

Introduction

This chapter discusses the project area's existing and projected traffic and circulation conditions and evaluates, using City criteria and agreed upon methodologies, the potential impacts of the proposed project on local and regional traffic.

Setting

Local Circulation System

The roadway system in the project vicinity is a grid system, with numbered streets oriented roughly east-west, and named streets roughly north-south. Broadway, which directly serves the project, is a major arterial. Other designated arterial streets include 2nd Street, Embarcadero, Jackson Street, and Oak Street. All other streets in the project area are classified as local streets, except for 3rd Street, which is classified as a collector. I-880, considered to be a north-south freeway, passes just north of the project site in an approximately east-west orientation ("northbound" I-880 would be approximately westbound).

Broadway is one of the busiest and most important roadways in the area because it runs through the center of Oakland's central business district and into the Jack London Square District. Near the project, there are two northbound lanes and two southbound lanes. Traffic signals are provided at 6th Street, 5th Street, 3rd Street, and Embarcadero.

Embarcadero is an east-west arterial street that runs through the center of the Jack London Square District. Two sets of railroad track are operational within the right-of-way of Embarcadero. The Oakland Amtrak station is located near Oak Street. Embarcadero has one travel lane in each direction.

Other local streets near the proposed project include Franklin Street, 2nd Street, and 3rd Street.

Franklin Street is a two-lane roadway that operates one way toward Embarcadero.

2nd and 3rd Streets have one lane in each direction extending from Oak Street westward through the Jack London Square District. South of the project site, along 2nd Street, 3rd Street, and Franklin Street, is the produce district. Generally, these roadways are congested by the loading of produce mid-street and by produce trucks, forklifts, and other loading equipment at most intersections. During peak operational periods, automobiles and other non-produce vehicles avoid this area.

Based upon the existing street conditions in the area, vehicles traveling to and from the project site would most likely avoid 2nd Street and 3rd Street near the site. Alternatively, Embarcadero, 4th Street, and 5th Street would be used.

I-880 provides freeway access to and from the project site at Oak Street (southbound on-ramp and northbound off-ramp) and at Jackson Street (northbound on-ramp and southbound off-ramp). Also, there is a southbound on-ramp near Broadway/5th Street. Access to the Bay Bridge is somewhat complex. Bay Bridge-bound vehicles can enter northbound I-880 and reach the Bay Bridge via I-980 and I-580, but that route, which has served as the primary detour route since the original Cypress Freeway collapsed in the 1989 earthquake, is often severely congested.

Vehicles cannot reach the new Cypress Freeway from the I-880 on-ramp at Jackson Street because they are forced onto I-980. Instead, it is possible to reach the new Cypress Freeway and achieve far more direct Bay Bridge access by traveling west on surface streets and entering the freeway at the new 7th Street ramps. Within the next year, another set of ramps will open at Adeline Street.

Existing Intersection Operations

The local intersections where the project would be expected to add 50 or more peak-hour trips were identified for evaluation, and are listed below.

- Broadway at Embarcadero
- Broadway at 2nd Street
- Broadway at 3rd Street
- Broadway at 5th Street
- Broadway at 6th Street
- Oak Street at 5th Street/Southbound I-880 on-ramp
- Oak Street at 6th Street/Northbound I-880 off-ramp
- Oak Street at Embarcadero
- Embarcadero at Webster Street

- Market Street at 5th Street
- Market Street at 3rd Street
- Franklin Street at 2nd Street
- Franklin Street at 3rd Street

The following intersections have also been included in the traffic and circulation evaluation because they were referenced in the comment letters on the NOP:

- Jackson Street at 7th Street
- Jackson Street at 6th Street
- Jackson Street at 5th Street
- 7th Street at Harrison Street
- Atlantic Avenue at Webster Street

Level of Service Methodology

The evaluation of level of service (LOS) presented in this chapter is based on methods outlined in the 1994 Highway Capacity Manual (HCM) (Transportation Research Board 1994). Under this method, the LOS at each directional of the analysis intersections is determined for existing and future conditions. The LOS assigned to the overall intersection is defined as the LOS of the movement with the worst conditions in the intersection.

The rating system used to designate LOS at a signalized intersection is shown in Table 3C-1. The HCM also includes LOS criteria for unsignalized intersections, which are different than for signalized locations. LOS designations are assigned to particular minor movements, and are based on the average total delay for that movement. LOS is not defined for the intersection as a whole. Therefore, descriptions of expected delay at unsignalized intersections are generalized. Table 3C-2 details the LOS rating system for unsignalized intersections.

Table 3C-1. Level of Service Criteria for Signalized Intersections

Level of Service	Expected Delay	Average Total Delay (Seconds/Vehicle)
A	Little or no delay.	≤ 5.0
B	Good progression and short cycle lengths.	>5.0 and ≤15.0
C	Fair progression, longer cycle lengths.	>15.0 and ≤25.0
D	The influence of congestion becomes noticeable. Some unfavorable progression and long cycle lengths.	>25.0 and ≤40.0
E	Poor progression, long cycle lengths, and cycle failures.	>40.0 and ≤60.0
F	Unacceptable to most drivers, arrival-flow rates exceed the capacity of the intersection.	>60.0

Source: Transportation Research Board 1994.

Table 3C-2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Expected Delay	Average Total Delay (Seconds/Vehicle)
A	Little or no delay.	≤ 5
B	Good progression and short cycle lengths.	>5 and ≤ 10
C	Fair progression, longer cycle lengths.	>10 and ≤ 20
D	The influence of congestion becomes noticeable. Some unfavorable progression and long cycle lengths.	>20 and ≤ 30
E	Poor progression, long cycle lengths and cycle failures.	>30 and ≤ 45
F	Unacceptable to most drivers, arrival flow rates exceed the capacity of the intersection.	>45

Source: Transportation Research Board 1994.

Peak Hour Levels of Service

The City of Oakland Department of Traffic and Parking has conducted traffic counts for a.m. and p.m. peak periods on a regular basis. These counts have been incorporated in this study. Further, traffic volumes at three additional locations were counted to ensure adequate background data for the intersection impact analysis. These locations were Broadway at 2nd Street, Franklin at 3rd Street, and Franklin at 2nd Street. Figures 3C-1 and 1A, "Existing Peak Hour Traffic Volumes," show existing traffic volumes at these intersections.

Using the 1994 HCM operations methodology, 16 of the 18 intersections analyzed currently operate at LOS D or better during both peak hours. The levels of service for Franklin Street at 2nd and 3rd Streets were calculated as LOS A; however, actual field observations found LOS F condition. The reason for the substandard LOS is the presence of forklifts and large trucks delivering produce in this area. The produce district is located just east of the project site along 2nd and 3rd Streets. When produce loading occurs during the early a.m. hours (typically between 2 and 11 a.m.), automobiles and other non-produce vehicles cannot travel through this area without drivers experiencing significant amounts of congestion and delay. Vehicles must navigate around trucks and forklifts parked in the center of the street or intersections. Table 3C-3 shows a summary of the existing conditions at these intersections, including the calculated average delay in seconds per vehicle.

Table 3C-3. Existing Peak-Hour Intersection Levels of Service

Intersection	Control	a.m. Peak Hour		p.m. Peak Hour	
		Delay (Sec./Veh.)	LOS	Delay (Sec./Veh.)	LOS
Broadway at Embarcadero	Stop	2.6	A	3.7	A
Broadway at 2nd Street	Stop	5.7	B	9.5	B
Broadway at 3rd Street	Signal	5.7	B	7.2	B
Broadway at 5th Street	Signal	10.5	B	12.9	B
Broadway at 6th Street	Signal	9.3	B	10.0	B
Oak Street at 5th Street/southbound I-880 on-ramp	Signal	6.1	B	7.2	B
Oak Street at 6th Street/northbound I-880 off-ramp	Signal	7.4	B	7.5	B
Oak Street at Embarcadero	Stop	5.0	B	6.3	B
Embarcadero at Webster Street	Stop	4.2	A	5.4	B
Market Street at 5th Street	Signal	5.6	B	5.3	B
Market Street at 3rd Street	Stop	7.1	B	6.9	B
Franklin Street at 2nd Street	Stop	-	F*	-	F*
Franklin Street at 3rd Street	Stop	-	F*	-	F*
Jackson Street at 7th Street	Signal	50.1	E	25.1	C
Jackson Street at 6th Street	Signal	9.5	B	12.4	B
Jackson Street at 5th Street	Signal	15.4	C	20.2	C
7th Street at Harrison Street	Signal	7.5	B	8.0	B
Atlantic Avenue at Webster Street	Signal	15.0	C	13.1	B

Source: Dowling Associates, Inc. Selected counts from 1999 through 2001.

* Field observation

Parking

Around the project site along Broadway, 2nd Street, and 3rd Street, there are 17 on-street parking spaces. Onsite, there are 73 public fee parking spaces. On three different occasions, field observations were made of the use of these spaces. Observations were conducted during April of 2001 at 10 a.m., noon, and 2:30 p.m., on a Tuesday and Thursday. At no time were any of the on-street spaces available. All of the onsite spaces were also occupied. The 73 on-site parking spaces would be displaced in that they would be removed during project construction. These spaces are not legally required parking for on-site or off-site development. Therefore, these spaces can be withdrawn from public use at any time, with or without the project. Because there are several driveways (3) accessing the site, no on-street parking would be removed for the operation of the project. Construction of the project would require the temporary loss of all on-street parking (17 spaces) bordering the site.

Transit near the Site

The project area is served by public transit services. AC Transit routes 58, 59, 59A, 72L, and 73 run very near the project site. Route 58 provides service between Oakland's downtown and the Oakland Airport. Route 59 provides service to the area east of the central downtown, that is, east of Broadway, including the Lake Merritt Bay Area Rapid Transit (BART) station, before eventually reaching the Montclair area of Oakland. AC Transit operates two

buses per hour during the morning and evening peak hours. The 72–73 lines travel along Broadway, then up San Pablo Avenue to either the Hilltop Shopping Center (72) or Point Richmond (73) in Richmond. Approximately eight buses per hour serve the area during peak periods. At midday, a free shuttle provides service up and down Broadway between Grand Avenue and Jack London Square.

