avenue to Creek Drive that runs in the north-south direction one block west of the project site. The roadway has one travel lane in each direction with permitted on-street parking on both sides of the street. The speed limit along University Drive is 25 miles per hour.

College Avenue. College Avenue is an east-west street and is classified as a local street for its entire length between Arbor Road and El Camino Real and extends along the northern boundary of the project site. The roadway has one travel lane in each direction and on-street parking is

permitted on either side of the street. Along College Avenue, the speed limit is 25 miles per hour. Permit parking is available on College Avenue.

Partridge Avenue. Partridge Avenue is classified as an east-west local street for its length from University Drive to El Camino Real. Partridge Avenue borders the southern side of the project site and has one lane of travel in each direction. On-street parking is permitted on either side of the street and the speed limit is 25 miles per hour. Permit parking is available on Partridge Avenue.

Cambridge Avenue. Cambridge Avenue is classified as an east-west local street for its entirety from Arbor Road to El Camino Real. Cambridge Avenue is a block south of the project site with permitted on-street parking on both sides of the street. Cambridge Avenue has one travel lane in each direction with a speed limit of 25 miles per hour.

Alto Lane. Alto Lane is classified as a north-south local street and intermittently runs between Middle Avenue and Creek Drive, including a segment on the project site. On-street parking is not permitted along Alto Lane but off-street parking is available via accessory parking to private businesses. The speed limit is not posted. The segment of Alto Lane that exists on the project site is accessible through a gate off of College Avenue and dead ends approximately 170 feet south of College Avenue.

Level of Service Significance Threshold

Referring to the City of Menlo Park LOS significance criteria and the designations of the project roadways, the LOS significance threshold for each study intersection is presented below in **Table 1** and **Table 2**. Additionally, the total number of vehicles a roadway is expected to accommodate on a daily basis based on the respective classification is listed in **Table 2**.

Table 1 - Intersection Level of Service Significance

Study Intersection	Jurisdiction	LOS Significance Threshold	Significance Threshold for Unacceptable LOS
1. El Camino Real / Menlo Ave / Ravenswood 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
2. El Camino Real/Roble 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
3. El Camino Real/Middle 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
4. El Camino Real/Cambridge 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

Table 2 - Roadway Level of Service Significance

Study Roadway Segment	Between	Classification	Daily Capacity	Significance Threshold
1. Middle Ave	University Dr and El Camino Real	C	10,000	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%.
2. College Ave	University Dr and El Camino Real	L	1,500	Impact if Average Daily Traffic (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%.
3. Partridge Ave	University Dr and El Camino Real	L	1,500	Impact if Average Daily Traffic (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%.
4. Cambridge Ave	University Dr and El Camino Real	L	1,500	Impact if Average Daily Traffic (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%.
5. University Dr	Middle Ave and Cambridge Ave	L	1,500	Impact if Average Daily Traffic (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%.
6. Alto Ln	Middle Ave and College Are	L	1,500	Impact if Average Daily Traffic (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%.

Traffic Demand and Levels of Service

Existing Condition intersection traffic volumes have been obtained from the 2009 CSA provided by the City of Menlo Park. These intersection volumes have been analyzed using the Traffix analysis software. Existing intersection lane geometrics are provided in **Figure 2.** Existing peak hour traffic volumes and ADT estimates for the study segments are provided in **Figure 3** and **Figure 4**, respectively.

Existing peak hour intersection levels of service are summarized in **Table 3.** Detailed calculations are provided in the Appendix C. As shown below, the intersections of El Camino Real/Ravenswood Avenue/Menlo Avenue/Ravenswood Avenue and El Camino Real/Middle Avenue currently operate at LOS D during the AM peak hour and El Camino Real/Menlo Avenue/Ravenswood Avenue operates at LOS D during the PM peak hour.

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FIGURE 2
Existing Intersection Lane Geometry

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FIGURE 3
Existing Peak Hour Traffic Volumes

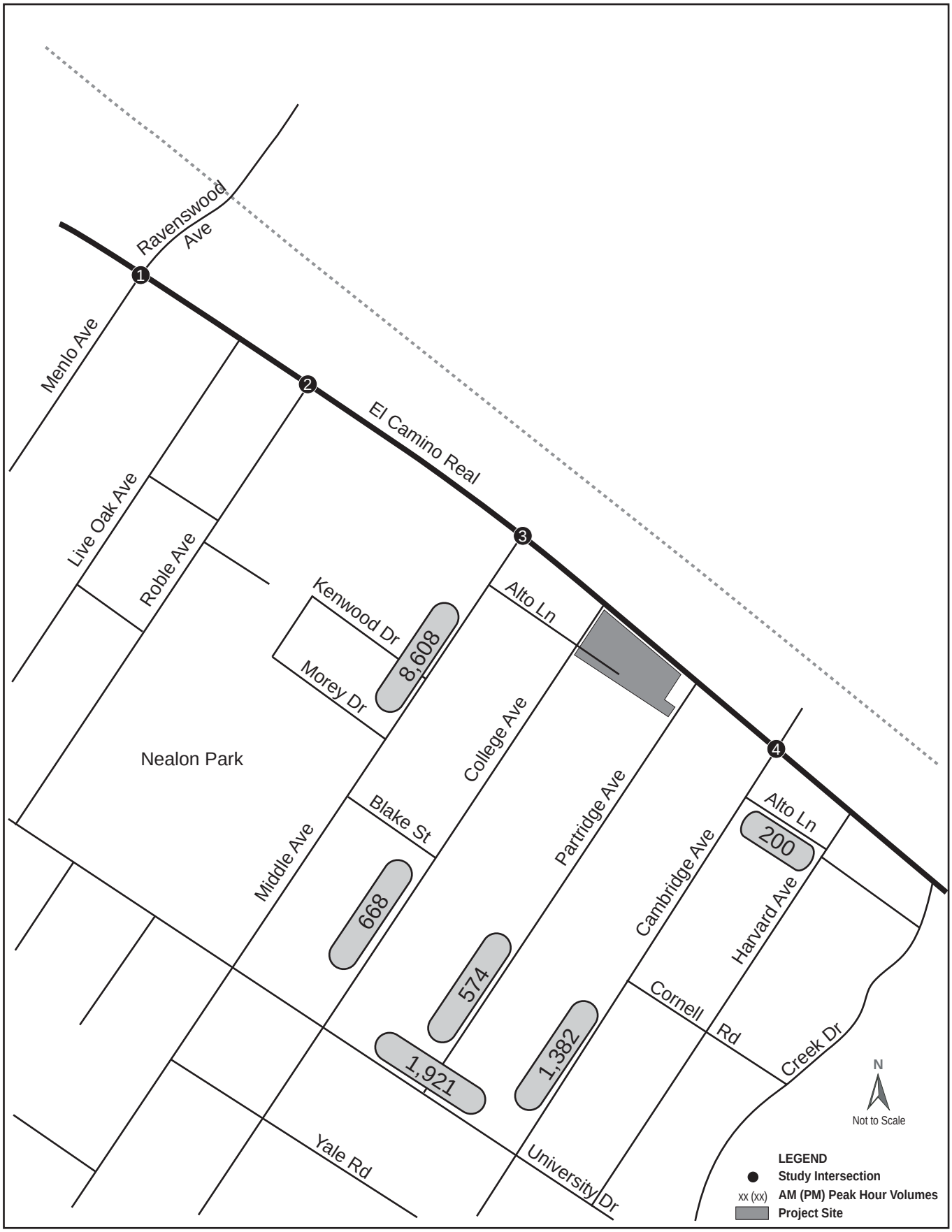

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FIGURE 4
Existing Average Daily Traffic

Table 3 - Existing Levels of Service

Study Intersection	AM Peak Hour Delay[a]	AM Peak Hour LOS[b]	PM Peak Hour Delay	PM Peak Hour LOS
1. El Camino Real/Menlo Ave/ Ravenswood Ave	41.0	D	44.1	D
Critical Local Approaches[c]	**59.5/55.1**	**E/E**	**61.9/61.4**	**E/E**
2. El Camino Real/Roble Ave	10.8	B	14.2	B
Critical Local Approaches	**57.9**/53.2	**E**/D	**67.7/56.8**	**E/E**
3. El Camino Real/Middle Ave	35.5	D	25.3	C
Critical Local Approaches	49.7/NA[d]	D/NA	**64.2**/NA	**E**/NA
4. El Camino Real/Cambridge Ave	13.5	B	12.3	B
Critical Local Approaches	**66.7/62.0**	**E/E**	**66.4/62.8**	**E/E**

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

Critical movements for local approaches to state controlled intersections at all of the study intersections operate at LOS D or E during both the AM and PM peak hours. The westbound critical movement for the local approach to El Camino Real/Roble Avenue and the eastbound critical movement for the local approach to El Camino Real/Middle Avenue operate at LOS D while the other critical local approaches during the AM and PM peak hours operate at LOS E.

Roadway Segment Analysis

The existing average daily traffic (ADT) for the analyzed roadways has been provided by the City for a typical weekday and is shown in **Figure 4.** The TIA guidelines describe the estimated ideal capacity at 10,000 vehicles per day (vpd) for collectors and 1,500 vpd for local streets. The Existing Condition roadway analysis is detailed in **Table 4.** The table indicates that all of the roadways currently operate under capacity with the exception of University Drive between Middle Avenue and Cambridge Avenue. The highest demand of the study roadways occurs along Middle Avenue between University Drive and El Camino Real.

Table 4 - Existing Average Daily Traffic Summary

	Roadway Class	Capacity	Volume
Middle Avenue (University to El Camino Real)	C	10,000	8,608
College Avenue (University to El Camino Real)	L	1,500	668
Partridge Avenue (University to El Camino Real)	L	1,500	574
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382
University Drive (Middle to Cambridge)	L	1,500	1,921
Alto Lane (Middle to College)	L	1,500	200

Existing Volumes Source: City of Menlo Park 2009 CSA.

Parking

Limited 2-hour on-street parking is permitted along the western side of El Camino Real but is more available along the eastern side of the street. On-street parking on side streets including Middle Avenue, College Avenue, and Partridge Avenue is available. However, it should be noted that daytime (defined as 7:00 AM to 10:00 PM by Chapter 8.06 of the Menlo Park Municipal Code) on-street parking in the College Avenue area is only available by permit in certain areas. Within the study area, these areas include the 600-800 blocks of Cambridge Avenue, the 600-800 blocks of College Avenue, the 600-800 blocks of Partridge Avenue, and the 0-200 blocks of University Drive.

On-street overnight parking is restricted by Chapter 11.24.050 of the Menlo Park Municipal Code which states that on-street parking (defined as between the hours of 2:00 AM and 5:00 AM) is not permitted within a residential zone or located within three hundred feet of a residential zone. A residential zone is defined as all lands within zoning districts RE, RES, R-1-S, R-1-U, R-2, R-3, R-3-A, R-3-C, and R-L-U. Annual on-street overnight parking (defined as between the hours of 2:00 AM and 5:00 AM) permits are only available for certain apartment building within the city limits that lack adequate resident parking spaces and are zoned R-3. However, all Menlo Park residents are allowed to purchase up to 100 temporary one-night permits per year.

No private off-street parking facilities are located near the project site.

Transit

The San Mateo County Transit District (SamTrans) operates 48 bus routes throughout San Mateo County that link to areas of San Francisco and Palo Alto. The express KX route runs along El Camino Real near the project site and provides service between San Francisco and Palo Alto. The local 390 route runs along El Camino Real and connects the Daly City BART station with Palo Alto. The 83 line runs within Menlo Park and Atherton and provides local service. The 83 line runs along University Drive, Middle Avenue, and El Camino Real near the project site and also serves the Menlo Park Caltrain Station. Local route 295 operates between San Mateo and Menlo Park and mainly serves residential neighborhoods along the El Camino corridor. The route passes approximately 0.5 mile north of the project site and serves the Menlo Park Caltrain Station.

Caltrain is a commuter rail line that operates between San Francisco and the Santa Clara Valley. On weekdays, Caltrain operates 90 daily trains which provide a mix of local, limited, and express train. The closest Caltrain stop is approximately half a mile north of the project site at the Menlo Park Station and is serviced 60 times per weekday. Transit connections with the 295, 296, 390, and KX SamTrans bus routes occur at the Menlo Park Caltrain Station.

In recent years, SamTrans and Caltrain have reduced service and operations as a result of financial constraints. The routes identified in this report are current as of June, 2011 but may change as additional service changes are considered in the future.

Bicycle and Pedestrian Facilities

In the vicinity of the project site there are few on-street bicycle facilities. El Camino Real does not accommodate any bike paths or lanes, but bicyclists were regularly observed riding in the right lane. The closest on-street bicycle facility west of El Camino Real is a Class II[1] facility located along Santa Cruz Avenue north of the project site. Bicycle facilities are more prevalent east of El Camino Real with Class II facilities along Willow Road and Class II and Class III facilities along Laurel Street.

Existing sidewalks in the area are between 4 and 6 feet in width and are present along the El Camino Real, College Avenue, and Partridge Avenue project site frontages. Crosswalk striping is not provided at most unsignalized intersections, but is provided at signalized intersections including those at El Camino Real and Middle Avenue and El Camino Real and Cambridge Avenue. The nearest crosswalks traversing El Camino Real are at Middle Avenue one block to the north and Cambridge Avenue one block to the south. The sidewalks in the vicinity of the project site are generally in acceptable condition. Some sidewalk furniture is present in the area and includes light poles, fire hydrants, street sign poles, trees, and mailboxes.

