C. Transportation, Circulation, and Parking

This chapter describes: (1) the existing and planned transportation system in the vicinity of the proposed project, including roadway, bicycle, pedestrian, and transit facilities; (2) the anticipated impacts of the project on these facilities; and (3) associated mitigation measures

Environmental Setting

Existing Street and Highway System

Regional Access

Interstate 880 (I-880) is a major north-south regional freeway (which runs east-west in the vicinity of the project) that is located south of the project site, extending between I-80 and I-580 in Emeryville and I-280 in San Jose.[1] There are four lanes in each direction in the general vicinity of project area. Access to and from the study area is provided at freeway on- and off-ramps at 29th Avenue and 23rd Avenue. Annual average daily traffic on I-880 north of 29th Avenue was 219,000 vehicles and south of 29th Avenue was 214,000.[2]

Local Access

East 12th Street is a four-lane east-west arterial that borders the northern edge of the project site, extending from Lake Merritt to 54th Avenue. Intersections at major cross streets are signalized along East 12th Street. The average daily traffic volume along East 12th Street at its intersection with 29th Avenue is approximately 13,870 vehicles.

International Boulevard is a four-lane east-west arterial, extending from Lake Merritt in Oakland to Jackson Street in Hayward via the City of San Leandro. Intersections at major cross streets are signalized along International Boulevard.

International Boulevard is a four-lane east-west arterial extending from downtown Oakland that becomes International Boulevard at Lake Merritt. In the project vicinity, the roadway is signed as International Boulevard.

29th Avenue is a four-lane north-south arterial that bisects the project site. The roadway extends from East 17th Street to Alameda, where it turns into Park Street. 29th Avenue is one of three study area roadways providing a connection between the City of Alameda and Oakland. The average daily traffic volume along 29th Avenue at its intersection with East 12th Street is approximately 7,840 vehicles.

Fruitvale Avenue is a four-lane arterial in the vicinity of the project site, and extends from I-580 to Alameda, where it turns into Tilden Way. Fruitvale Avenue is one of three study area roadways providing a connection between the City of Alameda and Oakland.

1 Following the City of Oakland convention of the hills to the north and the bay to the south, International Boulevard and roads parallel to it, such as 12th Street, are considered to run east-west, while and 29th Avenue and roads parallel to it are considered to run north-south. To be consistent with the California Department of Transportation's (Caltrans') directional designation of I-880 as a north-south freeway, however, on- and off-ramps are described as northbound and southbound, rather than eastbound and westbound, respectively.

2 Caltrans, Year 2005 Traffic Volumes on the State Highway System.

San Leandro Street is a four-lane east-west collector roadway that extends from Fruitvale Avenue in Oakland to the City of San Leandro along the west side of the BART line.

Foothill Boulevard is a four-lane east-west collector, extending from Lake Merritt to 73rd Avenue.

High Street is a four-lane arterial in the vicinity of the project site, and extends from I-580 through Alameda. High Street is one of three study area roadways providing a connection between the City of Alameda and Oakland.

42nd Avenue is a four-lane north-south collector, extending from Santa Rita Street to I-880.

38th Avenue is a two-lane north-south local road, extending from I-580 to East 12th Street.

35th Avenue is a four-lane north-south collector, extending from north of I-580 to San Leandro Street.

Derby Avenue is a two-lane north-south local road that borders the eastern edge of the project site, extending from East 10th Street to East 15th Street.

30th Avenue is a two-lane north-south local road that connects East 12th Street with International Boulevard.

26th Avenue is a two-lane north-south local road that connects East 12th Street with International Boulevard.

25th Avenue is a two-lane north-south local road that extends from Foothill Boulevard to East 12th Street.

23rd Avenue is a two-lane north-south collector, extending from I-580 to 29th Avenue.

22nd Avenue is a four-lane north-south collector, extending from East 21st Street to East 12th Street.

East 7th Street is a four-lane east-west collector that connects 23rd Avenue to Kennedy Street, and 29th Avenue to Fruitvale Avenue.

Kennedy Street is a four-lane north-south collector, extending from I-880 (to the north) to 23rd Avenue (to the south).

Park Street is a four-lane north-south arterial that extends from Shoreline Drive in Alameda to the west to Oakland, where it turns into 29th Avenue.

Clement Avenue is a two-lane east-west local road in Alameda that extends from Grand Avenue to the west to Broadway to the east.

Buena Vista Avenue is a two-lane east-west collector in Alameda that extends from Poggi Avenue to the west to Northwood Drive to the east.

Lincoln Avenue is a four-lane east-west arterial in Alameda that extends from Central Avenue to the west to High Street to the east.

Baseline Traffic Conditions

The traffic conditions in urban areas are affected more by the operations at the intersections than by the capacities of the local streets because traffic control devices (signals and stop signs) at

intersections control the capacity of the street segments. The operations are measured in terms of Level of Service (LOS), which is based on average delay per vehicle experienced at an intersection. That delay is a function of the signal timing, intersection lane widths and configuration, hourly traffic volumes, pedestrian volumes, and parking and bus conflicts. Conditions were determined for weekday a.m. and p.m. peak hours. Weekday traffic counts were collected in August and November of 2004 during non-holiday periods and establish the environmental baseline against which the project's traffic impacts are measured.

Level of Service Analysis Methodologies

The operation of a local roadway network is commonly measured and described using Level of Service. The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle 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). This LOS grading system applies to both signalized and unsignalized intersections. 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 to be unacceptable.

Signalized Intersections

At the signalized study intersections, traffic conditions were evaluated using the *2000 Highway Capacity Manual* (2000 HCM) operations methodology. The operational analysis uses various intersection characteristics (e.g., traffic volumes, pedestrian volumes, lane geometry, and signal phasing/timing) to estimate the average control delay experienced by motorists traveling through an intersection.[3] **Table IV.C-1** summarizes the relationship between control delay and LOS. It should be noted that for the sake of consistency, existing (i.e., consistent with period of traffic count baseline, 2004) signal timing has been assumed for all future scenarios.

Unsignalized Intersections

For the unsignalized (two-way stop-controlled) study intersections, traffic conditions were evaluated using the 2000 HCM operations methodology. With this methodology, the LOS is related to the delay per vehicle for each stop-controlled movement or approach. Delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for a vehicle to travel from the last-in-queue position to the first-in-queue position. **Table IV.C-1** summarizes the relationship between delay and level of service.

[3] Control delay, which is the portion of total delay attributed to traffic signal operation for signalized intersections, includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The use of control delay as the basis for defining LOS differs from earlier versions of the *Highway Capacity Manual* methodology, which used "stopped delay" (i.e., a portion of the total control delay) to define LOS.

TABLE IV.C-1
DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

Unsignalized Intersections		Level of Service Grade	Signalized Intersections	
Description	Average Total Vehicle Delay (Seconds)		Average Control Vehicle Delay (Seconds)	Description
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion is more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

SOURCE: Transportation Research Board, *Highway Capacity Manual*, 2000.

Freeways

Table IV.C-2 presents the criteria for the freeway level of service based on volume-to-capacity ratio and vehicle density based on the 2000 HCM. Freeway conditions are reported herein on the basis of both criteria because the City of Oakland uses the volume-to-capacity ratio methodology for its analyses, whereas Caltrans uses the density methodology. The volume-to-capacity ratio methodolgy required by the City of Oakland is the criteria used to determine if the project has a significant traffic impact.

TABLE IV.C-2
CRITERIA FOR FREEWAY LEVEL OF SERVICE (LOS)

Volume-to-Capacity Ratio[a]	LOS Grade	Vehicle Density (pc / mile / lane)[b]
≤0.30	A	≤11
>0.30 and ≤0.49	B	>11 and ≤18
>0.49 and ≤0.70	C	>18 and ≤26
>0.70 and ≤0.90	D	>26 and ≤35
>0.90 and ≤1.00	E	>35 and ≤40
>1.00	F	>40

[a] Free-flow speed is assumed to be 60 mile/hr.
[b] Passenger car equivalents per mile per lane.

SOURCE: Transportation Research Board, *Highway Capacity Manual*, 2000.

Baseline Intersection Traffic Operating Conditions

All intersections which could potentially be affected by traffic generated by the proposed project were tested and screened for inclusion in the traffic analysis. Those intersections which could potentially be significantly impacted by project related traffic were evaluated in detail in the study. To identify intersections which could potentially be impacted by project related traffic, the City's intersection screening criteria was applied to the project's trip generation. All intersections which satisfy the following criterion are included in the study analysis:

- Intersections to which the project would add 30 or more peak hour trips.

It is at intersections which satisfy this criterion that the project could result in a significant adverse impact. This threshold is based on analysis performed by the City and show that 30 to 40 trips can reasonably cause and intersection operating at LOS C to deteriorate to LOS E.[4]

Analysis of peak-hour traffic conditions was conducted at 32 intersections in the project vicinity (26 signalized and six unsignalized). The signalized intersections were identified as intersections which would satisfy the City's intersection screening criteria and where an intersection could potentially operate at an unacceptable level of service as a result of planned cumulative growth. Unsignalized intersections abutting the project site are also included in the analysis. The 32 analysis intersections are listed below and illustrated in **Figure IV.C-1**:

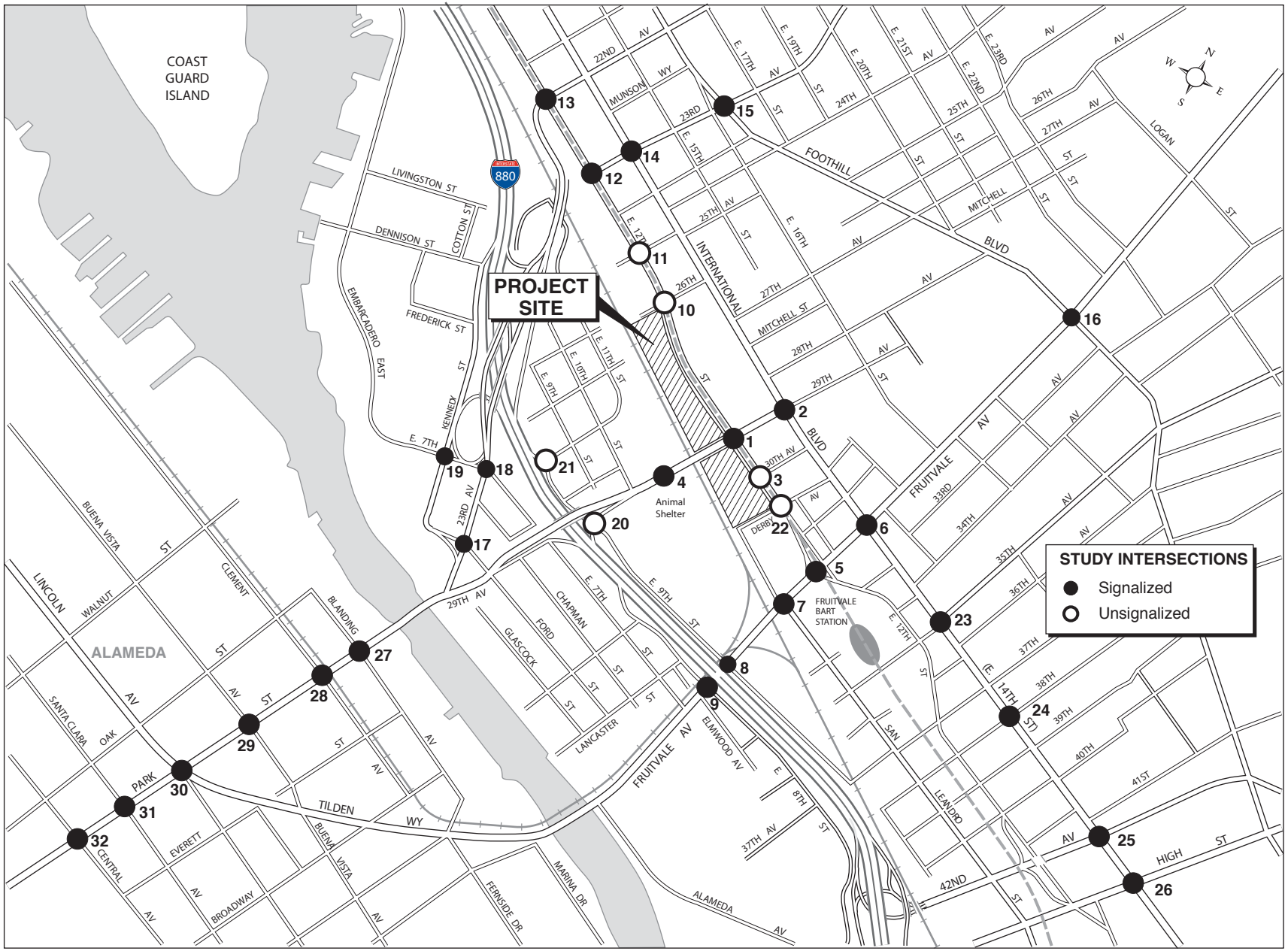
1. East 12th Street and 29th Avenue (signalized);
2. International Boulevard and 29th Avenue (signalized);
3. East 12th Street and 30th Avenue (unsignalized);
4. Animal Shelter Access and 29th Avenue (signalized);
5. East 12th Street and Fruitvale Avenue (signalized);
6. International Boulevard and Fruitvale Avenue (signalized);

[4] City of Oakland Transportation Services Division, *Fruitvale Gateway Traffic Impact Study Development Review*, October 11, 2006.

7. San Leandro Street and Fruitvale Avenue (signalized);
8. East 9th Street and Fruitvale Avenue (signalized);
9. East 8th Street and Fruitvale Avenue (signalized);
10. East 12th Street and 26th Avenue (unsignalized);
11. East 12th Street and 25th Avenue (unsignalized);
12. East 12th Street and 23rd Avenue (signalized);
13. East 12th Street and 22nd Avenue (signalized);
14. International Boulevard and 23rd Avenue (signalized);
15. Foothill Boulevard and 23rd Avenue (signalized);
16. Foothill Boulevard and Fruitvale Avenue (signalized);
17. Kennedy Street and 23rd Avenue (signalized);
18. East 7th Street and 23rd Avenue (signalized);
19. East 7th Street and Kennedy Street (signalized);
20. East 9th Street and I-880 Northbound I-880 Off-Ramp (unsignalized);
21. East 8th Street and Lisbon Avenue (unsignalized);
22. East 12th Street and Derby Avenue (unsignalized);
23. International Boulevard and 35th Avenue (signalized);
24. International Boulevard and 38th Avenue (signalized);
25. International Boulevard and 42nd Avenue (signalized);
26. International Boulevard and High Street (signalized);
27. Blanding Avenue and Park Street (signalized);
28. Clement Avenue and Park Street (signalized);
29. Buena Vista Avenue and Park Street (signalized);
30. Lincoln Avenue and Park Street (signalized);
31. Santa Clara Avenue and Park Street (signalized); and
32. Central Avenue and Park Street (signalized).

Figures IV.C-2a through **Figure IV.C-2c** illustrate the baseline lane geometry and traffic control at the study intersections. Baseline a.m. and p.m. peak hour traffic volumes are presented in **Figures IV.C-3a** through **Figure IV.C-3c**. The baseline a.m. and p.m. peak-hour intersection LOS and delays are summarized in **Table IV.C-3**. All but three of the signalized study intersections currently operate under acceptable conditions (LOS D or better). The East 9th Street at Fruitvale Avenue intersection operates at LOS E during the p.m. peak hour. The Foothill Boulevard at Fruitvale Avenue intersection operates at LOS E during both peak hours. The International Boulevard at 42nd Avenue intersection operates at LOS F during the p.m. peak hour. The East 9th Street at I-880 Northbound Off-Ramp all-way stop controlled intersection operates at LOS F during both peak hours. The worst minor approach at the East 12th Street and 25th Avenue two-way stop controlled intersection operates below acceptable conditions, but the intersection as a whole operates at LOS A.[5]

[5] The worst minor approach to an unsignalized intersection is the stop controlled approach which experiences the highest average delay.



SOURCE: Korve Engineering, 2007

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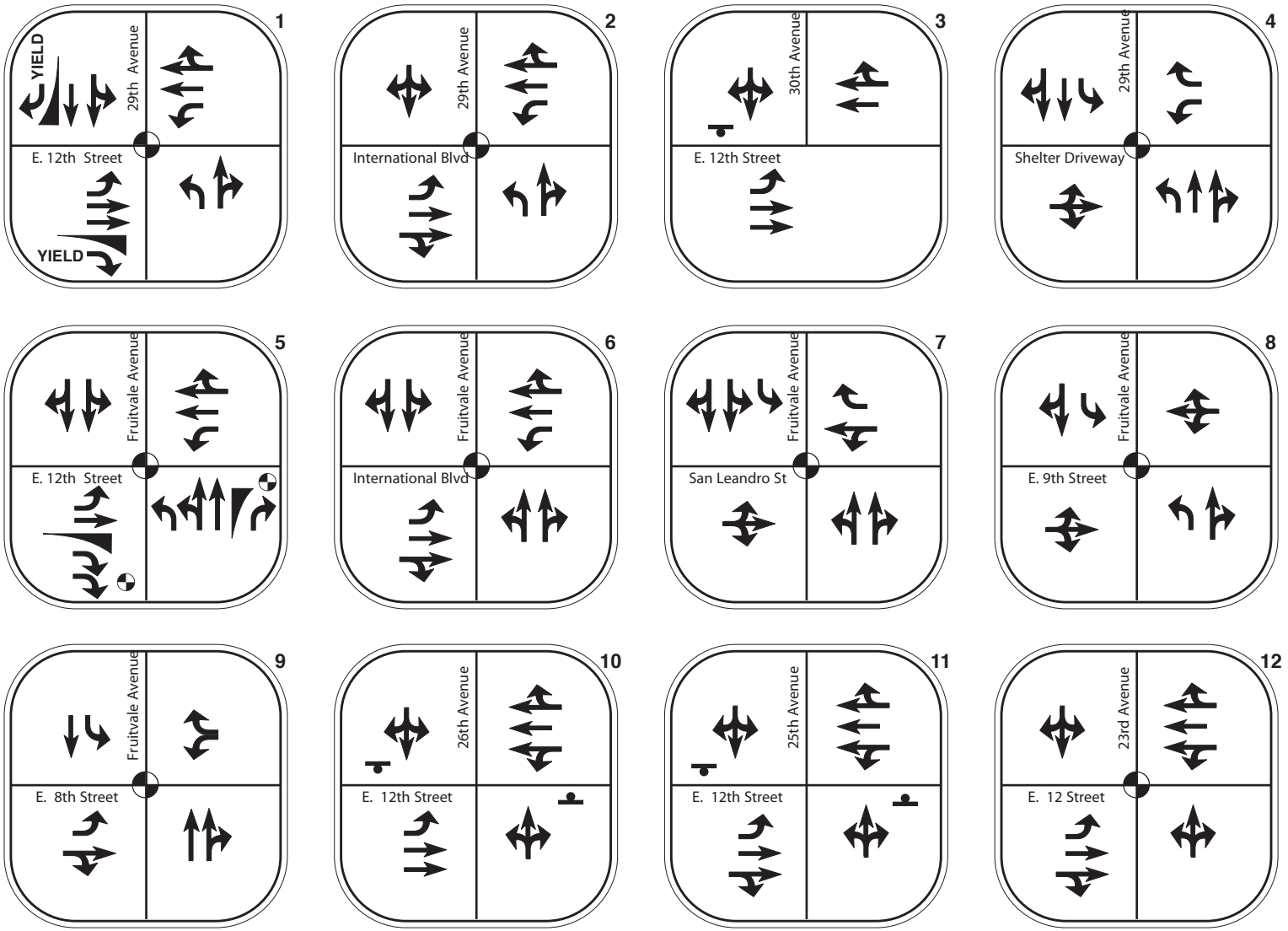
Figure IV.C-1
Study Area