BART is accessible from the site by walking or by connection via the AC Transit lines noted above. The Lake Merritt station is 12 blocks from the project site. The City Center/12th Street Station, located along Broadway, is 9 blocks away.

Ferryboats provide service to and from San Francisco at a dock at the foot of Clay Street, approximately one-eighth-mile from the project site. Ferries run approximately 0.5 hour apart during peak periods. An Amtrak station is located 6 blocks from the project site and provides service between San Jose and Sacramento and destinations beyond.

Existing Plans

The following General Plan Objectives and policies are relevant to the proposed project:

General Plan Land Use and Transportation Element

- *Objective T2:* Provide mixed-use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips to major transportation nodes.
- *Objective T2.2:* Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.
- *Policy T.3.11 (Prioritizing Parking):* Parking in residential areas should give priority to adjacent residents.

Estuary Policy Plan

- *Policy JL-12.5:* 2nd and 3rd Streets: Reinforce Second Street and 3rd Street as an east-west connector for pedestrian, vehicular and bicycle movement.
- *Policy JL-15:* Develop and implement a coordinated parking strategy for the District that optimizes the use of parking facilities, takes maximum advantage of shared parking opportunities, and expands parking supplies.

Planned Improvements

Several planned and programmed transportation improvements have been assumed as part of the traffic analysis. The year 2020 traffic volumes were developed using a set of procedures agreed upon by the City. The 2005 and 2020 Countywide Model was used to establish the 2020 intersection peak-hour turn-movement volumes. However, the existing geometry at each of the analysis intersections were assumed as part of the unmitigated condition. For local and regional roadways, assumptions provided in the Alameda County Congestion Management Agency Countywide Model (Countywide Model) were used. That model includes only programs that have been approved and funded as part of the Congestion Management Program (CMP) adopted by the Alameda County Congestion Management Agency (ACCMA). The following regional roadway and transit improvements are identified in the *Transportation Vision 2018 and Beyond: Alameda County Long-Range Transportation Plan*. These improvements may affect travel in the project area and are included as part of the future roadway network assumed in the Countywide Model:

- Oakland Airport four-lane cross-airport roadway (assumed to be in place by 2005);
- Fruitvale interchange and Oak Street interchange (assumed to be in place by 2020);
- High Street/42nd Avenue/I-880 access improvements (no firm construction date available); and
- Reconstruction of I-80/I-580, and I-880 improvement program (no firm construction date available).

Because the ACCMA 1998 Level of Service Monitoring study reports LOS F operations for the connection from State Route (SR) 260 eastbound (Posey Tube) to I-880 northbound (at Jackson Street/6th Street) during the p.m. peak hour, a multi-jurisdictional Deficiency Plan has been prepared. The Deficiency Plan identifies short-term and long-term strategies to reduce the delay at the connection to acceptable levels, as follows.

The short-term strategies include:

- Closing the 6th Street connecting ramp to Broadway and restriping the northbound I-880 on-ramp from Jackson Street. The existing exit ramp to Broadway at the top of the northbound on-ramp to I-880 at 6th and Jackson Street would be eliminated. This improvement would allow the northbound on-ramp to be reconfigured from one to two lanes. This would allow the northbound left turn and southbound right turn movements at 6th and Jackson to access the I-880 freeway without merging together on the on-ramp.
- Channelizing the right turns from Harrison Street to 7th Street and the right lane on 7th Street. Along 7th Street between Harrison Street and Jackson Street, the curb lane would be widened to allow for the construction of a barrier. The barrier would separate the northbound

right turning traffic from the Posey tube from the eastbound traffic on Jackson Street. This improvement would eliminate the existing traffic weaving on 7th Street of these two movements.

- Diverting the southbound through-traffic on Jackson Street to eastbound 7th Street or channelizing the right turns from 7th Street to southbound Jackson Street. A similar barrier would be constructed on Jackson Street between 7th Street and 6th Street. This barrier would separate the vehicles that turn right at 7th Street and Jackson Street that proceed south on Jackson Street to access the northbound on-ramp from I-880 from the southbound traffic on Jackson Street wanting to also access the I-880 on-ramp.

While the above improvements have been recommended, they have not been constructed. Therefore, they are not assumed as part of the baseline (un-mitigated) conditions. They are discussed under the impact and mitigation portion of this EIR.

The long-term strategies include:

- Constructing the improvements included in the proposed Broadway-Jackson Interchange improvements. The Broadway-Jackson Interchange improvement plans are currently being developed jointly with the Cities of Oakland and Alameda, Caltrans, and ACCMA. There have been a number of draft improvement programs developed. However, one or more of the components of these plans have either been found unfeasible or were rejected by Oakland or Alameda. Projects were rejected because of the potential impacts to adjacent existing land uses. Therefore, a long-term mitigation strategy is still being developed, and cannot be incorporated into a future baseline condition because these improvements are considered speculative.

Impacts and Mitigation Measures

Methodology

To analyze the project's impacts on intersections, the number of peak-hour vehicle trips was estimated using standard Institute of Transportation Engineers (ITE) rates. The resultant peak-hour trips were distributed to and from various destinations assigned to the appropriate traffic movements at the study intersections. The LOS was calculated and compared to existing and interim-year base conditions to determine whether the project would cause any impacts.

Trip Generation

The peak-hour trip generation for the residential component of the project was based on the regression equations as published in Trip Generation, 6th Edition

(Institute of Transportation Engineers 1997). Three rates were applied to the project land uses, including luxury condominiums for the residential component, general office, and shopping center for the street-level retail.

The shopping center rate (applied to a center sized at 1,000,000 sf) was selected for this analysis because it best reflects the trip generation from land uses found in an urban downtown setting. Shopping center trip-generation rates reflect the trip making for the entire retail center. Shopping centers comprise numerous uses, some large (anchor tenants) and others small (secondary tenants). As a standard practice, the shopping center trip-generation rates are applied to a center of about 1,000,000 sf to reflect a typical urban downtown area. Standard ITE trip-generation rates reflect only stand-alone uses rather than mixed use. Within a downtown area, significant portions of the trips are called linked trips. Linked trips are trips between multiple destinations rather than only one specific destination. As a result, visitors within most downtown areas behave like shoppers within a shopping center.

Table 3C-4 summarizes the numbers of vehicle trips that would be generated by the proposed project. As shown, the proposed project would generate 2,301 daily vehicle trips. During the a.m. and p.m. peak hours, the project would generate a total of 252 trips and 276 trips respectively. Trucks represent less than 5% of these trips.

Table 3C-4. Project Trip Generation

Land Use	Amount	Daily Trips	a.m. Peak Hour			p.m. Peak Hour		
			In	Out	Total	In	Out	Total
Luxury Condominiums	109 units	734	14	47	61	37	24	61
Offices	100 ksf	1,327	164	22	186	33	159	192
Retail (street level)	8 ksf	240	3	2	5	11	12	23
Totals		2,301	181	71	252	81	195	276

ksf = 1,000 sf

Source: Dowling Associates, Inc. 2001

Trip Distribution and Assignment

Trip distribution was analyzed using traffic assignments generated by the Countywide Model. The development assumptions for the proposed project were included in the Countywide Model and assigned to the surrounding street system.

Table 3C-5 summarizes the project trip distribution.

The assignment of trips was based on the shortest path (in time) between the project site and the destination of trips generated at the site. Traffic that travels to and from I-880 and other local destinations, which normally would travel on 2nd and 3rd Streets south of the project site, was assigned to alternative routes because of existing peak-hour congestion along these corridors in the produce district.

Table 3C-5. Trip Distribution Assumptions

Origin/Destination	Percentage of Total Traffic (%)
I-880 south	16
Embarcadero South of Jack London Square District	8
Alameda	7
I-880 north	10
Old Town/7th Jefferson	2
I-980/I-24/I-580	10
Lake Merritt	8
East Oakland	7
Broadway north	18
West Oakland	9
North Oakland/Berkeley	5
All	100%

Source: Dowling Associates, Inc. 2001

Figures 3C-2 and 2A, “Proposed Project Peak Hour Traffic Volumes,” show the a.m. and p.m. peak-hour traffic added to the surrounding street system by the proposed project.

Parking Demand

Two sources were used to determine the appropriate parking demand for the proposed project: the City of Oakland parking codes and recommended parking demand rates from the ITE Parking Manual, 2nd Generation, (Institute of Transportation Engineers 1997).

City Planning Code

The City of Oakland Planning Code includes parking requirements for the C45/S4 zone. These are: 1 space per residential unit, 1 space per 900 sf of commercial use, and 1 space per 1,400 sf of office use. Based upon these rates, the proposed project would require 109 residential, 72 office, and 9 commercial parking spaces (190 spaces).

Institute of Transportation Engineers

Project-generated parking demand was derived on the basis of data from multiple sources, including parking demand rates for condominiums and for office buildings published by ITE (Institute of Transportation Engineers 1987) and auto ownership data for residential buildings (primarily condominiums) collected by the Jack London Neighborhood Association (JLNA) in and around the Waterfront Warehouse District (Jack London Neighborhood Association 1998 and 1999). For residential condominiums, the ITE publication presents parking

demand rates based on survey data at 32 sites, with the data representing the peak number of parking spaces occupied for the total number of dwelling units (the surveyed sites ranged from 16 to 421 units, with an average of 166 units); the majority of the sites surveyed were located in suburban areas, many of which were in California. The JLNA-generated auto ownership data was collected at seven sites, and the published auto ownership rates were based on the number of autos owned by occupied dwelling units.¹

TABLE 3C-6. Range of Parking Demand for the Project's Residential Component

Demand Rate Source	Residential Demand Rate	Residential Demand
ITE Unadjusted Parking Demand <i>(32 sites, avg. of 166 units per site, rate based on total units)</i>	1.11	104
ITE Adjusted Parking Demand <i>(17 sites, avg. of 102 units per site, rate based on total units)</i>	1.16	109
JLNA Unadjusted Auto Ownership <i>(7 sites, 1 to 37 units per site, rate based on occupied units only)</i>	1.39	131
JLNA Adjusted Auto Ownership <i>(5 sites, 9 to 37 units per site, rate based on total units)</i>	1.28	120

Source: Institute of Transportation Engineers (ITE), *Parking Generation*, 2nd Edition, 1987; Jack London Neighborhood Association (JLNA), and Jack London District Parking Study, August 1998 and May 1999.