[1] **Class I** facilities (bike path) are completely separated, with paved right of way (shared with pedestrians) which excludes general motor vehicle traffic.
Class II facilities (bike lane) include a striped lane for one-way bike travel on a roadway.
Class III facilities (bike route) are typically on-street with low traffic volumes and speeds, with measures for preferential bike treatment.

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FIGURE 5
Existing Area Transit Routes

3 NEAR TERM CONDITIONS

A list of near term developments has been provided by City and includes developments that are planned (i.e., applied for a development permit) or approved in Menlo Park. **Table 5** summarizes projects that were included in the CSA; traffic from these developments has been added to the study intersections and roadway segments for the near term conditions. A complete list of approved and planned projects is contained in **Appendix A**.

Table 5 - Near Term Developments in the Project Vicinity

Project/Land Use	Land Use	Size	Units
1906 El Camino Real	Office/Restaurant	9,825/-5,742	SF/SF
1706 El Camino Real	Office/Restaurant	10,166/-6,875	SF/SF
Menlo Gateway	Office/R&D/Office/ Health Club/Restaurant/Retail/Hotel	-111,679/58,505/694,669/ 69,467/6,947/10,420/230	SF/SF/SF/ SF/SF/SF/Rms
2550 Sand Hill Road	Office	23,011	SF
Hamilton East	Residential/Residential/Light Industrial	214/8/55,861	DU/DU/SF
Menlo Business Park	R&D	145,000	SF
Facebook Campus	Office	1,476,000	SF

Source: City of Menlo Park
Notes: Units are given as per square foot (SF), dwelling units (DU) and Rooms (Rms)

Traffic Volumes and Levels of Service

Peak Hour traffic volumes for the Near Term Conditions has been provided by the City of Menlo Park for the signalized study intersections during the AM and PM peak hours via the Near Term Condition in the CSA Traffix Model. **Figure 6** shows the Near Term Conditions traffic volumes for the study intersections. 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 the Existing Condition. Slight changes to signal timing parameters are based on the CSA.

As shown in **Table 6,** for the Near Term Conditions during the AM peak hour, the intersection of El Camino Real/Menlo Avenue/Ravenswood Avenue would remain at LOS D while at El Camino Real/Middle Avenue the LOS would improve from D in the Existing Condition to C in the Near Term Conditions with the intersection improvements proposed and programmed into the CSA Traffix file. Any intersection improvements that are programmed into the CSA Traffix file are done by the City. These improvements may include future mitigation measures for unrelated projects or any additional geometric improvements approved by the City. In the PM peak hour, El Camino Real/Menlo Ave/Ravenswood Avenue would decline from LOS D in the Existing Condition to LOS F in the Near Term Conditions.

Two critical movements for local approaches to state controlled intersections would experience a decrease in LOS. During the PM peak hour, the eastbound and westbound critical movements for the local approaches to El Camino Real/Menlo Avenue/Ravenswood Avenue would be LOS E for the Existing Condition and LOS F for the Near Term Conditions. All local approaches to state

controlled intersections would operate at unacceptable LOS E or F for either the AM Peak Hour, PM Peak Hour, or both.

Table 6 - Near Term Condition Level of Service

	AM Peak Hour		PM Peak Hour	
Study Intersection	Delay[a]	LOS[b]	Delay	LOS
1. El Camino Real/Menlo Ave/ Ravenswood Ave	52.6	D	**82.5**	**F**
Critical Local Approaches[c]	**55.3/72.2**	**E/E**	**113.0/112.0**	**F/F**
2. El Camino Real/Roble Ave	11.0	B	14.4	B
Critical Local Approaches	**58.2**/53.4	**E**/D	**71.0/57.4**	**E/E**
3. El Camino Real/Middle Ave	29.1	C	25.7	C
Critical Local Approaches	50.9/NA[d]	D/NA	**67.6**/NA	**E**/NA
4. El Camino Real/Cambridge Ave	11.2	B	12.4	B
Critical Local Approaches	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 6
Near Term Peak Hour Volumes

Roadway Segment Analysis

The Near Term Conditions ADT volumes are illustrated in **Figure 7** while the roadway analysis for the Near Term Conditions is shown in **Table 7.** The Near Term Condition would add between 4 and 172 vehicles to the analyzed roadway segments. As shown, the demand would continue to be below capacity for the analyzed roadways with the background roadway growth added to the existing demand with the exception of University Drive between Middle Avenue and Cambridge Avenue.

Table 7 - Near Term Condition Average Daily Traffic Summary

			Existing	Near Term		
	Roadway Class	Capacity	Volume	ADT	Volume Added for Near Term	% Change from Existing
Middle Avenue (University to El Camino Real)	C	10,000	8,608	8,780	172	2.0%
College Avenue (University to El Camino Real)	L	1,500	668	681	13	2.0%
Partridge Avenue (University to El Camino Real)	L	1,500	574	585	11	2.0%
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,410	28	2.0%
University Drive (Middle to Cambridge)	L	1,500	1,921	1,959	38	2.0%
Alto Lane (Middle to College)	L	1,500	200	204	4	2.0%

Existing Volumes Source: City of Menlo Park 2009 CSA.

Parking

Off-street and on-street parking conditions would remain the same as under the Existing Condition. There is no vehicle parking along El Camino Real. No changes in parking would be expected.

Transit, Bicycle, and Pedestrian Facilities

The 2005 Menlo Park comprehensive Bicycle Development Plan identifies Middle Avenue, College Avenue, and University Drive as roadways for Class II Bike Lanes. These lanes are programmed as mid-term project, and may be implemented by the Near Term Conditions Analysis.

There are no major anticipated changes to transit and pedestrian facilities for the Near Term Conditions. In recent years, SamTrans and Caltrain have reduced service and operations as a result of financial constraints. The routes identified in this report are current as of June, 2011 but may change as additional service changes are considered in the future.

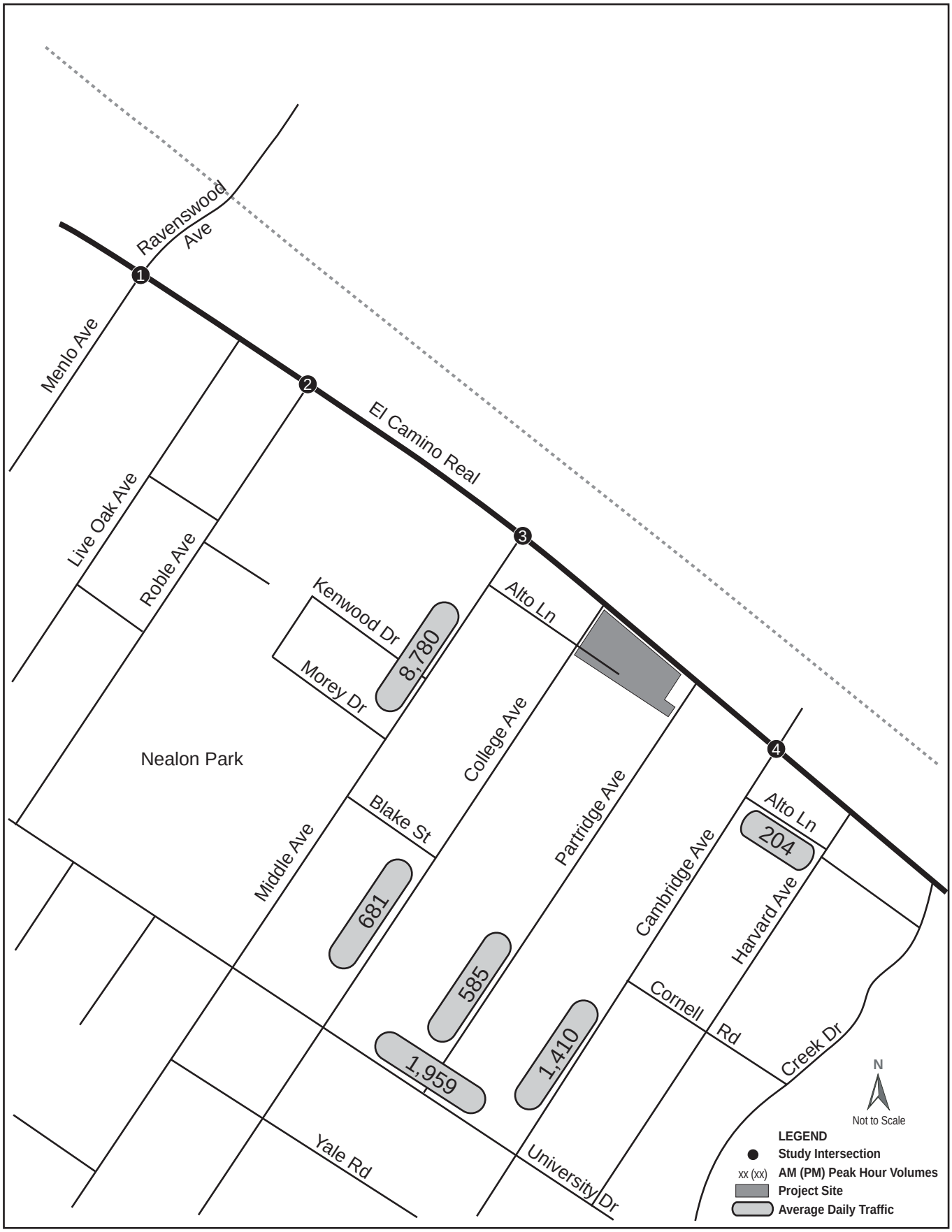

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FIGURE 7
Near Term Average Daily Traffic

4 NEAR TERM PLUS PROJECT CONDITION

The four existing parcels of the project site consist of a residential house, a rental triplex, a large vacant parking lot, and Alto Lane. For the purposes of net project trip generation, credit has been taken for these existing uses. The Project Condition would include 27 residential units, including 10 small lot single family homes and 17 town home units. Additionally, 62 on-site parking spaces would be provided and consist of 44 covered standard spaces, 8 covered tandem spaces, 8 uncovered guest spaces, and 2 accessible spaces. A site plan for the project is shown in **Figure 8**.

Trip Generation and Distribution

The estimated trip generation for the proposed residential uses and for the existing residential uses has been calculated based on the trip generation rates from the *ITE Trip Generation* (8th Edition, 2008). Additionally, trip credits have been applied for the existing housing units on the site. The proposed project would generate approximately 13 net AM Peak Hour trip (4 inbound trips and 9 outbound trips) and 17 net PM Peak Hour trips (11 inbound trips and 6 outbound trips). The proposed project trip generation is summarized in **Table 8**.

Table 8 - Project Trip Generation

	Land Use Code	AM Peak Hour			PM Peak Hour			Daily
Existing Uses		**In**	**Out**	**Total**	**In**	**Out**	**Total**	
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Proposed Single Family Detached Housing (10)	210	2	6	8	7	4	11	96
Proposed Residential Condominium/Townhouse (17)	230	2	6	8	6	3	9	99
Total for Proposed Uses		**4**	**12**	**16**	**13**	**7**	**20**	**195**
Total Net New Trips		**4**	**9**	**13**	**11**	**6**	**17**	**155**

Note: The existing trip credit represents the occupied residential units on the project site.
Values are rounded.

Trips generated by the existing land uses and proposed project have been assumed to have distribution patterns consistent with the travel patterns outlined in the CSA. **Figure 9** illustrates the trip distribution patterns for the existing and proposed land uses, **Figure 10** illustrates the project trip assignment, and **Figure 11** illustrates the average daily traffic.

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FIGURE 8
Site Plan

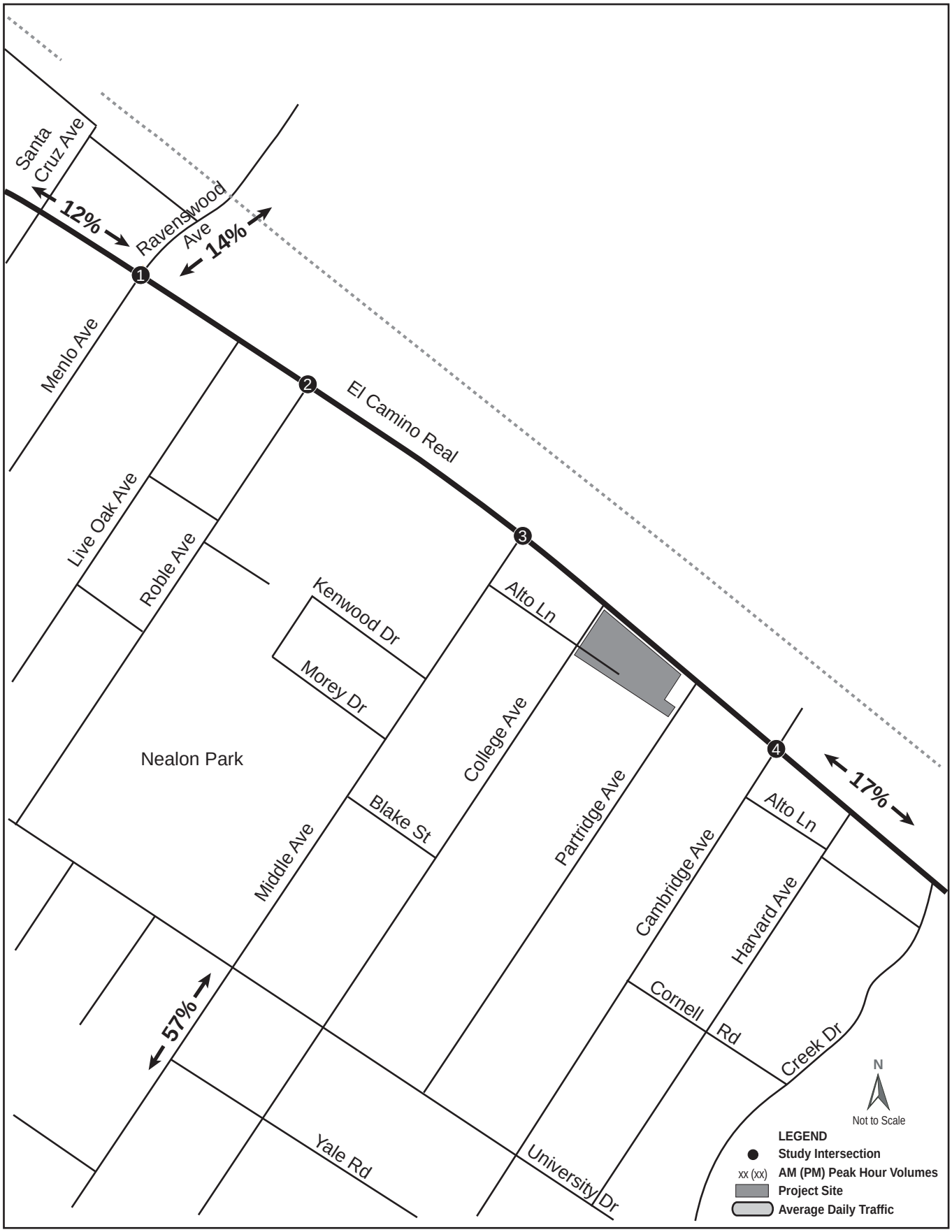

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FIGURE 9
Trip Distribution

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FIGURE 10
Peak Hour Project Generated Trips

