

## D. TRANSPORTATION AND CIRCULATION

This section describes the existing traffic and circulation system, and pedestrian and transit conditions at the project site and vicinity and analyzes potential impacts of the project.

This transportation impact assessment conforms to the requirements and methodologies of the City of Emeryville and the City of Oakland. The traffic analysis describes the operational characteristics of the existing study area circulation system, determines the circulation system needs based on future traffic demand, and summarizes the potential circulation impacts associated with the development of the proposed project. Appendix C contains technical background information related to traffic.

### 1. Setting

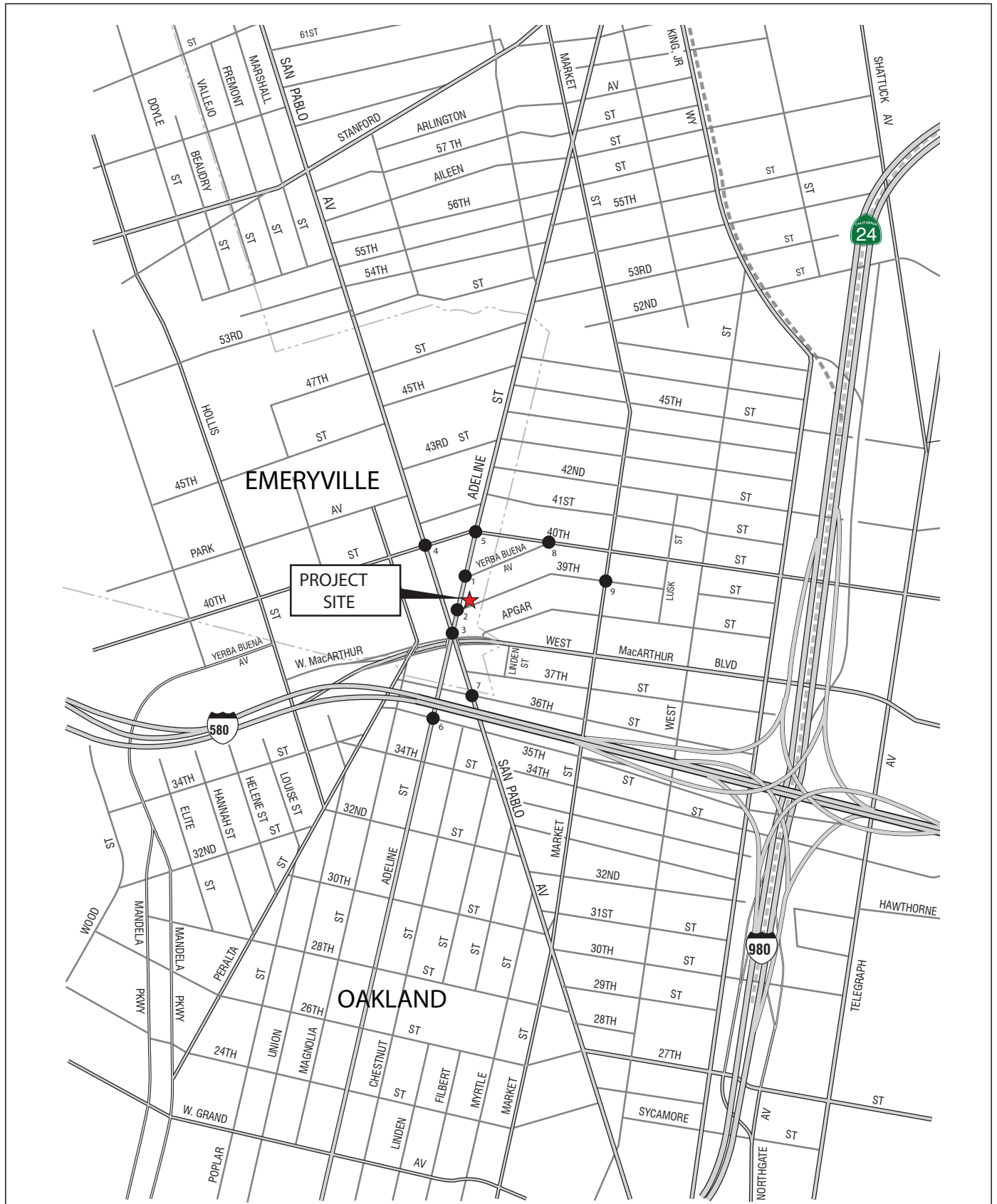
This section describes the existing transportation system in the vicinity of the proposed project, including the regional and local roadway networks, bicycle facilities, pedestrian facilities, and transit service. Existing roadway operations are described and an explanation of the methods used for the traffic analysis is provided. The location of the project is shown in Figure IV.D-1.

#### a. Existing Roadway Network

(1) **Regional Access.** A brief description of the regional roadway network serving the project site is provided below:

- **Interstate 80 (I-80)** is a regional freeway extending west to San Francisco via the San Francisco-Oakland Bay Bridge, and east through Berkeley, Sacramento and into Nevada. Four to five lanes are generally provided in each direction on this freeway west of the project site. Access to and from I-80 from the project site is provided by Interstate 580 (I-580), with average daily traffic just north of the I-80 / I-580 junction reaching 294,000 vehicles per day.<sup>1</sup>
- **Interstate 580 (I-580)** is a regional freeway located south of the project site, stretching from U.S. 101 in Marin County to Interstate 5 (I-5) south of Tracy. Three to four lanes are generally provided in each direction on this freeway near the project site. In the vicinity of the site, access from I-580 East is provided by an off-ramp at MacArthur Boulevard; access to I-580 East from the project site is provided via an on-ramp at Martin Luther King, Jr. Way between 46th Street and 47th Street. I-580 West has an offramp at West Street / 36th Street and an on-ramp at MacArthur Boulevard. Average daily traffic on I-580 between MacArthur Boulevard and the State Route 24 (SR-24) / I-580 / Interstate 980 (I-980) interchange is 220,000 vehicles per day.
- **Interstate 880 (I-880)** is a regional freeway between San Jose to the south and I-80 in Emeryville to the north. Four lanes are generally provided in each direction on this freeway near Emeryville. Access to I-880 from the project site is provided via SR-24 and I-980. Average daily traffic on I-880 between the I-980 junction and the Jackson Street / Broadway interchange is 199,000 vehicles per day.

<sup>1</sup> All regional roadway volumes are drawn from Caltrans Traffic Volumes on the State Highway System, 2006.



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FIGURE IV.D-1



● STUDY INTERSECTIONS

NOT TO SCALE

39th and Adeline Mixed-Use Project EIR  
 Project Location and  
 Study Intersections

SOURCE: DMJM HARRIS, 2007

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- **State Route 24 (SR-24)** is a regional freeway between Walnut Creek to the east and downtown Oakland to the west. SR-24 becomes I-980 at the I-580 interchange. Three lanes are generally provided in each direction on this freeway near the project site. Primary access from the project site to SR-24 is provided by an on-ramp at Market Street / 35th Street and an off-ramp at Market Street / 36th Street. Average daily traffic on SR-24 between the I-580 / I-980 interchange and the Telegraph Avenue / Claremont Avenue ramps is 135,000 vehicles per day.
- **Interstate 980 (I-980)** is a 2.5-mile stretch of freeway extending from I-880 to I-580. Three to four lanes are generally provided in each direction on this freeway, with auxiliary lanes available at some locations. I-980 becomes SR-24 at the I-580 interchange. Average daily traffic on I-980 south of the I-580 junction is 97,000 vehicles per day.

(2) **Local Access.** A brief description of the local and arterial streets serving the project site is given below:

- **Adeline Street** is a north-south arterial immediately west of the project site, stretching from 3rd Street in Oakland northward to the City of Berkeley, where it ends at Shattuck Avenue. In the vicinity of the project site, Adeline Street has two lanes in each direction.
- **Market Street** is a north-south arterial located east of the project site, stretching from Embarcadero West in Oakland northward to the City of Berkeley, where it becomes Sacramento Street. Market Street has two lanes in each direction in the vicinity of the project site.
- **MacArthur Boulevard** is a major east-west arterial stretching from I-580 in the vicinity of the project site until it terminates at Estudillo Boulevard in the City of San Leandro. Between Hollis Street and the I-580 Harrison Street interchange, this roadway is officially designated as West MacArthur Boulevard, but for purposes of simplicity, it is herein referred to as MacArthur Boulevard. In the immediate vicinity of the project site, MacArthur Boulevard operates with one lane in each direction for local traffic, with an additional expressway running underneath the intersections of Peralta Street / Emery Street and San Pablo Avenue / Adeline Street. The expressway operates with one westbound lane and two eastbound lanes, and surfaces at Market Street in the east and Hollis Street in the west. The expressway separates the two directions of local traffic by approximately 50 feet.
- **San Pablo Avenue** is a major north-south arterial located directly west of the project site, stretching from downtown Oakland north to the City of San Pablo. It is part of AC Transit's Rapid Bus program, and traffic signals along the roadway provide priority to AC Transit buses. In the vicinity of the project site, San Pablo Avenue operates with two lanes in each direction.
- **Yerba Buena Avenue** is a short east-west residential roadway consisting of two lanes. It runs from Adeline Street to 40th Street. Yerba Buena Avenue would provide access from the project site to I-80, I-980 West / I-880 South, and I-580 East.
- **35th Street** is a one-way eastbound frontage road consisting of two lanes, stretching from Peralta Street to Martin Luther King Jr. Way. 35th Street would provide primary access from the project site to SR-24 East.
- **36th Street** is a one-way westbound frontage road stretching from Martin Luther King Jr. Way to Peralta Street, operating as a one-way couplet with 35th Street. It generally consists of two lanes and would provide primary access to the project site from I-580 West and SR-24 West.