SOURCE: Korve Engineering, 2007

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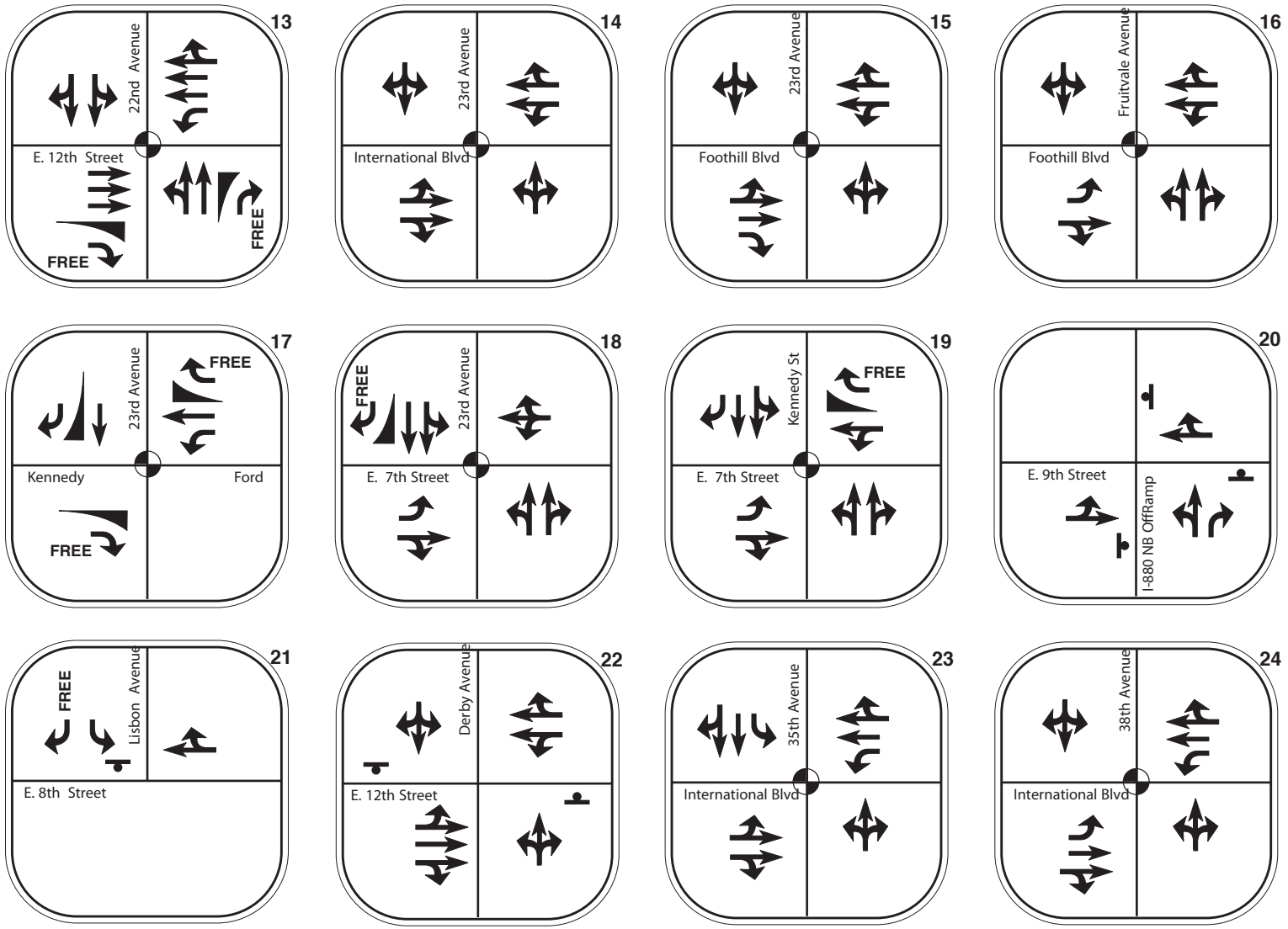
Figure IV.C-2a

Existing (Baseline) Intersection Geometry and Traffic Control



SOURCE: Korve Engineering, 2007

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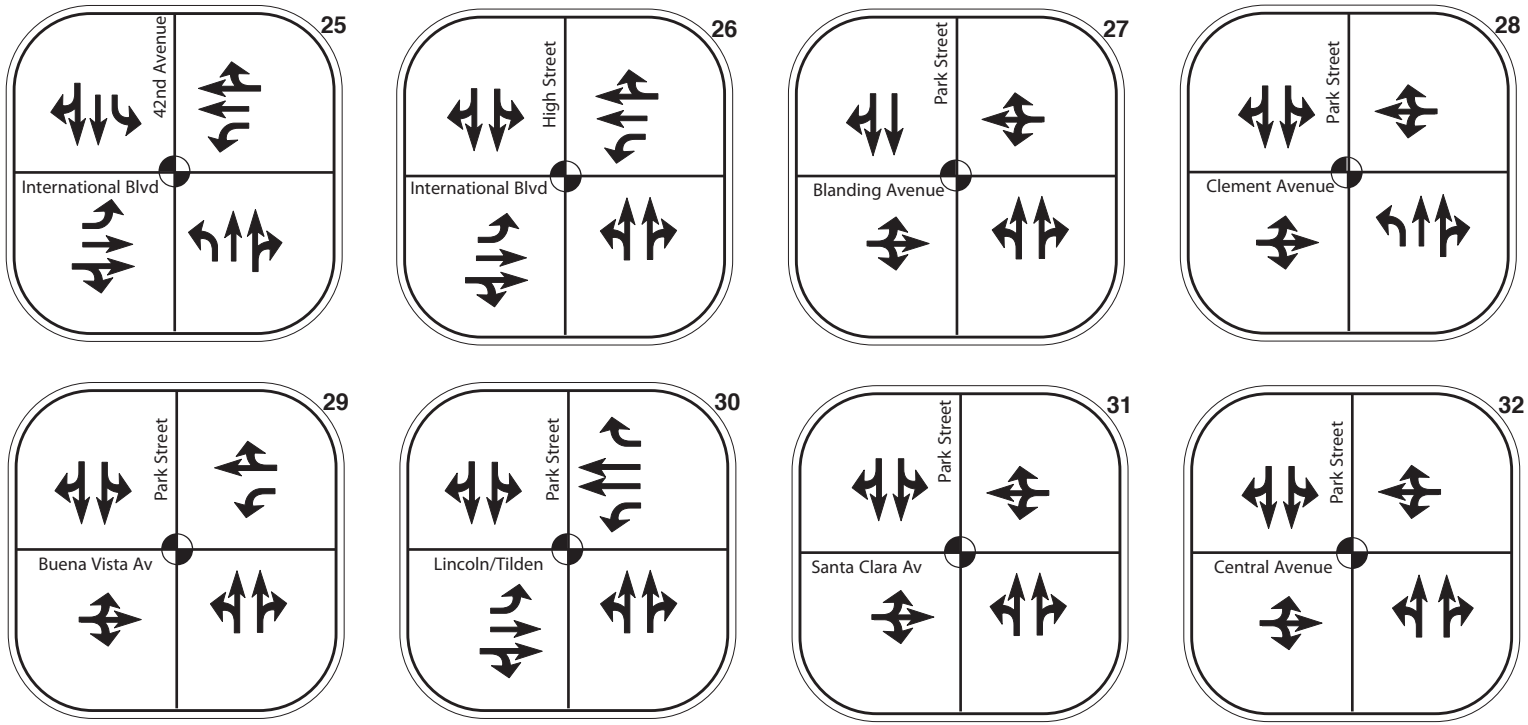
Figure IV.C-2b
Existing (Baseline) Intersection Geometry and Traffic Control



Traffic Signal Stop Sign

SOURCE: Korve Engineering, 2007

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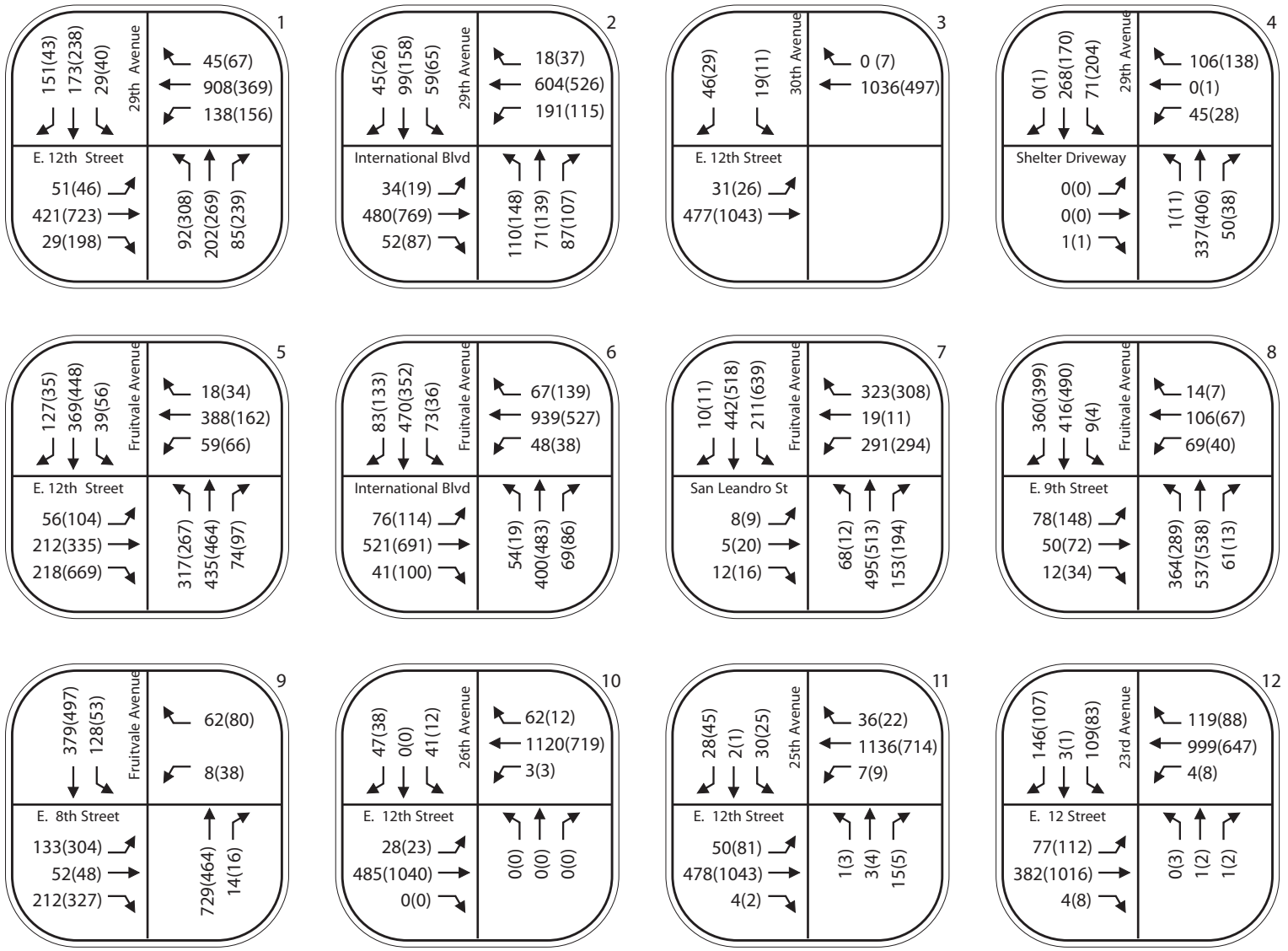
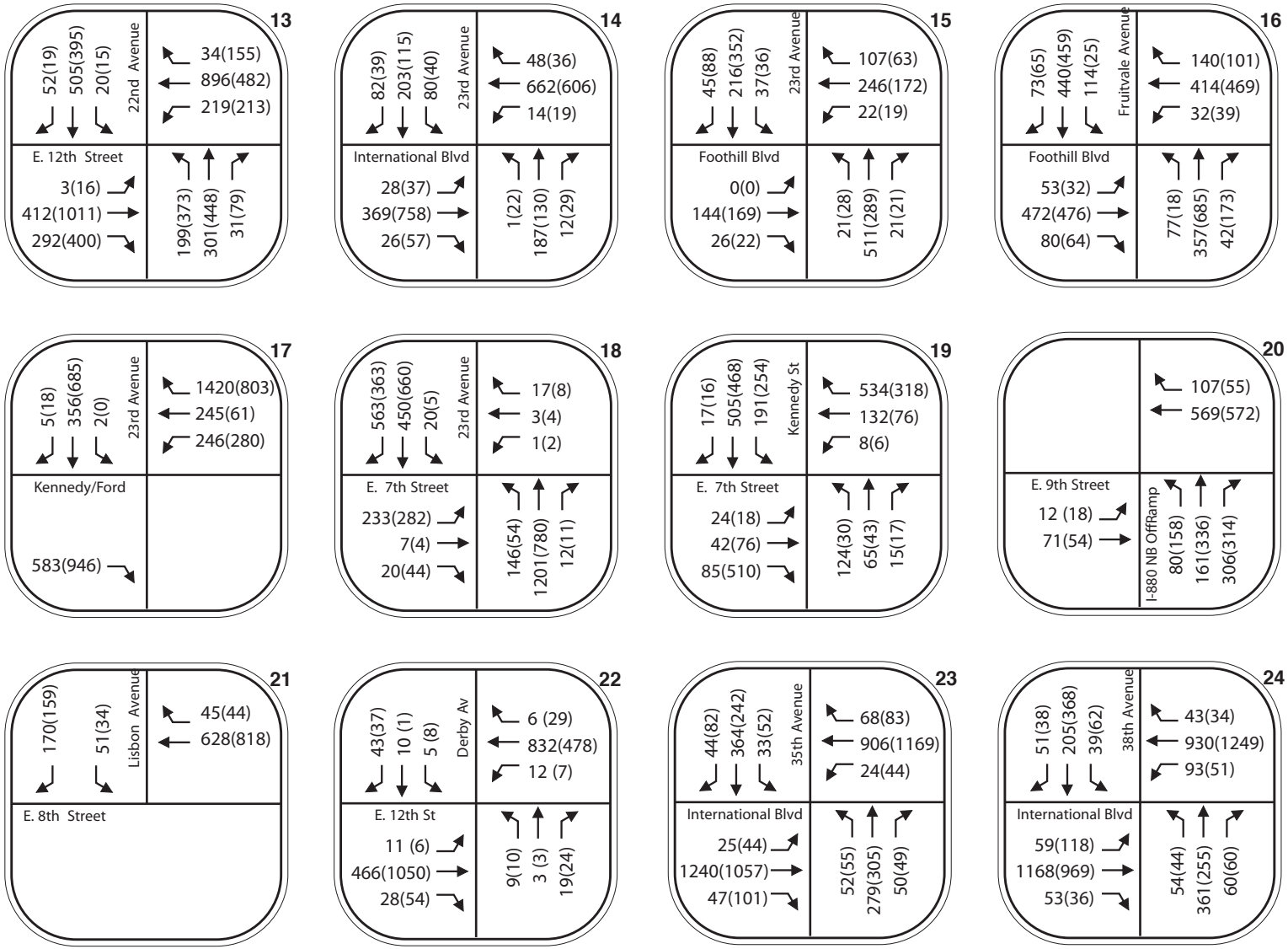
Figure IV.C-2c
Existing (Baseline) Intersection Geometry and Traffic Control



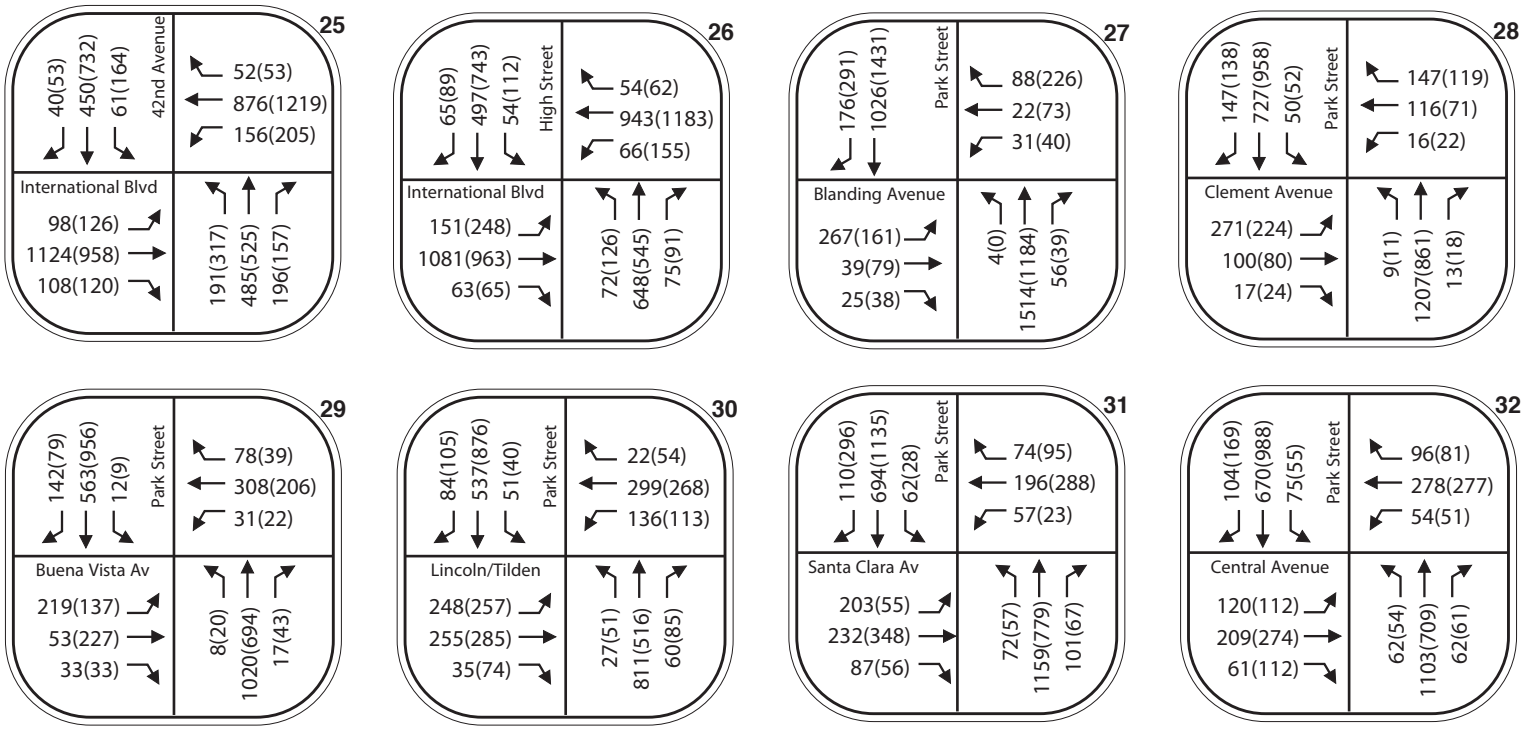
SOURCE: Korve Engineering, 2007

Figure IV.C-3a
Existing (Baseline) Traffic Volumes



SOURCE: Korve Engineering, 2007

Figure IV.C-3b
Existing (Baseline) Traffic Volumes



SOURCE: Korve Engineering, 2007

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Figure IV.C-3c

Existing (Baseline) Traffic Volumes

TABLE IV.C-3
BASELINE PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS)

			AM Peak		PM Peak	
No.	**Intersection**	**Traffic Control[a]**	**LOS**	**Delay[b]**	**LOS**	**Delay[b]**
1	East 12th / 29th Ave	Signal	B	18.0	B	18.5
2	International / 29th Ave	Signal	B	19.1	C	23.0
3	East 12th / 30th Ave	TWSC	C	19.2	B	12.2
4	Animal Shelter / 29th Ave	Signal	B	13.0	B	13.2
5	East 12th / Fruitvale Ave	Signal	C	26.0	C	29.0
6	International / Fruitvale Ave	Signal	C	21.1	B	19.8
7	San Leandro / Fruitvale Ave	Signal	C	26.8	C	24.9
8	**East 9th / Fruitvale Ave**	**Signal**	D	40.2	**E**	**56.4**
9	East 8th / Fruitvale Ave	Signal	B	12.5	C	21.0
10	East 12th / 26th Ave	TWSC	C	20.6	B	11.8
11	**East 12th / 25th Ave**	**TWSC**	**F**	**>80.0**	**F**	**54.1**
12	East 12th / 23rd Ave	Signal	C	21.4	B	19.3
13	East 12th / 22nd Ave	Signal	B	15.7	D	39.3
14	International / 23rd Ave	Signal	B	11.8	A	7.2
15	Foothill / 23rd Ave	Signal	B	10.8	B	10.8
16	**Foothill / Fruitvale Ave**	**Signal**	**E**	**79.0**	**E**	**69.0**
17	Kennedy / 23rd Ave	Signal	B	13.2	B	19.4
18	East 7th / 23rd Ave	Signal	B	17.4	B	10.5
19	East 7th / Kennedy St	Signal	A	9.8	C	31.3
20	**East 9th / I-880 NB Off-Ramp**	**AWSC**	**F**	**54.4**	**F**	**57.4**
21	East 8th / Lisbon Ave	TWSC	C	15.4	C	17.5
22	East 12th / Derby Ave	TWSC	C	17.8	C	23.9
23	International / 35th Ave	Signal	B	12.4	B	12.3
24	International / 38th Ave	Signal	C	24.5	C	33.4
25	**International / 42nd Ave**	**Signal**	C	33.4	**F**	**>80.0**
26	International / High St	Signal	C	20.6	D	51.4
27	Blanding / Park St	Signal	B	18.2	B	19.0
28	Clement / Park St	Signal	D	41.9	B	18.2
29	Buena Vista / Park St	Signal	D	35.7	B	12.0
30	Lincoln / Park St	Signal	B	12.0	B	13.7
31	Santa Clara / Park St	Signal	C	29.7	B	16.9
32	Central / Park St	Signal	B	15.9	B	18.3

Bolded, shaded intersections indicate unacceptable operating conditions.