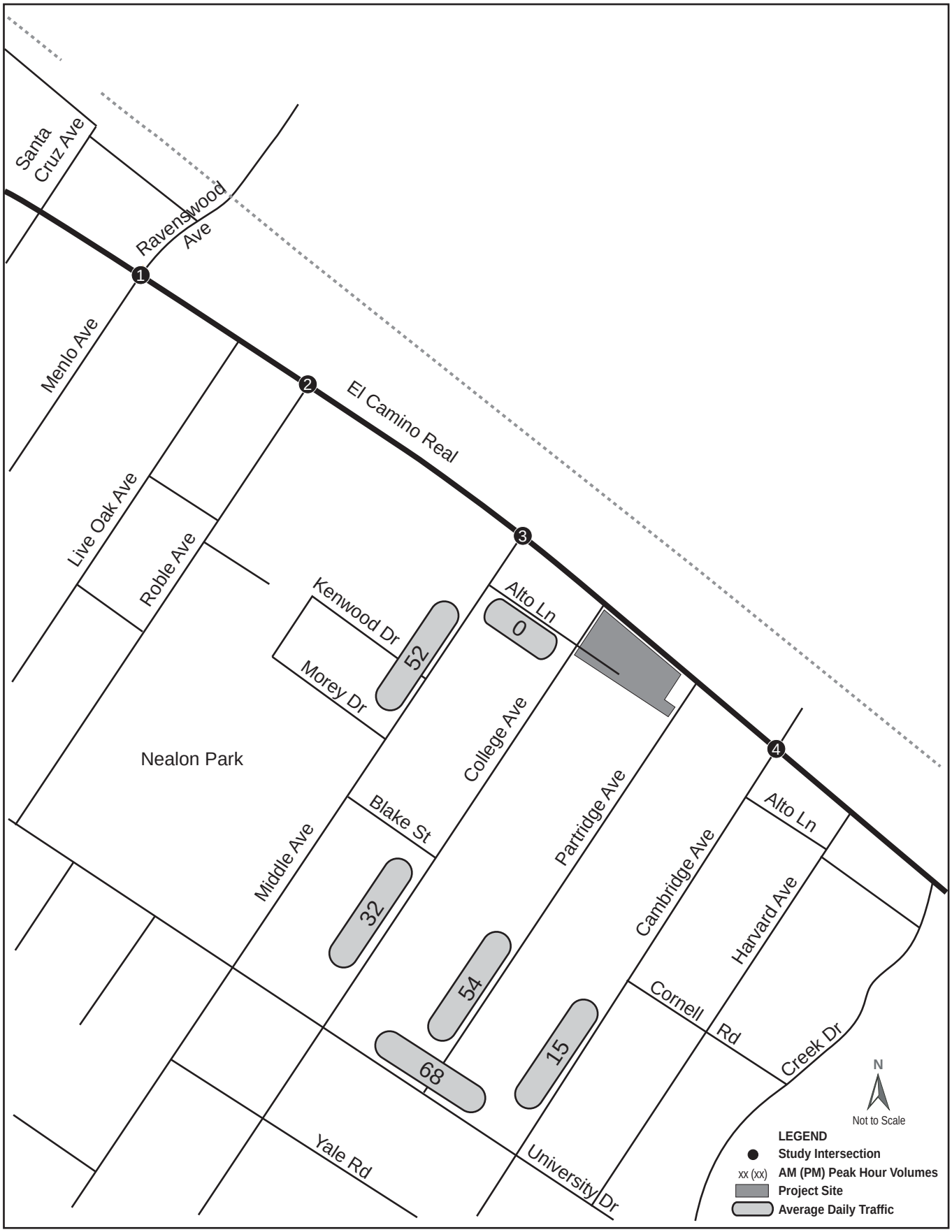

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FIGURE 11
Project Generated Average Daily Traffic

Traffic Volumes and Levels of Service

Near Term Plus Project Condition Peak Hour traffic volumes are provided in **Figure 12**. An intersection level of service comparison summary between Near-Term Conditions and Near Term Plus Project Condition is shown in **Table 9**. As shown in the tables, the project would have little effect on the average delay for the study intersections in the Near Term. The respective increases in delay for the critical movements for local approaches to state controlled intersections would be below the acceptable 0.8 second threshold for both the AM and PM peak hours. As such, the project would not result in any potentially significant impacts to the study area intersections.

Roadway Segment Analysis

Near Term Plus Project Condition ADT volumes for the study segments are provided in **Figure 13** while **Table 10** compares roadway segments in the Existing, Near Term, and Near Term Plus Project Condition and the corresponding ADT increases. The project would generate 155 net daily trips for a typically weekday. Based on the significance criteria for collector and local streets set by the City of Menlo Park, University Drive between Middle Avenue and College Avenue would experience a potentially significant impact for the Near Term with Project Condition. For this segment, the project would add 68 vehicles which is more than the 25-trip threshold for local roadways with ADT greater than 1,350 vehicles.

Parking

As part of the proposed site plan, 62 total parking spaces would be provided. These would include 44 covered standard spaces, 8 covered tandem spaces, 8 uncovered guest spaces, and 2 accessible spaces. All of the project-related parking demand would be accommodated on-site. As a result, on-street parking conditions are expected to remain the same under the Plus Project Condition.

Transit, Bicycle, and Pedestrian Facilities

There are no anticipated changes to transit, pedestrian, and bicycle operations as a result of the proposed project.

Site Circulation and Emergency Access

Access to the site would be provided via two right-in/right-out driveways along the west side of El Camino Real between College Avenue and Partridge Avenue as shown in **Figure 8**. The north driveway would be located approximately 70 feet south of the intersection of College Avenue and El Camino Real while the south driveway would be located approximately 115 feet north of Partridge Avenue and El Camino Real. Access to Alto Lane from College Avenue would be removed in the Plus Project Condition. The internal driveways would be approximately 26 feet in width and access the 62 on-site parking spaces. Emergency access would be provided by these two right-in/right-out access points as well.

Table 9 - Near Term Plus Project Condition Levels of Service

Study Intersection	Near Term Condition				Near Term Plus Project Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour
	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS		
1. El Camino Real/Menlo Ave/ Ravenswood Ave	52.6	D	**82.5**	**F**	52.7	D	**82.7**	**F**	0.1	0.2
Critical Local Approaches[c]	**55.3/72.2**	**E/E**	**113.0/112.0**	**F/F**	**55.3/72.4**	**E/E**	**113.0/112.0**	**F/F**	0.0/0.2	0.0/0.0
2. El Camino Real/Roble Ave	11.0	B	14.4	B	11.0	B	14.4	B	0.0	0.0
Critical Local Approaches	**58.2**/53.4	**E**/D	**71.0/57.4**	**E/E**	**58.2**/53.4	**E**/D	**71.1/57.4**	**E/E**	0.0/0.0	0.1/0.0
3. El Camino Real/Middle Ave	29.1	C	25.7	C	29.2	C	25.8	C	0.1	0.1
Critical Local Approaches	50.9/NA[d]	D/NA	**67.6**/NA	**E**/NA	50.9/NA	D/NA	**67.6**/NA	**E**/NA	0/NA	0/NA
4. El Camino Real/Cambridge Ave	11.2	B	12.4	B	11.3	B	12.5	B	0.1	0.1
Critical Local Approaches	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	0.0/0.0	0.0/0.0

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 12
Near Term Plus Project Condition Peak Hour Volumes

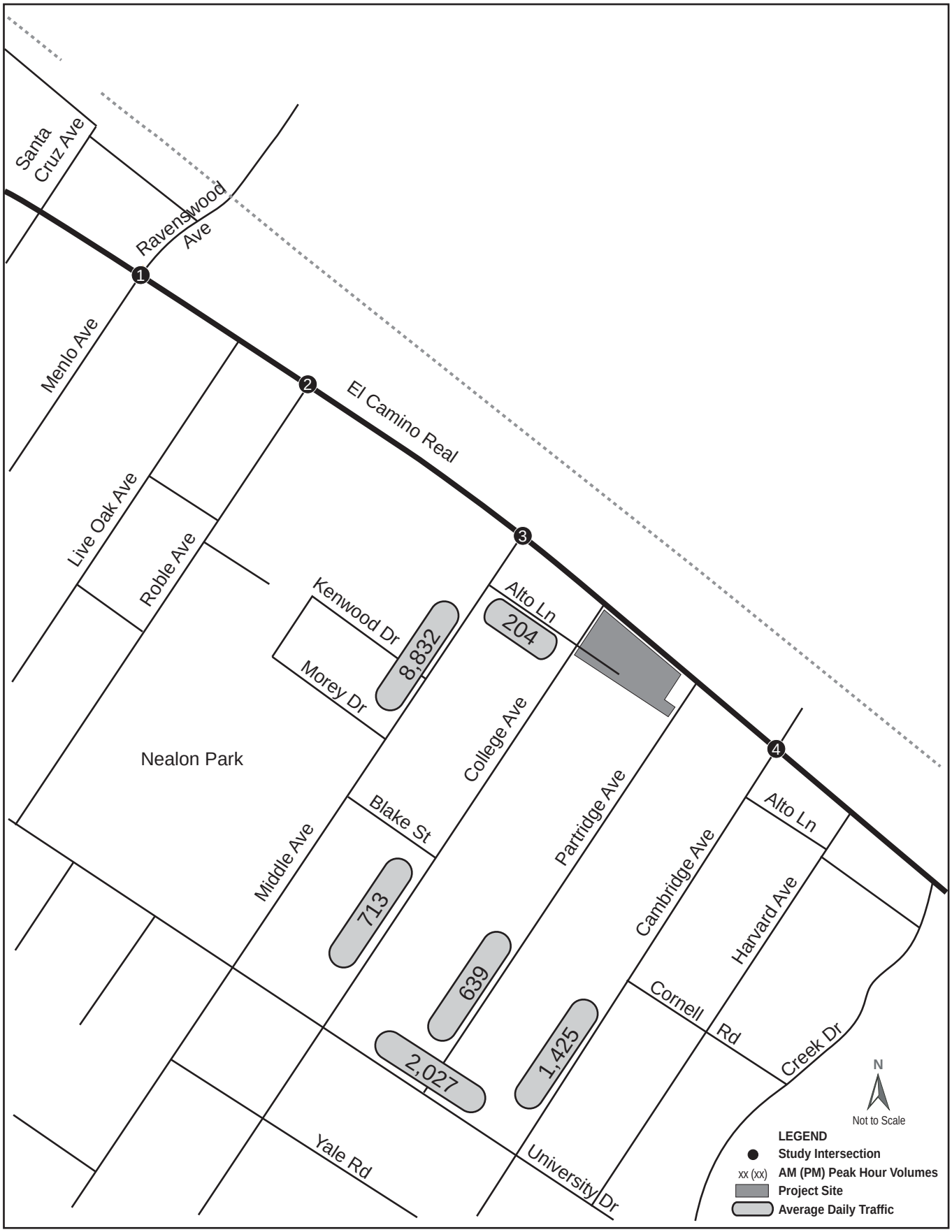

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FIGURE 13
Near Term Plus Project Conditions Average Daily Traffic

Table 10 - Near Term Condition Average Daily Traffic Summary

			Existing	Near Term Condition			Near Term Plus Project Condition			
	Roadway Class	Capacity	Volume	ADT	Volume Added for Near Term	% Change from Existing	ADT	Project Volume Added for Near Term	% Change from Near Term	Potentially significant impact?
Middle Avenue (University to El Camino Real)	C	10,000	8,608	8,780	172	2.0%	8,832	52	0.6%	N
College Avenue (University to El Camino Real)	L	1,500	668	681	13	2.0%	713	32	4.7%	N
Partridge Avenue (University to El Camino Real)	L	1,500	574	585	11	2.0%	639	54	9.2%	N
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,410	28	2.0%	1,425	15	1.1%	N
University Drive (Middle to Cambridge)	L	1,500	1,921	1,959	38	2.0%	2,027	68	3.5%	**Y**
Alto Lane (Middle to College)	L	1,500	200	204	4	2.0%	204	0	0.0%	N

City of Menlo Park Segment Criteria:

(1) 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%.