- **39th Street** is a short east-west, two-lane residential roadway between Adeline Street and Lusk Street. Primary access to the proposed parking garage would be provided by a driveway located along 39th Street.
- **40th Street** is a four-lane roadway stretching from Shellmound Boulevard eastward to Piedmont Avenue. 40<sup>th</sup> Street is located three blocks north of the project site. 40th Street would provide access from the project site to I-80, I-980 West / I-880 South, and I-580 East.

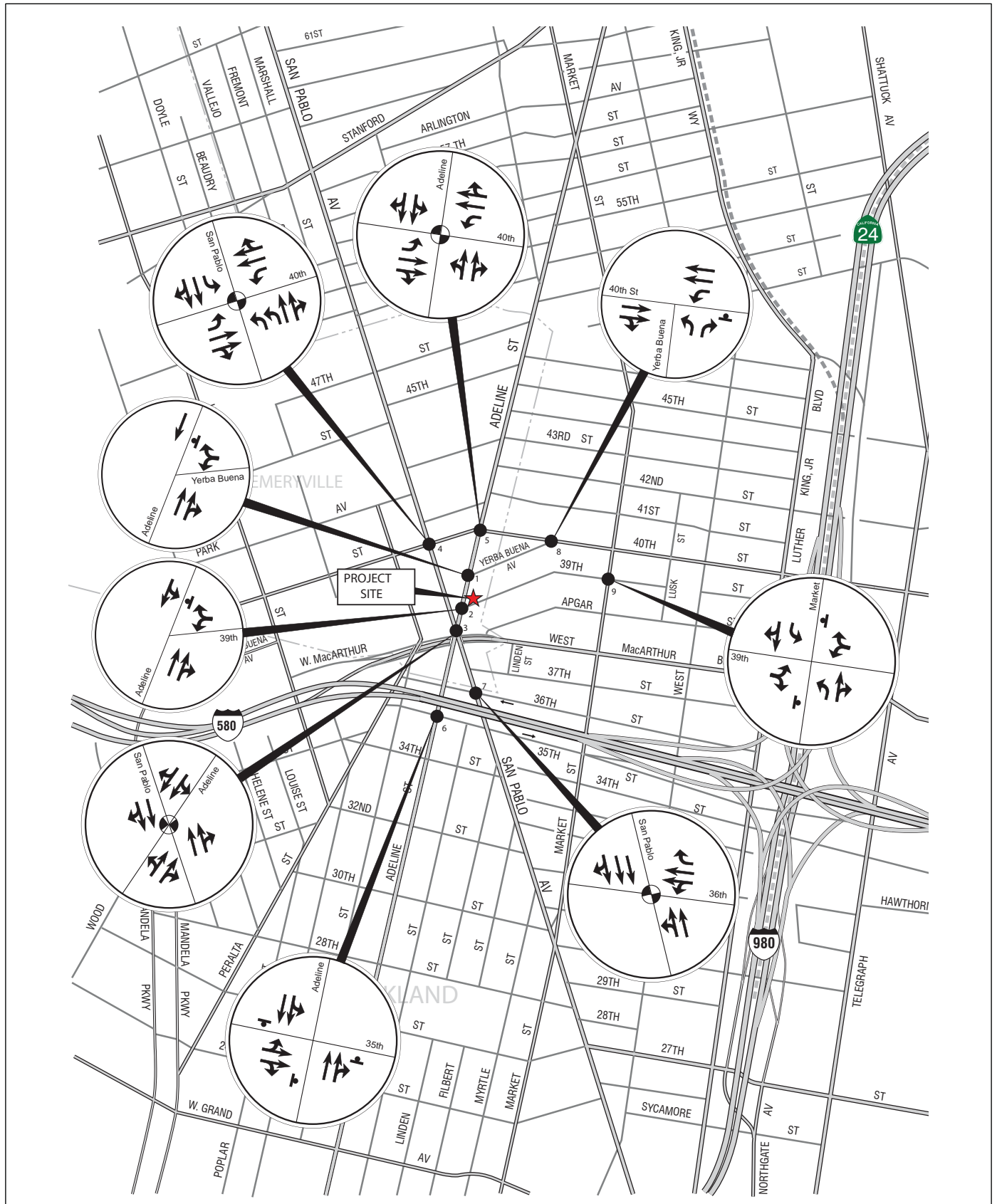
**b. Study Intersections.** Intersection level of service conditions were analyzed at nine key intersections in the vicinity of the project site for the AM and PM peak hours (7:00-9:00 a.m. and 4:00-6:00 p.m.). These nine intersections, shown in Figure IV.D-1, were selected because they are most likely to be significantly affected by project traffic. The nine study intersections are:

1. Adeline Street / Yerba Buena Avenue (*unsignalized*);
2. Adeline Street / 39th Street (*unsignalized*);
3. San Pablo Avenue / Adeline Street (*signalized*);
4. San Pablo Avenue / 40th Street (*signalized*);
5. Adeline Street / 40th Street (*signalized*);
6. Adeline Street / 35th Street (*unsignalized*);
7. San Pablo Avenue / 36th Street (*signalized*);
8. Yerba Buena Avenue / 40th Street (*unsignalized*); and
9. Market Street / 39th Street (*unsignalized*).

The project would not generate more than 100 trips in either the AM or PM peak hours and therefore, would not require an Alameda County Congestion Management Agency (ACCMA) analysis.

**c. Existing Conditions Traffic Volumes.** Weekday traffic counts for the AM and PM peak hours were collected on Tuesday, May 15, 2007 and Wednesday May 16, 2007. Figure IV.D-2 shows the existing lane geometry and signal control for the nine study intersections and Figure IV.D-3 shows existing traffic volume during the AM and PM peak hours.

**(1) Level of Service Methodology.** The operation of a local roadway network is commonly measured and described using the Level of Service (LOS) methodology. This methodology qualitatively characterizes traffic conditions associated with varying levels of vehicular traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). The LOS methodology applies to both signalized and unsignalized intersections and is summarized in Table IV.D-1.



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FIGURE IV.D-2



NOT TO SCALE

39th and Adeline Mixed-Use Project EIR  
Existing Lane Geometry and Control

SOURCE: DMJM HARRIS, 2007

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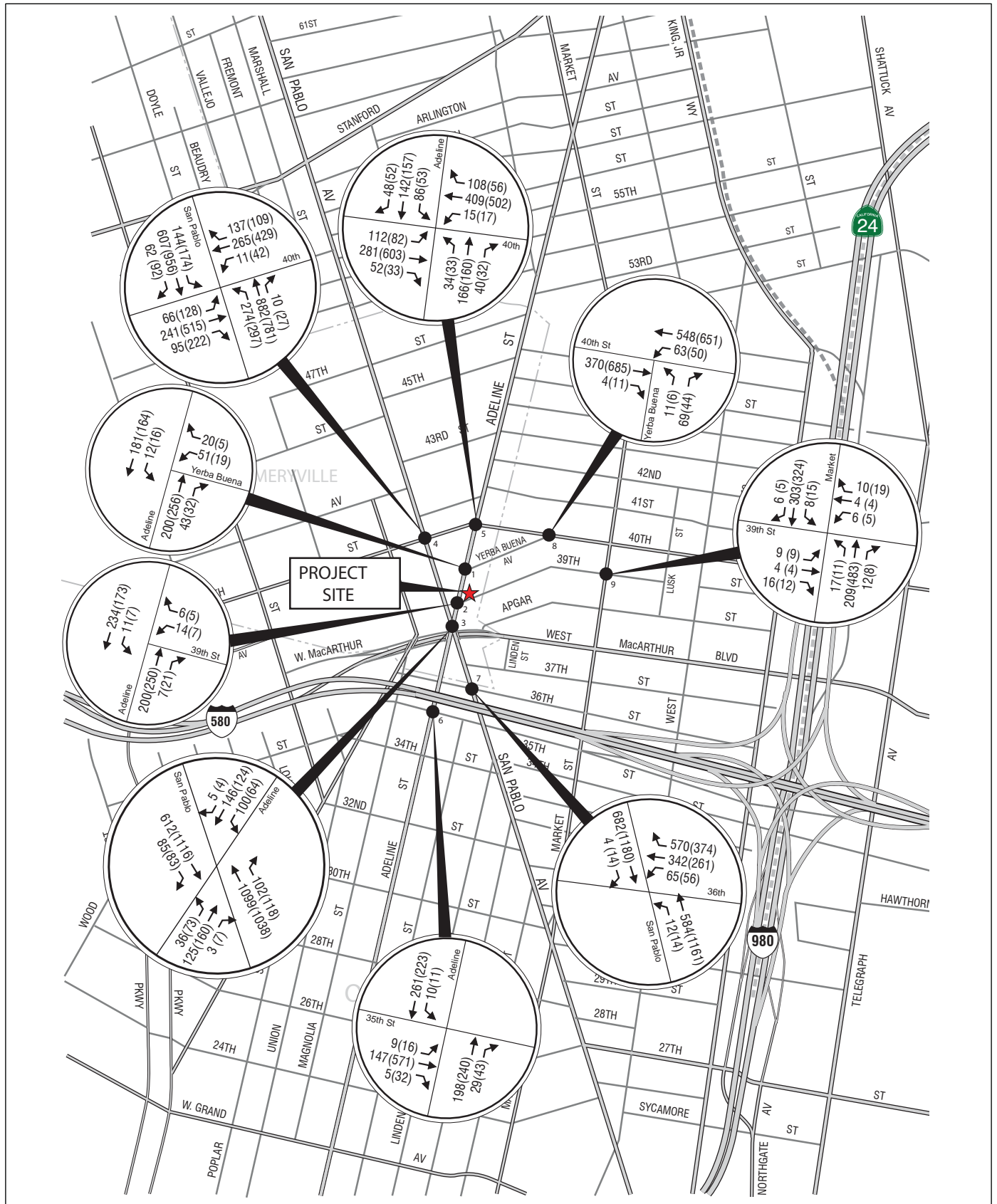


FIGURE IV.D-3

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NOT TO SCALE

39th and Adeline Mixed-Use Project EIR  
Existing Traffic Volumes  
AM (PM) Peak Hour

SOURCE: DMJM HARRIS, 2007

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As shown in Table IV.D-1, LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are generally considered unacceptable.