[a] TWSC = Two-way stop controlled intersection; AWSC = All-way stop controlled intersection

[b] The LOS and delay for two-way stop controlled intersections represent the worst movement or approach. The LOS and delay for signalized intersections and all-way stop controlled intersections represent the overall intersection.

SOURCE: Korve Engineering (2007)

Baseline Freeway Traffic Operating Conditions

Table IV.C-4 summarizes the baseline level of service on key freeway segments near the project site, based on both the density and volume-to-capacity ratio methodologies. In some cases, a somewhat different LOS is calculated based on the two different analysis methodologies. Under the volume-to-capacity ratio methodology, I-880 operates at LOS E west of 23rd Street in the westbound direction during the a.m. peak hour. During the p.m. peak hour, I-880 operates at LOS E west of 23rd Street in both directions, and east of 29th Street in the westbound direction. Under the Density methodology, all segments of I-880 near the project operate at LOS D.

TABLE IV.C-4
BASELINE FREEWAY LEVEL OF SERVICE (LOS)

			Volume-to-Capacity Method[a]			Density Method[a]	
Freeway	**Direction**	**Peak Hour**	**(Vehicles/lane)**	**V/C[b]**	**LOS**	**(pc/mi/ln)[c]**	**LOS**
Interstate 880							
West of 23rd Street	Westbound	AM	1,820	0.91	E	29.9	D
		PM	1,911	0.96	E	32.4	D
	Eastbound	AM	1,788	0.89	D	29.2	D
		PM	1,828	0.91	E	30.1	D
East of 29th Avenue	Westbound	AM	1,778	0.89	D	28.9	D
		PM	1,868	0.93	E	31.2	D
	Eastbound	AM	1,747	0.87	D	28.2	D
		PM	1,787	0.89	D	29.1	D

[a] Caltrans requires the use of the "density" calculation while the City of Oakland requires the "volume to capacity ratio" methodology. Project impacts are assessed based on the "volume to capacity" ratio methodology.

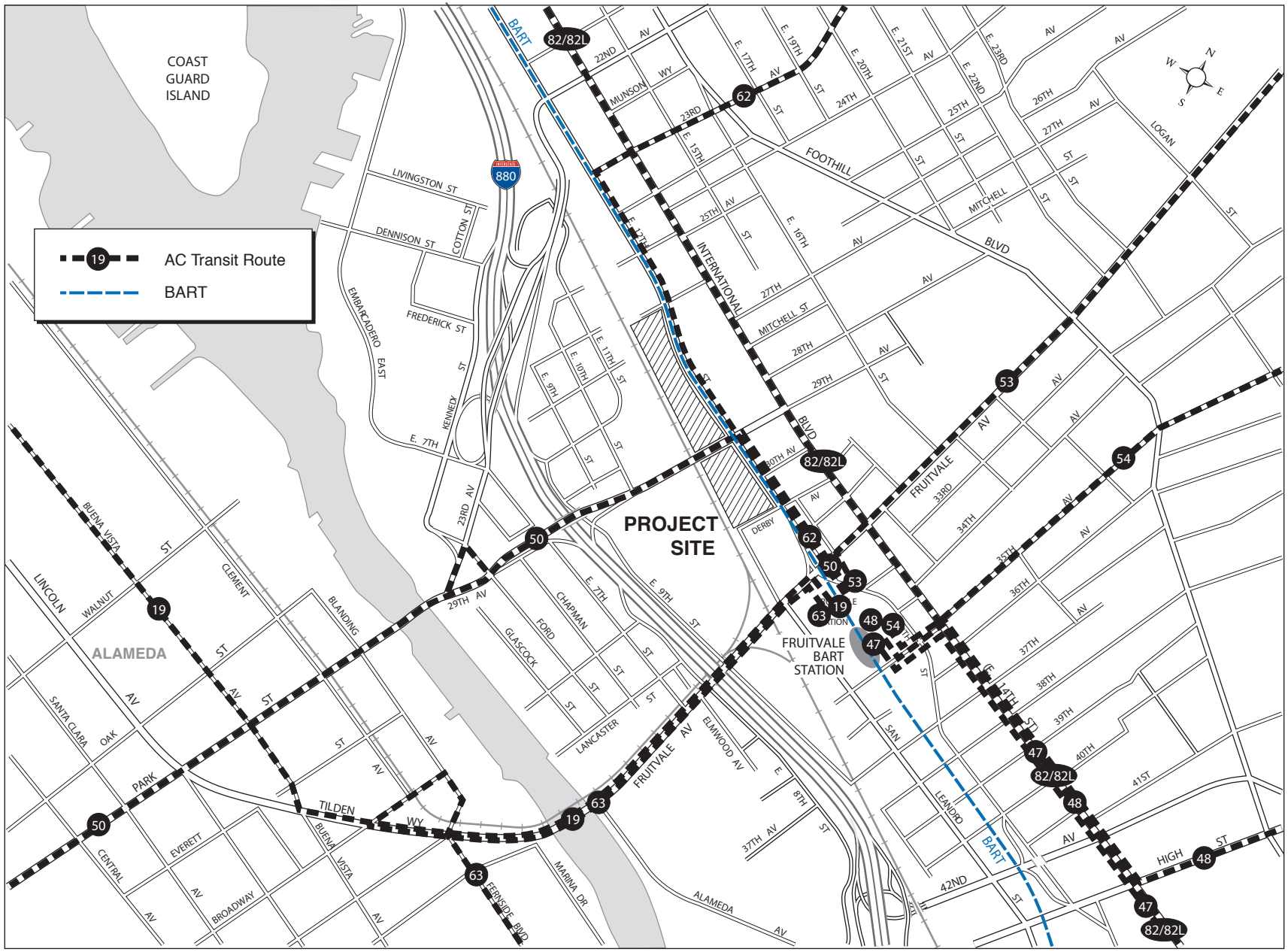
[b] Roadway capacities assumed to be 2,000 vehicles per hour per lane for freeways.

[c] Passenger car equivalents per mile per lane.

SOURCE: Korve Engineering (2007); Caltrans Traffic Operations – Traffic and Vehicle Data Systems, Traffic Volumes, Annual Average Daily Traffic (2005)

Transit Services

Existing transit service near the project site includes bus service provided by the Alameda-Contra Costa Counties Transit District (AC Transit) and rail service provided by Bay Area Rapid Transit (BART). Each of these services is described below, and shown in **Figure IV.C-4**.



SOURCE: Korve Engineering, 2007

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Figure IV.C-4
Existing Transit Network

AC Transit

Several AC Transit bus routes operate on major north-south and east-west corridors and serve the project site. **Table IV.C-5** summarizes the bus routes and service schedules for the AC Transit lines located within walking distance from the project site. Route 62 is an east-west bus line running along East 12th Street, on the northern edge of the project site. Route 50 is a north-south bus line that transports riders from Alameda to the Oakland, and operates on 29th Avenue. The 82/82L route is an east-west line that runs along International Boulevard, which is one block from the project site. Routes 19 and 63 run from Alameda to Oakland along Fruitvale Avenue to the Fruitvale BART Station, which is two blocks from the project site. Routes 47, 48, 53, and 54 are north-south bus lines that include a stop at the Fruitvale BART Station. The majority of the buses have headways of every 10 to 30 minutes during the peak periods.

Information on maximum load points was obtained from various sources compiled by the AC Transit Long Range Planning and Data Analysis Department. Routes 19, 47, 48, 50, 53, 54, 62, and 63 all have fairly low maximum loads, ranging between four percent and 58 percent of seated capacity. Route 82/82L has a high maximum load, ranging between 113 percent and 149 percent of seated capacity at various bus stops. In the project vicinity the maximum load factor on Route 82/82L is approximately 103 percent.

TABLE IV.C-5
BUS SERVICE SUMMARY FOR PROJECT AREA

Route	Time of Service	Peak Hour Headways	Service	Max Load Factor (Near Project Site)
19	6am – 10pm	30 min	Fruitvale BART to North Berkeley BART via downtown	13%
47	6am – 7pm (M-F only)	30 min	Fruitvale BART to Mills College	17%
48	6am – 7pm	30 min	Fruitvale BART to Macarthur Blvd via High Street	24%
50	24-Hour Service	15–30 min	Fruitvale BART through Oakland Airport to Bay Fair BART	31%
53	6am – 12am	15 min	Fruitvale BART to Macarthur Blvd via Fruitvale Avenue	33%
54	24-Hour Service	10–15 min	Fruitvale BART to Macarthur Boulevard to Merritt College	27%
62	6am – midnight	20–30 min	Fruitvale BART to West Oakland BART	27%
63	6am – midnight	30 min	Fruitvale BART to Alameda	20%
82	24-Hour Service	10–15 min	Downtown Oakland to Hayward BART	103%
82L[a]	7am – 7pm	10–15 min	Downtown Oakland to Hayward BART	103%

[a] Limited stops

SOURCE: AC Transit, Route and Bus Schedules, Effective April 3, 2005; AC Transit Long Range Planning and Data Analysis Department

In the vicinity of the proposed project site, AC transit bus stops are located on East 12th Street at 26th Avenue (Route 62), on East 12th Street at 29th Avenue (Route 62), on International Boulevard at 29th Avenue (Route 82/82L), and at the Fruitvale BART Station (Routes 19, 47, 48, 50, 53, 54, 62, and 63).

BART

BART is an automated rapid transit system serving Alameda County, Contra Costa County, San Francisco County, and northern San Mateo County. The Fruitvale BART Station is the closest station to the project site (about a quarter mile away), with three of the five BART lines serving that station (i.e., the Richmond-Fremont; Daly City-Fremont; and Daly City-Dublin/Pleasanton).

Weekday entry and exit data, from April 2005, was obtained from BART.[6] At the Fruitvale Station, there were approximately 6,100 riders entering and 6,070 riders exiting the station on an average weekday. Fremont-Daly City trains have the most riders leaving the Fruitvale Station in the a.m. peak hour, with an average of 88 and a maximum of 102 riders boarding per train. Daly City-Dublin/Pleasanton trains have the most riders arriving at the Fruitvale Station in the p.m. peak hour, with an average of 75 and a maximum of 114 exiting riders per train.

Parking

There is currently parallel on-street parking along both sides of East 12th Street in the vicinity of the proposed project site. The segment of 29th Avenue south of East 12th Street and north of the railroad tracks does not have on-street parking. The segment of 29th Street north of East 12th Street has on-street parking on both sides of the street. Parking occupancy data was collected on June 6, 2005, in the afternoon, when occupancies were observed to peak. The parking occupancy at these locations was observed to be approximately 60 percent.

Pedestrian and Bicycle Facilities

Sidewalks are provided on all streets in the vicinity of the proposed project site except at the at-grade railroad crossing on 29th Avenue, just south of the proposed project site. The gated railroad crossing has broken asphalt which can be an obstacle for pedestrians, particularly school children. Crosswalks are provided on all four legs of the East 12th Street and 29th Avenue intersection. There are pedestrian islands in the southwest and northwest corners of the intersection.

According to the City of Oakland's *Pedestrian Master Plan*, 29th Avenue, International Boulevard and Foothill Avenue are City Pedestrian Routes. East 12th Street is a District Pedestrian Route in the vicinity of the proposed project site (Oakland, 2002).[7]

Three schools are located in the vicinity of the project site. Lazear Elementary School is a kindergarten through 6th grade school located on 29th Avenue, south of the proposed project site. The Cesar Chavez Elementary School is located on the northwest corner of the intersection of

6 Entry/exit BART data was obtained on July 15, 2005 from Val Joseph Menotti, Deputy Planning Manager.
7 City Pedestrian Routes provide the most direct connections between walking and transit, and connect multiple districts in the City. District Pedestrian Routes are located within a single district and generally have a more local function, such as the location of schools, community centers, and smaller scale shopping.

East 12th Street and 29th Avenue. The ASCEND School is a kindergarten through 8th grade school located on East 12th Street east of the Fruitvale BART Station.

Figure IV.C-5 illustrates the existing and proposed bicycle facilities near the project site that are in the City of Oakland's *Bicycle Master Plan*.[8] Currently, there is a Class 2 bike lane along Fruitvale Avenue that begins at East 12th Street going south, becomes a Class 1 bike path along Tilden Way, and finishes off as a Class 2 bike lane from Broadway to Park Street.

Planned Transportation Improvements

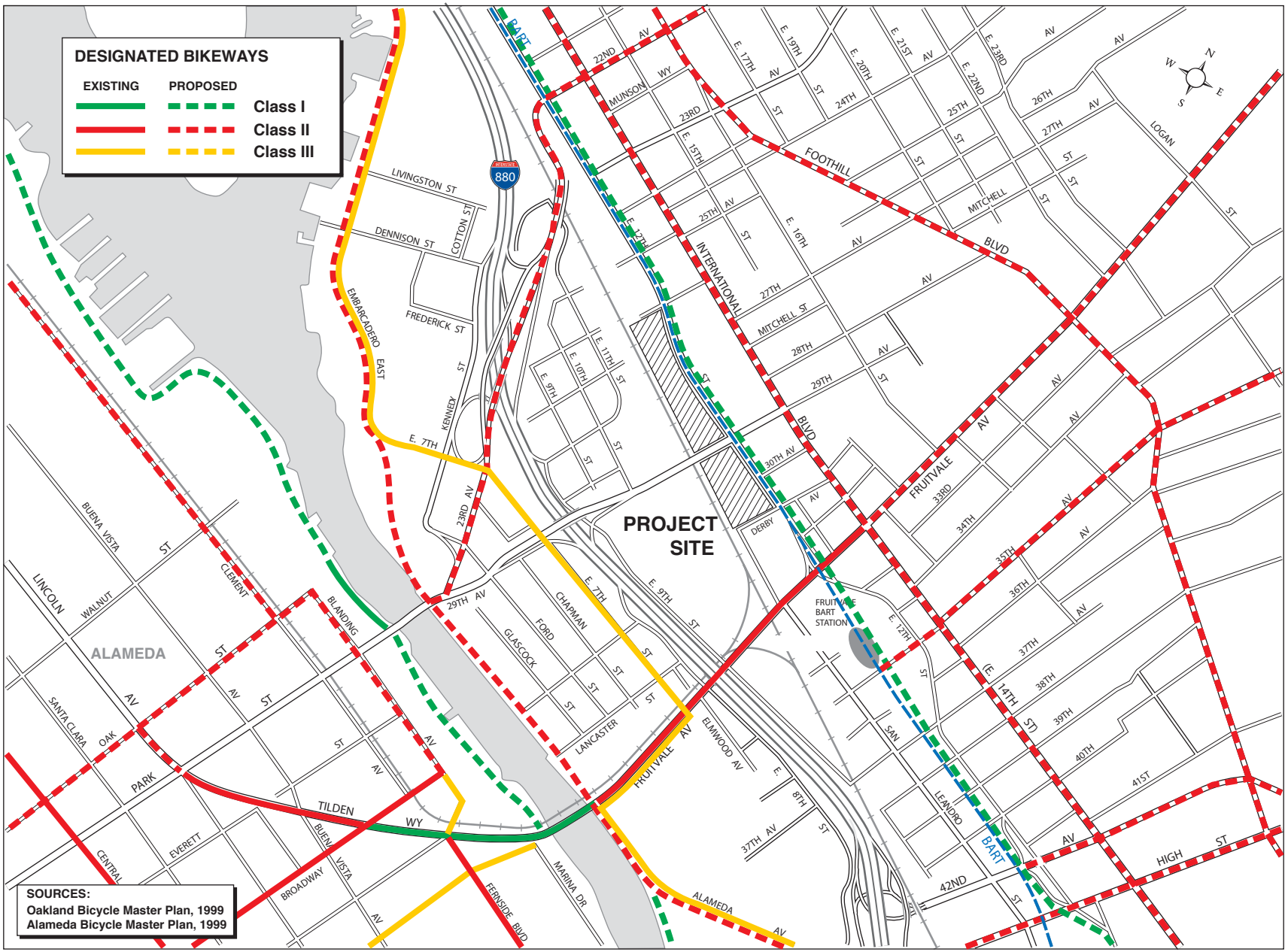
International Boulevard Bus Rapid Transit

In May of 2007, AC Transit published a Draft Environmental Impact Statement / Environmental Impact Report (EIS/EIR) for the implementation of an International Boulevard Bus Rapid Transit (BRT). The proposed transit system expansion which would allow buses to offer riders a rail-like transit experience that operates more quickly and reliably than regular bus service today, and would connect the cities of Berkeley, Oakland and San Leandro. The proposed BRT project would generally eliminate one through lane in each direction and narrow International Boulevard to one through lane in each direction. Although there are no finalized design plans, an assurance of full funding for the BRT project, or approvals from AC Transit, the City of Oakland and other public agencies, and although proposed (but not approved) transit improvements are not typically considered as part of the projected baseline conditions, this EIR nevertheless (conservatively) provides a non-CEQA discussion of the potential effects on project impacts caused by proposed modifications to the traffic circulation network by the proposed International Boulevard BRT in **Appendix C** to this EIR.

I-880 Northbound Safety Project

The Alameda County Congestion Management Agency (ACCMA) is developing a project to implement safety improvements to I-880 northbound (westbound in the vicinity of the project area) at the 29th Avenue on- and off-ramps. The work includes improving the freeway on- and off-ramp geometrics, the modification of existing local streets, landscape enhancement, and construction of a soundwall. This project would make the vehicular access to and from the Gateway Community Development project site safer. Although the precise configuration of this project is not known, it is likely that its completion should enhance the safety and efficiency of pedestrian and vehicular circulation in the area of the I-880 ramps at 29th Avenue. Since the precise configuration of this project is not known, this analysis does not assume its completion in future scenarios.

8 A Class 1 bicycle facility (bicycle path) is completely segregated from vehicle traffic and tends to be a recreational facility. A Class 2 bicycle facility (bicycle lane) is an on-street facility established on roadways with high bicycle demand, is a minimum of 1.5 meters in width, and is delineated by a six inch stripe on the left-hand side of the lane, an optional four inch stripe on the right side of the lane, and in-pavement markings such as the symbol of a cyclist with a helmet. A Class 3 bicycle facility (bicycle route) is a denoted by route signs and is installed on streets that are recommended for cycling but do not require bike lane striping due to the low-volume of vehicle traffic flow.



SOURCE: Korve Engineering, 2007

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Figure IV.C-5

Existing and Proposed Bicycle Facilities

Bicycle/Pedestrian Improvements

The City of Oakland *Draft Bicycle Master Plan Update*, released in March of 2007, recommends several improvements to the bicycle and pedestrian facilities within a half-mile of the project study area, including:

- Adding Class 1 bike path along the southern edge of the Fruitvale BART Station;
- Adding Class 2 bike lanes along East 12th Street west of Fruitvale Avenue;
- Adding Class 2 bike lanes along Fruitvale Avenue north of East 12th Street*;
- Adding Class 2 bike lanes along Foothill Avenue throughout the project area*;
- Adding Class 2 bike lanes along 22nd Avenue throughout the project area*;
- Adding Class 2 bike lanes along 23rd Avenue between East 12th Street and Ford Street;
- Adding Class 2 bike lanes along 29th Avenue between East 7th Street and 23rd Avenue;
- Adding Class 3A arterial bike route along East 12th Street east of Fruitvale Avenue; and
- Adding Class 3B bike boulevard along East 7th Street between Fruitvale Avenue and 23rd Avenue.