The ITE average parking demand rate for all 32 sites was 1.11 spaces per dwelling unit.² Of the 32 sites, there were 17 sites whose size clustered around 100 dwelling units (i.e., similar to the size of the proposed project). Using a plot of actual parking occupancies versus the number of units at those 17 sites, an average parking demand rate of 1.16 spaces per unit was derived and used for this analysis.

Comparison of the JLNA data to ITE data to develop a representative parking demand rate for the residential portion of the proposed project requires

¹ The number of dwelling units at the seven sites surveyed by JLNA ranged from 1 to 37 units, with an average of 16 units. Not all units were occupied at the time of the survey, and the number of occupied dwelling units at the seven sites ranged from 1 to 31 occupied units, with an average of 15 occupied units.

² The number of occupied units at survey sites was not always provided to ITE. ITE parking generation rates therefore are expressed in terms of "Per total dwelling units", although ITE recognizes that occupancy rates will affect actual parking demand rates.

adjustments to the raw JLNA data for a number of reasons, including the fact that auto ownership does not equal parking demand.

Factors that affect parking demand (i.e., the number of vehicles owned that are actually parked at any one time) include vacations, other overnight trips (e.g., for work), out-of-town use of a family vehicle by college-aged children, the need for the vehicle to be kept at an auto repair shop, etc. An estimate of parking demand expected to be generated by a residential project also should take into account patterns of vacancy of units within residential buildings. JLNA excluded seven empty units from computations of their survey data, which equates to a six-percent vacancy rate. Standard industry practice for area wide studies of estimated housing and population levels is to apply a vacancy rate (typically five-percent) based on observed patterns. A final adjustment made to the JLNA data was to exclude the two smallest sites in the survey (i.e., the one-unit and two-unit buildings) because their size is too dissimilar to the proposed project.

The JLNA average auto ownership rate for all seven sites is 1.39 autos per occupied dwelling unit. The adjusted average auto ownership rate for the total number of dwelling units in the five sites with more than two units is 1.28 autos per dwelling unit. However, because use of an auto ownership rate would not provide an accurate estimate of parking demand, and because there is no standard adjustment factor to equate auto ownership to parking demand, the analysis of parking impacts associated with project-generated parking demand, presented herein, was based on the adjusted ITE rate of 1.16 spaces per dwelling unit.

For the office use, a rate of 2.70 spaces per 1,000 sf was applied. The average rate from ITE is 2.79 spaces per 1,000 sf. However, the 2.70 rate was estimated by applying the vehicle occupancy split from the Countywide Model to the number of employees expected to occupy the project at full occupancy. Specifically, the number of one-person, two-person and 3+-person vehicles. These values were then applied to the project to determine parking demand. For example, the Lakepoint Tower project used 3.3 employees per 1,000 sf of office times 90% for absenteeism divided by 1.91 employees per car. The resultant number of spaces were added to any displaced existing on-site spaces to create the total demand. The 1.91 factor was based upon the County model mode choice information from the City Center EIR. That is, 45% one-person plus 12% two-person plus 4% 3.25 persons per vehicle = $45+(12/2)+(4/3.25)= 52$ vehicles. Therefore, 100 employees would equate to 1.92 employees per vehicle ($100/52= 1.92$).

For our project, Alameda County found 83% one-person vehicles, 12% two-person and 4% 3.2-person vehicles = $83+(12/2)+(4/3.2)=90$ vehicles. Based upon this information, 100 employees would equate to 1.11 employees per vehicle. Applying the methods cited above to the proposed project results in a parking demand for 270 spaces plus the 73 spaces being displaced by the project = $(100 \text{ ksf} \times 3.3 \text{ employees/ksf}) \times .90 \text{ (absenteeism)} / 1.11 = 270$ or 2.7 spaces per 1,000 sf.

ITE does not have a precise parking rate for retail/commercial uses. However, a minimum of 1.6 spaces per 1,000 sf is suggested for general retail uses. A 50%

reduction factor was applied to accommodate walk-in traffic, which results in a parking demand rate of 0.80 spaces per 1,000 sf.

Table 3C-7 details the parking demand, parking supply, and shortfall/surplus for the proposed project based upon the ITE standards. The proposed project would require 404 parking spaces (excluding the 73 existing displaced on-site parking spaces). The project design specifies only 290 spaces. Therefore, there is a total shortfall of 114 parking spaces (187 spaces if the public parking is included).

Table 3C-7. Parking Impacts for the Proposed Project ⁴

Land Uses	ITE Code	Parking	Proposed	Unit	Demand	Supply	Surplus (Shortfall)
		Demand per Unit	Land Use Amounts				
Retail	N/A ¹	0.8	8	Gksf	7	0	(7)
Office ²	771-716	2.70	100	Gksf	270	150	(120)
Residential ³	230	1.16	109	Dwelling	127	140	13
					404 ⁴	290	(114) ⁴

Source: ITE Parking Generation, 2nd Edition 1997

gksf = gross 1,000 square feet

Notes:

¹ Retail parking demand (no specific ITE rate for retail is cited) = however, a minimum of 1.6 spaces/1000 sf (which represents an average parking value for general retail has been included) at 50% (downtown reduction factor) = 0.80 spaces

² Office parking demand = ITE code 771-716 average value = 2.79 adjusted for local mode choice to 2.70

³ Residential parking demand is from ITE code 230 (Residential condominiums) = 1.16

⁴ Existing onsite parking lot with 73 spaces not included and the totals do not include on-street parking spaces.

On-street parking for 17 vehicles around the project site would be retained. As described above, proposed driveways would be offset by existing driveways, and no on-street spaces would be lost. During construction of the project, all on-street parking would be temporarily unavailable.

The 73 on-site parking spaces would be displaced in that they would be removed during project construction. These spaces are not legally required parking for on-site or off-site development. Therefore, these spaces can be withdrawn from public use at any time, with or without the project. Since these spaces are not legally required, their removal does not constitute a significant impact under CEQA. Accordingly, no mitigation (i.e., replacement) is required. However, this EIR, in the interest of being conservative, has considered the removal of the 73 spaces.

Shared Parking Scenario

Appendix C2, “Shared Parking Background Materials,” depicts a reasonably foreseeable scenario for a Parking Management Plan for the 3rd and Broadway project, using information in Shared Parking, a publication by the Urban Land Institute (ULI). The ULI report is recognized within the transportation

engineering profession as a reliable resource for understanding how different land uses can share parking spaces in common on-site areas, and for computing reasonable scenarios for reduced demand for parking spaces because of staggered peak periods of parking demand for each of the individual land uses. Analytical information contained in the ULI report is based on data collected at numerous locations (both single-use sites and mixed-use sites).

Shared parking is defined as parking space that can be used to serve two or more individual land uses without conflict or encroachment. Because peak demand for residential parking occurs during the overnight period, and peak demand for office parking typically occurs during the midday period, there are opportunities to reduce the area needed for parking by implementing shared parking operations.

The scenario depicted on the attached worksheet shows that the proposed on-site parking supply of 290 independently-accessible spaces and the parking demand estimated for the two proposed land uses, would reduce the potential parking shortfall but not fully accommodate the parking demand during all times of the day. The parking Management Plan for the 200-228 Broadway project would need to be flexible to adjust the assigned and unassigned parking spaces to actual travel mode patterns exhibited by project residents.

The standard stand-alone parking demand for the office uses is 270 spaces, while the residential demand is 127 spaces and the retail demand is 7 spaces for a total demand for the project of 404 spaces. The project is proposing to provide 290 spaces. Therefore, a shortfall of 114 spaces would occur (187 if removal of the public parking is included). However, the use of shared parking will reduce this shortfall significantly. Because, the maximum parking demand for offices and residential uses do not occur at the same time, the parking for these two uses can be shared. Based upon research conducted by the ULI, the maximum occupancy for office uses is at 10:00 a.m. At this same time of day, only 68% of the residential demand would occur. The retail parking demand of 7 spaces is assumed to occur each hour during the day. Additionally, the Countywide Model includes a 10% adjustment factor for modal choice, which means that 10% of the office workers will walk or use transit. Applying this factor to the office parking demand results in an office demand of 243 parking space. Therefore, the shared parking demand for the project is 336 spaces (243 office spaces plus 86 residential spaces plus 7 retail spaces). As the project is providing 290 spaces, the shortfall, based on the use of shared parking, would be 46 spaces (336 spaces – 290 spaces = 46 space deficit). The shortfall would be 119 spaces if removal of the existing public parking is included and shared parking is used.

The worksheets in Appendix 3C2, "Shared Parking Background Information," provide parking demand for each land use by hour of day, based on data contained in the ULI Shared Parking Report. The hourly percent parking accumulation for the residential use is for ULI's Non-CBD category (i.e., for areas where more residents use their autos [conversely few residents walk or use public transit] than do residents in city downtown areas). As shown, during midday hours (when the highest office parking demand occurs) the residential

parking demand is about 68% of the peak demand thereby, about 32% of the residential parking spaces are vacant.