(2) **Signalized Intersections.** At the signalized study intersections, traffic conditions were evaluated using the *2000 Highway Capacity Manual* (HCM) operations methodology. The operations analysis uses various intersection characteristics (e.g., traffic volumes, lane geometry, and signal phasing/timing) to estimate the average control delay experienced by motorists traveling through an intersection.

(3) **Unsignalized Intersections.** For the unsignalized (one-way, two-way, and all-way stop-controlled) study intersections, traffic conditions were also evaluated using the HCM operations methodology. With this methodology, the LOS is related to the total delay per vehicle for the intersection as a whole (for all-way stop-controlled intersections), and for each stop-controlled movement or approach only (for one- and two-way stop-controlled intersections). Total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs the queue. This time includes the time required for a vehicle to travel from the last-in-queue position to the first-in-queue position.

d. **Existing Conditions Intersection Level of Service.** The nine study intersections were analyzed using the Synchro 6.0 software package based on the methodologies outlined in the *2000 Highway Capacity Manual*. The existing AM and PM peak hour intersection service levels for the nine study intersections are shown in Table IV.D-2.

As shown in Table IV.D-2, all of the study intersections currently operate at acceptable levels of service during the AM and PM peak hours. The level of service calculation sheets for all study intersections and for all scenarios are provided in Appendix C.

e. **Bicycle and Pedestrian Facilities.** A Class I bike path provides a completely separate right-of-way for exclusive use of bicycles and pedestrians. A Class II bike lane provides exclusive usage for bicyclists with “BIKE LANE” markings and solid white striping on the roadway. Typically, striped bike lanes are 5 to 6 feet wide. A Class III bicycle route is established by placing Bike Route signs along the roadway and pavement markings are typically not installed.

In the study area, the City of Emeryville has designated Class II bikeways (striped lanes) on Adeline Street, 40<sup>th</sup> Street and Emery Street. The City of Emeryville Bicycle and Pedestrian Plan (1998-2010) calls for connecting these bikeways to City of Oakland bikeways at Adeline Street/53<sup>rd</sup> Street and along 40<sup>th</sup> Street (to the MacArthur BART station).

The City of Oakland has a designated Class II bikeway (striped lanes) on Market Street and considers San Pablo Avenue a Class III (un-striped) bikeway.

**Table IV.D-1: Intersection Level of Service Definitions**

Level of Service	Description of Traffic Conditions	Average Delay Per Vehicle (Seconds)
<b>Signalized Intersections</b>		
A	Insignificant Delays: No approach phase is fully utilized and no vehicle waits longer than one red indication.	≤10.0
B	Minimal Delays: An occasional approach phase is fully utilized. Drivers begin to feel restricted.	>10.0 and ≤20.0
C	Acceptable Delays: Major approach phase may become fully utilized. Most drivers feel somewhat restricted.	>20.0 and ≤35.0
D	Tolerable Delays: Drivers may wait through more than one red indication. Queues may develop but dissipate rapidly, without excessive delays.	>35.0 and ≤55.0
E	Significant Delays: Volumes approaching capacity. Vehicles may wait through several signal cycles and long vehicle queues form upstream.	>55.0 and ≤80.0
F	Excessive Delays: Represents conditions at capacity, with extremely long delays. Queues may block upstream intersections.	>80.0
<b>Unsignalized Intersections</b>		
A	No delay for stop-controlled approaches.	≤10.0
B	Operations with minor delay.	>10.0 and ≤15.0
C	Operations with moderate delays.	>15.0 and ≤25.0
D	Operations with some delays.	>25.0 and ≤35.0
E	Operations with high delays, and long queues.	>35.0 and ≤50.0
F	Operation with extreme congestion, with very high delays and long queues unacceptable to most drivers.	>50.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Sidewalks are provided along all streets in the vicinity of the project site. Ten-foot sidewalks exist along San Pablo Avenue and eight foot sidewalks exist along MacArthur Boulevard and along 37<sup>th</sup> Street immediately adjacent to the project site. All sidewalks in the vicinity of the project site currently provide for a safe and pedestrian-friendly environment.

**f. Transit Facilities.** AC Transit provides local and regional bus and transit service within Alameda and Contra Costa Counties and between the East Bay and San Francisco’s Transbay Terminal. The nearest AC Transit routes to the project site are local routes 14, 57, 72/72M, 72R, and 88 and transbay routes C and F. These services are summarized in Table IV.D-3. Figure IV.D-4 illustrates the existing transit service in the vicinity of the project site.

The Emery Go Round is a free shuttle service, funded by commercial property owners in the City-wide transportation business improvement district. The Emery Go Round has several routes serving the MacArthur BART station and various destinations within Emeryville, including Bay Street Plaza, Powell Plaza, the Emeryville Public Market and the Emeryville Amtrak station. Most routes run on 12-minute headways during the peak hour and 15-20 minute headways at other times. The closest stop to the project site is located at 40th Street/Emery Street.

**Table IV.D-2: Existing AM and PM Peak Hour Intersection Levels of Service**

Jurisdiction	No.	Intersection	Traffic Control	Peak Hour	Existing	
					LOS	Delay
City of Emeryville	1	Adeline Street / Yerba Buena Avenue	One-Way Stop	AM	B <sup>a</sup>	12.3 <sup>a</sup>
				PM	B <sup>a</sup>	12.8 <sup>a</sup>
	2	Adeline Street / 39th Street	One-Way Stop	AM	B <sup>a</sup>	11.9 <sup>a</sup>
				PM	B <sup>a</sup>	11.5 <sup>a</sup>
	3	San Pablo Avenue / Adeline Street	Signal	AM	B	16.7
				PM	B	16.4
	4	San Pablo Avenue / 40th Street	Signal	AM	D	38.2
				PM	D	46.1
	5	Adeline Street / 40th Street	Signal	AM	C	20.4
				PM	B	14.2
City of Oakland	6	Adeline Street / 35th Street	All-Way Stop	AM	A	8.6
				PM	B	13.5
	7	San Pablo Avenue / 36th Street	Signal	AM	C	33.7
				PM	B	17.3
	8	Yerba Buena Avenue / 40th Street	One-Way Stop	AM	B <sup>a</sup>	11.3 <sup>a</sup>
				PM	B <sup>a</sup>	12.9 <sup>a</sup>
	9	Market Street / 39th Street	Two-Way Stop	AM	B <sup>a</sup>	12.7 <sup>a</sup>
				PM	C <sup>a</sup>	17.6 <sup>a</sup>

<sup>a</sup> Analyzed for worst-approach.  
Source: DMJM Harris, 2007.

BART provides heavy rail service in the Bay Area with four lines serving San Francisco, San Mateo, Alameda, and Contra Costa Counties. The nearest BART station to the project site is the MacArthur BART station located approximately 0.62 miles east of the project site on 40<sup>th</sup> Street between Martin Luther King Jr. Way and Telegraph Avenue. The station is accessible by transit using either AC Transit or the Emery-Go-Round shuttles.

Three BART lines serve this station: Richmond – Daly City, Pittsburg/Bay Point – Daly City, and Richmond – Fremont. Weekday midday and peak hour frequencies on these lines are every 15 minutes, except for the Pittsburg/Bay Point – Daly City line, which runs every 5-10 minutes during the weekday peak periods. The Richmond – Daly City line does not run weekday or Saturday evenings, and does not run at all on Sundays.

**Table IV.D-3: Existing AC Transit Network**

Line	Route	Service Frequencies (min)		
		Weekday Peak	Weekday Off-peak	Weekend
14 East 18th Street	From MacArthur BART to Fruitvale via Adeline St., East 18th St., and High St.	15	30	30
57 MacArthur	From Emeryville Public Market to Eastmont Transit Center via 40th St. and MacArthur Blvd.	12	12	15
72 San Pablo Avenue	From Hilltop Mall to Jack London Square via San Pablo Ave.	30	30	30
72M Macdonald	From Point Richmond to Jack London Sq. via San Pablo Ave.	30	30	30
72R San Pablo Rapid	From Contra Costa College to Jack London Sq. via San Pablo Ave.	12	12	----
88 Market	From North Berkeley BART to Lake Merritt BART via Sacramento St. and Market St.	20	20	20
C Moraga Avenue	From Piedmont to Transbay Terminal via Moraga Ave. and 40th St.	30	----	----
F Adeline	From Berkeley to Transbay Terminal via Shattuck Ave. and Adeline Ave.	30	30	30

Source: AC Transit, 2007.

**g. Parking Facilities.** On-street parking is allowed along 39th Street and Yerba Buena Avenue, with additional parking along Adeline Street. There are currently approximately 15 off-street spaces available directly adjacent to the project site. The project would include a below-ground, off-street parking garage with 119 parking stalls (108 spaces for the residential portion and 11 designated guest parking spaces). Vehicles would enter and exit the project’s parking garage by using the driveway located along 39th Street.

**2. Cumulative (Year 2030) Traffic Conditions**

This section evaluates traffic operations and potential impacts at the study intersections in the Cumulative (Year 2030) Conditions without the proposed project.