(2) 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%.

5 LONG TERM CONDITION

This section discusses the traffic operating conditions of the study intersections and roadway segments under the Long Term Condition. The Long Term Condition assumes the 1% annual growth rate associated with the Near Term Condition, and adds growth associated with an additional project, as detailed in **Table 11**. Additionally, the current occupancy at the existing residences was assumed to remain the same as described previously.

Table 11 - Long Term Developments in the Project Vicinity

Project/Land Use	Land Use	Size	Units
El Camino Real/Downtown Specific Plan	Retail	91,800	Square Feet
El Camino Real/Downtown Specific Plan	Office	240,820	Square Feet
El Camino Real/Downtown Specific Plan	Residential	680	Units
El Camino Real/Downtown Specific Plan	Hotel	380	Rooms
Facebook Campus	Office	1,476,000	Square Feet
Stanford University Medical Campus (SUMC)	Hospital/Medical Office	854,970/24,330	Square Feet/Square Feet

Source: City of Menlo Park

Traffic Volumes and Levels of Service

Figure 14 shows the Long Term Conditions traffic volumes while the corresponding intersection LOS and delay for the Long Term Conditions are shown in **Table 12.** For the Long Term Conditions, the El Camino Real/Menlo Avenue/Ravenswood Avenue intersection would operate at LOS F for the AM and PM Peak Hours and all other intersections would operate at acceptable LOS. All of the critical movements for local approaches to state controlled intersections would operate at LOS D or worse for both peak hours.

Table 12 - Long Term Condition Levels of Service

	AM Peak Hour		PM Peak Hour	
Study Intersection	Delay[a]	LOS[b]	Delay	LOS
1. El Camino Real/Menlo Ave/ Ravenswood Ave	**104.2**	**F**	**169.8**	**F**
Critical Local Approaches[c]	**119.4/151**	**F/F**	**235.4/239**	**F/F**
2. El Camino Real/Roble Ave	11.6	B	19.8	B
Critical Local Approaches	**64.2**/54.8	**E**/D	**104.9/59.8**	**F/E**
3. El Camino Real/Middle Ave	35.4	D	32.5	C
Critical Local Approaches	**71.8**/NA[d]	**E**/NA	**93.9**/NA	**F**/NA
4. El Camino Real/Cambridge Ave	12.5	B	14.3	B
Critical Local Approaches	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 14
Long Term Condition Peak Hour Volumes

Roadway Segment Analysis

For the Long Term Condition roadway analysis, the background growth and proposed and planned projects would result in increases in ADT volumes. **Table 13** indicates that the background growth would increase the daily roadway demand by between 42 and 1,808 vehicles in 2030 while **Figure 15** shows the daily ADT volumes on the study area roadway network. With these traffic increases, daily roadway demand would still be below the overall capacity for each analyzed roadway, with the exception of Middle Avenue between University Drive and El Camino Real and Cambridge Avenue between University Drive and El Camino Real.

Table 13 - Long Term Condition Average Daily Traffic Summary

			Existing	Long Term Condition		
	Roadway Class	Capacity	Volume	ADT	Volume Added for Long Term	% Change from Existing
Middle Avenue (University to El Camino Real)	C	10,000	8,608	10,416	1,808	21.0%
College Avenue (University to El Camino Real)	L	1,500	668	808	140	21.0%
Partridge Avenue (University to El Camino Real)	L	1,500	574	695	121	21.0%
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,672	290	21.0%
University Drive (Middle to Cambridge)	L	1,500	1,921	2,324	403	21.0%
Alto Lane (Middle to College)	L	1,500	200	242	42	21.0%

Existing Volumes Source: City of Menlo Park 2009 CSA.

Parking

Off-street and on-street parking conditions would remain the same as under the Existing Condition and Near Term Condition. Parking along El Camino Real may change as a result of the El Camino Real/Downtown Specific Plan but is only strictly defined in the downtown area. Changes in the parking supply is proposed through additional parking garages, sidewalk widening, and bike lane additions in the downtown area of Menlo Park centered around Santa Cruz Avenue, a quarter mile north of the project site.

Transit, Bicycle, and Pedestrian Facilities

The 2005 Menlo Park comprehensive Bicycle Development Plan identified Middle Avenue, College Avenue, and University Drive as roadways for Class II Bike Lane. These lanes were programmed as mid-term project, and may be implemented by the Long Term Conditions. Additionally, a Class III Bike Route along El Camino Real is programmed as a long term project and may be implemented by the Long Term Conditions.

Potential major changes to transit and pedestrian facilities for the Long Term Conditions include the completion of the High Speed Rail and the Bicycle and Pedestrian Crossings near the Caltrain Station and the intersection of El Camino Real and Middle Avenue. Both of these undercrossing projects do not have funding. The undercrossing at the Caltrain Station will be constructed in conjunction with the improvements to the station as a result of the High Speed

Rail. The second undercrossing at El Camino Real and Middle Avenue will be funded by the Transit Improvement Fee.

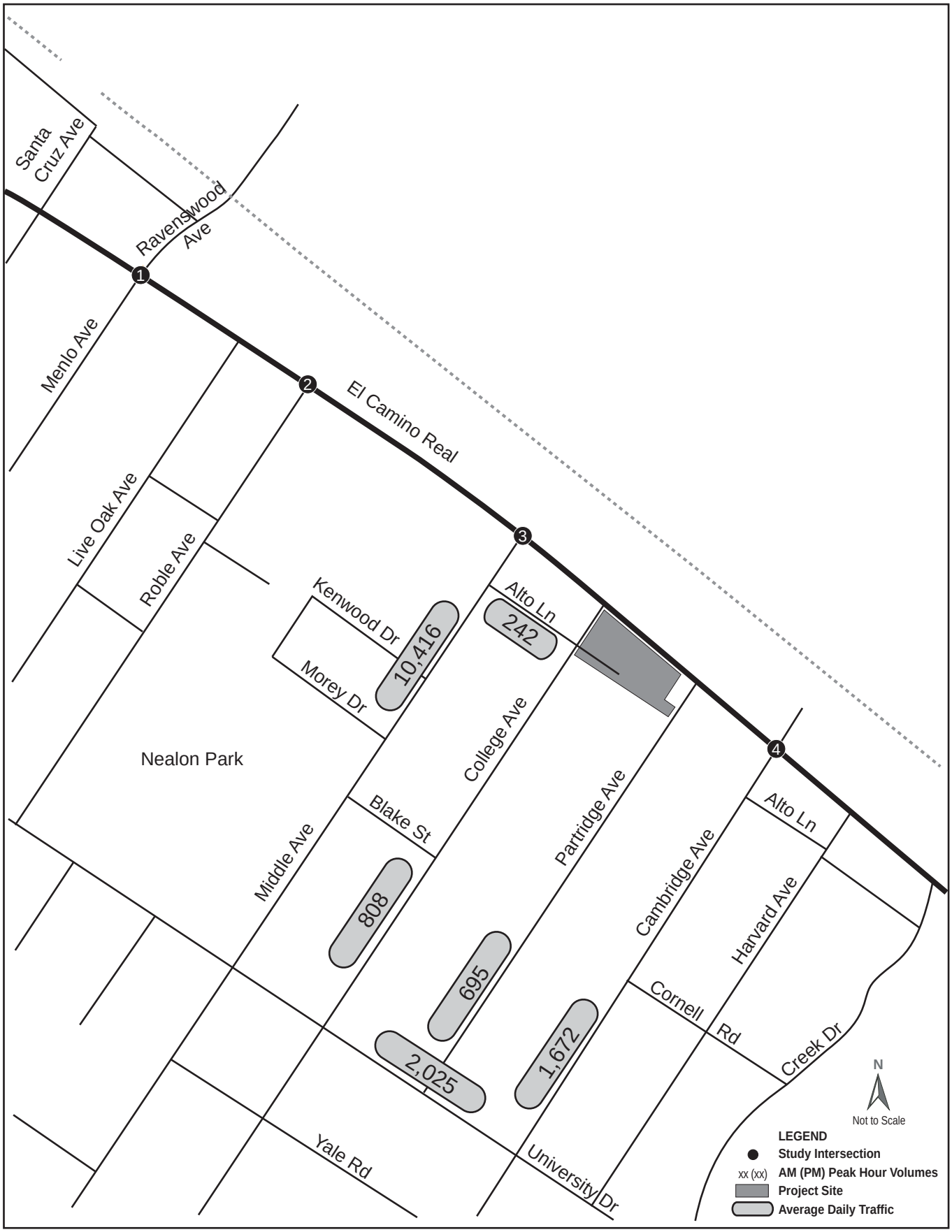

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FIGURE 15
Long Term Conditions Average Daily Traffic

6 LONG TERM PLUS PROJECT CONDITION

The Long Term Plus Project Condition follows similar assumptions to the Near Term Plus Project Condition, with the exception of a longer background growth period. Net project generated trips detailed in the Near Term Plus Project section have been applied to the Long Term Conditions volumes to determine the Long Term Plus Project volumes.

Traffic Volumes and Levels of Service

Figure 16 details the Long Term Plus Project Condition traffic volumes while the resulting intersection LOS and delay are presented in **Table 14.** The project-related traffic would not increase delay to critical movements to local approaches to state controlled intersections by more than the 0.8 second threshold. As a result, the project would not result in any potentially significant impacts to the study area intersections.

Roadway Segment Analysis

For the roadway analysis the number of daily trips added in the future Long Term Plus Project Condition due to the proposed project would be the same as in the Near Term Plus Project Condition. **Figure 17** shows the Long Term Condition traffic volumes while **Table 15** shows the comparison between the Existing Condition, Long Term Condition, and Long Term with Project Condition and the corresponding ADT increases between them.

As in the Near Term with Project Condition, University Drive between Middle Avenue and College Avenue would experience potentially significant impacts for the Long Term with Project Condition. For this segment, the project would add 68 vehicles, which is more than the 25-trip threshold for local roadways with ADT greater than 1,350 vehicles. Middle Avenue from University Drive to El Camino Real will also have a potentially significant impact since the project will add 52 trips, which is more than the 50-trip threshold for collector roadways with ADT greater than 9,000 vehicles.

Table 14 - Long Term Plus Project Condition Levels of Service

Study Intersection	Long Term Condition AM Peak Hour Delay[a]	LOS[b]	Long Term Condition PM Peak Hour Delay	LOS	Long Term Plus Project Condition AM Peak Hour Delay	LOS	Long Term Plus Project Condition AM Peak Hour Delay	LOS	Difference in Delay AM Peak Hour	Difference in Delay PM Peak Hour
1. El Camino Real/Menlo Ave/ Ravenswood Ave	**104.2**	**F**	**169.8**	**F**	**104.6**	**F**	**170.2**	**F**	0.4	0.4
Critical Local Approaches[c]	**119.4/151**	**F/F**	**235.4/239**	**F/F**	**120/151**	**F/F**	**236.0/240.0**	**F/F**	0.6/0.0	0.6/1.0
2. El Camino Real/Roble Ave	11.6	B	19.8	B	11.6	B	19.8	B	0.0	0.0
Critical Local Approaches	**64.2**/54.8	**E**/D	**104.9/59.8**	**F/E**	**64.3**/54.8	**E**/D	**105.2/59.8**	**F/E**	0.1/0.0	0.3/0.0
3. El Camino Real/Middle Ave	35.4	D	32.5	C	35.5	D	32.7	C	0.1	0.2
Critical Local Approaches	**71.8**/NA[d]	**E**/NA	**93.9**/NA	**F**/NA	**71.9**/NA	**E**/NA	**94.2**/NA	**F**/NA	0.1/NA	0.3/NA
4. El Camino Real/Cambridge Ave	12.5	B	14.3	B	12.6	B	14.4	B	0.1	0.1
Critical Local Approaches	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	0.0/0.0	0.0/0.0

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 16
Long Term Plus Project Condition Peak Hour Volumes