Available Nearby Parking Supply

The Port of Oakland, as part of the Jack London District Transportation Study (1999–2001), conducted surveys of existing parking use. These surveys found that, in the area near the project site (within the Port’s RD&E-2 land use areas) there are 622 parking spaces. This number includes 409 off-street and 177 on-street spaces available to the general public. The occupancy surveys found that, of these on-street spaces, 98% were occupied during a normal weekday. On weekday evenings, the occupancy of the on-street spaces was about 88%, whereas on Saturday and Sunday, the occupancy of the on-street spaces ranged from 80% to 89%, depending on the time of day. The occupancy of the 409 off-street spaces was not quantified in the study. Additionally, the surveys found that in two other areas in the Jack London District that are both located within easy walking distance of the project site, there are an additional 2,307 parking spaces. This figure includes on-street and off-street spaces, which includes the Jack London Parking Garage that contains 1,000 spaces available for public use during weekdays, evenings, and on weekends. The occupancy surveys found that, of the on-street spaces in these two areas, 94–98% were occupied during a normal weekday, while on weekday evenings, the occupancy was about 50–86%, and on Saturday and Sunday, the occupancy ranged from 70% to 90%, depending on the time of day. For the off-street parking in these areas, the study estimated that the 1,000-space Jack London Garage is at 60% occupancy during mid-afternoon during the week, and the 300-car garage below Barnes & Noble is at 70–80% occupancy during weekday peak. Both of these parking garages are located within walking distance. Therefore, with the unused capacity of off-street parking spaces available in all of these areas within 1 to 5 blocks of the project site these unused, off-street parking spaces could be used to accommodate some of the shortfall that would be generated by the project.

Transit Demand

The 1990 Bay Area Travel Survey (BATS) conducted by the Metropolitan Transportation Commission found a 10% transit ridership usage within the Jack London District. This factor has also been incorporated into the Countywide Model.

Based upon this factor, it is estimated that there could be approximately one transit trip for every 6 vehicle trips generated by the project. Of those trips, approximately 60% could use AC Transit and 40% could use BART. Using these estimates, the project would generate a maximum of 40 AC Transit trips and 26 BART trips in both directions during each peak hour. Although the project site is close to the Jack London Square ferry service, it is not known what portion of the project-generated peak-hour trips would occur by ferry.

For evaluating transit impacts, a significant impact was considered to occur if the proposed project would cause one or more transit lines to exceed the capacity goals set by the respective transit agency. Most of AC Transit routes serving the site experience maximum loads that exceed 100%. However, routes 72 and 83 exceed the line limit for only 10 minutes (AC Transit 1998). For AC Transit, which has a capacity goal of 125% during its peak half-hour, the worst existing capacity condition in the project area is for the 72-73 route, which operates at over 126% of seating capacity during brief periods each day. On this route, the peak observed half-hour ridership was 121 passengers on three buses, or 53 fewer than the desired maximum of 174 (125% times three buses times 47 passengers). Therefore, the criterion for a potential significant impact should be 106 passengers per hour per route.

For BART, a typical peak-hour train has a seating capacity of 708 passengers (BART 2001). Because some lines already run at BART's upper limit goal of 135% of capacity, an addition of 1% of the seating capacity might cause the goal to be exceeded, depending on which line received the new passengers. One percent of 708 passengers would be 7 riders, so an expected addition of 7 passengers per train would potentially constitute a significant impact.

Construction Impacts

The construction plan for the project is summarized below.

- Construction Duration: the construction schedule is between 20 and 22 months.
- Construction staging areas: it is the intent of the project to secure encroachment permits for the sidewalk, the 11 metered and 6 unmetered parking stalls along both 2nd and 3rd Streets and Broadway. Protective barricades would be built for general site control purposes, public safety, and for noise reduction.
- Construction workers would average 150 people with the peak at about 250 people.
- Parking requirements and locations during construction: Parking on the jobsite will be limited to job trucks that are required to support the current work. Most of the parking needs for subcontractors, staff, and craft workers, would be met by utilizing the public parking areas and garages near the site. Prior to the issuance of any building permits, the applicant will identify the locations of the off-site parking space to be used during by construction workers during the construction of the project.
- Types of construction vehicles and number of trips per vehicle type: General types of construction vehicles would access the site. These would include: end bump and belly dump trucks for mass excavation, numerous flatbed and semi-trailers for delivering shoring, formwork, rebar, steel, glass and other equipment and materials. In addition,

concrete trucks would access the site throughout the construction of the project.

- Construction traffic routes: The predominate construction traffic would flow from I-880 and on to Broadway. Most deliveries would occur on 3rd Street.
- Disposal, cut, and fill truck trips and disposal sites: There are an estimated 17,000 to 18,000 cubic yards of excavated material. An average truck load is about 9-12 yards, depending upon the type of truck used. It is estimated that about 1,700 loads of materials would be excavated from the site during a 6–8-month period. Information regarding disposal was not available at the time the preliminary construction plan was provided.

Estimating 2005 and 2020 Traffic Conditions

Approach

An updated cumulative growth approach was developed for the City, using a forecast-based approach, i.e., an approach based on regional forecasts of economic activity and demographic trends. The forecasts used as the basis for the scenario were those developed by ABAG, in its *Projections 2000* series. The updated cumulative growth scenario for the City also considered recent and anticipated future development projects in Oakland, as well as other changes in employment and population. Development projects and other changes in Oakland were identified based on input from City of Oakland and Port of Oakland staffs, and on analysis of economic and real estate market data and trends. Future development projects were identified to include approved, proposed, and potential development projects expected by the year 2020.

The growth that could be accommodated by recent and expected future development projects and other changes was evaluated within the context of the ABAG projections. The ABAG projections provided the reference for citywide totals for the years 2005 and 2020, consistent with the analysis years in the Countywide Model. The list of development projects and other changes provided the ability to relate individual projects to the citywide context. The location of specific projects and sites allowed for refinements in the allocation of growth to traffic analysis zones (TAZs) within the City.

The analysis evaluated how the amount and type of growth represented by future development projects “fit” into the most recent ABAG projections for the City. Other changes in population and employment also were accounted for. Other additions to population and employment included those resulting from increase occupancies of existing buildings, the re-leasing of spaces vacated by existing businesses/government activities relocating to newly developed projects, the renovation of spaces that had previously sat vacant, the conversion of spaces in existing buildings to more intensive uses, and the development of small projects on infill sites. Reductions in population and employment include changes as a

result of base closures, displacements by development projects, and the movement of some types of businesses out of the area due to increasing rents and land values.

Conclusions

The Update Cumulative Growth Scenario for the City that is being used for environmental analysis purposes is the scenario reflecting construction and occupancy of all anticipated future development projects identified by the City and the Port. This approach ensures that the cumulative effects of all anticipated development projects can be evaluated within the projection/EIR analysis period. The approach can be considered conservative in that citywide growth to the year 2020 is assumed to exceed the ABAG projections for the City.

Growth in the Rest of the Bay Area

The cumulative growth scenario assumes growth in employment, households, and population as projected by ABAG and included in the Countywide Model for the rest of the nine-county Bay Area region outside of Oakland, with one exception. The exception is for selected TAZ's in the City of Alameda, where the ABAG projections were replaced by update growth assumptions that reflect the development of the FISC-Alameda/NAS/Catellus projects.

Figures 3C-3 and 3A, "Year 2005 Background Peak Hour Traffic Volumes," show the 2005 background (i.e., without the proposed project) a.m. and p.m. peak-hour intersection turn-movement volumes.

Figures 3C-4 and 4A, "Year 2020 Background Peak Hour Traffic Volumes," show the 2020 background (i.e., with project) a.m. and p.m. peak hour intersection turn-movement volumes.

Alameda County Congestion Management Agency Analysis

Because the proposed project would generate more than 100 peak-hour trips, the impacts of the proposed project on the regional transportation system were assessed using the Countywide Model. The impact analysis for roadways included CMP-designated regional roadways and several local Metropolitan Transportation System (MTS) roadways in the project vicinity, as identified by ACCMA staff in response to the NOP for the proposed project. The following roadway links were analyzed:

- I-880 west of I-980
- I-880 east of Oak Street

- I-980 north of I-880
- I-980 south of I-580
- SR 260 (Webster/Posey Tubes) south of I-880
- Broadway north of 4th Street
- Broadway south of 12th Street
- Harrison Street south of 11th Street
- Webster Street south of 12th Street
- 7th Street west of Clay Street
- 8th Street east of Broadway
- Embarcadero west of Oak Street
- Embarcadero west of Broadway
- Castro Street south of 12th Street
- Brush Street south of 12th Street

A summary of the approach and results is provided in Appendix C3, “Transportation and Traffic: Technical Memoranda.”

Significance Criteria

According to State CEQA Guidelines, a project would normally have a significance 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 ration on roads, or congestion at intersections).” Specifically, for the City, a project-generated increase in traffic is considered to be significant if it meets any of the following criteria:

- At a signalized study intersection that is located within the Downtown area³, the project would cause the existing or future baseline LOS⁴ to degrade to worse than LOS E. (Therefore, a significant impact would occur if the project causes the LOS to degrade from LOS A through E to LOS F).
- At a signalized study intersection outside of the Downtown area, the project would cause the existing or future baseline LOS to degrade to worse than LOS D. (Therefore, a significant impact would occur if the project causes the LOS to degrade from LOS A through D to LOS E).

³ Downtown is defined in the Land Use and Transportation Element of the *Oakland City 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); the project site is within that area.

⁴ Level of service (LOS) and vehicle delay are based on methodologies in the Highway Capacity Manual, Transportation Research Board (National Research Council), Special Report 209, 1994 Update.