Future Year Projections. 2030 Cumulative Conditions traffic volumes were forecasted using the most recent version of the Alameda County Congestion Management Agency (ACCMA) travel demand model, modified with the most recent Land Use Data updates compiled by the Hausrath Economics Group (HEG) for the City of Oakland.

The travel demand forecasting model is based on the ACCMA regional travel demand model, with significant refinements to the land use data within the City of Emeryville and the City of Oakland to



FIGURE IV.D-4

LSA



NOT TO SCALE

- AC TRANSIT ROUTES
- BART

39th and Adeline Mixed-Use Project EIR  
Existing Transit Network

allow for more detailed forecasts of travel demand within both city limits. The model was calibrated and validated to Spring 2006 travel conditions (the most up-to-date conditions possible using available land use data) within Emeryville and Oakland.

**a. Cumulative Conditions Traffic Volumes.** Growth factors between the base year (2006) and future year were calculated for each intersection approach. These growth factors were applied to Existing Conditions traffic volumes to derive the 2030 Cumulative Conditions traffic volumes. The resulting Cumulative Conditions AM and PM peak hour volumes at the nine study intersections are shown in Figure IV.D-5.

**b. Cumulative Conditions Intersection Level of Service.** The study intersections were analyzed using the Synchro 6.0 software package, based on HCM methodologies. Intersection LOS calculations for the Cumulative scenario assumed existing intersection geometries and control. The resulting AM and PM peak hour intersection levels of service for the nine study intersections are shown in Table IV.D-4.

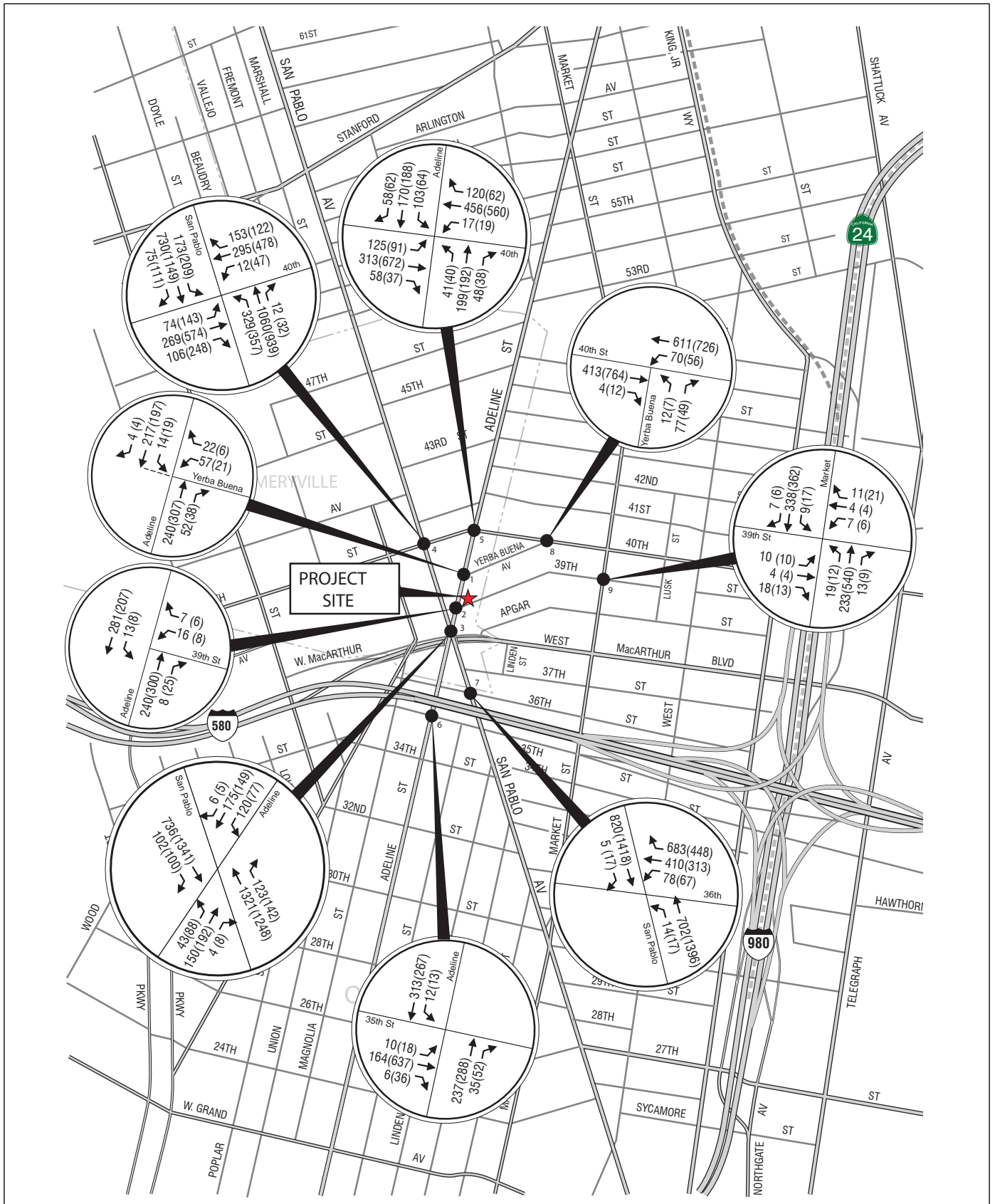
As noted in Table IV.D-4, the intersection of San Pablo Avenue / 40th Street would operate at an unacceptable LOS E during the PM Peak hour in the Cumulative Conditions. The intersection of San Pablo Avenue / 36th Street would operate at an unacceptable LOS F during the AM peak hour.

**c. Planned Bicycle and Pedestrian Facility Improvements.** The City of Oakland's Draft Bicycle Master Plan, adopted in December 2007, details the following improvements to the bikeway network in the vicinity of the project site:

- Installation of a Class II bikeway (striped lanes) on Adeline Street from 36th Street to 3rd Street and from Emeryville city limits near 47th Street to 40th Street north towards Berkeley;
- Installation of a Class II bikeway (striped lanes) on 40th Street between Adeline Street and Telegraph Avenue;
- Installation of a Class III bikeway (bike route) on 40th Street between Adeline Street and San Pablo Avenue;
- Installation of a Class III bikeway (bike route) on Emery Street between Park Avenue and MacArthur Boulevard; and
- Installation of a Class II bikeway (striped lanes) on MacArthur Boulevard east of Market Street.

The City of Emeryville's Bicycle and Pedestrian Plan (1998-2010) details the following improvements to the bikeway network in the vicinity of the project site:

- Stripe, stencil and sign Class II bike lanes on Adeline Street from the Oakland border to 40<sup>th</sup> Street;
- Sign a Class III bike route on 40<sup>th</sup> Street between San Pablo Avenue and Adeline Street;
- Stripe, stencil and sign Class II bike lanes on 40<sup>th</sup> Street between Adeline Street and the Oakland border;
- Work with the City of Oakland to extend Class II bike lanes on 40<sup>th</sup> Street to the MacArthur BART station; and
- Install bicycle detectors and stencil in bike lanes for existing signals on 40<sup>th</sup> Street at San Pablo Avenue, Adeline Street, Hollis Street, Emery Street and Horton.



LSA

FIGURE IV.D-5



NOT TO SCALE

39th and Adeline Mixed-Use Project EIR  
 Cumulative Traffic Volumes  
 AM (PM) Peak Hour

SOURCE: DMJM HARRIS, 2007

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**Table IV.D-4: Cumulative Conditions Intersection Levels of Service**

Jurisdiction	No.	Intersection	Traffic Control	Peak Hour	Cumulative	
					LOS	Delay
City of Emeryville	1	Adeline Street / Yerba Buena Avenue	One-Way Stop	AM	B <sup>a</sup>	13.6 <sup>a</sup>
				PM	B <sup>a</sup>	14.2 <sup>a</sup>
	2	Adeline Street / 39th Street	One-Way Stop	AM	B <sup>a</sup>	12.9 <sup>a</sup>
				PM	B <sup>a</sup>	12.3 <sup>a</sup>
	3	San Pablo Avenue / Adeline Street	Signal	AM	B	19.5
				PM	B	19.5
	4	San Pablo Avenue / 40th Street	Signal	AM	D	40.3
				PM	<b>E</b>	<b>55.8</b>
	5	Adeline Street / 40th Street	Signal	AM	B	17.3
				PM	B	15.1
City of Oakland	6	Adeline Street / 35th Street	All-Way Stop	AM	A	9.3
				PM	C	16.6
	7	San Pablo Avenue / 36th Street	Signal	AM	<b>F</b>	<b>&gt; 80.0</b>
				PM	C	30.0
	8	Yerba Buena Avenue / 40th Street	One-Way Stop	AM	B <sup>a</sup>	11.9 <sup>a</sup>
				PM	B <sup>a</sup>	13.9 <sup>a</sup>
	9	Market Street / 39th Street	Two-Way Stop	AM	B <sup>a</sup>	13.4 <sup>a</sup>
				PM	C <sup>a</sup>	20.1 <sup>a</sup>

<sup>a</sup> Analyzed for worst-approach.

**Bold** indicates intersections which do not meet the target level of service for the City of Oakland or City of Emeryville. Source: DMJM Harris, 2007.

**d. Planned Transit Facility Improvements.** There are no planned transit improvements in the immediate vicinity of the project site. However, AC Transit has proposed a bus rapid transit (BRT) line for Telegraph Avenue, just east of the MacArthur BART station. Some of the proposed improvements have already been phased in with the introduction of the 1R-International Rapid in June of 2007. The full BRT line, scheduled for completion in 2011, would operate between downtown Berkeley and the Bay Fair BART station with peak hour headways of approximately 5 minutes. The nearest stop to the project site would be located at Telegraph Avenue / 40th Street.