  (* Improvement also included in the existing *Oakland Draft Bicycle Master Plan*, adopted 1999.)

These improvements are not fully funded at this time and are not assumed to be in place for this analysis.

Project Impacts and Mitigation Measures

Approach to Analysis

This transportation analysis was conducted for typical weekday a.m. and p.m. peak commute hour conditions at local intersections and on the regional roadway facilities. Those time periods are the most relevant for this analysis because traffic volumes are generally the highest in Oakland during those periods, and therefore, traffic and circulation conditions during the weekday morning and evening commute hours are considered the most critical to evaluate in determining potentially significant impacts. In addition, standard traffic analytical tools focus on the weekday peak hours.

Traffic impacts are assessed at the 32 study intersections in the study area for the following scenarios:

- Baseline Conditions;
- Baseline plus Project Conditions;
- Near-Term (2010) Baseline Conditions;
- Near-Term (2010) plus Project Conditions;
- Cumulative (2025) Baseline Conditions; and
- Cumulative (2025) plus Project Conditions.

"Baseline Conditions" refers to the environmental baseline against which the project's effects are measured. The environmental baseline period for parts of the traffic analysis was established when Korve Engineering conducted traffic counts along local roadways in August and November

2004 to establish the baseline traffic conditions in the project area.[9] (As indicated previously under *Regional Access,* 2005 data used to establish the baseline condition for traffic on I-880.) During the subsequent 12 to 15 months (August 2004 to November 2005), the project sponsor worked to refine the proposed project and the City conducted its preliminary review of the project in preparation for NOP publication, which occurred in November 2005. No development or roadway changes occurred in the study area between August/November 2004 and November 2005 that would have substantially changed baseline conditions.

The "Near-Term 2010 Baseline Conditions" and "Cumulative 2025 Baseline Conditions" are defined as future scenarios which incorporate traffic increases associated with all approved and planned development (with the exception of the proposed project) that would affect the study area. Intersection traffic volumes for the 2010 Baseline Conditions were derived through the use of the Alameda County Congestion Management Agency's (ACCMA) Countywide Transportation Demand Model (released September of 2006), with land uses within Oakland modified by the Hausrath Economic Group to reflect the City's updated Cumulative Growth Scenario for 2010. Intersection traffic volumes for Cumulative (2025) Conditions are derived using ACCMA's Countywide Transportation Demand model with land uses reflecting the City's updated growth scenario for 2025.

For each "plus Project" scenario, the proposed project, in its entirety, is layered on top of each of the "Baseline" scenarios to create the "Baseline plus Project," "2010 Baseline plus Project," and "2025 Baseline plus Project" conditions. Although the project would not be fully built by the year 2010, the entire project is analyzed for both the "Baseline plus Project" and "2010 plus Project" Conditions to provide a conservative evaluation of project impacts (i.e., impacts shown as occurring sooner than actually may occur).Significance Criteria

Intersection Peak-Hour Level of Service – City of Oakland

The project would have a significant effect at the analysis intersections if it would cause an increase in traffic which is substantial in relation to the baseline 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., street closures, changing direction of travel) in a manner that would substantially affect access or traffic load and capacity of the street system. Specifically, the project would have a significant impact if it would:

1. Cause the baseline level of service (LOS) to degrade to worse than LOS E (i.e., LOS F) at a signalized intersection that is located within the Downtown area;
2. Cause the baseline LOS to degrade to worse than LOS D (i.e., LOS E or F) at a signalized intersection that is located outside the Downtown area;
3. Cause the total intersection average vehicle delay to increase by four or more seconds, or degrade to worse than LOS E (i.e., LOS F) at a signalized intersection outside the Downtown area where the baseline level of service is LOS E;

[9] Traffic counts were conducted during non-holiday periods.

4. Cause an increase in the average delay for any of the critical movements of six seconds or more, or degrade to worse than LOS E (i.e., LOS F) at a signalized intersection for all areas where the baseline level of service is LOS E;
5. At a signalized intersection for all areas where the baseline level of service is LOS F, 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 seconds or more, or
   (c) An increase in the volume-to-capacity ("V/C") ratio that exceeds three percent (but only if the delay values cannot be measured accurately);
6. At an unsignalized intersection for all areas, the project would add ten (10) or more vehicles and after project completion satisfy the *Manual on Uniform Traffic Control Devices* (MUTCD) peak hour volume warrant; and
7. Make a considerable contribution to cumulative impacts at a signalized or unsignalized intersection where the future level of service is LOS E or F, where the project exceeds any of the previous thresholds, and when the project contributes five percent or more of the cumulative traffic increase as measured by the difference between Existing and Cumulative (with project) Conditions.

"Downtown" is defined in the *Land Use Transportation Element (LUTE)* of the General Plan (page 67) as the area generally bound 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. None of the study intersections lie within the Downtown area. Thus, thresholds relating to Downtown will not be addressed further in this document.

Intersection Peak-Hour Level of Service – City of Alameda

The project would have a significant effect at the analysis intersections if it would cause an increase in traffic which is substantial in relation to the baseline 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., street closures, changing direction of travel) in a manner that would substantially affect access or traffic load and capacity of the street system. Specifically, the project would have a significant impact if it:

- Causes the LOS of a signalized intersection that is projected to operate at LOS D or better in the baseline scenario to degrade to LOS E or F;
- Causes the total intersection average vehicle delay at any signalized intersection that is projected to operate at LOS E or F in the baseline scenario to increase by four or more seconds;
- Causes any approach to an unsignalized intersection that is projected to operate at LOS D or better in the baseline scenario to degrade to LOS E or F for any movement; and
- Causes traffic volumes to increase by one percent at an unsignalized intersection that is projected to operate at LOS E or F in the baseline scenario.

Roadway Segments

8. The project would have a significant effect on regional roadways if it would cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three percent for a roadway segment that would operate at LOS F without the project.

Transit

The project would have a significant effect on transit services if it would generate added transit ridership that would:

9. Increase the average ridership on AC Transit lines by three percent where the average load factor with the project in place would exceed 125 percent over a peak 30-minute period;
10. Increase the peak hour average ridership on BART by three percent where the passenger volume would exceed the standing capacity of BART trains;
11. Increase the peak hour average ridership at a BART Station by three percent where average waiting time at fare gates would exceed one minute.

Other Considerations

12. The project would have a significant effect if it would 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 due to the introduction of incompatible uses.

13. The project would have a significant effect if it would fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The City of Oakland, in its review of the proposed project, wants to ensure minimal adverse effects to pedestrians. As such, pedestrian safety not related to design features of the project is evaluated in the EIR although it is not required under CEQA. Therefore, no mitigation measures will be required to mitigate any pedestrian safety issues unrelated to project design. Also, if there are any pedestrian-related significant effects, they would not require a statement of overriding considerations.

Construction Period

Potential short-term construction impacts generated by the proposed project would include the impacts associated with the delivery of construction materials and equipment, removal of construction debris, and parking for construction workers. Construction traffic levels would be significantly below project traffic levels.

Project Trip Generation

Modal Split

The proposed project is located within Census Tract 4061 in the City of Oakland. Census Tract 4061 is bound by International Boulevard to the north, the Oakland Inner Harbor to the south,

High Street to the east, and 23rd Avenue to the west. Many of the uses found within this census tract are not of a mixed-use nature. Thus, the Journey to Work data provided by the U.S. Census (2000) for this tract may not precisely depict the modal split to be expected for the proposed project. Consequently, census data from adjacent tracts (Census Tracts 4062.01, 4062.02, and 4072) were averaged to determine a more suitable modal split for the proposed project. Each adjacent tract borders Census Tract 4061 to the north along International Boulevard. The assumed modal split is shown in **Table IV.C-6**. An 18 percent reduction was applied to the project's trip generation to account for transit usage.

TABLE IV.C-6
MODAL SPLIT

	Mode (Values Shown in Number of People within Census Sample)			
Census Tract	**Autos**	**Transit**	**All Other**	**Total**
4061[a]	804	292	258	**1,354**
4062.01[b]	1,076	315	188	**1,579**
4062.02[c]	1,010	324	161	**1,495**
4072[d]	1,674	299	348	**2,321**
Combined				
Subtotal	*4,564*	*1,230*	*955*	***6,749***
Percentage	*68%*	*18%*	*14%*	***100%***

SOURCE: Korve Engineering (2007); US Census Bureau, Journey to Work: 2000.

The proposed project is considered by the City of Oakland to be a transit-oriented development (TOD) according to the *Land Use Transportation Element (LUTE)* of the General Plan, as well as the TOD characteristics outlined by the ACCMA.[10] Therefore, this analysis considered data gathered regarding area TODs as a measure of reasonableness of the trip reduction applied to the project's trips. In *Travel Characteristics of Transit-Oriented Development in California*, resident and worker travel behavior in TODs was surveyed (Hollie Lund, et al., 2004). All survey sites are located in non-Central Business District locations, and are within walking distance (approximately one quarter mile) of a transit station with rail service headways of fifteen minutes or less. Likewise, the ACCMA defines TODs as high density residential or mixed-use development located within one-third mile of a major transit station, designed to make transit use as attractive and convenient as possible. The sites surveyed in *Travel Characteristics of Transit-Oriented Development in California* in south Alameda County include developments near the Hayward, South Hayward, Union City, and Fremont BART Stations. Similarly to the sites studied in survey report, the Gateway Community Development project is located near the Fruitvale

10 ACCMA has adopted transportation and land use goals that characterize TODs as "residential or mixed-use development designed and located to make transit use as attractive and convenient as possible." The development concept of TODs is "housing and small, local-serving businesses co-located in a planned community that has been designed for convenient walk, bicycle, and transit access." TOD design attributes include "mixed-use development of moderately high density with continuous sidewalks and…within one-third mile of a transit station or trunkline bus route…." (ACCMA, 2007)

BART Station. The distance between the Fruitvale BART Station and the East 12th Street at 29th Avenue intersection is approximately 1,900 feet (one third of a mile), meaning that the western portion of the proposed project is over one quarter mile away from the Fruitvale BART Station, and most of the eastern portion of the proposed project is within one quarter mile of the Fruitvale BART Station.

The survey report determined that in south Alameda County the average reduction in work-related vehicle trips to account for transit usage at TODs was approximately 38 percent. For non-work trips, the average reduction to vehicle trips to account for transit usage at TODs was approximately 14 percent. Therefore, the 18 percent reduction applied to project trip generation in this EIR analysis is a conservative estimate.

Trip Generation

The number of vehicle trips that would be generated by the proposed project was estimated by applying trip generation rates taken from the Institute of Transportation Engineers' *Trip Generation* (ITE, 2003) to the project land uses. It should be noted that no credit is taken for trips generated by existing site uses – uses that would be eliminated by the project. The existing uses are primarily self-storage facilities, which generate a relatively low number of peak hour trips. Other trip-generating uses on the site include a small auto repair/maintenance shop, a hardware store, and a Caltrans maintenance facility. Thus, the project trip generation can be considered conservative. Also, a 5,000 square-foot educational center is included as part of the project description. While this use is not expected to generate substantial traffic, it is analyzed as part of the "commercial" uses to include a conservative estimate of project traffic generation. The proposed project's trip generation is shown in **Table IV.C-7**. The proposed project would generate 251 vehicle trips in the a.m. peak hour and 366 vehicle trips in the p.m. peak hour.

TABLE IV.C-7
PROJECT WEEKDAY TRIP GENERATION

			AM Peak Hour			PM Peak Hour		
Land Use	**Size**	**Daily Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Condominiums/Townhouses (units) [a]	810	3,799	47	228	275	224	110	334
Modal Split Reduction (18%)[b]	----	(692)	(9)	(41)	(50)	(41)	(20)	(61)
Subtotal	----	*3,107*	*38*	*187*	*225*	*183*	*90*	*273*
Commercial (1,000 sq. ft.)[c]	30	1,330	16	10	26	41	52	93
Total (Vehicle Trips)	----	**4,437**	**54**	**197**	**251**	**224**	**142**	**366**

a For the Residential Condominium/Townhouse Land Use (230), the fitted curve equation was used to determine the trip generation.
b Based on an average of 2000 Census Journey to Work data for census tracts in the vicinity of the project site, residential trips are reduced by 18 percent to account for transit usage.
c Commercial trip generation was determined using the fitted curve equation for the Specialty Retail Land Use (814). It should be noted that a.m. peak hour trip generation rates are not available for the Specialty Retail Center land use. Consequently, a.m. peak hour rates for Specialty Retail were derived by adjusting Shopping Center Land Use (820) a.m. peak hour rates to fit the Specialty Retail Center use. The 30,000 square feet of commercial land use encompasses trips generated by the approximately 25,950 square feet of commercial land use and trips generated by the 5,000 square-foot community educational facility, as described in the Project Description in Chapter III.

SOURCE: Korve Engineering (2007), ITE (2003)

Project Trip Distribution and Trip Assignment

Vehicle trips generated by the proposed project were assigned to the surrounding transportation network on the basis of a distribution pattern developed based on information from the ACCMA Model, updated to reflect the cumulative land use forecasts of the City of Oakland.

The trip distribution pattern for residential project trips is illustrated in **Figure IV.C-6a**. Approximately 31 percent of residential project traffic would arrive from and depart towards I-880 west of 29th Avenue and 30 percent to and from I-880 east of 29th Avenue. Approximately nine percent of residential project traffic would arrive from and depart to Alameda via 29th Avenue. Approximately two percent of residential project traffic would arrive from and depart to Alameda via Fruitvale Avenue. Three percent of residential project traffic would arrive and depart to the west: two percent via East 12th Street and one percent via International Boulevard. Twelve percent of residential project traffic would arrive and depart to the east: two percent via San Leandro Street and ten percent via International Boulevard. Nine percent of residential project traffic would arrive and depart to the north via Fruitvale Avenue. Four percent of residential traffic would arrive from and depart to the north via East 23rd Street, East 22nd Street, East16th Street, and other parallel local streets.

The trip distribution pattern for commercial project trips is illustrated in **Figure IV.C-6b**. Approximately 31 percent of commercial project traffic would arrive from and depart towards I-880 west of 29th Avenue and 13 percent to and from I-880 east of 29th Avenue. Approximately 23 percent of commercial project traffic would arrive from and depart to Alameda via 29th Avenue. Approximately five percent of commercial project traffic would arrive from and depart to Alameda via Fruitvale Avenue. Twelve percent of commercial project traffic would arrive and depart to the west: seven percent via East 12th Street and five percent via International Boulevard. Nine percent of commercial project traffic would arrive and depart to the east: two percent via San Leandro Street and seven percent via International Boulevard. Four percent of commercial project traffic would arrive and depart to the north via Fruitvale Avenue. Four percent of commercial traffic would arrive from and depart to the north via East 23rd Street, East 22nd Street, East 16th Street, and other parallel local streets.

Figures IV.C-7a through **IV.C-7c** illustrate the project traffic volumes. **Figures IV.C-8a** through **IV.C-8c** illustrate the Baseline plus Project traffic volumes.

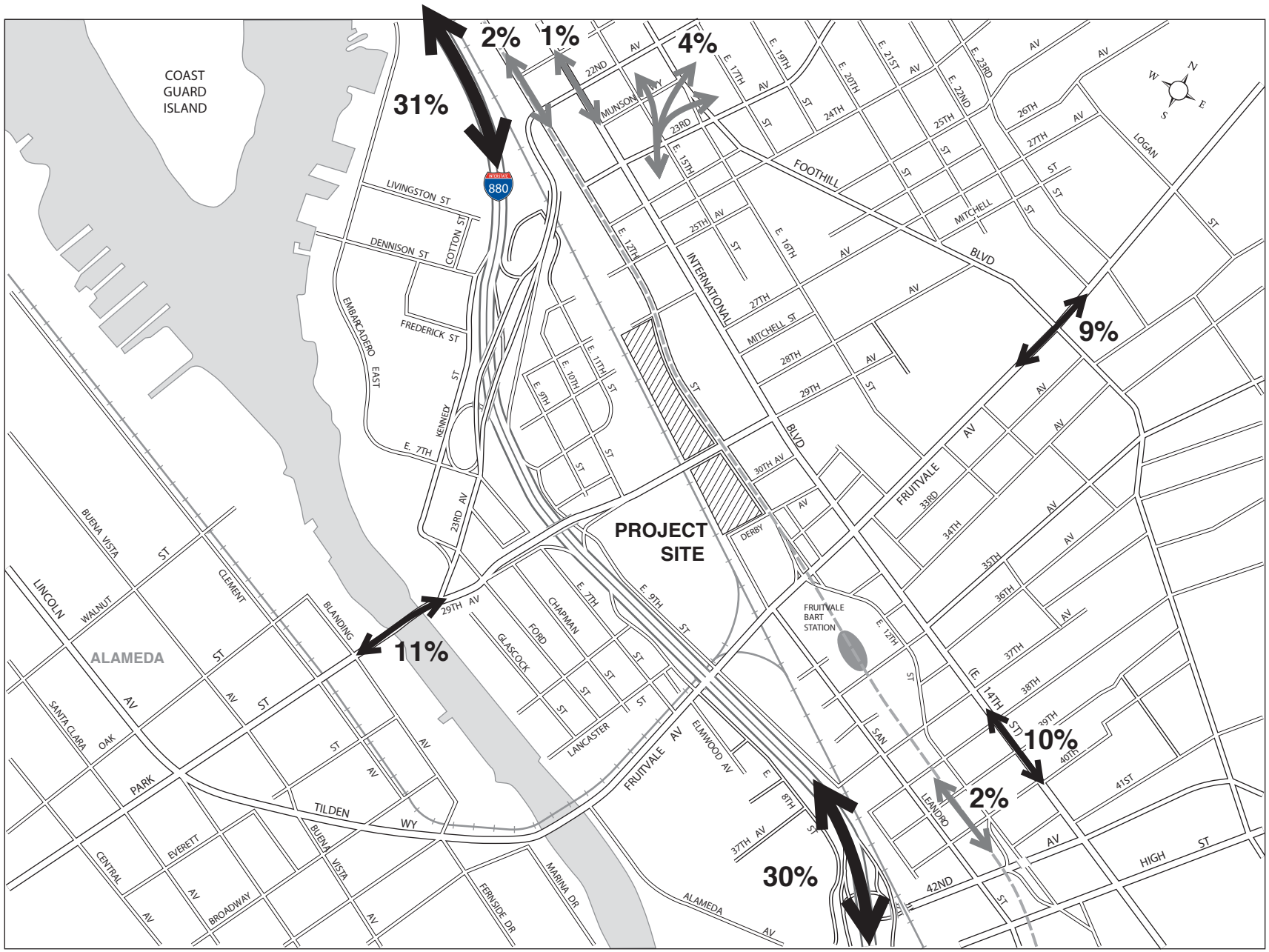
Site Access

Impact TRANS-1: Traffic generated by the proposed project would affect project driveways. (Less than Significant)

Access to the proposed project would be provided by two driveways for the western portion of the project site and two driveways for the eastern portion of the project site. Each of the western portion driveways would be full movement driveways (vehicles would be able to turn right or left out of the driveway, and right or left into the driveway) along East 12th Street; one located

approximately 200 feet east of 26th Avenue, the other approximately 300 feet west of 29th Avenue. Median breaks are to be installed as part of the project on East 12th Street to allow westbound left-turning vehicles to use the western driveways. Both of these western driveways would operate at acceptable LOS for all scenarios. One of the eastern portion driveways would be a right-in, right-out only driveway located on 29th Avenue approximately 180 feet south of East 12th Street. This driveway would operate at an acceptable LOS for all scenarios. The other eastern portion driveway would be a full movement driveway located along Derby Avenue approximately 180 feet south of East 12th Street. This driveway would operate at an acceptable LOS for all scenarios as well. **Figure IV.C-9** illustrates the project site access. Traffic generated by the project would not be expected to cause any of the project driveways to operate at unacceptable conditions.

Mitigation: None Required.