- At a signalized study intersection outside of the Downtown area where the existing or future baseline level of service is LOS E, the project would cause the service level to degrade to LOS F, or would cause the total intersection vehicle delay to increase by four or more seconds.
- At a signalized study intersection within all areas where the existing and future baseline level of service is LOS E, the project would cause the service level to degrade to LOS F, or would cause the averaged delay for any of the critical movements to increase by six or more seconds. (Therefore, a significant impact would occur at any intersection operating at LOS E if the project causes any of the delay for any critical movements within the intersection to increase by six or more seconds).
- At a signalized study intersection within all areas where the baseline level of service is LOS F, the project would cause (a) the total intersection average vehicle delay to increase by two or more seconds, (b) an increase in average delay for any of the critical movements of four or more seconds; or (c) an increase in volume-to-capacity ratio of more than 3% (if delay values cannot be measured accurately). (Therefore, a significant impact would occur at any intersection operating at LOS F if the project causes the total delay to increase by two or more seconds, or any critical movements delay to increase by four or more seconds).
- In the study area, the project would cause a “considerable” contribution to cumulative impacts, which occurs when the project contributes 5% or more of the cumulative traffic increase as measured by the difference between baseline and future (with project) conditions.
- In the study area, the project would cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than 3% for a roadway segment that would operate at LOS F without the project.
- In the study area, the project would result in a parking demand (both project-generated and project-displaced) that would not be met by the project’s proposed parking supply or by the existing parking supply within a reasonable walking distance from the project site. Project-displaced parking results from the project’s removal of standard on-street parking and legally required off-street parking (non-public parking which is legally required).
- In the study area, the project would generate added transit ridership that would:
 - increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125% over a peak 30-minute period;
 - increase the peak hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains; and/or

- increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute.
- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrian due to a design feature (e.g., sharp curves or dangerous intersections) that does not comply with Caltrans design standards, incompatible uses (e.g., farm equipment), or increase in volumes of motor vehicles, bicyclist, or pedestrians.
- Fundamentally conflicts with adopted policies, plans or programs supporting alternative transportation (e.g., bicycle racks, bus turnouts).
- Result in inadequate emergency access for the project site (i.e., result in fewer than two emergency access routes for streets exceeding 1,000 feet in length).

Forecasts

Traffic forecasts were based on the 2001 version of the Countywide Model, which uses ABAG P2000 socioeconomic forecasts as updated by the City for the downtown area. For the CMP analysis, the proposed project was added to the 2005 and 2020 traffic forecasts using standard ITE trip-generation rates, 3rd Edition.

Impacts of the Proposed Project

This section describes the potential impacts of the proposed project and proposes mitigation measures needed to reduce the project impacts to less-than-significant levels. The impacts of the proposed project were evaluated for three scenarios. The scenarios include: existing plus project, year 2005 and year 2020.

Existing Plus Project

Table 3C-8 shows a summary of the LOS calculations for the existing with and without project condition.

Table 3C-8. Existing With and Without Project Conditions

Intersection	Existing Without Project a.m. Peak Hour		Existing With Project a.m. Peak Hour		Existing Without Project p.m. Peak Hour		Existing With-Project p.m. Peak Hour	
	Delay (Sec./Veh.)	LOS	Delay (Sec./Veh.)	LOS	Delay (Sec./Veh.)	LOS	Delay (Sec./Veh.)	LOS
Broadway at Embarcadero	2.6	A	2.7	A	3.7	A	3.8	A
Broadway at 2nd Street	5.7	B	7.4	B	9.5	B	10.5	B
Broadway at 3rd Street	5.7	B	6.2	B	7.2	B	7.4	B
Broadway at 5th Street	10.5	B	10.6	B	12.9	B	13.8	B
Broadway at 6th Street	9.3	B	9.6	B	10.0	B	10.1	B
Oak Street at 5th	6.1	B	6.1	B	7.2	B	7.2	B
Street/southbound I-880 on-ramp								
Oak Street at 6th	7.4	B	7.5	B	7.5	B	7.6	B
Street/northbound I-880 off-ramp								
Oak Street at Embarcadero	5.0	B	5.2	B	6.3	B	6.3	B
Embarcadero at Webster Street	4.2	A	4.3	A	5.4	B	5.6	B
Market Street at 5th Street	5.6	B	5.6	B	5.3	B	5.5	B
Market Street at 3rd Street	7.1	B	7.2	B	6.9	B	7.1	B
Franklin Street at 2nd Street**	-	F*	-	F*	-	F*	-	F*
Franklin Street at 3rd Street**	-	F*	-	F*	-	F*	-	F*
Jackson Street at 7th Street	50.1	E	53.3	E	25.1	C	25.4	C
Jackson Street at 6th Street	9.5	B	9.5	B	12.4	B	12.5	B
Jackson Street at 5th Street	15.4	C	15.3	C	20.2	C	20.9	C
7th Street at Harrison Street	7.5	B	7.5	B	8.0	B	8.0	B
Atlantic Avenue at Webster Street	15.0	C	15.0	C	13.1	B	13.1	B

*Field observation. The project is not expected to add enough vehicular traffic to generate a significant impact. Moreover, the preexisting substandard condition (LOS F) will discourage drivers from accessing these intersections. Instead alternative routes will be used to exit the site and access the surrounding street system. These alternative routings have been assumed in this EIR. In addition, if the produce market relocates, the LOS will be B and A.

**Note: With project conditions if produce market relocates outside Jack London Square District Franklin at 2nd Street without the produce district would be LOS A in the a.m. and p.m. peak hour. Franklin at 3rd Street without the produce district would be LOS A in the a.m. and p.m. peak hour.

Source: Dowling Associates, Inc. 2001

2005 Intersection Levels of Service

Table 3C-9 shows a summary of the LOS calculations for 2005 with and without project conditions. Table 3C-10 shows the project's percent contribution to impacts at relevant intersections. Locations where project generated impacts occur are highlight in bold print. Three locations were found to have project impacts. These include: 7th/Jackson Street, 6th/Jackson Street, and 5th/Jackson Street.

Table 3C-9. 2005 With and Without Project Conditions

Intersection	2005 Without Project a.m. Peak Hour		2005 With Project a.m. Peak Hour		2005 Without Project p.m. Peak Hour		2005 With-Project p.m. Peak Hour	
	Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS
	Broadway at Embarcadero	3.4	A	3.6	A	5.5	B	5.7
Broadway at 2nd Street	7.0	B	9.7	B	15.0	C	25.4	D
Broadway at 3rd Street	6.0	B	6.5	B	8.0	B	8.5	B
Broadway at 5th Street	17.3	C	17.6	C	25.1	D	29.3	D
Broadway at 6th Street	14.2	B	14.6	B	15.7	C	16.0	C
Oak Street at 5th	6.8	B	6.9	B	9.8	B	9.8	B
Street/southbound I-880 on-ramp								
Oak Street at 6th	10.6	B	10.6	B	9.4	B	9.9	B
Street/northbound I-880 off-ramp								
Oak Street at Embarcadero	6.2	C	6.5	C	9.1	C	9.3	C
Embarcadero at Webster Street	4.5	A	4.6	A	6.4	B	6.8	B
Market Street at 5th Street	8.6	B	8.7	B	8.3	B	8.5	B
Market Street at 3rd Street	9.4	B	9.6	B	9.3	B	9.7	B
Franklin Street at 2nd Street**	-	F*	-	F*	-	F*	-	F*
Franklin Street at 3rd Street**	-	F*	-	F*	-	F*	-	F*
Jackson Street at 7th Street	175.4	F	182.1	F	63.0	F	64.3	F
Jackson Street at 6th Street	29.8	D	29.7	D	66.0	F	68.5	F
Jackson Street at 5th Street	59.7	E	59.3	E	93.6	F	98.9	F
7th Street at Harrison Street	8.5	B	8.6	B	9.6	B	9.7	B
Atlantic Avenue at Webster Street	17.1	C	17.0	C	18.0	C	18.0	C

*Field observation. The project is not expected to add enough vehicular traffic to generate a significant impact. Moreover, the preexisting substandard condition (LOS F) will discourage drivers from accessing these intersections. Instead alternative routes will be used to exit the site and access the surrounding street system. These alternative routings have been assumed in this EIR. In addition, if the produce market relocates, the LOS will be B and A.

**Note: With project conditions if produce market relocates outside Jack London Square District Franklin at 2nd Street without the produce district would be LOS B in the a.m. and p.m. peak hour. Franklin at 3rd Street without the produce district would be LOS A in the a.m. and p.m. peak hour.

Source: Dowling Associates, Inc. 2001

Table 3C-10. 2005 Project Contribution

Intersection	Project Contribution *** a.m. and p.m. Peaks	
	a.m. Peak	p.m. Peak
Broadway at Embarcadero	n/a	n/a
Broadway at 2nd Street	n/a	n/a
Broadway at 3rd Street	n/a	n/a
Broadway at 5th Street	n/a	n/a
Broadway at 6th Street	n/a	n/a
Oak Street at 5th	n/a	n/a
Street/southbound I-880 on-ramp		
Oak Street at 6th	n/a	n/a
Street/northbound I-880 off-ramp		
Oak Street at Embarcadero	n/a	n/a
Embarcadero at Webster Street	n/a	n/a
Market Street at 5th Street	n/a	n/a
Market Street at 3rd Street	n/a	n/a
Franklin Street at 2nd Street	n/a	n/a
Franklin Street at 3rd Street	n/a	n/a
Jackson Street at 7th Street***	1.45%	1.32%
Jackson Street at 6th Street***	1.81%	0.40%
Jackson Street at 5th Street***	2.81%	0.72%
7th Street at Harrison Street	n/a	n/a
<u>Atlantic Avenue at Webster Street</u>	n/a	n/a

*** The project contribution is calculated by dividing the existing-to-future growth increment by the project growth. A project contribution of 5% or less is considered less than significant because the average fluctuation in traffic on any given day is about 5%.

2020 Intersection Levels of Service

Table 3C-11 summarizes projected LOS for 2020 cumulative conditions. Three intersections were found have substandard levels of service at which the project exacerbated the average vehicle delay. These include: 7th/Jackson Street, 6th/Jackson Street, and 5th/Jackson Street (identified by bold). At these intersections, the projects contribution to the total peak hour traffic volumes are provided in Table 3C-12.