### 3. Project Traffic Impact Analysis

This section evaluates traffic operations and potential traffic impacts at study intersections in the vicinity of the project site under both the Existing Conditions and Cumulative Conditions background

traffic volumes. Mitigation measures to improve the operation of study intersections are provided where project impacts are identified that would result in unacceptable LOS in accordance with City of Emeryville and City of Oakland policies.

**a. Project Description.** As previously noted, the project site is located on the east side of Adeline Street between Yerba Buena Avenue and 39th Street. Project access would be provided a proposed driveway located along 39th Street.

As summarized in Table IV.D-5, the traffic analysis assumes 101 apartment units and 1,000 square feet of commercial retail space for a planned café.

**Table IV.D-5: Project Land Use**

Land Use	Unit	Amount
Apartments	DU	101
Commercial Retail	KSF	1.00

DU = Dwelling Unit  
KSF = 1,000 square feet  
Source: Murakami/Nelson, 2007.

**b. Project Trip Generation.** Trip generation estimates are based on rates from the Institute of Transportation Engineers' (ITE) *Trip Generation, 7<sup>th</sup> Edition*, the industry standard for land-use based trip generation. Rates presented are average rates based on trip generation survey counts conducted at existing facilities. The trip generation rates and equations used for the analysis of the proposed project are presented in Table IV.D-6, and the project trip generation calculations are presented in Table IV.D-6. For the purposes of this analysis, the café has been analyzed as a high-turnover (sit-down) restaurant.

It should be noted that the *Trip Generation Manual* typically provides both a weighted average rate and a regression equation with which to calculate the trips generated by each land use. Generally, in cases where ITE studied at least 20 sites for a particular land use and where the coefficient of determination is greater or equal to 0.75, the regression equation is used to determine that land use's trip generation.<sup>2</sup> In cases where ITE studied fewer than 20 sites and where the coefficient of determination is less than 0.75, the weighted average is used to determine the trip generation.

As noted by Table IV.D-7, the proposed project is expected to generate approximately 885 daily trips, with 65 trips during the AM peak hour, and 84 trips during the PM peak hour. No transit or mixed-use reductions were taken during the trip generation process, and therefore, the results should be considered a conservative estimate of the amount of trips the project is expected to generate. In other words, the project's actual trip generation rate may be lower than those stated here.

A project that generates more than 100 trips in either the AM or PM peak hours requires an Alameda County Congestion Management Agency (ACCMA) analysis. Since the project generate less than 100 trips in both peak hours, a Congestion Management Agency (CMA) analysis is not necessary.

<sup>2</sup> The coefficient of determination (R<sup>2</sup>) is an estimate of the accuracy of the fit of the regression equation.

**Table IV.D-6: Trip Generation Rates and Equations**

ITE Land Use Code	Daily	AM Peak Hour	PM Peak Hour
Apartment (220)	$T = 6.01(X) + 150.35$	$T = 0.49(X) + 3.73$	$T = 0.55(X) + 17.65$
High-Turnover (Sit-Down) Restaurant (932)	$T = 127.15(X)$	$T = 11.52(X)$	$T = 10.92(X)$

X = Units of land use; for Apartment uses (220) this corresponds to dwelling units and for High-Turnover (Sit-Down) Restaurant uses (932) this corresponds to 1000 sq. ft. (KSF) gross floor area  
Source: ITE, *Trip Generation Manual, 7th Edition*

**Table IV.D-7: Project Trip Generation**

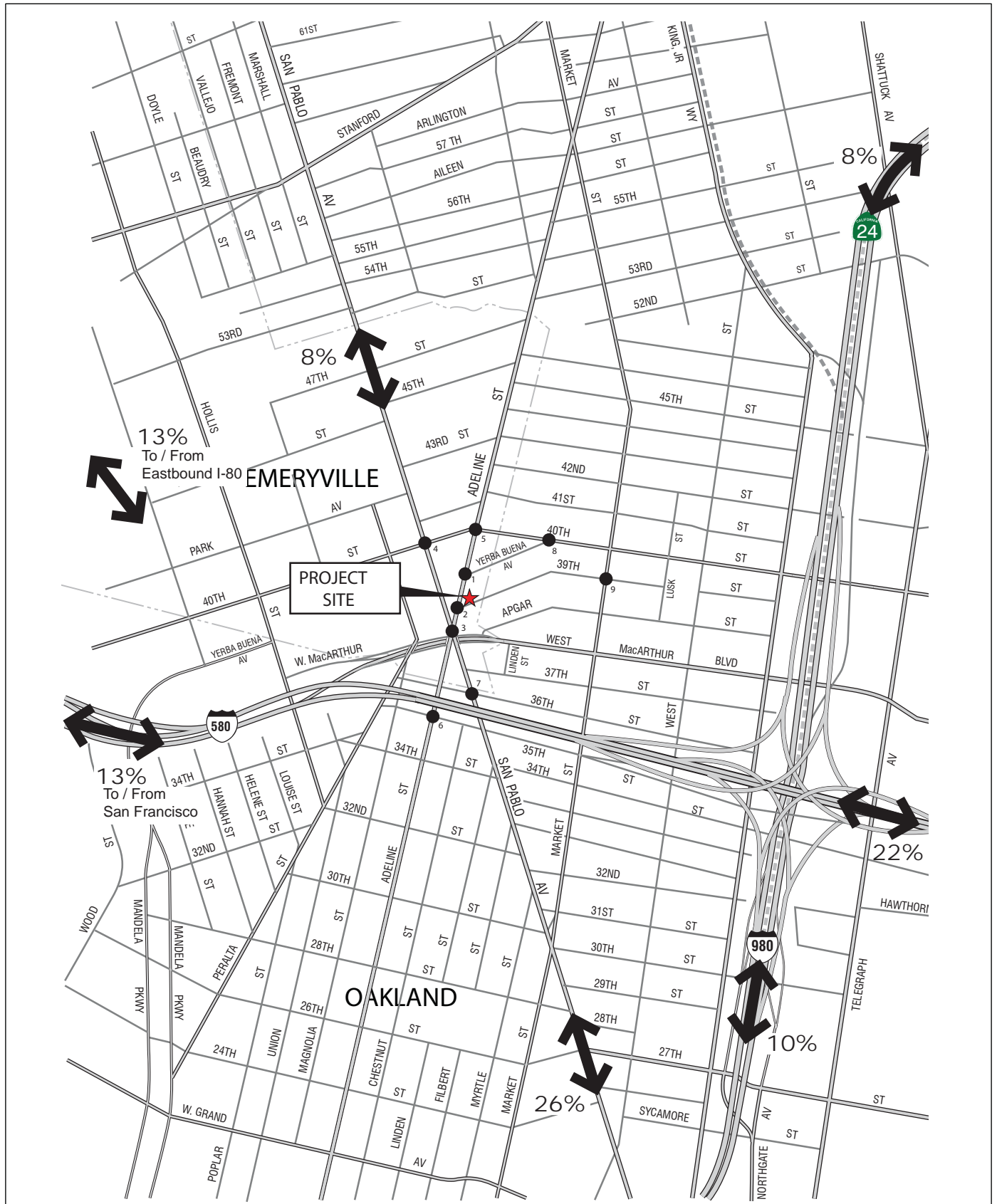
Land Use	ITE Land Use Code	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Apartment	Apartment (220)	101	Dwelling Units	757	11	42	53	47	26	73
Commercial	High-Turnover (Sit-Down) Restaurant (932)	1	KSF	127	6	6	12	7	4	11
<b>Total</b>				<b>885</b>	<b>17</b>	<b>48</b>	<b>65</b>	<b>54</b>	<b>30</b>	<b>84</b>

ADT = Average Daily Traffic  
KSF = 1,000 square feet.  
Source: DMJM Harris, 2007.

**c. Project Trip Distribution and Assignment.** The project's trip distribution pattern was developed using information from the Alameda County Congestion Management Agency's travel demand model. This distribution pattern, illustrated in Figure IV.D-6, is as follows:

- 26 percent to/from Oakland (Downtown and local trips);
- 22 percent to/from I-580 (points east);
- 13 percent to/from San Francisco;
- 13 percent to/from Emeryville, Albany, Richmond and I-80;
- 10 percent to/from I-980, Alameda, San Leandro, and Hayward (points south);
- 9 percent to/from Emeryville and Berkeley via San Pablo Avenue (points north); and
- 8 percent to/from Berkeley, Walnut Creek via State Route 24 (SR-24).

A copy of the travel demand model plot used to determine this pattern is included in Appendix C. The project-generated AM and PM peak hour turning movement volumes are shown in Figure IV.D-7.