SOURCE: Korve Engineering, 2007

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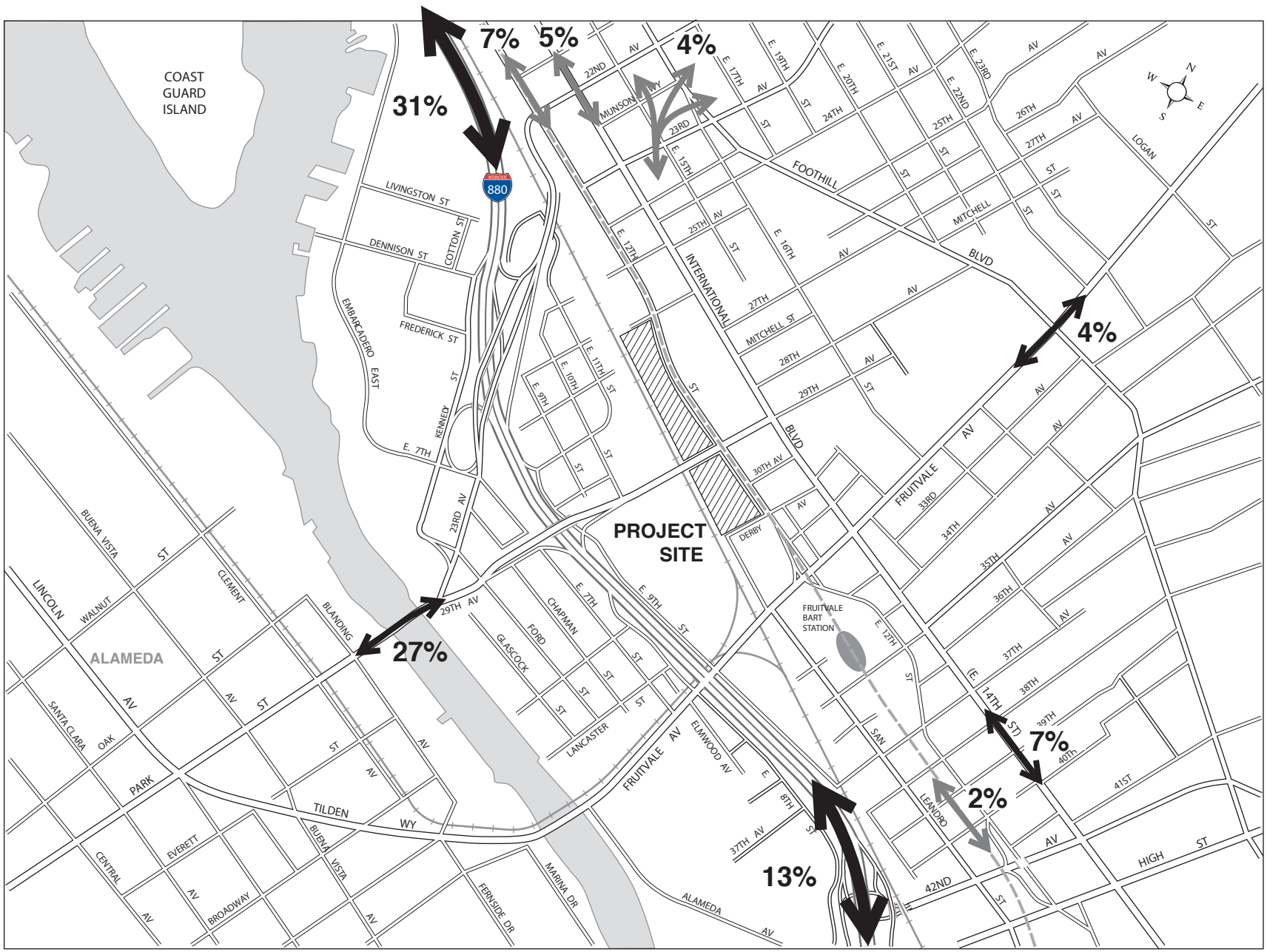
Figure IV.C-6a
Residential Trip Distribution



SOURCE: Korve Engineering, 2007

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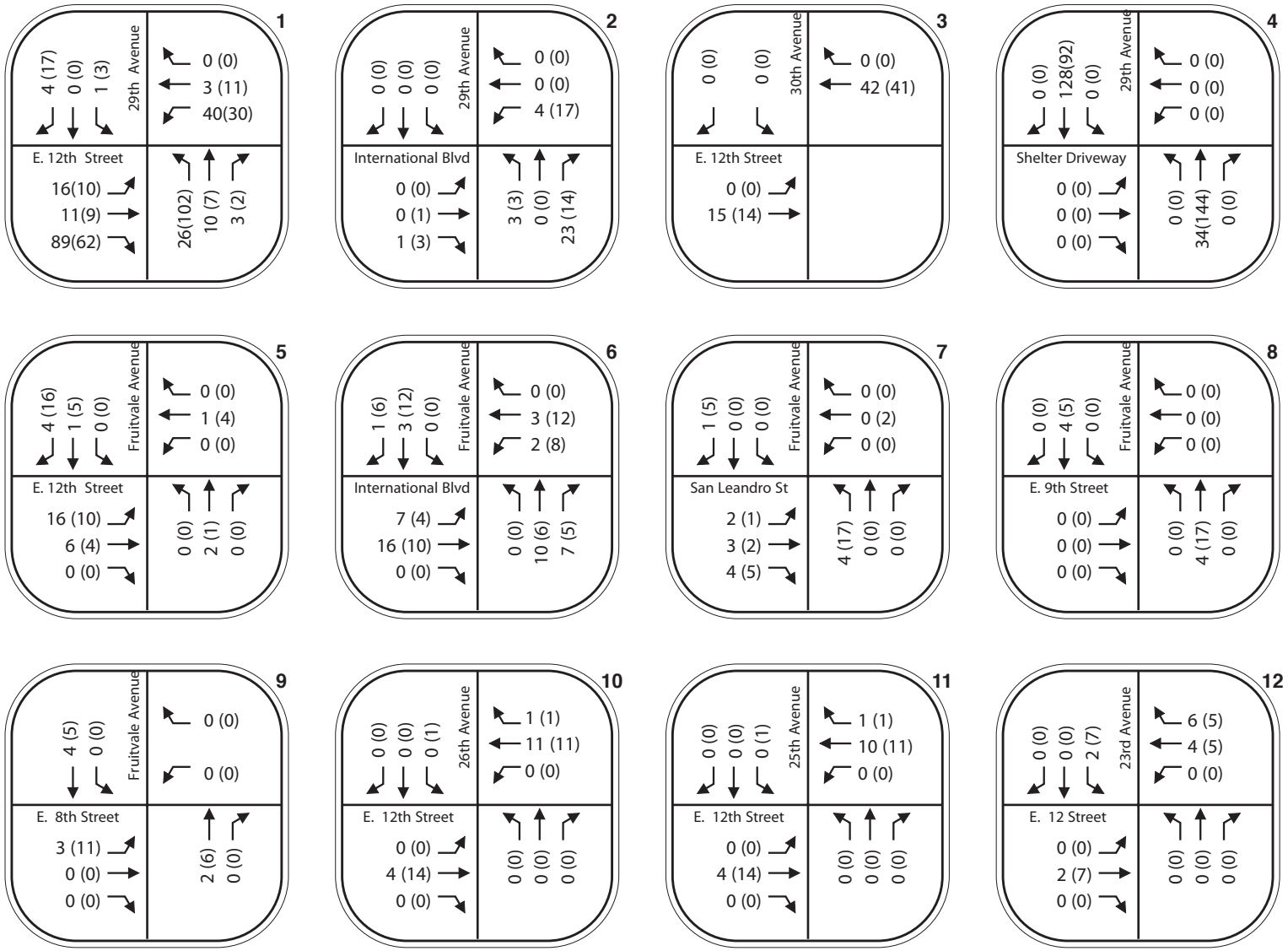
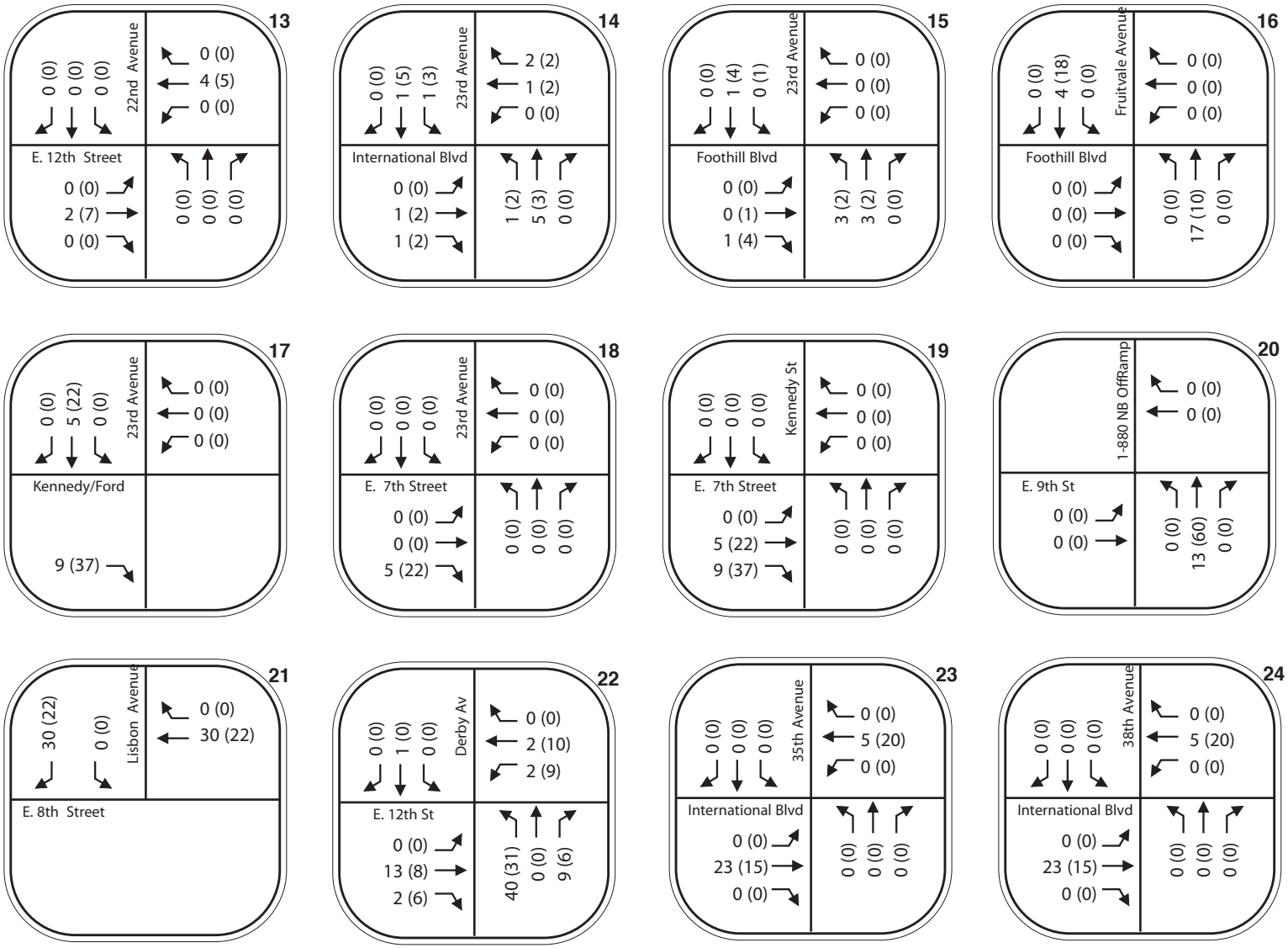
Figure IV.C-6b
Commercial Trip Distribution