Table 3C-11. 2020 With and Without Project Conditions

Intersection	2020 Without Project a.m. Peak Hour		2020 With Project a.m. Peak Hour		2020 Without Project p.m. Peak Hour		2020 With-Project p.m. Peak Hour	
	Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS	Delay (Sec/Veh)	LOS
	Broadway at Embarcadero	11.9	C	12.6	C	9.4	B	6.6
Broadway at 2nd Street	7.1	B	9.5	B	11.5	C	16.2	C
Broadway at 3rd Street	6.6	B	7.0	B	8.1	B	8.5	B
Broadway at 5th Street	18.9	C	19.6	C	27.3	D	31.2	D
Broadway at 6th Street	15.2	C	15.7	C	17.7	C	18.0	C
Oak Street at 5th	7.3	B	7.3	B	14.4	B	14.6	B
Street/southbound I-880 on-ramp								
Oak Street at 6th	10.9	B	10.9	B	11.4	B	12.4	B
Street/northbound I-880 off-ramp								
Oak Street at Embarcadero	6.7	C	7.0	C	10.7	C	10.8	C
Embarcadero at Webster Street	10.9	C	11.7	C	8.0	B	9.5	B
Market Street at 5th Street	8.6	B	8.7	B	9.4	B	9.5	B
Market Street at 3rd Street	12.2	C	12.5	C	12.8	C	13.4	C
Franklin Street at 2nd Street**	-	F*	F*	F*	-	F*	F*	F*
Franklin Street at 3rd Street**	-	F*	F*	F*	-	F*	F*	F*
Jackson Street at 7th Street	177.9	F	184.1	F	286.3	F	287.8	F
Jackson Street at 6th Street	51.5	E	51.3	E	134.1	F	135.8	F
Jackson Street at 5th Street	63.1	F	63.2	F	127.6	F	131.0	F
7th Street at Harrison Street	10.4	B	10.4	B	61.2	E	61.7	E
Atlantic Avenue at Webster Street	485.3	F	484.9	F	281.0	F	280.3	F

*Field observation. The project is not expected to add enough vehicular traffic to generate a significant impact. Moreover, the preexisting substandard condition (LOS F) will discourage drivers from accessing these intersections. Instead alternative routes will be used to exit the site and access the surrounding street system. These alternative routings have been assumed in this EIR. In addition, if the produce market relocates, the LOS will be B and A.

**Note: With project conditions if produce market relocates outside Jack London Square District Franklin at 2nd Street without the produce district would be LOS B in the a.m. and p.m. peak hour. Franklin at 3rd Street without the produce district would be LOS A in the a.m. and p.m. peak hour.

Source: Dowling Associates, Inc. 2001

Table 3C-12. 2020 Project Contribution

Intersection	Project Contribution *** a.m. and p.m. Peaks	
	a.m. Peak	p.m. Peak
Broadway at Embarcadero	n/a	n/a
Broadway at 2nd Street	n/a	n/a
Broadway at 3rd Street	n/a	n/a
Broadway at 5th Street	n/a	n/a
Broadway at 6th Street	n/a	n/a
Oak Street at 5th	n/a	n/a
Street/southbound I-880 on-ramp		
Oak Street at 6th	n/a	n/a
Street/northbound I-880 off-ramp		
Oak Street at Embarcadero	n/a	n/a
Embarcadero at Webster Street	n/a	n/a
Market Street at 5th Street	n/a	n/a
Market Street at 3rd Street	n/a	n/a
Franklin Street at 2nd Street	n/a	n/a
Franklin Street at 3rd Street	n/a	n/a
Jackson Street at 7th Street***	1.4%	0.67%
Jackson Street at 6th Street***	1.3%	0.30%
Jackson Street at 5th Street***	2.6%	0.70%
7th Street at Harrison Street	n/a	n/a
Atlantic Avenue at Webster Street	n/a	n/a

*** The project contribution is calculated by dividing the existing-to-future growth increment by the project growth. A project contribution of 5% or less is considered less than significant because the average fluctuation in traffic on any given day is about 5%.

Local Impacts

Impact 3C-1: Deficit of parking spaces compared to demand (significant and unavoidable)

The proposed project would supply 114 fewer parking spaces than the estimated demand, as calculated using ITE standards (the deficit would be 187 spaces if removal of public parking is included). However, these shortfall values do not consider the effects of shared parking between the office and residential parking spaces as described previously on pages 3C-13 to 3C-14, and does not include the use of other Transit Demand Management measures and the use of over 400 off-street spaces that have been identified as unused capacity in the Jack London District Parking Study. The office space demand peak occurs between 10 a.m. and 12 noon, while the residential peak occurs after 7 p.m. in the evening.

Mitigation Measure 3C-1a: Prior to building occupancy, the project applicant will develop and submit to the City for review and approval, and then implement a Transportation Demand Management (TDM) plan intended to reduce parking demand to the maximum feasible extent. The plan shall be reviewed by a professional traffic engineer 1 year after certification of occupancy is issued. The review, along with the recommendations to revise the plan's effectiveness, shall be submitted to the City for its review and approval. The following measures shall be considered in the TDM plan

- Assign only one specific (numbered, perhaps) parking space to each unit, and prohibit residents from parking in any space except their own.
- Inform residents that there is limited metered, time-limited parking on-street for several blocks around the project location, and indicate that they are therefore strongly discouraged from owning more than one automobile that they might wish to park at or near the project.
- Provide current transit information to residents, either by direct delivery or at a convenient location, such as a kiosk near the elevators.
- The mitigation measures associated with resident parking should be accomplished via the usual sales documentation (e.g., “CCR’s” or homeowner’s association contracts) for the units.
- The project applicant will implement a shuttle service that will operate during a.m. and p.m. peak periods and provide direct links between the Lake Merritt and 12th Street BART stations and the project site.
- Provide tenants with general information about parking in the area. Specifically, leases should include as statement informing tenants that, as is typical in most urban downtown areas, parking is extremely scarce and that employees are advised to use public transit instead of personal automobiles in getting to and from the project site.
- Provide specific information about transit. To provide information about transit, the building management and/or on-site security staff should maintain a reasonable current supply of AC Transit, BART, and ferry schedules. Additionally, at least once per year, perhaps as par of normal correspondence between management and lessees, the building management should reiterate its recommendation for tenants to take transit tot the site.
- Designate 10% of the office-related parking spaces for carpool parking only. The building management should be responsible for designing a method of enforcing the carpool parking.
- Implement a valet parking system during daytime weekday use.
- Price parking within leases or by other means to help limit the number of tenants who drive to the site.

Mitigation Measure 3C-1b: Implement a shared parking management system. Shared Parking is defined as parking space that can be used to serve two or more individual land uses without conflict or encroachment (Urban Land Institute 1987). Because peak demand for residential parking occurs during the overnight period, there could be opportunities for the project to reduce its total demand by implementing shared parking operations. A shared parking management plan shall be established for the project, under which a user of the project's commercial spaces could use a parking space during the day, and a resident could use that same space during the evening/night when the commercial uses are closed, then the total parking demand of 404 spaces, and resulting shortfall of 114 spaces, would be reduced. Based upon research conducted by the ULI, the maximum occupancy for office uses is at 10:00 a.m. At this same time of day, only 68% of the residential demand would occur. The retail parking demand of 7 spaces is assumed to occur each hour during the day. Additionally, the Countywide Model includes a 10% adjustment factor for modal choice, which means that 10% of the office workers will walk or use transit. Applying this factor to the office parking demand results in an office demand of 243 parking space. Therefore, the shared parking demand for the project is 336 spaces (243 office spaces plus 86 residential spaces plus 7 retail spaces). As the project is providing 290 spaces, the shortfall, based on the use of shared parking, would be 46 spaces (336 spaces – 290 spaces = 46 space deficit).

Although there is a parking shortfall of 114 spaces (187 spaces if the public parking is included), this can be reduced to a deficit of 46 spaces (119 if public parking is included) with a shared parking program, which, in turn, can be further reduced to a less than significant impact with adoption of other Transportation Demand Management measures and the use of available off-street parking that is within a reasonable walking distance of the project site. However, this EIR, in the interests of being conservative, will nonetheless consider this impact to be significant and unavoidable. Because the Jack London area is expected to be in a parking deficit situation in the years 2005 and 2020 (based upon the Jack London District Transportation Improvement Study prepared for the Port of Oakland and the City of Oakland), the project, if unmitigated, will contribute to this cumulative impact. Although the project could meet its demand and the loss of the public parking spaces, this EIR, in the interests of being conservative, will nonetheless consider the parking impact to contribute to a cumulative significant and unavoidable increase in parking demand within and near the project site.

Impact 3C-2: Circulation impacts resulting from additional truck trips during construction and construction parking (significant)

The generation of truck trips during the construction of the proposed project could cause circulation impacts on local roadways. This impact is considered significant. Implementation of Mitigation Measure 3C-2 would reduce this impact to a less-than-significant level.

Mitigation Measure 3C-2: Develop and implement a Traffic Control Plan

The project applicant will prepare a Traffic Control Plan (TCP) to reduce to the maximum feasible extent the impacts of construction vehicles on regional and local roadways. The TCP will address items including but not limited to: construction truck routes, street closures, parking for construction workers and staff, access to the project site; and lane closures or parking restrictions that may require coordination with and/or approval by the City and Caltrans. The TCP will be submitted to the City Traffic Engineering and Planning divisions for review and approval prior to the issuance of any building, demolition or grading permits. In addition, as determined by City staff, the project applicant will be responsible for repairing any damage to the pavement that is caused by construction vehicles and for restoring the pavement to pre-construction conditions. Construction traffic will be restricted to designated truck routes within the City. The TCP will include a signage program for all truck routes serving the site during construction. A signage program is a plan that details the location and types of truck route signs that would be installed during construction to direct trucks to and from the site. Construction-related vehicle trips will be restricted to daytime hours and, to the extent feasible, will be minimized during the a.m. and p.m. peak hours.

As part of the Traffic Control Plan to be provided prior to the issuance of any building, demolition or grading permits, the contractor and applicant will identify the locations of the off-site parking space to be used during the construction of the project. The project applicant shall provide off-street parking for construction workers and staff throughout all phases of construction. If there is insufficient parking available within walking distance of the site for construction workers at the time construction is scheduled to begin, the project applicant shall provide a shuttle bus or other appropriate system to transfer construction workers and staff between the satellite parking areas and the construction site.

Impact 3C-3: Additional passengers on both AC Transit and BART service (less than significant)

The proposed project will contribute to the passenger loading on both AC Transit and BART service. This impact is considered less-than-significant. No mitigation is required. (Also see the mitigation discussion under mitigation measure 3C-1 and the impact discussion under Impact 3C-10 and 11 (ACCMA CMP and MTS system impacts).