LSA

FIGURE IV.D-6

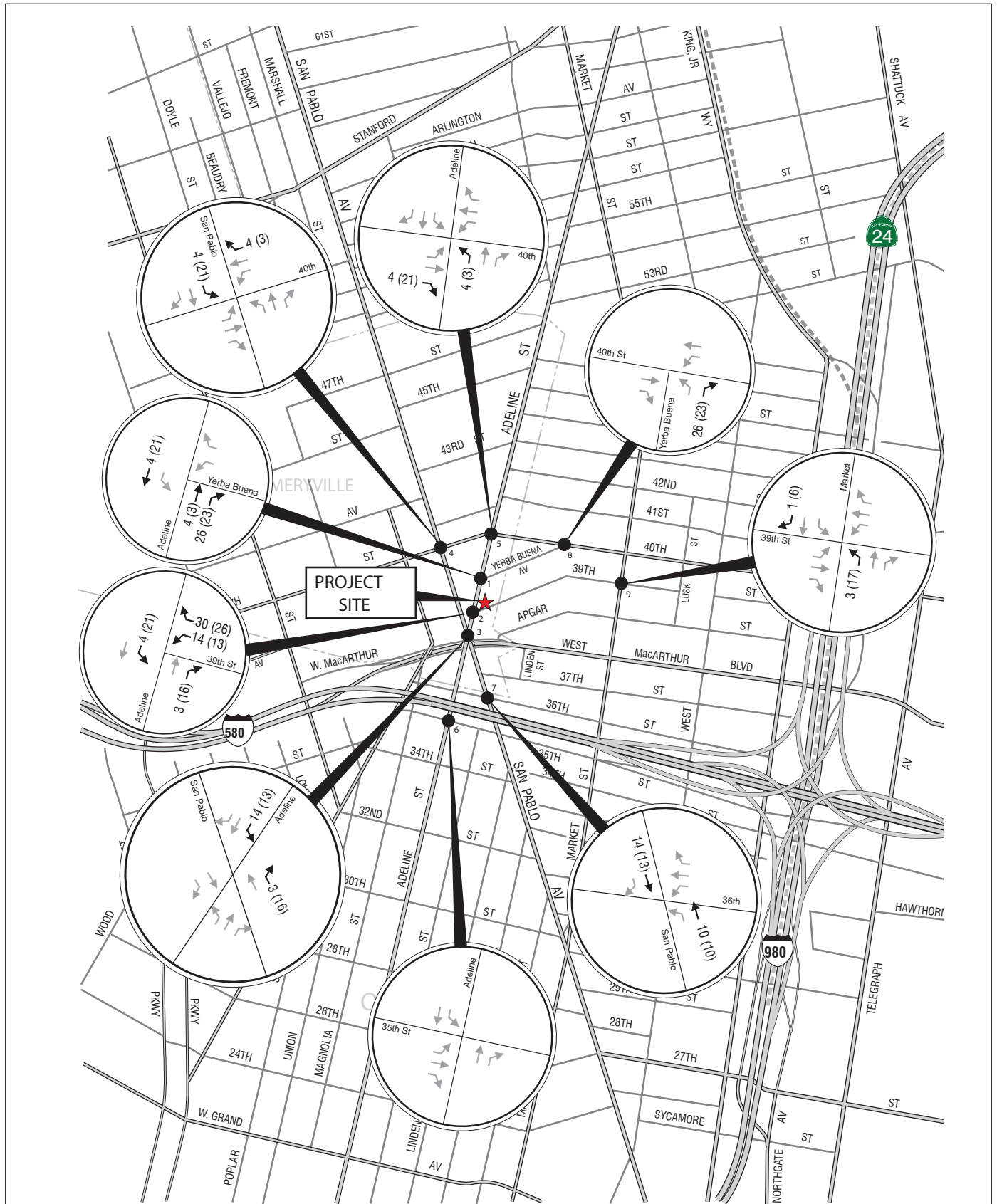


NOT TO SCALE

39th and Adeline Mixed-Use Project EIR  
Project Trip Distribution

SOURCE: DMJM HARRIS, 2007

I:/CEM0702 39th-adeline/figures/EIR/Fig\_IVD6.ai (12/11/07)



LSA

FIGURE IV.D-7



NOT TO SCALE

39th and Adeline Mixed-Use Project EIR  
 Project Generated Traffic Volumes  
 AM (PM) Peak Hour

SOURCE: DMJM HARRIS, 2007

I:/CEM0702 39th-adeline/figures/EIR/Fig\_IVD7.ai (12/11/07)

**d. Thresholds of Significance.** For the purposes of this analysis, significance criteria from both the City of Emeryville and the City of Oakland were used to determine if the project would result in a significant impact. The City of Emeryville's significance criteria were used for study intersections located within the City of Emeryville, and the City of Oakland's significance criteria were used for study intersections located within the City of Oakland.

**(1) City of Emeryville.** The City of Emeryville defines the acceptable level of service for intersections as LOS D. A significant project impact would result if the project were to cause any of the following conditions to occur:

- The addition of project traffic degrades an intersection currently operating at LOS D or better to LOS E or LOS F;
- The addition of project traffic degrades an intersection currently operating at LOS E to LOS F;
- The addition of project traffic causes the average vehicle delay to increase by more than 4 seconds at an intersection operating at LOS E or LOS F;
- The project would cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or would increase the V/C ratio by more than 5 percent for a roadway segment that would operate at LOS F without the project;
- The addition of project traffic results in the 95<sup>th</sup> percentile vehicle queue exceeding the available vehicle storage, or at locations where vehicle queues would exceed the available storage space, the project increases the 95<sup>th</sup> percentile vehicle queue;
- A substantial increase in hazards due to a design feature or incompatible land uses;
- Inadequate emergency access;
- Inadequate parking capacity;
- If construction traffic from the project, though temporary, would substantially affect traffic flow and circulation, parking, and pedestrian safety;
- A fundamental conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle routes); or,
- Generate added transit ridership that would increase the average ridership on AC Transit lines by 5 percent at bus stops where the average load factor with the project in place would exceed 125 percent over a peak thirty minute period; increase the peak hour average ridership on BART by 5 percent where the passenger volume would exceed the standing capacity of BART trains; or increase the peak hour average ridership at a BART station by 5 percent where average waiting time at fare gates would exceed 1 minute.

**(2) City of Oakland.** The City of Oakland's significance criteria are as follows:

**Traffic.** A project would normally have a significant effect on the environment if it would cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections), or change the condition of an existing street (i.e., through street closures, changing direction of travel) in a manner that would substantially affect access or traffic load and capacity of the street system, as defined below:

- At a study, signalized intersection which is located **outside the Downtown**<sup>3</sup> area, the project would cause the level of service (LOS) to degrade to worse than LOS D (i.e., E);<sup>4</sup>
- At a study, signalized intersection which is located **within the Downtown** area, the project would cause the LOS to degrade to worse than LOS E (i.e., F);
- At a study, signalized intersection **outside the Downtown** area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by 4 or more seconds, or degrade to worse than LOS E (i.e., F);
- At a study, signalized intersection for **all areas** where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of 6 seconds or more, or degrade to worse than LOS E (i.e., F);
- At a study, signalized intersection for **all areas** where the level of service is LOS F, the project would cause (a) the total intersection average vehicle delay to increase by 2 or more seconds, or (b) an increase in average delay for any of the critical movements of 4 seconds or more; or (c) the volume-to-capacity (“V/C”) ratio exceeds 3 percent (but only if the delay values cannot be measured accurately);
- At a study, unsignalized intersection for **all areas**, the project would add 10 or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant; or,
- Cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than 3 percent for a roadway segment that would operate at LOS F without the project.

In addition, the City of Oakland considers a project’s contribution to cumulative impacts “considerable” (i.e., significant) when the project exceeds at least one of the seven intersection-related thresholds listed above.

The proposed project is located outside of the Downtown area.

**Transit.** According to the City of Oakland’s significance criteria, the project would have a significant impact on transit if it would result in the following:

- Increase the average ridership on AC Transit lines by 3 percent at bus stops where the average load factor with the project in place would exceed 125 percent over a peak thirty minute period;
- Increase the peak hour average ridership on BART by 3 percent where the passenger volume would exceed the standing capacity of BART trains; or,
- Increase the peak hour average ridership at a BART station by 3 percent where average waiting time at fare gates would exceed 1 minute.

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<sup>3</sup> Downtown is defined in the Land Use and Transportation Element of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west.

<sup>4</sup> LOS and delay calculations for local intersections should be based on the *Highway Capacity Manual*, Transportation Research Board, National Research Council, 2000 edition.

**Parking.** A decision by one of the state's Courts of Appeals has held that parking is not part of the permanent physical environment, that parking conditions change over time as people change their travel patterns, and that unmet parking demand created by a project need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects.<sup>5</sup> Parking supply/demand varies by time of day, day of week, and seasonally. As parking demand increases faster than the supply, parking prices rise to reach equilibrium between supply and demand. Decreased availability and increased costs result in changes to people's mode and pattern of travel. However, the lead agencies want to ensure that the project's provision of additional parking spaces along with measures to lessen parking demand (by encouraging the use of non-auto travel modes) would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as effects on air quality due to drivers searching for parking spaces) would be minimized. As such, although not required by CEQA, parking conditions are evaluated in this document.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City of Emeryville and Oakland's "Transit First" policy.

Additionally, concerning potential secondary effects, the phenomenon of cars circling and looking for a parking space in areas of limited supply is typically a temporary condition, often offset by a reduction in vehicle trips by others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking, in the vicinity of the proposed project, are considered less than significant.

This study evaluates if the project's estimated parking demand would be met by the project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the project site.

**Other Considerations.** According to the City of Oakland's significance criteria, the project would also have a significant effect if it would result in the following:

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) that does not comply with Caltrans design standards or incompatible uses (e.g., farm equipment);
- Result in less than two emergency access routes for streets exceeding 600 feet in length; or,
- Fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes).

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<sup>5</sup> San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco (2002) 102 Cal.App.4th 656.

**Construction Period.** Potential short-term construction impacts generated by the proposed project would include impacts associated with the delivery of construction materials and equipment, removal of construction debris, and parking for construction workers. This traffic analysis considers all construction traffic impacts.

The project would have a significant effect on the environment if it would result in significant impacts based on the above-cited criteria during the construction period. For purposes of this analysis, the potential impacts resulting from project construction activity have been assessed.