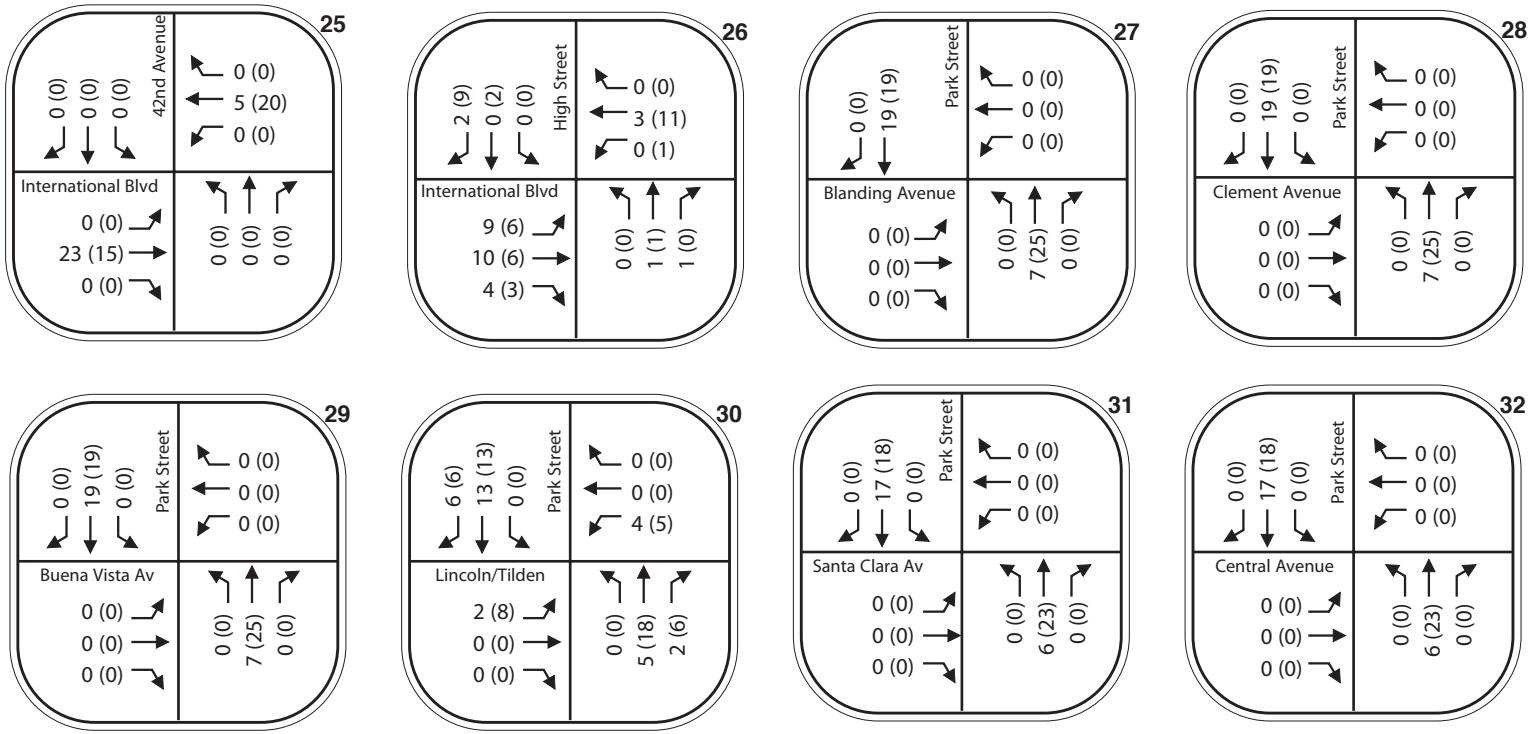
SOURCE: Korve Engineering, 2007

Figure IV.C-7a
Project Traffic Volumes
AM (PM) Peak Hour



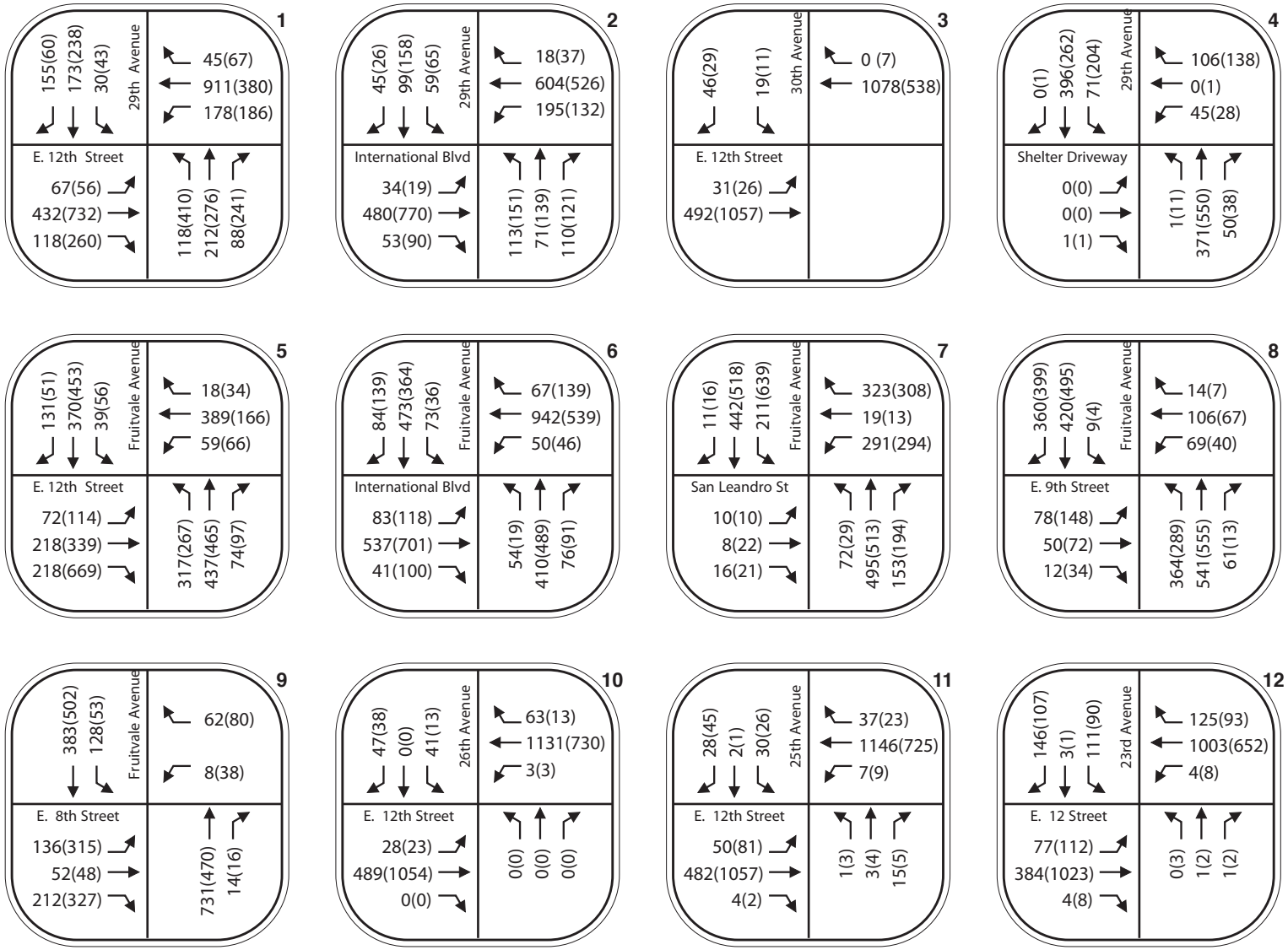
SOURCE: Korve Engineering, 2007

Figure IV.C-7b
Project Traffic Volumes
AM (PM) Peak Hour



SOURCE: Korve Engineering, 2007

Figure IV.C-7c
Project Traffic Volumes
AM (PM) Peak Hour



SOURCE: Korve Engineering, 2007

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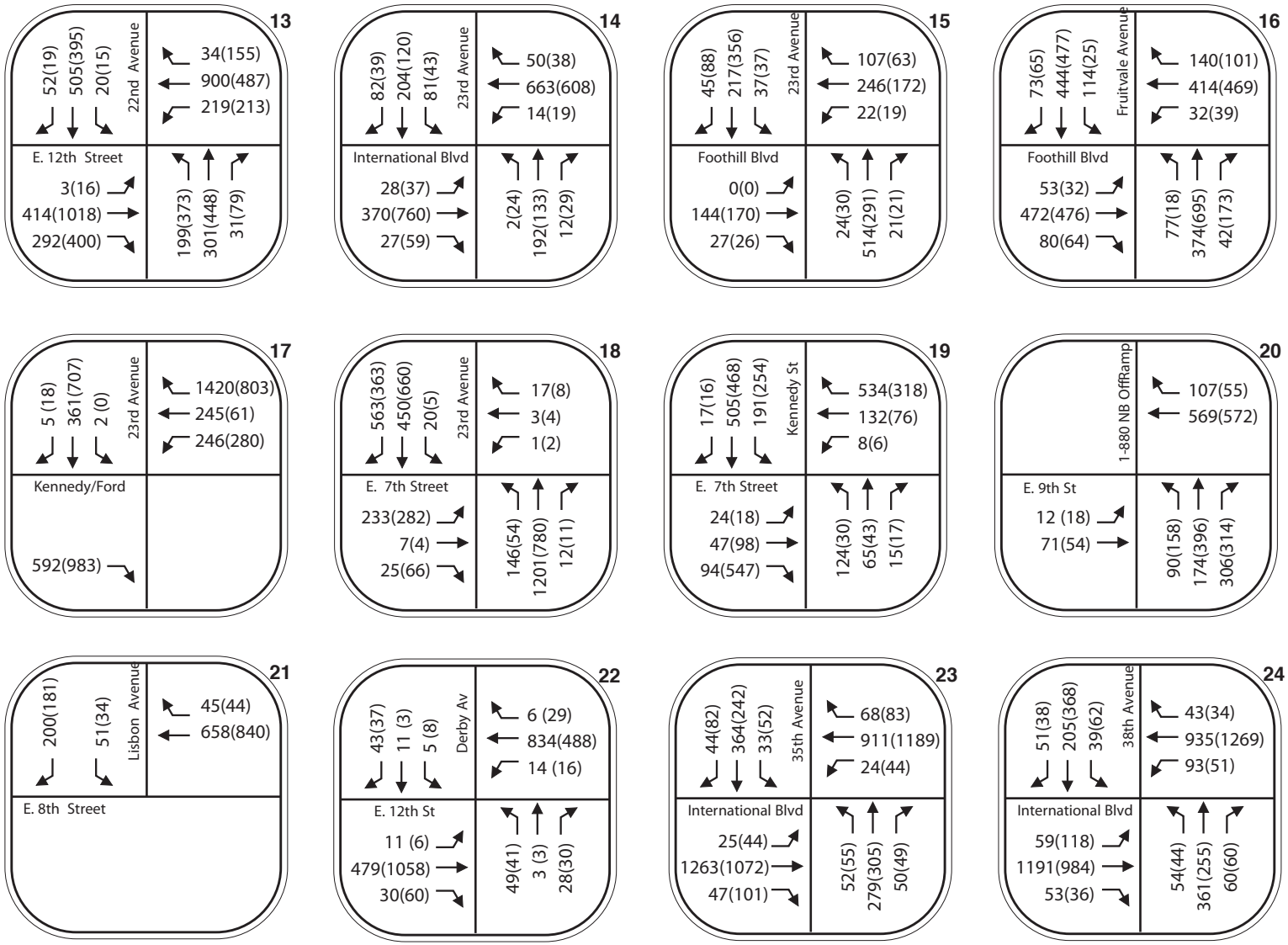
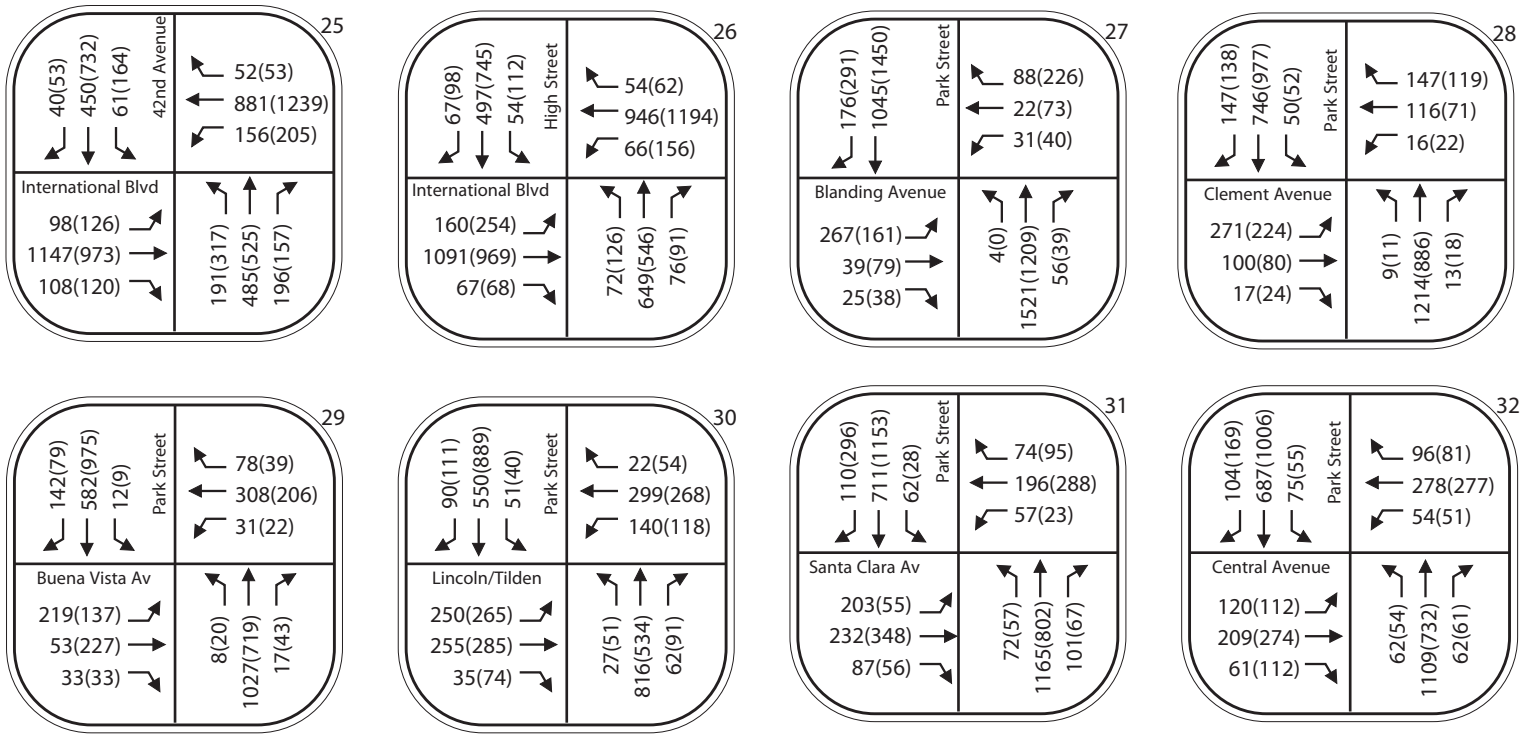
Figure IV.C-8a

Existing (Baseline) + Project Traffic Volumes
AM (PM) Peak Hour



SOURCE: Korve Engineering, 2007

Figure IV.C-8b
Existing (Baseline) + Project Traffic Volumes
AM (PM) Peak Hour



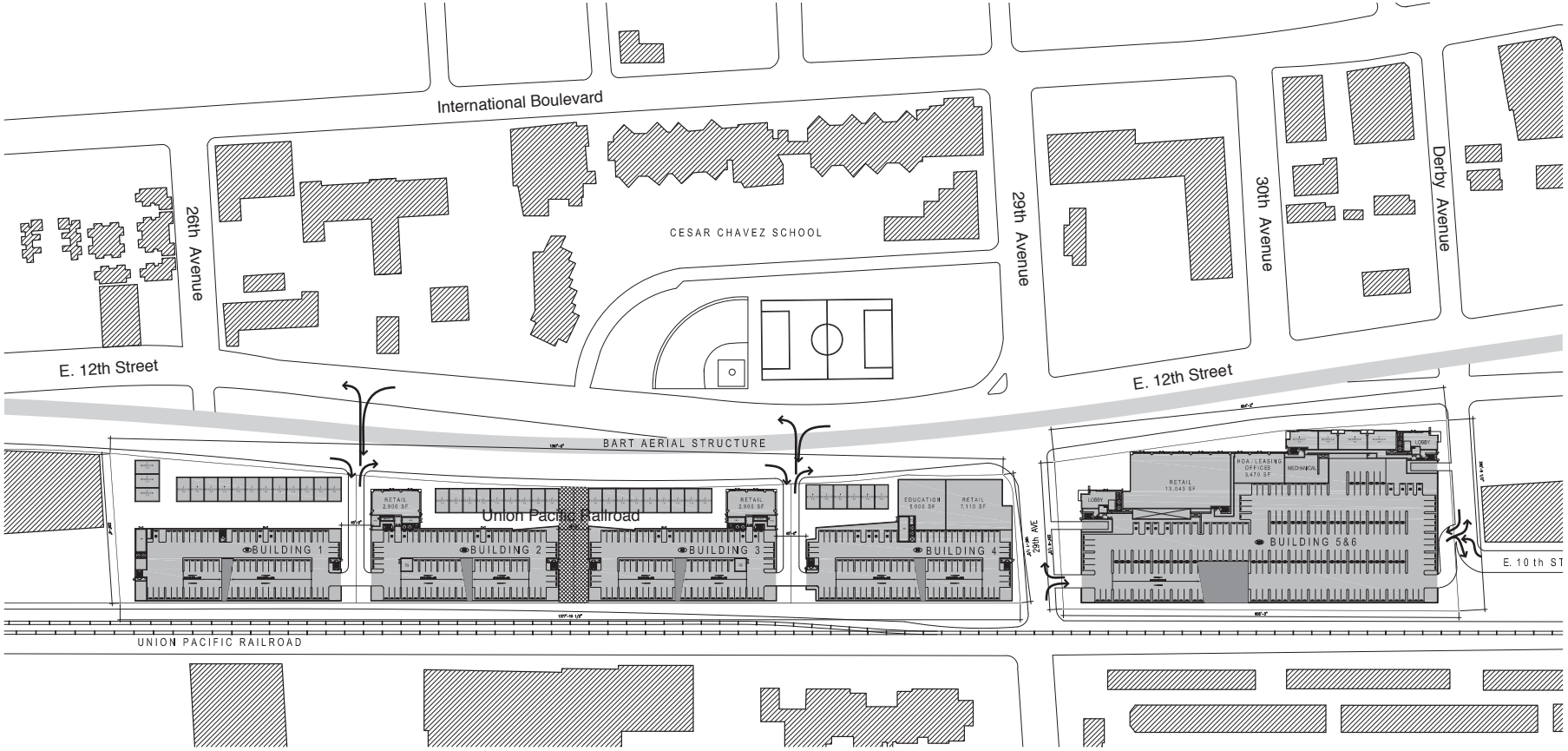
SOURCE: Korve Engineering, 2007

Fruitvale Gateway . 204358

Figure IV.C-8c

Existing (Baseline) + Project Traffic Volumes

AM (PM) Peak Hour



SITE PLAN

True North

North for purposes of document

SOURCE: MBH Architects, 2007

Gateway Community Development Project . 204358

Figure IV.C-9
Site Plan

Intersection Impacts

Baseline plus Project Conditions

Impact TRANS-2: Traffic generated by the project would affect traffic levels of service at the study intersection under Baseline plus Project Conditions. (Potentially Significant)

Table IV.C-8 summarizes the intersection LOS for the Baseline plus Project Conditions. As shown, the following study intersections would operate at LOS E or F with the addition of project-generated traffic (all intersections listed below would operate at LOS E or F in the Baseline Conditions without the addition of project generated traffic, with the exception of East 12th Street at Derby Avenue):

8. East 9th Street at Fruitvale Avenue (p.m. peak hour, Oakland jurisdiction);
11. East 12th Street at 25th Avenue (both peak hours, Oakland jurisdiction);
16. Foothill Boulevard at Fruitvale Avenue (both peak hours, Oakland jurisdiction);
20. East 9th Street at I-880 Northbound Off-Ramp (both peak hours, Caltrans jurisdiction);
22. East 12th Street at Derby Avenue (p.m. peak hour, Oakland jurisdiction); and
25. International Boulevard at 42nd Avenue (p.m. peak hour, Oakland jurisdiction).

Average delay, critical movement delay, and volume-to-capacity ratio increases are evaluated for each signalized intersection operating at unacceptable conditions in the near-term future conditions (where applicable). The results of this analysis are summarized in **Table IV.C-9**. An MUTCD peak hour volume warrant analysis is done for each unsignalized intersection operating at unacceptable conditions.

As shown in **Table IV.C-8** and **Table IV.C-9**, the East 9th at Fruitvale Avenue, Foothill Boulevard at Fruitvale Avenue, and International Boulevard at 42nd Avenue intersections currently operate at LOS E or F and would continue to do so with the addition of project-generated traffic. However, none of these intersections would meet the average delay, critical movement, or volume-to-capacity ratio thresholds outlined in the City of Oakland's significance criteria. Thus, the project would have a less than significant effect on these signalized intersections.

During both peak hours, the worst minor approach of the East 12th Street at 25th Avenue intersection would operate at LOS F with project traffic. During the p.m. peak hour, the worst minor approach of the East 12th Street at Derby Avenue intersection would operate at LOS F with project traffic. In both cases the project adds over ten vehicles, but would not meet the MUTCD Peak-Hour Volume warrant. At both intersections, the worst minor approach would not experience enough total delay (four vehicle hours) or have a high enough volume (100 vehicles) to meet the requirements of the MUTCD Peak-Hour Volume warrant. Thus, the project would have a less than significant effect on conditions at these intersections.

TABLE IV.C-8
BASELINE AND BASELINE PLUS PROJECT PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS)

			AM Peak Hour				PM Peak Hour			
			Baseline		With Project		Baseline		With Project	
No.	Intersection	Traffic Control[a]	LOS[a]	Delay	LOS[a]	Delay	LOS[a]	Delay	LOS[a]	Delay
1	East 12th / 29th Ave	Signal	B	18.0	B	18.0	B	18.5	C	26.1
2	International / 29th Ave	Signal	B	19.1	B	19.1	C	23.0	C	23.2
3	East 12th / 30th Ave	TWSC	C	19.2	C	20.1	B	12.2	B	12.5
4	Animal Shelter / 29th Ave[b]	Signal	B	13.0	B	12.9	B	13.2	B	12.9
5	East 12th / Fruitvale Ave	Signal	C	26.0	C	26.6	C	29.0	C	29.1
6	International / Fruitvale Ave	Signal	C	21.1	C	21.8	B	19.8	C	20.2
7	San Leandro / Fruitvale Ave	Signal	C	26.8	C	27.1	C	24.9	C	25.6
8	**East 9th / Fruitvale Ave**	**Signal**	D	40.2	D	40.8	**E**	**56.4**	**E**	**57.4**
9	East 8th / Fruitvale Ave	Signal	B	12.5	B	12.6	C	21.0	C	21.1
10	East 12th / 26th Ave	TWSC	C	20.6	C	20.8	B	11.8	B	12.0
11	**East 12th / 25th Ave**	**TWSC**	**F**	**>80.0**	**F**	**>80.0**	**F**	**54.1**	**F**	**56.2**
12	East 12th / 23rd Ave	Signal	C	21.4	C	21.9	B	19.3	C	20.5
13	East 12th / 22nd Ave[b]	Signal	B	15.7	B	15.7	D	39.3	D	39.2
14	International / 23rd Ave	Signal	B	11.8	B	11.9	A	7.2	A	7.3
15	Foothill / 23rd Ave	Signal	B	10.8	B	10.9	B	10.8	B	10.9
16	**Foothill / Fruitvale Ave[b]**	**Signal**	**E**	**79.0**	**E**	**78.7**	**E**	**69.0**	**E**	**68.5**
17	Kennedy / 23rd Ave[b]	Signal	B	13.2	B	13.1	B	19.4	B	19.5
18	East 7th / 23rd Ave	Signal	B	17.4	B	17.4	B	10.5	B	10.5
19	East 7th / Kennedy St	Signal	A	9.8	A	9.8	C	31.3	D	46.4
20	**East 9th / I-880 NB Off-Ramp**	**AWSC**	**F**	**54.4**	**F**	**55.1**	**F**	**57.4**	**F**	**68.7**
21	East 8th / Lisbon Ave	TWSC	C	15.4	C	15.9	C	17.5	C	17.9
22	**East 12th / Derby Ave**	**TWSC**	C	17.8	C	26.6	C	23.9	**F**	**52.7**
23	International / 35th Ave	Signal	B	12.4	B	12.4	B	12.3	B	12.4
24	International / 38th Ave[b]	Signal	C	24.5	C	24.5	C	33.4	C	33.3
25	**International / 42nd Ave**	**Signal**	C	33.4	C	33.4	**F**	**>80.0**	**F**	**>80.0**
26	International / High St	Signal	C	20.6	C	22.2	D	51.4	D	53.8
27	Blanding / Park St	Signal	B	18.2	B	18.2	B	19.0	B	19.3
28	Clement / Park St	Signal	D	41.9	D	42.6	B	18.2	B	18.5
29	Buena Vista / Park St[b]	Signal	D	35.7	D	35.4	B	12.0	B	12.0
30	Lincoln / Park St	Signal	B	12.0	B	12.1	B	13.7	B	14.1
31	Santa Clara / Park St	Signal	C	29.7	C	30.5	B	16.9	B	17.2
32	Central / Park St	Signal	B	15.9	B	16.0	B	18.3	B	18.9

NOTE: Bold, shaded intersections indicate unacceptable operating conditions.

[a] The LOS and delay for two-way stop controlled intersections represent the worst movement or approach. The LOS and delay for signalized intersections and all-way stop controlled intersections represent the overall intersection.

[b] Project would add trips primarily to non-critical movements, thus resulting in a minor decrease to overall average delay in Baseline plus Project Conditions.

SOURCE: Korve Engineering (2007)

TABLE IV.C-9
BASELINE PLUS PROJECT DETAILED OPERATIONS SUMMARY

No.	Intersection	AM Peak Hour Increase from Baseline			PM Peak Hour Increase from Baseline			Potentially Significant Impact?
		Avg Delay	Critical Move	V/C Ratio	Avg Delay	Critical Move	V/C Ratio	
Baseline Condition degrades from LOS D or better to LOS E or worse:[a]								
22	East 12th / Derby Ave[d]	NA	NA	NA	NA	NA	NA	No
LOS E with and without the addition of project-generated traffic:[a]								
8	East 9th / Fruitvale Ave	----	----	----	1.0	3.1	NA	No
16	Foothill / Fruitvale Ave	0.0	0.0	NA	0.0	0.0	NA	No
LOS F with and without the addition of project-generated traffic:[b]								
11	East 12th / 25th Ave[d]	NA	NA	NA	NA	NA	NA	No
20	**East 9th / I-880 NB Off-Ramp[e]**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**Yes**
25	International / 42nd Ave	----	----	----	NA	NA	0.3%	No

NA = Criteria Not Applicable
---- = Intersection does not operate at specified condition

[a] Based on City of Oakland significance criteria, the project would have a significant impact if intersection LOS deteriorated from LOS D or better to LOS E or worse. Average Delay, Critical Movement, and V/C Ratio thresholds do not apply.

[b] Based on City of Oakland significance criteria, for intersections operating at LOS E in the baseline condition, V/C Ratio thresholds do not apply.

[c] Average delay and critical movement delay cannot be measured accurately. Alternatively, the increase V/C Ratio is shown.

[d] Unsignalized intersection would not meet the requirements of the MUTCD Peak Hour Volume Signal Warrant.

[e] Unsignalized intersection meets the requirements of the MUTCD Peak Hour Volume Signal Warrant.

SOURCE: Korve Engineering (2007)

East 9th Street at I-880 Northbound Off-Ramp

The addition of project traffic would cause the City of Oakland's significance criteria for unsignalized intersections to be met at the East 9th Street at I-880 Northbound Off-Ramp intersection during both peak hours. Implementation of Mitigation Measure TRANS-2a would reduce the impact to a less than significant level.