Impact 3C-4: Deterioration of LOS at the analysis intersections under existing plus project conditions (less than significant)

The addition of project-related traffic to the existing condition does not result in an impact at any of the analysis intersections. Therefore, this impact is less-than-significant. No mitigation is required.

Impact 3C-5: Addition of project-related traffic to the 2005 baseline conditions at Franklin Street at 2nd and 3rd Streets (less than significant)

As noted in the impact discussion, the intersections on Franklin Street and 2nd and 3rd Streets currently operate at LOS F because of the a.m. peak-hour produce district loading activities. The project is not expected to add enough vehicular traffic to generate a significant impact. Moreover, the preexisting substandard condition (LOS F) will discourage drivers from accessing these intersections. Instead alternative routes will be used to exit the site and access the surrounding street system. These alternative routings have been assumed in this EIR. In addition, if the produce market relocates, the LOS will be B and A. Therefore, the direct impacts associated with the proposed project are not considered significant.

Impact 3C-6: Unacceptable LOS along the SR 260 Corridor between the intersection of 7th and Harrison and the 6th and Jackson northbound on-ramp to I-880 (significant and unavoidable)

State Route 260 is from Route 61 in Alameda to I-880 in Oakland near 7th and Harrison Streets.

The ACCMA found a deficiency on the SR 260 corridor. Specifically, the northbound on-ramp to I-800 at 6th and Jackson Street operated at an unacceptable level of service during the peak-hour. To address this deficiency, CCS Planning and Engineering was retained to develop a mitigation plan. The plan included a number of mitigation measures designed to improve the performance within the corridor. The Cities of Oakland and Alameda reviewed these improvements, but have not been able to agree to date upon a final set of improvements. Caltrans also reviewed the list of improvements and found one or more unacceptable.

At this point, the Cities of Oakland and Alameda in consultation with Caltrans continue to work together in adopting a long-range mitigation plan for this corridor. In the short-term, the City has adopted a set of improvements, which are designed to improve but not fully mitigate the substandard operation of this corridor during the a.m. and p.m. peak-hours. These improvements include:

- Closing the 6th Street connecting ramp to Broadway and restriping the northbound I-880 on-ramp from Jackson Street. The existing exit ramp to Broadway at the top of the northbound on-ramp to I-880 at 6th and Jackson Street would be eliminated. This improvement would allow the northbound on-ramp to be reconfigured from one to two lanes. This would allow the northbound left turn and southbound right turn movements at 6th and Jackson to access the I-880 freeway without merging together on the on-ramp.

- Channelizing the right turns from Harrison Street to 7th Street and the right lane on 7th Street. Along 7th Street between Harrison Street and Jackson Street, the curb lane would be widened to allow for the construction of a barrier. The barrier would separate the northbound right turning traffic from the Posey tube from the eastbound traffic on Jackson Street. This improvement would eliminate the existing traffic weaving on 7th Street of these two movements.
- Diverting the southbound through-traffic on Jackson Street to eastbound 7th Street or channelizing the right turns from 7th Street to southbound Jackson Street. A similar barrier would be constructed on Jackson Street between 7th Street and 6th Street. This barrier would separate the vehicles that turn right at 7th Street and Jackson Street that proceed south on Jackson Street to access the northbound on-ramp from I-880 from the southbound traffic on Jackson Street wanting to also access the I-880 on-ramp.

These improvements will not completely mitigate the impacts within the SR 260 corridor to a less than significant level. However, they will improve traffic flow and operating conditions.

A secondary impact of the two-lane on-ramp to I-880 is the merge of on-ramp traffic with the mainline traffic on I-880. In addition, I-880 traffic trying to access I-980 must merge with the traffic exiting the 6th and Jackson Street on-ramp. If there was not sufficient distance provided for this merging movement it results in long vehicle queues on the on-ramp. The Cities of Oakland and Alameda in cooperation with the ACCMA and Caltrans are working toward a solution to the major freeway improvements.

Due to the fact that the improvements listed on the previous page are not funded, are not yet agreed upon and potentially involve other responsible agencies (Caltrans and the City of Alameda) at this time, it is uncertain that these improvements can be implemented. Therefore, Impact 3C-6 remains significant and unavoidable. If the three improvements listed on the previous page are implemented, the impacts would be less than significant.

Impact 3C-7: Addition of project-related traffic to the 2005 baseline conditions at Jackson Street and 5th Streets (significant and unavoidable)

The intersection of 5th/Jackson Streets during the p.m. peak hour would operate at LOS F with the project generating a 5.3 second increase in average delay. This would exceed the two-second threshold of significance and, thus, the project impact would be significant.

Mitigation Measure 3C-3: At 5th and Jackson Streets, the project sponsor shall work with Caltrans and coordinate with the City of Oakland to modify the traffic signal phasing/ timing during the p.m. peak periods to provide an advance phase for southbound traffic (i.e., allowing left turns to be made without conflict with opposing northbound traffic), and to optimize the amount of Green time per signal phase. The project sponsor shall fund its fair share of this measure.

Evaluation of signal phasing/timing modifications at the 5th/Jackson intersection indicates that provision, within the current 45-second cycle length, of a four-second Green light for southbound traffic, followed by 17 to 18 seconds of Green for simultaneous southbound and northbound traffic, and then 14 to 16 seconds of Green for eastbound traffic would improve both the a.m. and p.m. peak-hour levels of service to LOS D.

Because it is not certain whether the above improvements could be made (i.e., because the City, as lead agency, could not implement the improvement without Caltrans' approval), the impacts are considered significant and unavoidable. (As noted, changes to the signal phasing/timing at 5th/Jackson Streets could eliminate the significant impact.)

Impact 3C-8: Poor LOS at the Atlantic Avenue and Webster Street intersection by 2020 (less than significant)

The 2020 condition, with or without the proposed project, would result in an impact at Atlantic Avenue and Webster Street, which is projected to operate at LOS F during the a.m. and p.m. peak hours. The City of Alameda has approved a set of mitigation measures for the development of Alameda Point and other development (associated traffic is expected to use this intersection). The NAS Alameda Reuse EIR includes the extension of Tinker Avenue between Atlantic Avenue and the Webster/Posey tube portals. Additional mitigation is needed within the Atlantic Avenue and Webster Street intersection even with construction of the Tinker Avenue extension. Given that the proposed project does not increase the average vehicle delay at this intersection, no contribution by the project applicant to the cost of future improvements is required. For this project-level analysis, this impact is considered less-than-significant. No mitigation is required.

Impact 3C-9: Increase in demand for bicycle parking in the Jack London area (potentially significant)

The proposed project likely would increase the demand for bicycle parking in the Jack London Square area. This is considered a potentially significant impact. Implementation of Mitigation Measure 3C-5 would reduce this impact to a less-than-significant level.

Mitigation Measure 3C-5: Provide bicycle parking. The project sponsor will create an adequate number of short and long-term bicycle parking spaces, as determined by the City, in locations both on-site and in the public sidewalk adjacent to the project.

Impact 3C-10: The addition of project generated traffic will effect several roadway segments along the Alameda County Congestion Management Agency CMP-designated regional and several local roadways on the Metropolitan Transportation System (MTS) (less than significant)

The years 2005 and 2020 traffic baseline forecasts were extracted at the required CMP and MTS highway segments from the Countywide Model, for both the a.m. and p.m. peak hours. The tables compare the baseline results to the with-project results for each model horizon year for each alternative. The a.m. and p.m. peak hour volumes, volume-to-capacity (V/C) ratios, and the LOS for baseline and with-project conditions represent both directions of flow. (See appendices for the detailed tables.)

It should be noted that at the time the ACCMA traffic assessment was conducted, the project description included slightly different land use intensities than currently proposed. These differences included greater amounts of office and street level retail uses. As a result, the impacts discussed below are based upon higher project traffic generation (295 a.m. and 396 p.m. before as opposed to 279 a.m. and 276 p.m. peak hour trips under the current proposed project – see Table 3C-4 for current project trip generation details).

The proposed project would contribute to the 2005 impacts on the regional and local roadways. This results in a less than significant impact. The addition of project traffic to the regional and local roadways would not result in a change in LOS when compared to the 2005 Baseline condition. Under 2005 conditions with the proposed project, all analysis roadways would continue to operate at LOS E or better, with the exception of SR 260 (Posey-Webster Tubes)⁵ during the a.m. and p.m. peak hours. However, at this location, the CMP LOS F standard applies. The project trips using the Posey-Webster Tubes represent less than 1% of the a.m. and p.m. peak hour forecasts. When compared to normal daily fluctuations in traffic volumes (and model assignment fluctuations), the project impacts at these locations would not be considered significant.

The proposed project would contribute to the 2020 cumulative impacts on the regional and local roadways. This would be a less than significant impact. The addition of project traffic to the regional and local roadways would result in a change in LOS on one roadway segment when compared to the 2020 Baseline

⁵ The level of service calculation for the SR 260 (Posey-Webster Tubes) assumes a functional classification of Arterial Class 1, which is consistent with the classification used in the 1999 Congestion Management Program. The actual capacity of this segment would be closer to that of an expressway at up to 2,000 vehicles per hour per lane, but the operations of this segment is mostly affected by the signals on the arterials at the ends of the tunnels.

condition. During the p.m. peak hour, the segment of I-880 freeway east of Oak Street would change from LOS D to E. The increase in project trips at this segment represents less than 0.5% of the p.m. peak hour forecasts. Under 2020 conditions with the proposed project, all analysis roadways would continue to operate at LOS E or better, with the exception of SR 260 (Posey-Webster Tubes) during the a.m. and p.m. peak hours. However, at this location, the CMP LOS F standard applies. The project trips using the Posey-Webster Tubes represent less than 1% of the a.m. and p.m. peak hour forecasts. When compared to normal daily fluctuations in traffic volumes (and model assignment fluctuations), the project impacts at these locations would not be considered significant. No mitigation is required.