**e. Existing Plus Project Conditions Traffic Volumes.** Project-generated traffic was added to the Existing Conditions traffic volumes to derive Existing plus Project Conditions traffic volumes. The resulting AM and PM peak hour turning movement volumes are shown on Figure IV.D-8.

**f. Existing Plus Project Conditions Intersection Level of Service.** The Existing plus Project Conditions AM and PM peak hour intersection levels of service for the nine study intersections are shown in Table IV.D-8. As shown in Table IV.D-8, all intersections are expected to operate at acceptable levels of service in the Existing plus Project Conditions.

Signal warrant worksheets were prepared for the unsignalized intersections within the City of Oakland with ten or more peak hour project trips. These intersections were Yerba Buena Avenue / 40th Street in the AM and PM peak hours and Market Street / 39th Street in the PM peak hour. None of the analyzed intersections in Existing plus Project Conditions meet signal warrants.

**g. Existing Plus Project Conditions Intersection Impacts and Mitigations Measures.** The addition of project trips to the nine study intersections would not result in any LOS-based significant impacts in the Existing plus Project Conditions. In addition, the unsignalized intersections within the City of Oakland do not meet traffic signal warrants in the Existing plus Project Conditions. Therefore, no mitigation measures are necessary.

**h. Cumulative 2030 Traffic Volumes.** Cumulative 2030 traffic volumes were forecasted using the most recent version of the ACCMA travel demand model. Growth factors between the model base year (2006) and the model future year were calculated for each intersection approach. The growth factors were applied to Existing traffic volumes to derive Cumulative 2030 traffic volumes. These volumes include all past, present, pending, approved and reasonably foreseeable future development, including the completion of the condominium development at the intersection of San Pablo Avenue / MacArthur Boulevard.

**i. Cumulative Plus Project Conditions Traffic Volumes.** The traffic generated by the proposed project was added to the Cumulative Conditions traffic volumes to derive the Cumulative plus Project Conditions traffic volumes. The Cumulative plus Project Conditions traffic volumes also assume completion of the condominium development at the intersection of San Pablo Avenue / MacArthur Boulevard. Figure IV.D-9 presents Cumulative plus Project Conditions AM and PM peak hour turning movement volumes at the nine study intersections.

**j. Cumulative Plus Project Conditions Intersection Level of Service.** The study intersections were analyzed using the Synchro 6.0 software package, based on the methodologies outlined in the HCM. Intersection LOS calculations for the Cumulative scenario assumed existing intersection geometries and control. The resulting AM and PM peak hour intersection levels of service for the nine study intersections are shown in Table IV.D-9.



**Table IV.D-8: Existing Plus Project Conditions Levels of Service**

Jurisdiction	No.	Intersection	Traffic Control	Peak Hour	Existing		Existing plus Project	
					LOS	Delay	LOS	Delay
City of Emeryville	1	Adeline Street / Yerba Buena Avenue	One-Way Stop	AM	B <sup>a</sup>	12.3 <sup>a</sup>	B <sup>a</sup>	12.6 <sup>a</sup>
				PM	B <sup>a</sup>	12.8 <sup>a</sup>	B <sup>a</sup>	13.2 <sup>a</sup>
	2	Adeline Street / 39th Street	One-Way Stop	AM	B <sup>a</sup>	11.9 <sup>a</sup>	B <sup>a</sup>	11.5 <sup>a</sup>
				PM	B <sup>a</sup>	11.5 <sup>a</sup>	B <sup>a</sup>	11.6*
	3	San Pablo Avenue / Adeline Street	Signal	AM	B	16.7	B	17.2
				PM	B	16.4	B	16.7
	4	San Pablo Avenue / 40th Street	Signal	AM	D	38.2	D	38.5
				PM	D	46.1	D	46.6
	5	Adeline Street / 40th Street	Signal	AM	C	20.4	C	20.4
				PM	B	14.2	B	14.2
City of Oakland	6	Adeline Street / 35th Street	All-Way Stop	AM	A	8.6	A	8.6
				PM	B	13.5	B	13.5
	7	San Pablo Avenue / 36th Street	Signal	AM	C	33.7	C	33.9
				PM	B	17.3	B	17.4
	8	Yerba Buena Avenue / 40th Street	One-Way Stop	AM	B <sup>a</sup>	11.3 <sup>a</sup>	B <sup>a</sup>	11.2 <sup>a</sup>
				PM	B <sup>a</sup>	12.9 <sup>a</sup>	B <sup>a</sup>	12.6 <sup>a</sup>
	9	Market Street / 39th Street	Two-Way Stop	AM	B <sup>a</sup>	12.7 <sup>a</sup>	B <sup>a</sup>	12.8 <sup>a</sup>
				PM	C <sup>a</sup>	17.6 <sup>a</sup>	C <sup>a</sup>	18.4 <sup>a</sup>

<sup>a</sup> Analyzed for worst-approach.  
Source: DMJM Harris, 2007.



**Table IV.D-9: Cumulative 2030 Plus Project Conditions AM and PM Peak Hour Intersection Levels of Service**

Jurisdiction	No.	Intersection	Traffic Control	Peak Hour	Cumulative		Cumulative plus Project	
					LOS	Delay	LOS	Delay
City of Emeryville	1	Adeline Street / Yerba Buena Avenue	One-Way Stop	AM	B <sup>a</sup>	13.6 <sup>a</sup>	B <sup>a</sup>	14.0 <sup>a</sup>
				PM	B <sup>a</sup>	14.2 <sup>a</sup>	B <sup>a</sup>	14.7 <sup>a</sup>
	2	Adeline Street / 39th Street	One-Way Stop	AM	B <sup>a</sup>	12.9 <sup>a</sup>	B <sup>a</sup>	12.5 <sup>a</sup>
				PM	B <sup>a</sup>	12.3 <sup>a</sup>	B <sup>a</sup>	12.4 <sup>a</sup>
	3	San Pablo Avenue / Adeline Street	Signal	AM	B	19.5	C	20.0
				PM	B	19.5	C	20.1
	4	San Pablo Avenue / 40th Street	Signal	AM	D	40.3	D	41.2
				PM	<b>E</b>	<b>55.8</b>	<b>E</b>	<b>58.3</b>
	5	Adeline Street / 40th Street	Signal	AM	B	17.3	B	17.3
				PM	B	15.1	B	15.2
City of Oakland	6	Adeline Street / 35th Street	All-Way Stop	AM	A	9.3	A	9.3
				PM	C	16.6	C	16.6
	7	San Pablo Avenue / 36th Street	Signal	AM	<b>F</b>	<b>82.3</b>	<b>F</b>	<b>82.5</b>
				PM	C	30.0	C	30.0
	8	Yerba Buena Avenue / 40th Street	One-Way Stop	AM	B <sup>a</sup>	11.9 <sup>a</sup>	B <sup>a</sup>	11.7 <sup>a</sup>
				PM	B <sup>a</sup>	13.9 <sup>a</sup>	B <sup>a</sup>	13.5 <sup>a</sup>
	9	Market Street / 39th Street	Two-Way Stop	AM	B <sup>a</sup>	13.4 <sup>a</sup>	B <sup>a</sup>	13.6 <sup>a</sup>
				PM	C <sup>a</sup>	20.1 <sup>a</sup>	C <sup>a</sup>	21.1 <sup>a</sup>

<sup>a</sup> Analyzed for worst-approach.

**Bold** indicates intersections which do not meet the target level of service for the City of Oakland or Emeryville

Source: DMJM Harris, 2007.

As shown in Table IV.D-9, the intersection of San Pablo Avenue / 40th Street (#4) would operate at an unacceptable LOS E during the PM peak hour of the Cumulative plus Project Conditions. This intersection will operate at LOS E with or without the addition of project-generated traffic. Since the intersection lies within the City of Emeryville, the City of Emeryville's significance criteria were used to determine whether or not the project would result in a significant impact at this intersection. The threshold for significance is a 4 second increase in total intersection average vehicle delay due to project-generated traffic. Since the average vehicle delay would increase only 2.5 seconds with the addition of project traffic, no significant impact was identified and no mitigation measures are necessary.

In addition, the intersection of San Pablo Avenue / 36th Street (#7) would operate at an unacceptable LOS F during the Cumulative plus Project Conditions AM peak hour. This intersection will operate at LOS F with or without the addition of project-generated traffic. This intersection is located within the City of Oakland. Therefore, the City of Oakland's significance criteria were used to determine whether the project would have a significant impact. The threshold for significance is an increase in the total intersection average vehicle delay by 2 or more seconds; or an increase in average delay for any of the critical movements by 4 seconds or more. Since the average vehicle delay at this intersection would increase by only 0.2 seconds due to project-generated traffic, and no critical movement delays would increase by 4 seconds or more, no significant impact was identified and no mitigation measures are necessary.

Signal warrant worksheets were prepared for the unsignalized intersections within the City of Oakland with ten or more peak hour project trips (see Appendix C). These intersections were Yerba Buena Avenue / 40th Street in the AM and PM peak hours and Market Street / 39th Street in the PM peak hour. None of the analyzed intersections in Cumulative plus Project Conditions meet signal warrants.

**k. Parking Analysis.** A consideration when evaluating the project's proposed parking supply is how it compares to Municipal Code requirements for off-street parking. The project's proposed parking supply was compared to the requirements of the City of Emeryville Municipal Code, which are more stringent than those of the City of Oakland. It should be noted that code requirements are not used to identify parking impacts; parking supply versus estimated parking demand (discussed below) is used to identify potential impacts.

According to the City of Emeryville's Municipal Code, the project is required to provide one stall for each studio and one-bedroom dwelling unit and 1.5 stalls for each unit with two or more bedrooms or work/live and live/work units. The code also requires one visitor parking stall for every four dwelling units (excluding work/live and live/work units). No parking spots are required for the small retail space on the site.