> **Mitigation Measure TRANS-2a:** Signalize the East 9th Street at I-880 Northbound Off-Ramp intersection. The signal should be built to current Caltrans standards such as full actuation and count-down pedestrian heads.
>
> The project sponsor shall fully fund the installation of a traffic signal at the East 9th Street at I-880 Northbound Off-Ramp intersection. However, the project sponsor would be subject to reimbursement from future projects which would also add traffic to this intersection for all but sponsor's fair share, or as otherwise agreed upon due to the fact that this intersection fails in the Baseline Conditions. After implementation of this measure, the intersection would operate at an acceptable LOS B during both peak hours. The implementation of **Mitigation Measure TRANS-2a** would not lead to any adverse impacts. No other feasible improvements are available at this intersection that would mitigate the project's impact, such as widening or reconfiguration. Widening would not be possible due to physical constraints. Reconfiguring the intersection from all-way stop control to two-way stop

control would cause substantial increases in delay and queuing at the remaining stop-controlled approaches.

Significance after Mitigation: Less than Significant; however, because the City of Oakland, as lead agency, could not implement part of Mitigation Measure TRANS-2a (changes to the freeway off-ramps) without the approval of Caltrans, the project impact is considered significant and unavoidable.

Near-Term Future 2010 Conditions

Impact TRANS-3: Traffic generated by the proposed project would affect traffic levels of service at the study intersection under near term 2010 Conditions. (Potentially Significant)

Based on the ACCMA Countywide Transportation Demand Model's forecasts, updated to reflect the cumulative land use forecasts of the City of Oakland, increases in traffic levels at each study intersection were estimated. The 2010 Baseline traffic volumes were developed based on growth factors developed from the ACCMA model data and reflected the increase in traffic from all planned development that would affect the study area. Annual growth rates throughout the study area ranged from 0.8 percent to 3.6 percent. The proposed project volumes are then layered on top of the projected 2010 Baseline volumes to create the 2010 plus Project Condition. Although the project would not be fully built by the year 2010, the entire project is analyzed to provide a conservative evaluation of project impacts. **Table IV.C-10** summarizes the LOS in the near-term future conditions.

As shown in **Table IV.C-10**, the following study intersections would operate at LOS E or F with the addition of project-generated traffic to the year 2010 Baseline Condition (all intersections listed below would operate at LOS E or F in the 2010 Baseline Conditions, with the exception of East 7th Street at Kennedy Street and East 12th Street at Derby Avenue):

8. East 9th Street at Fruitvale Avenue (p.m. peak hour, Oakland jurisdiction);
11. East 12th Street at 25th Avenue (both peak hours, Oakland jurisdiction);
13. East 12th Street at 22nd Avenue (p.m. peak hour, Oakland jurisdiction);
16. Foothill Boulevard at Fruitvale Avenue (both peak hours, Oakland jurisdiction);
19. East 7th Street at Kennedy Street (p.m. peak hour, Oakland jurisdiction);
20. East 9th Street at I-880 Northbound Off-Ramp (both peak hours, Caltrans jurisdiction);
22. East 12th Street at Derby Avenue (p.m. peak hour, Oakland jurisdiction);
25. International Boulevard at 42nd Avenue (p.m. peak hour, Oakland jurisdiction); and
26. International Boulevard at High Street (p.m. peak hour, Oakland jurisdiction).

Average delay, critical movement delay, and volume-to-capacity ratio increases are evaluated for each signalized intersection operating at unacceptable conditions in the near-term future conditions (where applicable). The results of this analysis are summarized in **Table IV.C-11**.

As shown in **Table IV.C-10** and **Table IV.C-11**, the East 9th Street at Fruitvale Avenue, East 12th Street at 22nd Avenue, Foothill Boulevard at Fruitvale Avenue, International Boulevard at 42nd Avenue, and International Boulevard at High Street signalized intersections would continue to operate at LOS E or F with the addition of project-generated traffic. However, none of these intersections would meet the average delay, critical movement, or volume-to-capacity ratio thresholds outlined in the City of Oakland's significance criteria. Thus, the project's effect on these signalized intersections would be considered less than significant.

During both peak hours, the worst minor approach of the East 12th Street at 25th Avenue intersection would operate at LOS F with project traffic. At East 12th Street at Derby Avenue intersection, with project traffic, the worst minor approach would operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour. At both intersections during both peak hours, the project would add over ten vehicles, but would not meet the MUTCD Peak-Hour Volume warrant. At the East 12th Street at 25th Avenue (p.m. peak hour) and East 12th Street at Derby Avenue (both peak hours) intersections, the worst minor approach would not experience enough total delay (four vehicle hours) or have a high enough volume (100 vehicles) to meet the requirements of the MUTCD Peak-Hour Volume warrant. During the a.m. peak hour, the worst minor approach to the East 12th Street at 25th Avenue intersection would experience over four vehicle hours of total delay, but would not have a high enough volume (100 vehicles) to meet the requirements of the MUTCD Peak-Hour Volume warrant. Thus, the project's effect on conditions at these intersections would be less than significant.

East 7th Street at Kennedy Street

The addition of project traffic would cause the level of service to deteriorate from LOS D to LOS E at the East 7th Street at Kennedy Street intersection during the p.m. peak hour. Also, the project would make a considerable contribution to cumulative impacts at this intersection since it would contribute over five percent of the cumulative growth. Implementation of Mitigation Measure C.3a would reduce the impact to a less than significant level.

> **Mitigation Measure TRANS-3a:** Optimize the traffic signal at the intersection of East 7th Street at Kennedy Street. Optimization of traffic signal shall include determination of allocation of green time for each intersection approach in proportion with the relative traffic volumes on those approaches. The signal should be upgraded to current city standards such as full actuation and count-down pedestrian heads.
>
> The project sponsor would be fully responsible for the cost of optimization of the traffic signals, as well as the cost of upgrading the signals to current City standards, at the intersection of East 7th Street at Kennedy Street. However, the project sponsor may be subject to reimbursement from future projects which would also add traffic to this intersection for all but sponsor's fair share, or as otherwise agreed upon. After implementation of this measure, the intersection would operate at an acceptable LOS B during the p.m. peak hour.

Significance after Implementation of Mitigation: Less than Significant.

TABLE IV.C-10
2010 BASELINE AND 2010 PROJECT PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS)

			AM Peak Hour				PM Peak Hour			
			2010 Baseline		With Project		2010 Baseline		With Project	
No.	Intersection	Traffic Control[a]	LOS[a]	Delay	LOS[a]	Delay	LOS[a]	Delay	LOS[a]	Delay
1	East 12th / 29th Ave	Signal	C	20.6	C	20.6	C	21.2	C	32.5
2	International / 29th Ave	Signal	C	20.3	C	20.3	C	26.4	C	26.8
3	East 12th / 30th Ave	TWSC	C	24.1	D	25.5	B	13.2	B	13.5
4	Animal Shelter / 29th Ave[b]	Signal	B	13.0	B	12.9	B	13.2	B	13.0
5	East 12th / Fruitvale Ave[b]	Signal	C	29.3	C	28.4	D	37.0	D	37.5
6	International / Fruitvale Ave	Signal	C	22.6	C	23.0	C	20.9	C	21.5
7	San Leandro / Fruitvale Ave	Signal	D	36.4	D	37.0	C	34.9	D	41.2
8	**East 9th / Fruitvale Ave**	**Signal**	**E**	**72.3**	**E**	**73.9**	**F**	**>80.0**	**F**	**>80.0**
9	East 8th / Fruitvale Ave	Signal	B	13.3	B	13.3	C	22.0	C	22.2
10	East 12th / 26th Ave	TWSC	D	28.0	D	28.5	B	12.8	B	13.0
11	**East 12th / 25th Ave**	**TWSC**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
12	East 12th / 23rd Ave	Signal	C	28.3	C	28.9	C	25.3	C	26.7
13	**East 12th / 22nd Ave[b]**	**Signal**	B	17.3	B	17.3	**E**	**58.0**	**E**	**57.9**
14	International / 23rd Ave	Signal	B	13.0	B	13.2	A	7.4	A	7.6
15	Foothill / 23rd Ave	Signal	B	11.2	B	11.3	B	11.2	B	11.2
16	**Foothill / Fruitvale Ave**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**F**	**80.0**	**F**	**>80.0**
17	Kennedy / 23rd Ave[b]	Signal	B	13.5	B	13.4	C	20.3	C	20.5
18	East 7th / 23rd Ave	Signal	C	23.9	C	23.9	B	10.8	B	10.9
19	**East 7th / Kennedy St**	**Signal**	A	10.0	B	10.0	D	39.3	**E**	**56.3**
20	**East 9th / I-880 NB Off-Ramp**	**AWSC**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
21	East 8th / Lisbon Ave	TWSC	C	15.9	C	16.5	C	18.2	C	18.7
22	**East 12th / Derby Ave**	**TWSC**	C	22.3	**E**	**38.5**	D	33.5	**F**	>80.0
23	International / 35th Ave	Signal	B	13.0	B	13.0	B	13.1	B	13.2
24	International / 38th Ave	Signal	C	32.4	C	32.4	D	46.1	D	46.2
25	**International / 42nd Ave[b]**	**Signal**	D	40.1	D	40.0	**F**	**>80.0**	**F**	**>80.0**
26	**International / High St**	**Signal**	C	22.8	C	24.5	**E**	**63.6**	**E**	**66.2**
27	Blanding / Park St	Signal	C	23.6	C	23.6	C	26.6	C	27.5
28	Clement / Park St	Signal	D	50.3	D	50.8	C	21.1	C	21.9
29	Buena Vista / Park St[b]	Signal	D	49.0	D	48.7	B	15.7	B	15.7
30	Lincoln / Park St	Signal	B	12.9	B	13.0	B	14.9	B	15.4
31	Santa Clara / Park St	Signal	D	46.8	D	48.3	C	20.5	C	21.1
32	Central / Park St	Signal	B	18.6	B	18.8	C	23.4	C	24.6

Bold, shaded intersections indicate unacceptable operating conditions.

[a] The LOS and delay for two-way stop controlled intersections represent the worst movement or approach. The LOS and delay for signalized intersections and all-way stop controlled intersections represent the overall intersection.

[b] Project would add trips primarily to non-critical movements, thus resulting in a minor decrease to overall average delay in Baseline plus Project Conditions.

SOURCE: Korve Engineering (2007)

TABLE IV.C-11
2010 PLUS PROJECT DETAILED OPERATIONS SUMMARY

		AM Peak Hour				PM Peak Hour				Potentially Significant Impact?
		Increase from 2010 Baseline				Increase from 2010 Baseline				
No.	Intersection	Avg Delay	Critical Move	V/C Ratio	Percent Project Volume	Avg Delay	Critical Move	V/C Ratio	Percent Project Volume	
Baseline Condition degrades from LOS D or better to LOS E or worse:[a]										
19	**East 7th / Kennedy St**	**----**	**----**	**----**	**----**	**NA**	**NA**	**NA**	**34.9%**	**Yes**
22	East 12th / Derby Ave[c]	NA	NA	NA	32.9%	NA	NA	NA	30.2	No
LOS E with and without the addition of project-generated traffic:[b]										
8	East 9th / Fruitvale Ave	1.6	4.4	NA	2.5%	----	----	----	----	No
13	East 12th / 22nd Ave	----	----	----	----	0.0	0.2	NA	8.2%	No
26	International / High St[d]	----	----	----	----	2.6	NA	1.9%	11.6%	No
LOS F with and without the addition of project-generated traffic:[e]										
8	East 9th / Fruitvale Ave	----	----	----	----	NA	NA	0.1%	6.4%	No
11	East 12th / 25th Ave[c]	NA	NA	NA	6.7%	NA	NA	NA	10.6%	No
16	Foothill / Fruitvale Ave	NA	NA	0.6%	10.3%	NA	NA	0.8%	11.8%	No
20	**East 9th / I-880 NB Off-Ramp[f]**	**NA**	**NA**	**NA**	**8.4%**	**NA**	**NA**	**NA**	**27.0%**	**Yes**
25	International / 42nd Ave	----	----	----	----	NA	NA	0.3%	10.0%	No

NA = Criteria Not Applicable
---- = Intersection does not operate at specified condition

a Based on City of Oakland significance criteria, the project would have a significant impact if intersection LOS deteriorated from LOS D or better to LOS E or worse. Average Delay, Critical Movement, and V/C Ratio thresholds do not apply.

b Based on City of Oakland significance criteria, for intersections operating at LOS E in the baseline condition, V/C Ratio thresholds do not apply.

c Unsignalized intersection would not meet the requirements of the MUTCD Peak Hour Volume Signal Warrant.

d Critical movement delays cannot be measured accurately. Alternatively, the increase V/C Ratio is shown.

e Average delay and critical movement delay cannot be measured accurately. Alternatively, the increase V/C Ratio is shown.

f Unsignalized intersection meets the requirements of the MUTCD Peak Hour Volume Signal Warrant.

SOURCE: Korve Engineering (2007)

East 9th Street at I-880 Northbound Off-Ramp

The addition of project traffic would cause the City of Oakland's significance criteria for unsignalized intersections to be met at the East 9th Street at I-880 Northbound Off-Ramp intersection during both peak hours. Also, the project would make a considerable contribution to cumulative impacts at this intersection since it would contribute over five percent of the cumulative growth. Implementation of **Mitigation Measure TRANS-3b** would reduce the impact to a less than significant level.

> **Mitigation Measure TRANS-3b:** The project sponsor shall implement **Mitigation Measure TRANS-2a**.

Significance after Implementation of Mitigation: Less than Significant; however, because the City of Oakland, as lead agency, could not implement part of Mitigation Measure TRANS-.2a (changes to the freeway off-ramps) without the approval of Caltrans, the project impact is considered Significant and Unavoidable.

Cumulative 2025 Conditions

Impact TRANS-4: Traffic generated by the proposed project in combination with cumulative growth would affect traffic levels of service at local intersections under Cumulative (2025) Conditions. (Potentially Significant)

Traffic increases for each study intersection were estimated based on forecasts from the most recent version of the ACCMA Countywide Transportation Demand Model available at the time this analysis was conducted (September 2006), updated to reflect the cumulative land use forecasts of the City of Oakland. This cumulative scenario includes all development contemplated in the study area. Annual growth rates throughout the study area ranged from 0.8 percent to 3.6 percent. **Table IV.C-12** summarizes the LOS under the cumulative scenarios.

As shown in **Table IV.C-12**, the following study intersections would operate at LOS E or F with the addition of project-generated traffic to the year 2025 Base Condition (all intersections listed below would operate at LOS E or F in the Cumulative Baseline Conditions with the exception of the 12th Street at 23rd Street and 12th Street at 29th Street intersections):

1. East 12th Street at 29th Avenue (p.m. peak hour, Oakland jurisdiction);
2. International Boulevard at 29th Avenue (p.m. peak hour, Oakland jurisdiction);
3. East 12th Street at 30th Avenue (a.m. peak hour, Oakland jurisdiction);
5. East 12th Street at Fruitvale Avenue (both peak hours, Oakland jurisdiction);
6. International Boulevard at Fruitvale Avenue (a.m. peak hour, Oakland jurisdiction);
7. San Leandro Street at Fruitvale Avenue (both peak hours, Oakland jurisdiction);
8. East 9th Street at Fruitvale Avenue (both peak hours, Oakland jurisdiction);
9. East 8th Street at Fruitvale Avenue (p.m. peak hour, Oakland jurisdiction);
10. East 12th Street at 26th Avenue (a.m. peak hour, Oakland jurisdiction);
11. East 12th Street at 25th Avenue (both peak hours, Oakland jurisdiction);
12. East 12th Street at 23rd Avenue (a.m. peak hour, Oakland jurisdiction);
13. East 12th Street at 22nd Avenue (p.m. peak hour, Oakland jurisdiction);
16. Foothill Boulevard at Fruitvale Avenue (both peak hours, Oakland jurisdiction);
18. East 7th Street at 23rd Avenue (a.m. peak hour, Oakland jurisdiction);
19. East 7th Street at Kennedy Street (p.m. peak hour, Oakland jurisdiction);
20. East 9th Street at I-880 Northbound Off-Ramp (both peak hours, Caltrans jurisdiction);
22. East 12th Street at Derby Avenue (both peak hour, Oakland jurisdiction);
25. International Boulevard at 38th Avenue (both peak hours, Oakland jurisdiction);
25. International Boulevard at 42nd Avenue (both peak hour, Oakland jurisdiction);
26. International Boulevard at High Street (p.m. peak hour, Oakland jurisdiction);
27. Blanding Avenue at Park Street (p.m. peak hour, Alameda jurisdiction);

TABLE IV.C-12
2025 PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS)

			AM Peak Hour				PM Peak Hour			
			2025 Baseline		With Project		2025 Baseline		With Project	
No.	Intersection	Traffic Control[a]	LOS[a]	Delay	LOS[a]	Delay	LOS[a]	Delay	LOS[a]	Delay
1	**East 12th / 29th Ave[b]**	**Signal**	D	51.8	D	50.7	D	48.7	**E**	**71.6**
2	**International / 29th Ave**	**Signal**	C	32.5	C	32.6	**E**	**79.2**	**F**	**>80.0**
3	**East 12th / 30th Ave**	**TWSC**	**F**	**75.2**	**F**	**>80.0**	C	17.2	C	17.8
4	Animal Shelter / 29th Ave[b]	Signal	B	13.0	B	12.9	B	13.3	B	13.1
5	**East 12th / Fruitvale Ave**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
6	**International / Fruitvale Ave**	**Signal**	**E**	**71.2**	**E**	**75.1**	D	37.2	D	39.9
7	**San Leandro / Fruitvale Ave**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
8	**East 9th / Fruitvale Ave**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
9	**East 8th / Fruitvale Ave**	**Signal**	C	25.3	C	25.8	**E**	**60.2**	**E**	**63.5**
10	**East 12th / 26th Ave**	**TWSC**	**F**	**>80.0**	**F**	**>80.0**	C	17.2	C	17.6
11	**East 12th / 25th Ave**	**TWSC**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
12	**East 12th / 23rd Ave**	**Signal**	D	54.6	**E**	**55.3**	D	45.2	D	46.9
13	**East 12th / 22nd Ave**	**Signal**	C	27.0	C	27.0	**F**	**>80.0**	**F**	**>80.0**
14	International / 23rd Ave	Signal	C	29.0	C	30.0	A	8.7	A	9.0
15	Foothill / 23rd Ave	Signal	B	13.4	B	13.5	B	12.7	B	12.8
16	**Foothill / Fruitvale Ave**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
17	Kennedy / 23rd Ave[b]	Signal	B	14.7	B	14.6	C	24.4	C	24.8
18	**East 7th / 23rd Ave**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	B	12.4	B	12.4
19	**East 7th / Kennedy St**	**Signal**	B	10.8	B	10.8	**E**	**68.5**	**F**	**>80.0**
20	**East 9th / I-880 NB Off-Ramp**	**AWSC**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
21	East 8th / Lisbon Ave	TWSC	C	17.9	C	18.7	C	21.0	C	21.6
22	**East 12th / Derby Ave**	**TWSC**	**F**	**73.6**	**F**	**>80.0**	**F**	**>80.0**	**F**	**>80.0**
23	International / 35th Ave	Signal	B	16.4	B	16.7	C	23.5	C	24.4
24	**International / 38th Ave[b]**	**Signal**	**E**	**71.1**	**E**	**70.7**	**F**	**>80.0**	**F**	**>80.0**
25	**International / 42nd Ave**	**Signal**	**E**	**71.9**	**E**	**71.9**	**F**	**>80.0**	**F**	**>80.0**
26	**International / High St**	**Signal**	C	33.1	D	35.4	**F**	**>80.0**	**F**	**>80.0**
27	**Blanding / Park St**	**Signal**	D	52.6	D	53.0	**F**	**>80.0**	**F**	**>80.0**
28	**Clement / Park St**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**E**	**71.5**	**E**	**78.2**
29	**Buena Vista / Park St[b]**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	D	44.0	D	43.8
30	Lincoln / Park St	Signal	B	19.4	B	19.7	C	25.0	C	28.2
31	**Santa Clara / Park St**	**Signal**	**F**	**>80.0**	**F**	**>80.0**	**E**	**59.7**	**E**	**63.6**
32	**Central / Park St**	**Signal**	**E**	**58.3**	**E**	**60.7**	**F**	**>80.0**	**F**	**>80.0**

NOTE: Bold, shaded intersections indicate unacceptable operating conditions.

[a] The LOS and delay for two-way stop controlled intersections represent the worst movement or approach. The LOS and delay for signalized intersections and all-way stop controlled intersections represent the overall intersection.