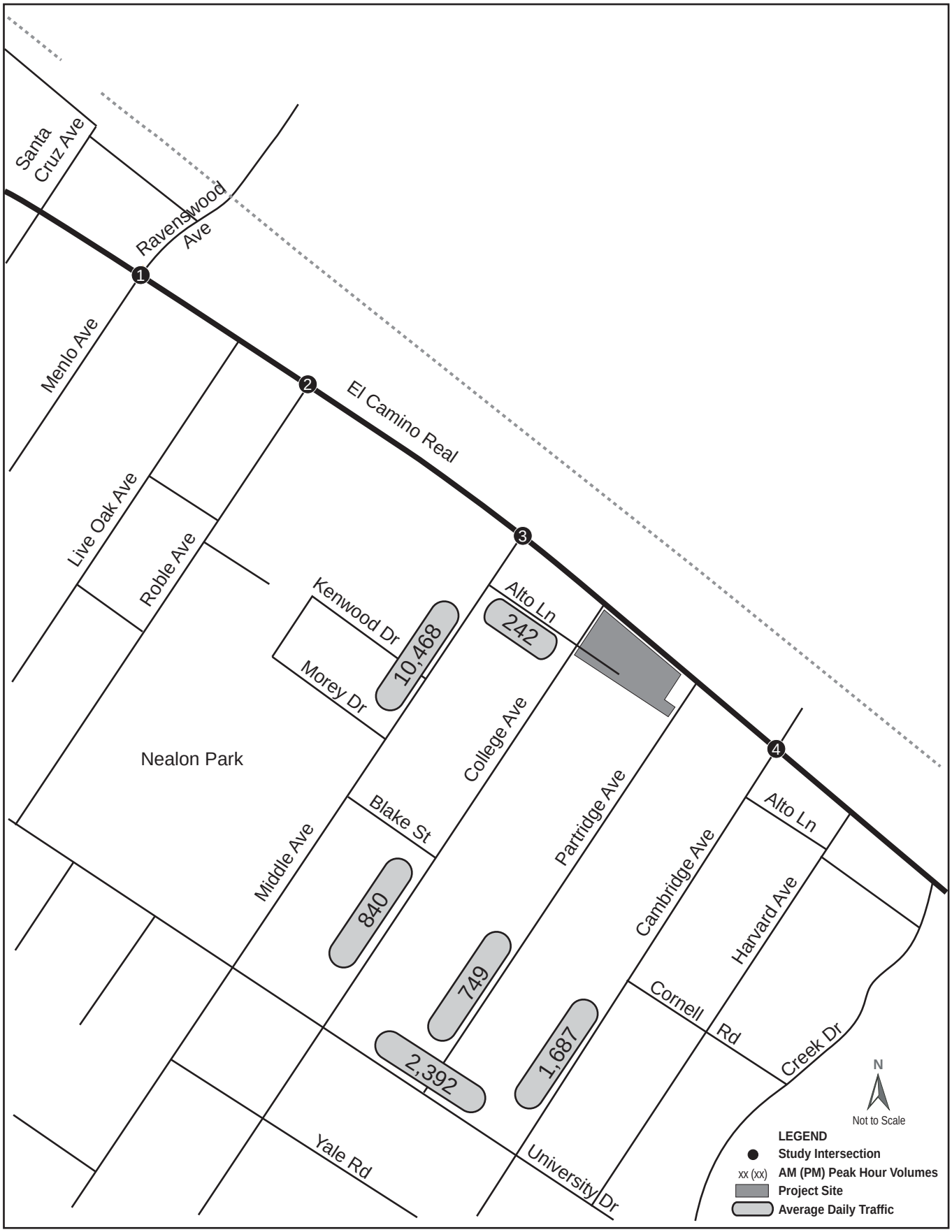

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FIGURE 17
Long Term Plus Project Conditions Average Daily Traffic

Table 15 - Long Term Plus Project Condition Average Daily Traffic Summary

			Existing	Long Term Condition			Long Term Plus Project Condition			
	Roadway Class	Capacity	Volume	ADT	Volume Added for Long Term	% Change from Existing	ADT	Project Volume Added for Long Term	% Change from Long Term	Potentially significant impact?
Middle Avenue (University to El Camino Real)	C	10,000	8,608	10,416	1,808	21.0%	10,468	52	0.5%	**Y**
College Avenue (University to El Camino Real)	L	1,500	668	808	140	21.0%	840	32	3.6%	N
Partridge Avenue (University to El Camino Real)	L	1,500	574	695	121	21.0%	749	54	7.2%	N
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,672	290	21.0%	1,687	15	0.9%	N
University Drive (Middle to Cambridge)	L	1,500	1,921	2,324	403	21.0%	2,392	68	2.8%	**Y**
Alto Lane (Middle to College)	L	1,500	200	242	42	21.0%	242	0	0.0%	N

Existing Volumes Source: City of Menlo Park 2009 CSA
City of Menlo Park Segment Criteria:
(1) 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%.
(2) 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%.

7 PROJECT ALTERNATIVE ANALYSIS

Alternative 1 (Reduced Residential Alternative)

An analysis of a reduced project size has been conducted to analyze the level of impacts due to a smaller size project condition. For Alternative 1, the existing uses are assumed to be replaced with 5 single family detached housing units and 7 residential condominium/townhouse units.

Trip Generation and Distribution

Similar to the Project Condition, the trip generation is based upon the *ITE Trip Generation.* Alternative 1 would include removing the existing housing units and construct 5 single family detached housing units and 7 residential condominium/townhouse units. Alternative 1 would generate a total of 4 AM Peak Hour net new trips (2 inbound and 2 outbound), 6 PM Peak Hour net new trips (4 inbound and 2 outbound), and 49 total daily net new trips. **Table 16** summarizes the Project Alternative 1 trip generation while **Figure 18** details the peak hour trip distribution and **Figure 19** shows the Average Daily Trips distribution of Project Alternative 1.

Table 16 - Project Alternative 1 Trip Generation

	Land Use Code	AM Peak Hour			PM Peak Hour			Daily
Existing Uses		**In**	**Out**	**Total**	**In**	**Out**	**Total**	
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Proposed Single Family Detached Housing (5)	210	1	3	4	3	2	5	48
Proposed Residential Condominium/Townhouse (7)	230	1	2	3	3	1	4	41
Total for Proposed Uses		**2**	**5**	**7**	**6**	**3**	**9**	**89**
Total Net New Trips		**2**	**2**	**4**	**4**	**2**	**6**	**49**

Note: The existing trip credit represents the occupied residential units on the project site.
Values are rounded.

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FIGURE 18
Project Alternative 1 Peak Hour Trips

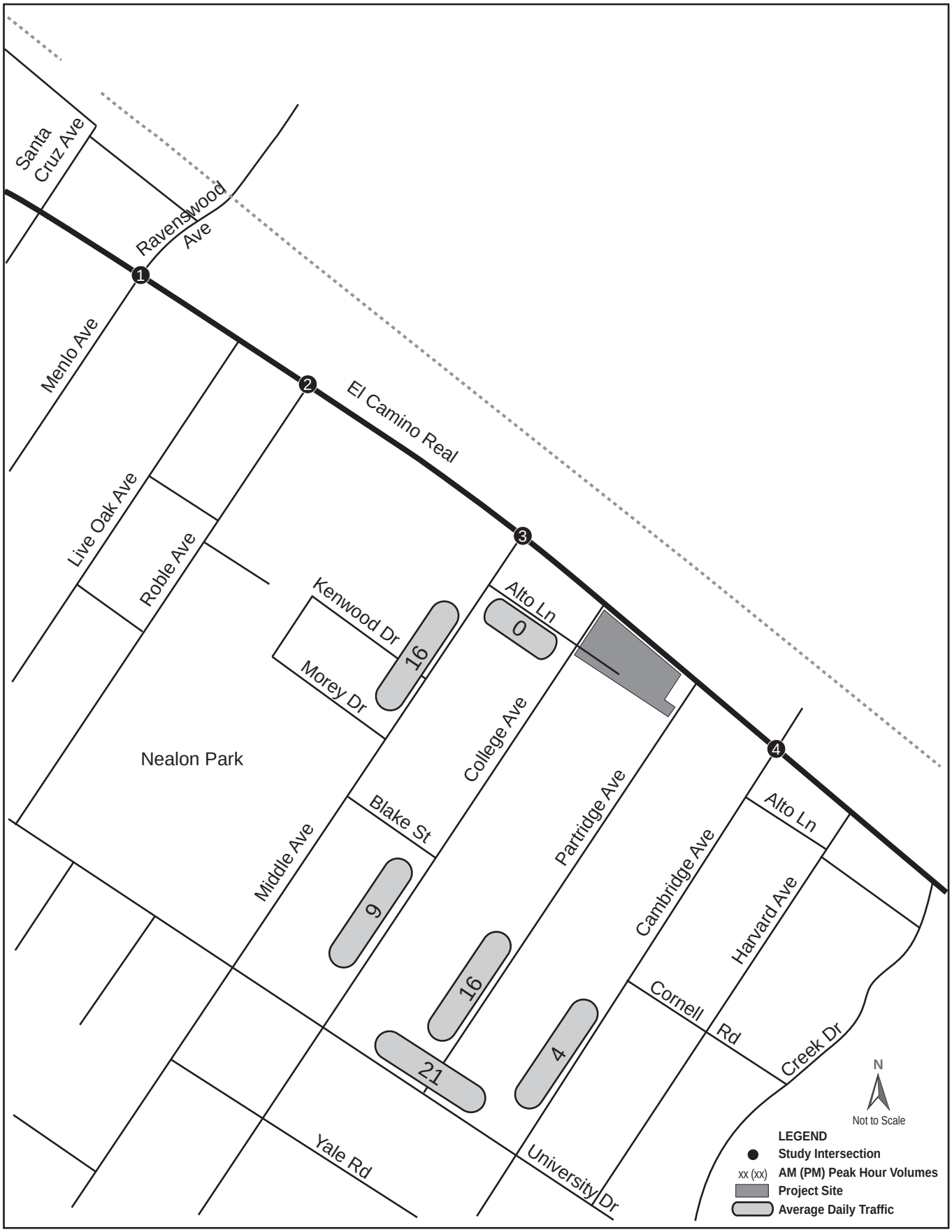

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FIGURE 19
Project Alternative 1 Average Daily Traffic

Traffic Volumes and Levels of Service

Near Term Plus Project Alternative 1 Condition

Figure 20 shows the Near Term Plus Project Alternative 1 Condition Peak Hour vehicle trips while **Table 17** summarizes the operating conditions for the Near Term Plus Project Alternative 1 Condition. As discussed previously, the near term ambient growth would result in one intersection and several local approaches to state controlled intersections operating at unacceptable levels. The project related traffic from Alternative 1 would not result in any potentially significant impacts to local approaches to a state controlled during the respective AM or PM Peak Hours.

Project Alternative 1 would generate approximately 49 net daily trips. Near Term Plus Project Alternative 1 Conditions Average Daily Traffic is shown in **Figure 21** while **Table 18** summarizes the addition of net-new daily traffic added to the local roadway segments. As this table illustrates, Project Alternative 1 would result in no potentially significant impacts to the study area roadway.

Table 17 - Near Term Plus Project Alternative 1 Condition Levels of Service

Study Intersection	Near Term Condition				Near Term Plus Project Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour
	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS		
1. El Camino Real/Menlo Ave/ Ravenswood Ave	52.6	D	**82.5**	**F**	52.6	D	**82.7**	**F**	0.0	0.2
Critical Local Approaches[c]	**55.3/72.2**	**E/E**	**113.0/112.0**	**F/F**	**55.3/72.2**	**E/E**	**112.7/111.8**	**F/F**	0.0/0.0	-0.3/0.2
2. El Camino Real/Roble Ave	11.0	B	14.4	B	11.0	B	14.4	B	0.0	0.0
Critical Local Approaches	**58.2**/53.4	**E**/D	**71.0/57.4**	**E/E**	**58.3**/53.4	**E**/D	**71.1/57.4**	**E/E**	0.1/0.0	0.1/0.0
3. El Camino Real/Middle Ave	29.1	C	25.7	C	29.1	C	25.8	C	0.0	0.1
Critical Local Approaches	50.9/NA[d]	D/NA	**67.6**/NA	**E**/NA	50.9/NA	D/NA	**67.6**/NA	**E**/NA	0.0/NA	0.0/NA
4. El Camino Real/Cambridge Ave	11.2	B	12.4	B	11.2	B	12.5	B	0.0	0.1
Critical Local Approaches	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	**66.9/62.1**	**E/E**	**66.5/62.9**	**E/E**	0.0/0.0	-0.1/0.0

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 20
Near Term Plus Project Alternative 1 Conditions
Peak Hour Volumes

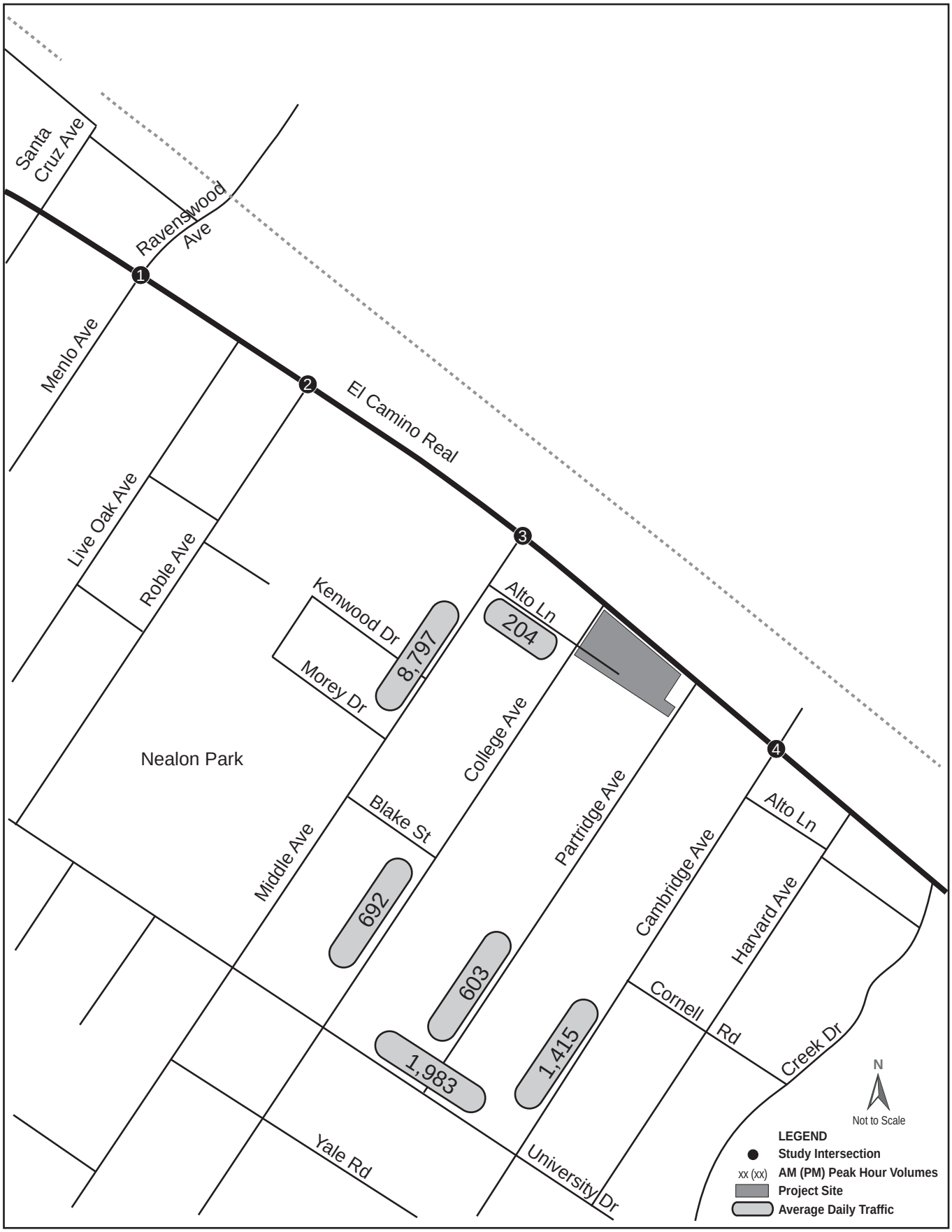

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FIGURE 21
Near Term Plus Project Alternative 1 Conditions
Average Daily Traffic