In total, the project is required to provide 136 spaces, including 113 resident spaces and 23 visitor spaces. The project would include a below-ground, off-street parking garage with 119 parking stalls (108 resident spaces and 11 designated guest parking spaces). Vehicles would enter and exit the project's parking garage by using the driveway located along 39th Street. Table IV.D-10 summarizes the number of required parking spaces and the number of proposed parking spaces.

As shown in Table IV.D-10, the project would not satisfy the number of parking spaces as required by the City of Emeryville and would require a variance.

According to ITE national statistics, land uses similar in size and type to the proposed project would create a demand for 101 parking spaces for the residential portion of the project and 10 parking spaces for the café. The number of parking spaces provided by the project would meet the parking demand suggested by national ITE statistics. Table IV.D-11 summarizes the estimated vehicle parking demand for the proposed project based on ITE rates.

**Table IV.D-10: Parking Code Requirements**

Residential Unit Type	Number of Units	Code	Code-Required Spaces	Spaces (Proposed)
Studios and 1-Bedroom Units	77	1 space per DU 1 visitor space per 4 DU	96.5	<b>108 resident + 11 visitor = 119 total</b>
2- and 3-Bedroom Units	14	1.5 spaces per DU 1 visitor space per 4 DU	24.5	
Live/Work or Work/Live Units	10	1.5 space per DU	15	
<b>Total</b>	101	--	<b>113 resident + 23 visitor = 136 total</b>	

DU = Dwelling Units

SF = Square Feet

Source: City of Emeryville Municipal Code 9-4.55; DMJM Harris, 2007.

**Table IV.D-11: Parking Demand (ITE)**

ITE Land Use Code	Size	Parking Rates	Parking Demand	Spaces Proposed
Apartment (220)	101 DU	1.00 stalls per unit	101	119
High-Turnover (Sit-Down) Restaurant (932)	1,000 SF	10.1 per 1,000 SF	10	--
<b>Total</b>			<b>111</b>	<b>119</b>

DU = Dwelling Units

SF = Square Feet

Source: ITE, *Parking Generation Manual, 3<sup>rd</sup> Edition*; DMJM Harris, 2007.

The proposed project would provide 119 parking spaces. The project would be required to provide five accessible parking spaces to meet American with Disabilities Act (ADA) requirements.

Both the City of Emeryville and the City of Oakland have specific requirements for parking stall size and both limit the amount of compact spaces allowed. The City of Emeryville allows no more than 60 percent of the total spaces to be designated compact, and the City of Oakland allows no more than 33 percent of the total amount of spaces to be designated compact. Table IV.D-12 provides the requirements for regular and compact spaces for the City of Emeryville and the City of Oakland.

All spaces in the garage are proposed to be 17 feet long by 8 feet wide and would not meet the minimum code requirement for “standard” stalls of either the City of Oakland or the City of Emeryville. Therefore, the project would require a variance. The proposed parking space dimensions would be shorter and narrower than what is normally required for a standard parking stall. However, the spaces would be of sufficient size to meet code requirements for “compact” spaces. Under the more protective regulations (Oakland), a total of 39 spaces on the site may be designated as compact and under the Emeryville code, up to 71 spaces may be designated as compact. Compact spaces would be required (under the Emeryville and Oakland codes) to be a minimum of 16 feet long by 7.5 feet wide.

The provision of parking spaces that do not meet the sizing requirements of the City of Emeryville or City of Oakland would not be considered a physical environmental impact. However, it is recommended that the standard parking stall size be at least 18 feet long by 8.5 feet wide, or 16 feet long by 8.5 feet wide with a 2 foot overhang. An overhang would not be possible for spaces that are face-to-face; however, some of these stalls could be designated for compact vehicles.

**Table IV.D-12: Parking Stall Size Requirements**

Jurisdiction	Required size (Regular Stalls)	Required Size (Compact Stalls)
City of Emeryville	18' long, 9' wide	16' long, 7.5' wide
City of Oakland	18' long, 8.5' wide	16' long, 7.5' wide

Source: ITE, *Parking Generation Manual*, 3<sup>rd</sup> Edition; DMJM Harris, 2007.

According to the City of Emeryville Municipal Code section 9-4.55, project maneuvering aisles necessary for access into and out of required parking spaces shall have a minimum width of 22 feet. The City of Oakland Planning Code section 17.116.20 requires project maneuvering aisles to have a minimum width of 24 feet. The project proposes 22.5 foot wide maneuvering aisles on the north, south, and west sides of the parking garage, as well as a 23 foot wide center aisle. These four maneuvering aisles would not satisfy code requirements and therefore require a variance.

**l. Loading Impacts.** Loading demand requirements are specified in the City of Emeryville's Municipal Code Article 55 and in the City of Oakland's Planning Code Title 17, Chapter 116, Section 140. The code requirements for both the City of Emeryville and the City of Oakland state that no loading berths are required for commercial activities consisting of less than 10,000 square feet. The City of Oakland requires loading berths for residential activities where the total floor area of facilities occupies 50,000 square feet or more. The project would add 13,746 square feet of residential space within the jurisdiction of the City of Oakland, and therefore, no residential loading berths are required. The City of Emeryville does not require loading berths for residential land uses.

**m. Transit Facility Impacts.** Currently, the project area is served by multiple AC Transit routes, summarized in Table IV.D-3. Based on 2000 US Census Journey to Work data, it was determined that approximately 15 percent of project trips would be on transit. The proposed project is expected to generate approximately 10 transit trips during the AM peak hour and 13 transit trips during the PM peak hour. Transit trip distributions were developed based on the project trip distributions shown in Figure IV.D-4, and then assigned to the various transit routes in the vicinity of the project site. These results are summarized in Table IV.D-13.

As shown in Table IV.D.13, only a minimal increase in transit ridership is expected as a result of the proposed project. In addition, there is excess capacity on AC Transit and Emery Go Round buses serving the area. Considering the service frequencies shown in Table IV.D-13, it is unlikely that the proposed project would cause significant adverse impacts to AC Transit, BART service, or the Emery Go Round system.

**Table IV.D-13: Project Transit Trips**

Destination	Peak Hour Trips		Transit Routes
	AM	PM	
Downtown Oakland	1	1	72, 72M, 72R
I-580 East	1	1	57
San Francisco	1	2	C, F
El Cerrito/Richmond via I-80 East	1	2	BART (via 14, 57, EM)
I-980 / I-880	1	1	BART (via 14, 57, EM)
Berkeley/Albany	3	3	F, 72, 72M, 72R, 88
Walnut Creek via. SR-24	2	3	BART (via 14, 57, EM)
<b>Total</b>	<b>10</b>	<b>13</b>	

Source: DMJM Harris, 2007.

**n. Pedestrian and Bicycle Facility Impacts.** As described above, sidewalk widths adjacent to the project site are 10 feet and provide for safe pedestrian circulation. Although the project would add additional pedestrians to local streets and sidewalks, existing pedestrian facilities should adequately handle the increase in sidewalk traffic. In addition, the project would include no features which would be unsafe for pedestrian travel. Therefore, no significant adverse impacts to pedestrian activity were identified and no mitigation measures are necessary.

As detailed above, there are existing bikeways along several major streets in the vicinity of the project site, including 40th Street, San Pablo Avenue, and Market Street. These facilities provide a safe environment for bicyclists and encourage bicycling as an alternative mode of transportation. Existing bicycle traffic on these facilities was observed to be low, with all of the facilities operating under capacity. Therefore, the current facilities are expected to adequately accommodate the increase in bicycle trips as a result of the project. Although there are no requirements for bicycle or motorcycle parking, the project would provide 12 bicycle storage lockers and 6 motorcycle parking spaces in the parking garage. In addition, the project would include no features which would be unsafe to bicycle travel. Therefore, no significant adverse impacts to bicycle activity were found and no mitigation measures are necessary.

**o. Construction Period Impacts.** During the construction period, temporary and intermittent transportation impacts would result from truck movements as well as construction worker trips to and from the project site. The construction-related traffic would result in temporary congestion on project area streets because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Given the proximity of the I-580, I-980, I-80 and SR-24 freeway ramps, use of local roadways would be limited. Truck traffic that occurs during the peak commute hours (7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.) could result in degraded levels of service and higher delays at local intersections than during off-peak hours. Additionally, parking of construction workers' vehicles would temporarily increase parking occupancy levels in the area.

It is also important to note that high volumes of trucks with heavy loads would have an adverse impact on the condition of streets and highways. Heavy trucks create a disproportionate impact to roadway structural sections, particularly at intersections, where the effects of acceleration/deceler-

ation can be noticeable. In addition, the project would be subject to the following City of Oakland and City of Emeryville Standard Conditions of Approval for Construction. No additional mitigation would be required.

**p. Standard Condition of Approval:** The project applicant and construction contractor shall meet with the City of Emeryville Public Works Agency, the City of Oakland Transportation Services Division and other appropriate City of Emeryville and City of Oakland agencies and staff to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of the project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the City of Emeryville and the City of Oakland. The plan shall include at least the following items and requirements:

- a.) A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes;
- b.) Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur;
- c.) Location of construction staging areas for materials, equipment, and vehicles (must be located on the project site);
- d.) A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. The Planning and Zoning Division shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services;
- e.) Provision for accommodation of pedestrian flow;
- f.) Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces; and,
- g.) Identification of haul routes for movement of construction vehicles that would minimize impacts on vehicular and pedestrian traffic, circulation and safety; and provision for monitoring surface streets used for truck haul routes so that any damage and debris or loss of expected life to the public street attributable to the haul trucks can be identified and corrected by the project applicant.