Impact 3C-11: The addition of project generated traffic will effect portions of the local and regional transit services within the Alameda County Congestion Management Agency CMP and Metropolitan Transportation System (less than significant)

The impacts of the proposed project to the transit system were assessed using the Countywide Model. The number of daily transit trips generated by the proposed project was estimated using the production-attraction table for home-based work trips that is generated by the Countywide Model. This home-based work trip table was assumed to represent one-way trips occurring during a two- to three-hour a.m. peak period. To estimate the number of transit trips occurring during the peak hour, half of the a.m. peak period trips were assumed to occur during the a.m. peak hour. The transit trips were divided between AC Transit buses (local and express) and BART trains (bus to BART and drive to BART). For the purposes of the CMP analysis, the proposed project is located within the key service area surrounding downtown Oakland. The frequency of transit service in the project vicinity meets or exceeds the performance measures proposed in Table 8 of the *1999 Congestion Management Program*. The proposed project is located within 0.25 mile of existing AC Transit services and within 0.5 mile from existing BART service.

The impacts of the proposed project to the existing AC Transit bus system were assessed. Based on the modal split assumptions derived from the Countywide Model, the proposed project has the potential to generate between 20 and 50 express and local bus trips in 2005 and 2020, during the a.m. peak hour, depending on the alternative. For the Proposed Project and Primarily Office Mixed-Use Alternatives, most of these trips are assumed to be inbound to the project site. For the Primarily Residential Mixed-Use Alternative, most of the transit trips are outbound in the a.m. Peak. There are 5 AC Transit bus lines with frequencies ranging from 5 to 20 minutes during the peak hours that serve the study area. Although based on the recent survey conducted by AC Transit, one or two buses on some lines are approaching or exceed the maximum load factor of 1.25, most existing buses during the peak hour have sufficient capacity to accommodate this increase in bus trips. So the project is not expected to require an increase in bus frequencies.

Based on the modal split assumptions derived from the Countywide Model, the proposed project would generate an estimated 20 to 40 BART trips in 2005 and 2020 during the a.m. peak hour, depending on the alternative. These trips would be distributed to two BART stations depending on their mode of access or direction of travel. The park-and-ride trips would use the West Oakland station, located about 1.1 miles from the site, while walk and bus access would most likely be to the Oakland City Center/12th Street BART station. This station is located 0.5 mile from the site and a major transfer point served by three BART lines. The increase in passengers from the project in 2005 and 2020 would not cause significant impacts on BART or the fare gates, and can be accommodated (although during the peak hour many trains arrive at the station with standing room only during the peak hours). No mitigation is required.

Table of Contents

Chapter 3C 1

Transportation and Traffic.....1

Introduction.....1

Setting1

 Local Circulation System1

 Existing Intersection Operations2

 Parking5

 Transit near the Site.....6

 Existing Plans.....6

 Planned Improvements7

Impacts and Mitigation Measures9

 Methodology9

 Significance Criteria20

 Impacts of the Proposed Project22

List of Acronyms

evaluation of level of service (LOS).....3

Highway Capacity Manual (HCM)3

Bay Area Rapid Transit (BART)6

Alameda County Congestion Management Agency Countywide Model (Countywide Model).....7

Congestion Management Program (CMP).....7

the Alameda County Congestion Management Agency (ACCMA)7

State Route (SR).....7

Institute of Transportation Engineers (ITE).....9

ksf = 1,000 square feet.....10

Jack London Neighborhood Association (JLNA).....11

Appendix C.....14

Urban Land Institute (ULI)14

gksf = gross 1,000 square feet.....14

Bay Area Travel Survey (BATS).....16

traffic analysis zones (TAZs)18

Metropolitan Transportation System (MTS)19

Transportation Demand Management (TDM)28

Transportation Demand Management (TDM).....**Error! Bookmark not defined.**

Traffic Control Plan (TCP).....30

potentially significant (PS).....**Error! Bookmark not defined.**

Metropolitan Transportation System (MTS)34

volume-to-capacity (V/C)34

List of Citations

Transportation Research Board 1994.....3
 Institute of Transportation Engineers (ITE), 19979
 Dowling Associates, Inc. 2001..... 10
 Institute of Transportation Engineers 1997 11
 Institute of Transportation Engineers 1987 11
 Jack London Neighborhood Association 1998 and 1999..... 11
 AC Transit 1998..... 16
 BART 2001..... 17

List of Figures

Figures 3C-1 and 1a.....4
 Figure 3C-2 and 2a 10
 Figure 3C-2 and 2a 10
 Figure 3C-3 and 3a 19
 Figure 3C-4 and 4a 19
 Figure 3C-4 and 4a 19

List of Tables

Table 3C-13
 Table 3C-2.....3
Table 3C-1 – Level of Service Criteria for Signalized Intersections4
Table 3C-2 – Level of Service Criteria for Un-Signalized Intersections4
 Table 3C-3.....5
Table 3C-3 – Existing Peak-Hour Intersection Levels of Service.....5
 Table 3C-4.....9
Table 3C-4 – Project Trip Generation.....10
 Table 3C-5.....10
Table 3C-5 – Trip Distribution Assumptions.....10
 Table 3C-6.....13
Table 3C-6 – Parking Impacts14
 Table 3C-7.....22
Table 3C-7 – Year 2005 With and Without Project Conditions23
 Table 3C-7.....23
Table 3C-7 – Year 2005 With and Without Project Conditions24
 Table 3C-8.....25
Table 3C-8 – Year 2020 Cumulative ConditionsError! Bookmark not defined.
 Table 3C-8.....Error! Bookmark not defined.

Miscellaneous

Appendix A.....20

Weekday Accumulative by Percent of Peak Hour - Urban Land Institute Research

Time Of Day	Office Weekday	Office Saturday	Residential Weekday	Residential Saturday	Time Of Day
6:00	3%	0%	100%	0%	6:00
7:00	20%	20%	87%	2%	7:00
8:00	63%	60%	79%	3%	8:00
9:00	93%	80%	73%	6%	9:00
10:00	100%	80%	68%	8%	10:00
11:00	100%	100%	59%	10%	11:00
12:00	90%	100%	60%	30%	12:00
1:00	90%	80%	59%	45%	1:00
2:00	97%	60%	60%	45%	2:00
3:00	93%	40%	61%	45%	3:00
4:00	77%	40%	66%	45%	4:00
5:00	47%	20%	77%	60%	5:00
6:00	23%	20%	85%	90%	6:00
7:00	7%	20%	94%	95%	7:00
8:00	7%	20%	96%	100%	8:00
9:00	3%	0%	98%	100%	9:00
10:00	3%	0%	99%	95%	10:00
11:00	0%	0%	100%	85%	11:00
12:00	0%	0%	100%	70%	12:00

Parking Demand and Short-fall Values

Time of Day	Stand along Demand				Being Provided By The Project	Shortfall (XX)	Shortfall (XX)
	Office Demand	Residential Demand	Retail Demand	Total Demand		Office Plus Residential Only	Office Plus Residential Plus Retail
	270	127	7	404	290		
6:00	8	127	7	142	290	155	148
7:00	54	110	7	171	290	126	119
8:00	170	100	7	277	290	20	13
9:00	251	93	7	351	290	(54)	(61)
10:00	270	86	7	363	290	(66)	(73)
11:00	270	75	7	352	290	(55)	(62)
12:00	243	76	7	326	290	(29)	(36)
1:00	243	75	7	325	290	(28)	(35)
2:00	262	76	7	345	290	(48)	(55)
3:00	251	77	7	335	290	(38)	(45)
4:00	208	84	7	299	290	(2)	(9)
5:00	127	98	7	232	290	65	58
6:00	62	108	7	177	290	120	113
7:00	19	119	7	145	290	152	145
8:00	19	122	7	148	290	149	142
9:00	8	124	7	139	290	158	151
10:00	8	126	7	141	290	156	149
11:00	0	127	7	134	290	163	156
12:00	0	127	7	134	290	163	156

Weekday Accumulative by Percent of Peak Hour - Urban Land Institute Research

Time Of Day	Office Weekday	Office Saturday	Residential Weekday	Residential Saturday	Time Of Day
6:00	3%	0%	100%	0%	6:00
7:00	20%	20%	87%	2%	7:00
8:00	63%	60%	79%	3%	8:00
9:00	93%	80%	73%	6%	9:00
10:00	100%	80%	68%	8%	10:00
11:00	100%	100%	59%	10%	11:00
12:00	90%	100%	60%	30%	12:00
1:00	90%	80%	59%	45%	1:00
2:00	97%	60%	60%	45%	2:00
3:00	93%	40%	61%	45%	3:00
4:00	77%	40%	66%	45%	4:00
5:00	47%	20%	77%	60%	5:00
6:00	23%	20%	85%	90%	6:00
7:00	7%	20%	94%	95%	7:00
8:00	7%	20%	96%	100%	8:00
9:00	3%	0%	98%	100%	9:00
10:00	3%	0%	99%	95%	10:00
11:00	0%	0%	100%	85%	11:00
12:00	0%	0%	100%	70%	12:00

Parking Demand and Short-fall Values

Time of Day	Stand along Demand				Being Provided By The Project	Shortfall (XX)	Shortfall (XX)
	Office Demand (reduced by 10 %)	Residential Demand	Retail Demand	Total Demand		Office Plus Residential Only	Office Plus Residential Plus Retail
	243	127	7	377	290		
6:00	7	127	7	141	290	156	149
7:00	49	110	7	166	290	131	124
8:00	153	100	7	260	290	37	30
9:00	226	93	7	326	290	(29)	(36)
10:00	243	86	7	336	290	(39)	(46)
11:00	243	75	7	325	290	(28)	(35)
12:00	219	76	7	302	290	(5)	(12)
1:00	219	75	7	301	290	(4)	(11)
2:00	236	76	7	319	290	(22)	(29)
3:00	226	77	7	310	290	(13)	(20)
4:00	187	84	7	278	290	19	12
5:00	114	98	7	219	290	78	71
6:00	56	108	7	171	290	126	119
7:00	17	119	7	143	290	154	147
8:00	17	122	7	146	290	151	144
9:00	7	124	7	138	290	159	152
10:00	7	126	7	140	290	157	150
11:00	0	127	7	134	290	163	156
12:00	0	127	7	134	290	163	156