Table 18 - Near Term Plus Project Alternative 1 Condition Average Daily Traffic Summary

			Existing	Near Term Condition			Near Term Plus Project Alternative 1 Condition			
	Roadway Class	Capacity	Volume	ADT	Volume Added for Near Term	% Change from Existing	ADT	Project Volume Added for Near Term	% Change from Near Term	Potentially significant impact?
Middle Avenue (University to El Camino Real)	C	10,000	8,608	8,780	172	2.0%	8,796	16	0.2%	N
College Avenue (University to El Camino Real)	L	1,500	668	681	13	2.0%	690	9	1.3%	N
Partridge Avenue (University to El Camino Real)	L	1,500	574	585	11	2.0%	601	16	2.7%	N
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,410	28	2.0%	1,414	4	0.3%	N
University Drive (Middle to Cambridge)	L	1,500	1,921	1,959	38	2.0%	1,980	21	1.1%	N
Alto Lane (Middle to College)	L	1,500	200	204	4	2.0%	204	0	0.0%	N

City of Menlo Park Segment Criteria:
(1) 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%.
(2) 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%.

Long Term Plus Project Alternative 1 Condition

Figure 22 shows the Long Term Plus Project Alternative 1 Condition traffic volumes while **Table 19** summarizes the operating conditions for the Long Term Plus Project Alternative 1 Condition. As previously discussed, the Long Term ambient growth would result in several intersections and local approaches to state controlled intersections operating at unacceptable levels. Traffic generated by Project Alternative 1 would not result in any potentially significant impacts to the study intersections in either the AM or PM Peak Hours.

Project Alternative 1 would generate approximately 49 net daily trips. **Figure 23** shows the Long Term Plus Project Alternative 1 Conditions Average Daily Traffic Volumes while **Table 20** summarizes the addition of net-new daily traffic added to the local roadway segments. The proposed project would not result in any potential roadway segment impacts.

Table 19 - Long Term Plus Project Alternative 1 Condition Levels of Service

Study Intersection	Long Term Condition				Long Term Plus Project Alternative 1 Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		AM Peak Hour		AM Peak Hour	PM Peak Hour
	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS		
1. El Camino Real/Menlo Ave/ Ravenswood Ave	**104.2**	**F**	**169.8**	**F**	**104.4**	**F**	**170.0**	**F**	0.2	0.2
Critical Local Approaches[c]	**119.4/151**	**F/F**	**235.4/239**	**F/F**	**119.5/151**	**F/F**	**235.8/240**	**F/F**	0.1/0.0	0.4/1.0
2. El Camino Real/Roble Ave	11.6	B	19.8	B	11.6	B	19.8	B	0.0	0.0
Critical Local Approaches	**64.2**/54.8	**E**/D	**104.9/59.8**	**F/E**	**64.3**/54.8	**E**/D	**105.0/59.8**	**F/E**	0.1/0.0	0.1/0.0
3. El Camino Real/Middle Ave	35.4	D	32.5	C	35.5	D	32.6	C	0.1	0.1
Critical Local Approaches	**71.8**/NA[d]	**E**/NA	**93.9**/NA	**F**/NA	**71.9**/NA	**E**/NA	**94.1**/NA	**F**/NA	0.1/NA	0.2/NA
4. El Camino Real/Cambridge Ave	12.5	B	14.3	B	12.5	B	14.4	B	0.0	0.1
Critical Local Approaches	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	0.0/0.0	0.0/0.0

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 22
Long Term Plus Project Alternative 1 Conditions
Peak Hour Volumes

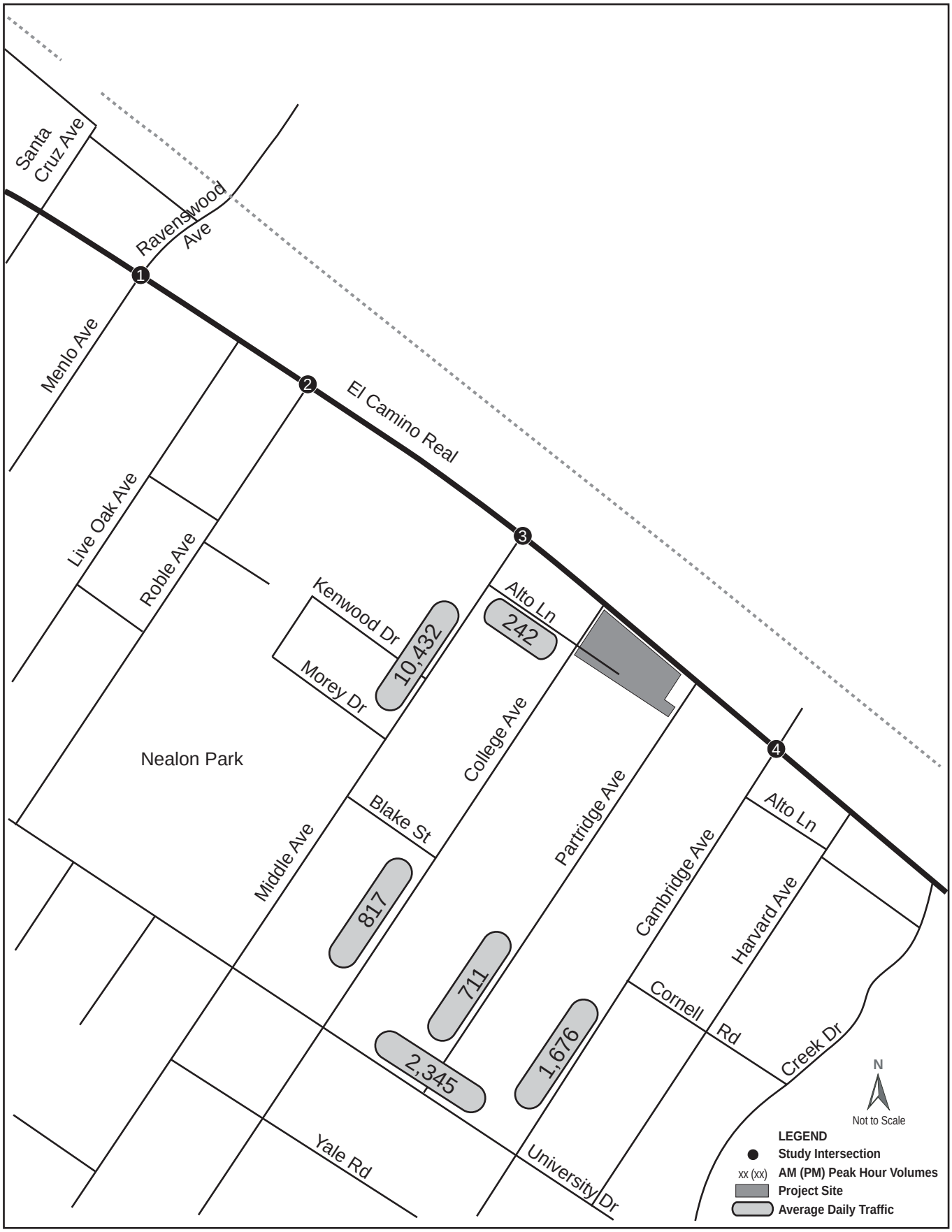

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FIGURE 23
Long Term Plus Project Alternative 1 Conditions
Average Daily Traffic

Table 20 - Long Term Plus Project Alternative 1 Condition Average Daily Traffic Summary

			Existing	Near Term Condition			Long Term Plus Project Alternative 1 Condition			
	Roadway Class	Capacity	Volume	ADT	Volume Added for Near Term	% Change from Existing	ADT	Project Volume Added for Near Term	% Change from Near Term	Potentially significant impact?
Middle Avenue (University to El Camino Real)	C	10,000	8,608	10,416	1,808	21.0%	10,432	16	0.2%	N
College Avenue (University to El Camino Real)	L	1,500	668	808	140	21.0%	817	9	1.1%	N
Partridge Avenue (University to El Camino Real)	L	1,500	574	695	121	21.0%	711	16	2.3%	N
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,672	290	21.0%	1,676	4	0.2%	N
University Drive (Middle to Cambridge)	L	1,500	1,921	2,324	403	21.0%	2,345	21	0.9%	N
Alto Lane (Middle to College)	L	1,500	200	242	42	21.0%	242	0	0.0%	N

Existing Volumes Source: City of Menlo Park 2009 CSA
City of Menlo Park Segment Criteria:
(1) 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%.
(2) 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%.

Alternative 2 (Baseline Zoning Alternative)

An initial trip generation comparison between three options has been completed to determine which option would have a higher potential impact on the transportation system and investigated further as Alternative 2. While all options would remove the existing uses on the project site, the Baseline Zoning Alternative Option would include 3 single family detached housing units and 23,000 square feet of retail commercial space, the Mixed Use Alternative Option would include 22 residential condominium/townhouse units and 13,400 square feet of retail commercial space, and the Senior Housing Alternative would include 26 attached units of senior housing. **Table 21** details the Baseline Zoning Alternative Option trip generation while **Table 22** shows the Mixed Use Alternative Option and **Table 23** details the Senior Housing Alternative.

Table 21 - Trip Generation for Baseline Zoning Alternative Option

	Land Use Code	AM Peak Hour			PM Peak Hour			Daily
Existing Uses		**In**	**Out**	**Total**	**In**	**Out**	**Total**	
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Proposed Single Family Detached Housing (3)	210	1	1	2	2	1	3	29
Specialty Retail Center (23,000 sf)	814	76	82	158	65	51	116	1,019
Total for Proposed Uses		**77**	**83**	**161**	**67**	**52**	**119**	**1,048**
Total Net New Trips		**77**	**80**	**158**	**65**	**51**	**116**	**1,008**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Table 22 - Trip Generation for Mixed Use Alternative Option

	Land Use Code	AM Peak Hour			PM Peak Hour			Daily
Existing Uses		**In**	**Out**	**Total**	**In**	**Out**	**Total**	
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Residential Condominium/Townhouse (22)	230	2	8	10	7	4	11	128
Specialty Retail Center (13,400 sf)	814	44	48	92	38	30	68	594
Total for Proposed Uses		**46**	**56**	**102**	**45**	**34**	**79**	**722**
Total Net New Trips		**46**	**53**	**99**	**43**	**33**	**76**	**682**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Table 23 - Trip Generation for Senior Housing Alternative Option

Existing Uses	Land Use Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Existing Single Family Detached Housing (1)	210	0	-1	-1	-1	0	-1	-10
Existing Residential Condominium/Townhouse (3)	230	0	-2	-2	-1	-1	-2	-30
Proposed Uses								
Senior Adult Housing - Attached (26)	252	1	1	2	2	1	3	90
Total for Proposed Uses		**1**	**1**	**2**	**2**	**1**	**3**	**90**
Total Net New Trips		**1**	**-2**	**-1**	**0**	**0**	**0**	**50**

Note: The existing trip credit represents the occupied residential units on the project site. Values are rounded.

Trip Generation and Distribution

Similar to the Project Condition, the trip generation is based upon the *ITE Trip Generation.* As shown in **Table 21,** the Baseline Zoning Alternative Option would generate 158 AM Peak Hour net new trips (77 inbound and 80 outbound), 116 PM Peak Hour net new trips (65 inbound and 51 outbound), and 1,008 daily net new trips. **Table 22** shows the Mixed Use Alternative Option trip generation which would include 99 AM Peak Hour net new trips (46 inbound and 53 outbound), 76 PM Peak Hour net new trips (43 inbound 33 outbound), and 682 daily net new trips. **Table 23** shows the Senior Housing Alternative Option trip generation which would include -1 AM Peak Hour net new trips (1 inbound and -2 outbound), 0 PM Peak Hour net new trips, and 50 daily net new trips.

Since the Baseline Zoning Alternative Option would generate more trips than the Mixed Use Alternative Option and the Senior Housing Alternative Option, it was selected for further technical analysis as Alternative 2. **Figure 24** details the peak hour trip distribution and **Figure 25** shows the Average Daily Trips distribution of Project Alternative 2.

Traffic Volumes and Levels of Service

Near Term Plus Project Alternative 2 Condition

Figure 26 shows the Near Term Plus Project Alternative 2 Condition Peak Hour vehicle trips while **Table 24** summarizes the operating conditions for the Near Term Plus Project Alternative 2 Condition. As discussed previously, the near term growth would result in one intersection and several local approaches to state controlled intersections operating at unacceptable levels. The project related traffic from Alternative 2 would result in impacts at local approaches to state controlled intersections at El Camino Real/Menlo Avenue/Ravenswood Avenue during the AM Peak Hour and El Camino Real/Menlo Avenue/Ravenswood Avenue and El Camino Real/Roble Avenue during the PM Peak Hour.

Table 24 - Near Term Plus Project Alternative 2 Condition Levels of Service

	Near Term Condition				Near Term Plus Project Alternative 2 Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour	PM Peak Hour
Study Intersection	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS		
1. El Camino Real/Menlo Ave/ Ravenswood Ave	52.6	D	**82.5**	**F**	53.5	D	**83.8**	**F**	0.9	1.3
Critical Local Approaches[c]	**55.3/72.2**	**E/E**	**113.0/112.0**	**F/F**	**56.2/74.2**	**E/E**	**115.0/114.0**	**F/F**	0.9/2.0	2.0/2.0
2. El Camino Real/Roble Ave	11.0	B	14.4	B	10.9	B	14.4	B	-0.1	0.0
Critical Local Approaches	**58.2**/53.4	**E**/D	**71.0/57.4**	**E/E**	**58.5**/53.6	**E**/D	**71.8/57.5**	**E/E**	0.3/0.2	0.8/0.1
3. El Camino Real/Middle Ave	29.1	C	25.7	C	30.1	C	26.7	C	1.0	1.0
Critical Local Approaches	50.9/NA[d]	D/NA	**67.6**/NA	**E**/NA	51.1/NA	D/NA	**67.5**/NA	**E**/NA	0.2/NA	-0.1/NA
4. El Camino Real/Cambridge Ave	11.2	B	12.4	B	11.8	B	12.8	B	0.6	0.4
Critical Local Approaches	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	**66.9/62.1**	**E/E**	**66.6/62.9**	**E/E**	0.0/0.0	0.0/0.0

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

Project Alternative 2 would generate approximately 1,008 net daily trips. Near Term Plus Project Alternative 2 Conditions Average Daily Traffic is shown in **Figure 27** while **Table 25** summarizes the addition of net-new daily traffic added to the local roadway segments. As this table illustrates, the alternative would result in potential impacts to College Avenue between University Drive and El Camino Real, Partridge Avenue between University Drive and El Camino Real, Cambridge Avenue between University to El Camino Real, and University Drive between Middle Avenue and Cambridge Avenue. Middle Avenue from University Drive to El Camino Real will also have potentially significant impacts since the project will add 317 trips, which is more than the 50-trip threshold for collector roadways with ADT greater than 9,000 vehicles.

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FIGURE 24
Project Alternative 2 Peak Hour Trips

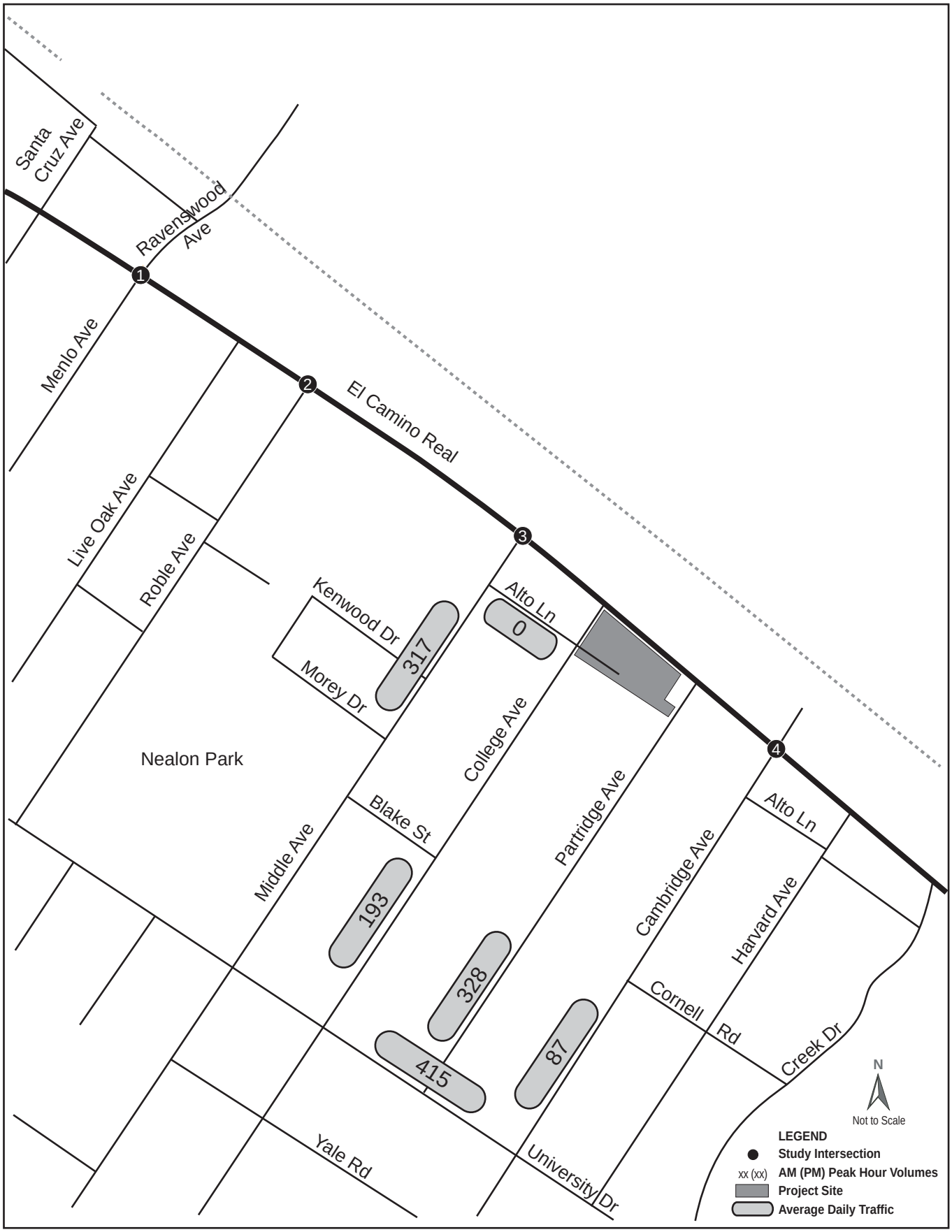

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FIGURE 25
Project Alternative 2 Average Daily Traffic

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FIGURE 26
Near Term Plus Project Alternative 2 Conditions
Peak Hour Volumes

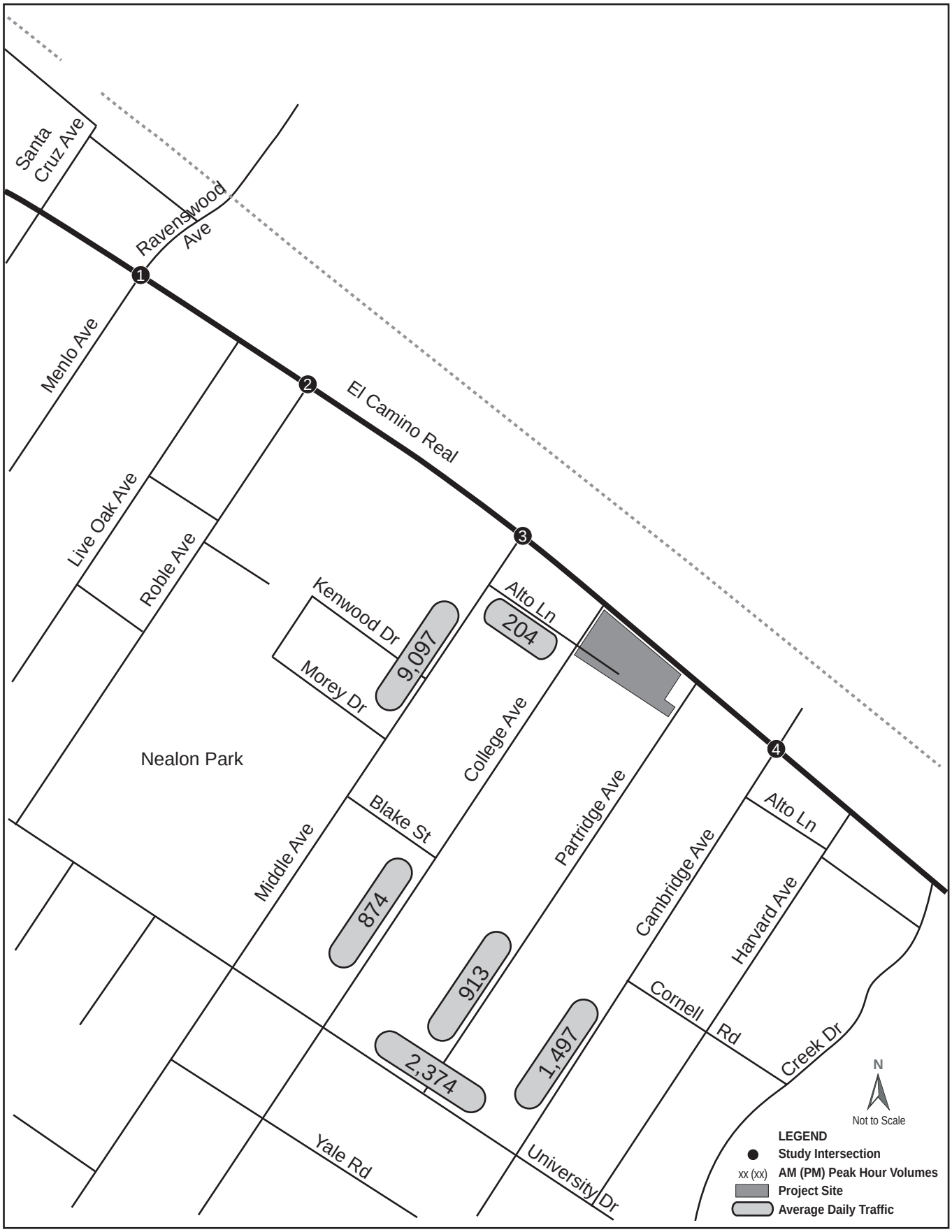

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FIGURE 27
Near Term Plus Project Alternative 2 Conditions
Average Daily Traffic

Table 25 - Near Term Plus Project Alternative 2 Condition Average Daily Traffic Summary

			Existing	Near Term			Near Term Plus Project Alternative 2 Condition			
	Roadway Class	Capacity	Volume	ADT	Volume Added for Near Term	% Change from Existing	ADT	Project Volume Added for Near Term	% Change from Near Term	Potentially significant impact?
Middle Avenue (University to El Camino Real)	C	10,000	8,608	8,780	172	2.0%	9,097	317	3.9%	**Y**
College Avenue (University to El Camino Real)	L	1,500	668	681	13	2.0%	874	193	28.0%	**Y**
Partridge Avenue (University to El Camino Real)	L	1,500	574	585	11	2.0%	913	328	55.5%	**Y**
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,410	28	2.0%	1,497	87	6.1%	**Y**
University Drive (Middle to Cambridge)	L	1,500	1,921	1,959	38	2.0%	2,374	415	21.9%	**Y**
Alto Lane (Middle to College)	L	1,500	200	204	4	2.0%	204	0	0.0%	N

City of Menlo Park Segment Criteria:
(1) 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%.
(2) 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%.

Long Term Plus Project Alternative 2 Condition

Figure 28 shows the Long Term Plus Project Alternative 2 Conditions traffic volumes while **Table 26** summarizes the operating conditions for the Long Term Plus Project Alternative 2 Condition. As previously discussed, the Long Term ambient growth would result in several intersections and local approaches to state controlled intersections operating at unacceptable levels. Traffic generated by Project Alternative 2 would result in potentially significant impacts to El Camino Real/Menlo Avenue/Ravenswood Avenue and El Camino Real/Middle Avenue during the AM Peak Hour and El Camino Real/Menlo Avenue/Ravenswood Avenue, El Camino Real/Roble Avenue, and El Camino Real/Middle Avenue during the PM Peak Hour.

Project Alternative 2 would generate approximately 1,008 net daily trips. **Figure 29** shows the Long Term Plus Project Alternative 2 Conditions Average Daily Traffic Volumes while **Table 27** summarizes the addition of net-new daily traffic added to the local roadway segments. The proposed alternative would result in potential significant impacts to Partridge Avenue between University Drive and El Camino Real, Cambridge Avenue between University Drive and El Camino Real, and University Drive between Middle Avenue and Cambridge Avenue.

Table 26 - Long Term Plus Project Alternative 2 Condition Levels of Service

Study Intersection	Long Term Condition				Long Term Plus Project Alternative 2 Condition				Difference in Delay	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		AM Peak Hour		AM Peak Hour	PM Peak Hour
	Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	Delay	LOS		
1. El Camino Real/Menlo Ave/ Ravenswood Ave	**104.2**	**F**	**169.8**	**F**	**108.3**	**F**	**172.5**	**F**	4.1	2.7
Critical Local Approaches[c]	**119.4/151**	**F/F**	**235.4/239**	**F/F**	**124.2/155**	**F/F**	**237.2/241**	**F/F**	4.8/4.0	1.8/2.0
2. El Camino Real/Roble Ave	11.6	B	19.8	B	11.6	B	20.0	C	0.0	0.2
Critical Local Approaches	**64.2**/54.8	**E**/D	**104.9/59.8**	**F/E**	**64.8**/55.0	**E**/D	**106.7/60.0**	**F/E**	0.6/0.2	1.8/0.2
3. El Camino Real/Middle Ave	35.4	D	32.5	C	37.3	D	34.6	C	1.9	2.1
Critical Local Approaches	**71.8**/NA[d]	**E**/NA	**93.9**/NA	**F**/NA	**74.4**/NA	**E**/NA	**96.2**/NA	**F**/NA	2.6/NA	2.3/NA
4. El Camino Real/Cambridge Ave	12.5	B	14.3	B	13.2	B	14.7	B	0.7	0.4
Critical Local Approaches	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	**69.7/62.1**	**E/E**	**68.3/63.0**	**E/E**	0.0/0.0	0.0/0.0

Notes: a. Delay = average for signalized intersections.
b. LOS = Level of service, represents average for signalized intersections.
c. Average delay for Eastbound/Westbound critical movements for local approaches.
d. NA denotes not applicable.
Bold delays and LOS indicate an unacceptable LOS E or F condition

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FIGURE 28
Long Term Plus Project Alternative 2 Conditions
Peak Hour Volumes

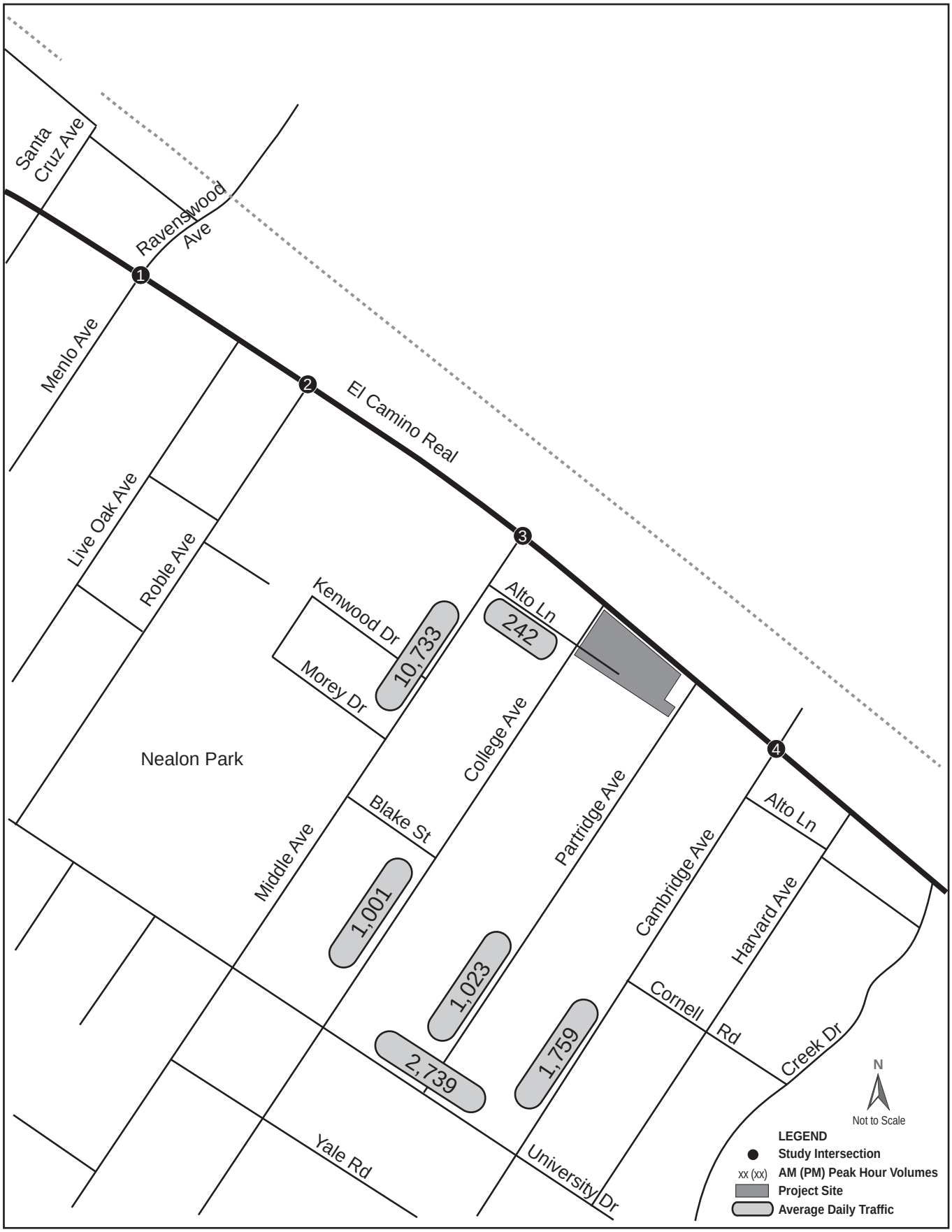

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FIGURE 29
Long Term Plus Project Alternative 2 Conditions
Average Daily Traffic

Table 27 - Long Term Plus Project Alternative 2 Condition Average Daily Traffic Summary

			Existing	Long Term			Long Term Plus Project Alternative 2			
	Roadway Class	Capacity	Volume	ADT	Volume Added for Long Term	% Change from Existing	ADT	Project Volume Added for Long Term	% Change from Long Term	Potentially significant impact?
Middle Avenue (University to El Camino Real)	C	10,000	8,608	10,416	1,808	21.0%	10,733	317	3.0%	**Y**
College Avenue (University to El Camino Real)	L	1,500	668	808	140	21.0%	1,001	193	23.9%	**Y**
Partridge Avenue (University to El Camino Real)	L	1,500	574	695	121	21.0%	1,023	328	47.2%	**Y**
Cambridge Avenue (University to El Camino Real)	L	1,500	1,382	1,672	290	21.0%	1,759	87	5.2%	**Y**
University Drive (Middle to Cambridge)	L	1,500	1,921	2,324	403	21.0%	2,739	415	17.9%	**Y**
Alto Lane (Middle to College)	L	1,500	200	242	42	21.0%	242	0	0.0%	N

Existing Volumes Source: City of Menlo Park 2009 CSA
City of Menlo Park Segment Criteria:
(1) 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%.
(2) 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%.

8 MITIGATION MEASURES

Project Condition

University Drive between Middle Avenue and Cambridge Avenue would experience a potentially significant impact and would require mitigation measures under the Near Term Plus Project Condition and Long Term Plus Project Condition. Middle Avenue between University Drive and El Camino Real would experience a potentially significant impact and would require a mitigation measure for the Long Term Plus Project Condition. For these potentially significant impacts, additional roadway capacity may reduce the impacts to a less than significant level. University Drive between Middle Avenue and Cambridge Avenue and Middle Avenue between University Drive and El Camino Real currently have one travel lane in each direction and obtaining additional roadway capacity may include constructing an additional travel lane in one or both travel directions. However, this measure may require right-of-way acquisition and would require further analysis to determine the feasibility of this measure. As such, the impact would remain significant and unavoidable.

Alternative 1 Condition

No intersections or roadway segments would experience potentially significant impacts in either the Near Term Plus Alternative 1 Condition or Long Term Plus Alternative 1 Condition.

Near Term Plus Alternative 2 Condition

During the Near Term Plus Alternative 2 Condition, the intersection of El Camino Real and Menlo Avenue/Ravenswood Avenue would experience a potentially significant impact during the AM Peak Hour. A revised signal timing plan would reduce the delay at this intersection to a less than significant level.

This revised signal timing plan would require coordination with and approval by Caltrans. Although the intersection operation would improve to a less than significant level with the implementation of this mitigation measure, it may require Caltrans approval and therefore these intersections would experience a significant and unavoidable impact.

During the Near Term Plus Alternative 2 Condition PM Peak Hour, the intersections of El Camino Real and Menlo Avenue/Ravenswood Avenue and El Camino Real and Roble Avenue would each experience potentially significant impacts. For the El Camino Real and Menlo Avenue/Ravenswood Avenue intersection a revised signal timing plan would reduce the delay at this intersection to a less than significant level. A revised signal timing plan at the intersection of El Camino Real and Roble Avenue would also reduce the intersection delay to a less than significant level.

These revised signal timing plans would require coordination with and approval by Caltrans. Although the intersection operation would improve to a less than significant level with the

implementation of these mitigation measures, they may require Caltrans approval and therefore these intersections would experience a significant and unavoidable impact.

Four roadway segments would experience potentially significant impacts and would require mitigation measures under the Near Term Plus Alternative 2 Condition. The 4 roadway segments are

- College Avenue between University Drive and El Camino Real
- Partridge Avenue between University Drive and El Camino Real
- Cambridge Avenue between University Drive and El Camino Real
- University Drive between Middle Avenue and Cambridge Avenue

Additional roadway capacity for these 4 roadway segments may reduce the impacts to a less than significant level. College Avenue, Partridge Avenue, Cambridge Avenue, and University Drive currently each have one travel lane in each direction. Obtaining additional roadway capacity may include constructing an additional travel lane in one or both travel directions. However, this measure may require right-of-way acquisition and would require further analysis to determine the feasibility of this measure. As such, the impact would remain significant and unavoidable.

Long Term Plus Alternative 2 Condition

For the Long Term Plus Alternative 2 Condition AM Peak Hour, the intersections of El Camino Real at Menlo Avenue/Ravenswood Avenue and El Camino Real at Middle Avenue would each experience potentially significant impacts. Revised signal timing plans for these two intersections would reduce the respective delays to less than significant levels.

These revised signal timing plans would require coordination with and approval by Caltrans. Although the intersection operation would improve to a less than significant level with the implementation of these mitigation measures, they may require Caltrans approval and therefore these intersections would experience a significant and unavoidable impact.

During the Long Term Plus Alternative 2 Condition, the intersections of El Camino Real and Menlo Avenue/Ravenswood Avenue, El Camino Real and Roble Avenue, and El Camino Real and Middle Avenue would all experience potentially significant impacts. A revised signal timing plan for each intersection would reduce the respective delays to less than significant levels.

These revised signal timing plans would require coordination with and approval by Caltrans. Although the intersection operation would improve to a less than significant level with the implementation of these mitigation measures, they may require Caltrans approval and therefore these intersections would experience a significant and unavoidable impact.

Four roadway segments would experience potentially significant impacts and would require mitigation measures under the Near Term Plus Alternative 2 Condition. The four roadway segments are

- College Avenue between University Drive and El Camino Real
- Partridge Avenue between University Drive and El Camino Real
- Cambridge Avenue between University Drive and El Camino Real
- University Drive between Middle Avenue and Cambridge Avenue

Additional roadway capacity for these 4 roadway segments may reduce the impacts to a less than significant level. College Avenue, Partridge Avenue, Cambridge Avenue, and University Drive currently each have one travel lane in each direction. Obtaining additional roadway capacity may include constructing an additional travel lane in one or both travel directions. However, this measure may require right-of-way acquisition and would require further analysis to determine the feasibility of this measure.

Other Mitigation Measures

Additionally, the implementation of a Transportation Demand Management (TDM) Program would encourage the use of alternative modes of transportation and would potentially reduce the daily number of vehicles generated by the project. The City of Menlo Park TIA Guidelines include TDM guidelines. 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. Any TDM programs would be consistent with the City of Menlo Park's standards and would be subject to approval by the City. Potential TDM measures may include the following:

- Commute assistance kiosks;
- Subsidized public transit passes;
- Carpool matching assistance;
- Vanpools;
- Shuttle service to area transit hubs; and
- Bicycle facilities.

The drive alone mode share and the parking demand in the project area can be reduced through the above TDM measures. Commute assistance kiosks will aid residents in determining transit options by providing resources and information about transit schedules, carpool matching assistance, and shuttle service schedules among other transportation alternatives. Carpool matching assistance can be provided through ZimRide, an online carpooling and ridesharing service. Subsidized public transit passes may include Caltrain Go-Passes and station shuttles to Caltrain may be provided for residents. The provision of bicycle facilities such as bicycle racks, lockers, and storage facilities will also further encourage the usage of alternative modes of transportation.

A full TDM program is not part of this report and would require additional analysis.

9 CONCLUSION

The analysis examines 4 signalized intersections and 6 roadway segments near the project site with Menlo Park-approved development and a one-percent annual background traffic growth rate applied to the Near Term and Long Term Conditions analysis. Further, the traffic analysis has been conducted for the weekday AM and PM peak hours. The analysis has been performed using the 2009 CSA document provided by the Menlo Park and has been analyzed in accordance with the Menlo Park Transportation Impact Analysis Guidelines.

For the Near Term Plus Project Condition, one roadway segment would experience significant and unavoidable impacts, and for the Long Term Plus Project Condition, two roadway segments would experience significant and unavoidable impacts.

No intersections or roadway segments would experience significant and unavoidable impacts are associated with Alternative 1.

For the Near Term Plus Alternative 2 Project Condition, 1 intersection during the AM Peak Hour and 2 intersections during the PM Peak Hour would experience significant and unavoidable impacts. Additionally, 4 roadway segments would experience significant and unavoidable impacts. For the Long Term Plus Alternative 2 Project Condition, 2 intersections during the AM Peak Hour and 3 intersections for the PM Peak Hour would experience significant and unavoidable impacts. Four roadway segments would experience significant and unavoidable impacts.

All of the significant and unavoidable intersection impacts would require signal timing modifications which would require approval and coordination with Caltrans and are outside the jurisdiction of the City of Menlo Park. The roadway segment impacts may require right-of-way acquisition and would require further analysis to determine the feasibility of this measure.

A Transportation Demand Management Program may also be considered in the future as a means to reduce the number of vehicle trips to and from the project site.