[b] Project would add trips primarily to non-critical movements, thus resulting in a minor decrease to overall average delay in Baseline plus Project Conditions.

SOURCE: Korve Engineering (2007)

28. Clement Avenue at Park Street (both peak hours, Alameda jurisdiction);
29. Buena Vista Avenue at Park Street (a.m. peak hour, Alameda jurisdiction);
31. Santa Clara Avenue at Park Street (both peak hours, Alameda jurisdiction); and
32. Central Avenue at Park Street (both peak hours, Alameda jurisdiction).

Average delay, critical movement delay, and volume-to-capacity ratio increases are evaluated for each signalized intersection operating at unacceptable conditions in the Cumulative Conditions (where applicable). The results of this analysis are summarized in **Table IV.C-13**.

As shown in **Table IV.C-12** and **Table IV.C-13**, the East 12th Street at Fruitvale Avenue, East 9th Street at Fruitvale Avenue, East 8th Street at Fruitvale Avenue, East 12th Street at 22nd Avenue, Foothill Boulevard at Fruitvale Avenue, East 7th Street at 23rd Avenue, International Boulevard at 38th Avenue, International Boulevard at 42nd Avenue, International Boulevard at High Street, Blanding Avenue at Park Street, Buena Vista Avenue at Park Street, Santa Clara Avenue at Park Street, and Central Avenue at Park Street signalized intersections operate at LOS E or F with the addition of project-generated traffic. However, none of these intersections would meet the average delay, critical movement, or volume-to-capacity ratio thresholds outlined in the City of Oakland's significance criteria. Thus, the project's effect on these signalized intersections would be considered less than significant. At the International Boulevard at Fruitvale Avenue and San Leandro Street at Fruitvale Avenue intersections the volume-to-capacity ratio threshold would be met. However, since the project would contribute less than five percent of the cumulative growth at these intersections, the project's effect on these intersections would be considered less than significant. At the International Boulevard at 29th Avenue and the East 12th Street at 23rd Avenue intersections the project would contribute less than five percent of the cumulative growth. Thus, the project's effect on this intersection would also be considered less than significant.

During the a.m. peak hour, the worst minor approach to the East 12th Street at 30th Avenue intersection would operate at LOS F with project traffic. During both peak hours, the worst minor approach of the East 12th Street at Derby Avenue intersection would operate at LOS F with project traffic. In both, the project adds over ten vehicles, but would not meet the MUTCD Peak-Hour Volume warrant. The worst minor approach to the East 12th Street at 30th Avenue intersection (a.m. peak hour) would not experience enough total delay (four vehicle hours) or have a high enough volume (100 vehicles) to meet the requirements of the MUTCD Peak-Hour Volume warrant. The worst minor approach to the East 12th Street at Derby Street intersection (both peak hours) would experience over four vehicle hours of total delay, but would not have a high enough volume (100 vehicles) to meet the requirements of the MUTCD Peak-Hour Volume warrant. Thus, the project's effect on conditions at these intersections would be less than significant.

During the a.m. peak hour, the worst minor approach to the East 12th Street at 26th Avenue intersection would operate at LOS F with project traffic. During both peak hours, the worst minor approach of the East 12th at 25th Avenue intersection would operate at LOS F with project traffic. At both intersections, the requirements of the MUTCD Peak-Hour Volume warrant are met. However, since the project would not contribute over five percent to the cumulative growth, the project's effect on conditions at these intersections would be less than significant.

TABLE IV.C-13
2025 PLUS PROJECT DETAILED OPERATIONS SUMMARY

		AM Peak Hour				PM Peak Hour				
		Increase from 2025 Baseline				Increase from 2025 Baseline				
No.	**Intersection**	**Avg Delay**	**Critical Move**	**V/C Ratio**	**Percent Project Volume**	**Avg Delay**	**Critical Move**	**V/C Ratio**	**Percent Project Volume**	**Potentially Significant Impact?**
Baseline Ccondition degrades from LOS D or better to LOS E or worse:[a]										
1	**East 12th / 29th Ave**	**----**	**----**	**----**	**----**	**NA**	**NA**	**NA**	**17.9%**	**Yes**
12	East 12th / 23rd Ave	NA	NA	NA	1.4%	----	----	----	----	No
Baseline Condition degrades from LOS E to LOS F:[a]										
2	International / 29th Ave	----	----	----	----	NA	NA	NA	3.6%	No
19	**East 7th / Kennedy St**	**----**	**----**	**----**	**----**	**NA**	**NA**	**NA**	**11.9%**	**Yes**
LOS E with and without the addition of project-generated traffic:[b]										
6	International / Fruitvale[c]	3.9	NA	3.4%	2.9%	----	----	----	----	No
9	East 8th / Fruitvale Ave[c]	----	----	----	----	3.3	NA	1.8%	1.9%	No
24	International / 38th Ave	0.0	0.0	NA	2.9%	----	----	----	----	No
25	International / 42nd Ave	0.0	0.0	NA	2.6%	----	----	----	----	No
28	**Clement / Park St[g]**	**----**	**----**	**----**	**----**	**6.7**	**16.0**	**NA**	**5.3%**	**Yes**
31	Santa Clara / Park St[g]	----	----	----	----	3.9	NA	NA	NA	No
32	Central / Park St[g]	2.4	NA	NA	NA	----	----	----	----	No
LOS F with and without the addition of project-generated traffic:[d]										
3	East 12th / 30th Ave[e]	NA	NA	NA	8.3%	----	----	----	----	No
5	East 12th / Fruitvale Ave	NA	NA	0.1%	1.8%	NA	NA	0.7%	2.0%	No
7	San Leandro / Fruitvale	NA	NA	0.0%	1.0%	NA	NA	4.2%	1.7%	No
8	East 9th / Fruitvale Ave	NA	NA	0.7%	0.6%	NA	NA	0.1%	1.7%	No
10	East 12th / 26th Ave[f]	NA	NA	NA	1.4%	----	----	----	----	No
11	East 12th / 25th Ave[f]	NA	NA	NA	1.8%	NA	NA	NA	2.9%	No
13	East 12th / 22nd Ave	----	----	----	----	NA	NA	0.2%	0.7%	No
16	Foothill / Fruitvale Ave	NA	NA	1.1%	2.8%	NA	NA	0.7%	3.2%	No
18	East 7th / 23rd Ave	NA	NA	0.0%	0.8%	----	----	----	----	No
20	**East 9th / I-880 NB Off-Ramp[f]**	**NA**	**NA**	**NA**	**2.3%**	**NA**	**NA**	**NA**	**8.4%**	**Yes**
22	East 12th / Derby Ave[e]	NA	NA	NA	10.9%	NA	NA	NA	9.8%	No
24	International / 38th Ave	----	----	----	----	NA	NA	0.0%	3.4%	No
25	International / 42nd Ave	----	----	----	----	NA	NA	0.2%	2.7%	No
26	International / High St	----	----	----	----	NA	NA	1.6%	3.2%	No
27	Blanding / Park St[g]	----	----	----	----	1.9	NA	NA	NA	No
28	Clement / Park St[g]	2.1	NA	NA	NA	----	----	----	----	No
29	Buena Vista / Park St[g]	0.0	NA	NA	NA	----	----	----	----	No
31	Santa Clara / Park St[g]	3.3	NA	NA	NA	----	----	----	----	No
32	Central / Park St[g]	----	----	----	----	5.3	NA	NA	NA	Yes

NA = Criteria Not Applicable; ---- = Intersection does not operate at specified condition

[a] Based on City of Oakland significance criteria, the project would have a significant impact if intersection LOS deteriorated from LOS D or better to LOS E or worse, or from LOS E to LOS F. Average Delay, Critical Movement, and V/C Ratio thresholds do not apply.

[b] Based on City of Oakland significance criteria, for intersections operating at LOS E in the baseline condition, V/C Ratio thresholds do not apply.

[c] Critical movement delays cannot be measured accurately. Alternatively, the increase V/C Ratio is shown.

[d] Average delay and critical movement delay cannot be measured accurately. Alternatively, the increase V/C Ratio is shown.

[e] Unsignalized intersection would not meet the requirements of the MUTCD Peak Hour Volume Signal Warrant.

[f] Unsignalized intersection meets the requirements of the MUTCD Peak Hour Volume Signal Warrant.

[g] Critical Movement, V/C Ratio, and Percent Project Volume criteria do not apply to Alameda intersections.

SOURCE: Korve Engineering (2007)

East 12th Street at 29th Avenue

The addition of project traffic would cause the level of service to deteriorate from LOS D to LOS E at the East 12th Street at 29th Avenue intersection during the p.m. peak hour. Also, the project would make a considerable contribution to cumulative impacts at this intersection since it would contribute over five percent of the cumulative growth. Implementation of **Mitigation Measure TRANS-4a** would reduce the severity of the impact.

> **Mitigation Measure TRANS-4a:** Widen and reconfigure the northbound approach to the East 12th Street at 29th Avenue intersection to include a left-turn lane, through lane, and a right-turn lane. Adjust signal phasing to protect northbound left turns. The signal should be upgraded to current city standards such as full actuation and count-down pedestrian heads. Although these adjustments would not fully mitigate the project's contribution to cumulative growth, it must be implemented to improve average delay per vehicle, and reduce delay for critical movements.
>
> The project sponsor would be fully responsible for the cost of widening and signal improvement for the northbound approach to the intersection of East 12th Street at 29th Avenue, as well as the cost of upgrading the signals to current City standards. However, the project sponsor may be subject to reimbursement from future projects which would also add traffic to this intersection for all but sponsor's fair share, or as otherwise agreed upon. After mitigation, the intersection would operate at LOS D during the p.m. peak hour. The implementation of **Mitigation Measure TRANS-4a** would not lead to any adverse impacts.
>
> Since the project site straddles both sides of the northbound approach to the intersection of East 12th Street at 29th Avenue, the site plan would need to be adjusted accordingly for widening to take place. The project sponsor would need to dedicate private property to the City of Oakland to facilitate the intersection widening. The new northbound right-turn lane would be approximately 250 feet. Although this is a sufficient length to reduce impacts to less than significant levels, it falls 50 feet short of the 300 feet needed to accommodate the 95th percentile queues during the p.m. peak hour. The right turn lane cannot be extended any further south due to the location of the railroad tracks. However, as discussed later in this chapter, failure to achieve the 95th percentile queuing is not considered a CEQA impact. Thus, the project impacts are less than significant with the proposed mitigation.

Significance after Implementation of Mitigation: Less than Significant.

East 7th Street at Kennedy Street

The addition of project traffic would cause the level of service to deteriorate from LOS E to LOS F at the East 7th Street at Kennedy Street intersection during the p.m. peak hour. Also, the project would make a considerable contribution to cumulative impacts at this intersection since it would contribute over five percent of the cumulative growth. Implementation of **Mitigation Measure TRANS-4b** would reduce the impact to a less than significant level.

> **Mitigation Measure TRANS-4b:** The project shall implement **Mitigation MeasureTRANS-3a**.

Significance after Implementation of Mitigation: Less than Significant.

East 9th Street at 1-880 Northbound Off-Ramp

The addition of project traffic would cause the City of Oakland's significance criteria for unsignalized intersections to be met at the East 9th Street at I-880 Northbound Off-Ramp intersection during both peak hours. Also, the project would make a considerable contribution to cumulative impacts at this intersection since it would contribute over five percent of the cumulative growth. Implementation of **Mitigation Measure TRANS-4c** would reduce the impact to a less than significant level.

> **Mitigation Measure TRANS-4c:** The project shall implement **Mitigation Measure TRANS-2a**.

Significance after Implementation of Mitigation: Less than Significant; however, because the City of Oakland, as lead agency, could not implement part of Mitigation Measure TRANS-2a (changes to the freeway off-ramps) without the approval of Caltrans, the project impact is considered Significant and Unavoidable.

Clement Avenue at Park Street

The Clement Avenue at Park Street intersection would operate at LOS E with and without the addition of project traffic. However, the addition of project traffic causes the average delay to increase by over four seconds, which would meet the City of Alameda significance criteria. Implementation of **Mitigation Measure TRANS-4d** would reduce the impact to a less than significant level.

> **Mitigation Measure TRANS-4d:** Optimize the traffic signal at the intersection of Clement Avenue at Park Street. Optimization of traffic signal shall include determination of allocation of green time for each intersection approach in proportion with the relative traffic volumes on those approaches. The signal should be upgraded to current city standards such as full actuation and count-down pedestrian heads.
>
> The project sponsor shall contribute its fair-share toward the cost of optimization of the traffic signals at the intersection of Clement Avenue at Park Street. The project sponsor's fair share would be the project's contribution to cumulative growth, which is 5.4 percent. After implementation of this measure, the intersection would operate at an acceptable LOS D during the p.m. peak hour.

Significance after Implementation of Mitigation: Less than Significant; however, because the City of Oakland, as lead agency, could not implement part of Mitigation Measure TRANS-4d without the approval of the City of Alameda, the project impact is considered Significant and Unavoidable.

Central Avenue at Park Street

The Central Avenue at Park Street intersection would operate at LOS E in the a.m. peak hour and LOS F in the p.m. peak hour with and without the addition of project traffic. During the a.m. peak hour, the addition of project traffic would not cause the average delay to increase by over four seconds. However, in the p.m. peak hour, the addition of project traffic would cause the average delay to increase by over four seconds, which would meet the City of Alameda significance criteria. Thus, the project would create a potentially significant impact at this intersection according to the City of Alameda significance criteria, **Impact TRANS-4e**. The p.m. peak hour left-turn restriction at the intersection is not currently being observed by all motorists. The p.m. peak hour left-turn restriction at the intersection is required to maintain acceptable levels of service. If the p.m. peak hour left-turn restriction is observed, average delay would be reduced substantially, the intersection would operate at LOS D, and no project impact would occur. Since the p.m. peak hour left-turn restriction is not being observed by all motorists, the project impact is considered significant and unavoidable. No other feasible improvements are available at this intersection that would mitigate the project's impact, such as reconfiguring or widening other intersection approaches.

Significance: Significant and Unavoidable.

Freeway Impacts

Baseline plus Project Conditions

Impact TRANS-5: Traffic generated by the project would affect baseline traffic levels on freeway segments in the project area. (Less than Significant)

Levels of service on the freeway system were evaluated based on the volume-to-capacity (V/C) ratio methodology used by the City of Oakland, as well as the density methodology used by Caltrans. The V/C ratio methodology used by the City of Oakland is the criteria used in this document to determine if the project would have a significant traffic impact. **Table IV.C-14** presents peak-hour freeway levels of service with and without the proposed project based on V/C ratios, and vehicle density. Project traffic would represent up to 0.96 percent of traffic volumes on freeway study segments, and the addition of project-generated traffic would not change the LOS on any freeway segment, thus the project impact would be less than significant.

Mitigation: None Required.

Near-Term Future 2010 plus Project Conditions

Impact TRANS-6: Traffic generated by the project would affect traffic levels on freeway segments in the project area under future (2010) Conditions. (Less than Significant)

Levels of service on the freeway system were evaluated based on the volume-to-capacity (V/C) ratio methodology used by the City of Oakland, as well as the density methodology used by Caltrans. The V/C ratio methodology used by the City of Oakland is the criteria used in this report to determine if the project would have a significant traffic impact. **Table IV.C-15** presents peak-hour freeway levels of service in 2010 with and without the proposed project based on V/C ratios, and vehicle density. Project traffic would represent up to 0.94 percent of traffic volumes on freeway study segments, and the addition of project-generated traffic would not change the LOS on any freeway segment, thus the project impact would be less than significant.

Mitigation: None Required.

Cumulative 2025 plus Project Conditions

Impact TRANS-7: Traffic generated by the proposed project would affect traffic levels on freeway segments in the project area under Cumulative (2025) Conditions. (Less than Significant)

Levels of service on the freeway system were evaluated based on the volume-to-capacity (V/C) ratio methodology used by the City of Oakland, as well as the density methodology used by Caltrans. The V/C ratio methodology used by the City of Oakland is the criteria used in this report to determine if the project would have a significant traffic impact. **Table IV.C-16** presents peak-hour freeway levels of service in 2025 with and without the proposed project based on V/C ratios, and vehicle density. Project traffic would represent up to 0.89 percent of traffic volumes on freeway study segments, and the addition of project-generated traffic would not change the LOS on any freeway segment, thus the project impact would be less than significant.

Mitigation: None Required.

Transit Impacts

Impact TRANS-8: The proposed project would increase ridership on public transit providers serving the area. (Less than Significant)

Transit trip generation was based on 2000 Census Journey to Work data. The proposed project would result in approximately 428 daily BART trips and 412 daily AC Transit bus trips to and from the project site on an average weekday. In the morning peak hour, the proposed project would generate approximately 29 BART trips (8 inbound, 21 outbound) and 28 AC Transit bus trips (8 inbound, 20 outbound). In the evening peak commute hour, the project would generate roughly 38 BART trips (21 inbound, 17 outbound) and 37 AC Transit bus trips (21 inbound, 16 outbound).

TABLE IV.C-14
BASELINE AND BASELINE PLUS PROJECT PEAK-HOUR FREEWAY LEVEL OF SERVICE (LOS)

			Volume-to-Capacity Methodology						Density Methodology				
			Baseline			Baseline + Project			Baseline		Baseline + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS	pc/mi/ln	LOS	Pc/mi/ln	LOS	Percent Project Volume
I-880 West of 23rd Street	Westbound	AM	1,820	0.91	E	1,835	0.92	E	29.9	D	30.3	D	0.84%
		PM	1,911	0.96	E	1,922	0.96	E	32.4	D	32.7	D	0.58%
	Eastbound	AM	1,788	0.89	D	1,793	0.90	D	29.2	D	29.3	D	0.24%
		PM	1,828	0.91	E	1,846	0.92	E	30.1	D	30.6	D	0.96%
I-880 East of 29th Avenue/Fruitvale Avenue	Westbound	AM	1,778	0.89	D	1,782	0.89	D	28.9	D	29.0	D	0.18%
		PM	1,868	0.93	E	1,883	0.94	E	31.2	D	31.6	D	0.80%
	Eastbound	AM	1,747	0.87	D	1,762	0.88	D	28.2	D	28.5	D	0.82%
		PM	1,787	0.89	D	1,795	0.90	D	29.1	D	29.3	D	0.48%

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-15
2010 PEAK-HOUR FREEWAY LEVEL OF SERVICE (LOS)

			Volume-to-Capacity Methodology						Density Methodology				
			2010			2010 + Project			2010		2010 + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS	pc/mi/ln	LOS	pc/mi/ln	LOS	Percent Project Volume
I-880 West of 23rd Street	Westbound	AM	1,854	0.93	E	1,869	0.93	E	30.8	D	31.2	D	0.82%
		PM	1,947	0.97	E	1,958	0.98	E	33.5	D	33.8	D	0.56%
	Eastbound	AM	1,822	0.91	E	1,826	0.91	E	30.0	D	30.1	D	0.23%
		PM	1,863	0.93	E	1,880	0.94	E	31.0	D	31.5	D	0.94%
I-880 East of 29th Avenue/Fruitvale Avenue	Westbound	AM	1,812	0.91	E	1,815	0.91	E	29.7	D	29.8	D	0.18%
		PM	1,903	0.95	E	1,918	0.96	E	32.1	D	32.6	D	0.79%
	Eastbound	AM	1,780	0.89	D	1,794	0.90	D	29.0	D	29.3	D	0.80%
		PM	1,820	0.91	E	1,829	0.91	E	29.9	D	30.1	D	0.47%

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-16
CUMULATIVE (YEAR 2025) PEAK-HOUR FREEWAY LEVEL OF SERVICE (LOS)

			Volume-to-Capacity Methodology						Density Methodology				
			2025			2025 + Project			2025		2025 + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS	pc/mi/ln	LOS	pc/mi/ln	LOS	Percent Project Volume
I-880 West of 23rd Street	Westbound	AM	1,960	0.98	E	1,976	0.99	E	33.9	D	34.4	D	0.78%
		PM	2,059	1.03	F	2,070	1.03	F	37.3	E	37.7	E	0.53%
	Eastbound	AM	1,926	0.96	E	1,930	0.97	E	32.8	D	32.9	D	0.22%
		PM	1,969	0.98	E	1,987	0.99	E	34.2	D	34.7	D	0.89%
I-880 East of 29th Avenue/Fruitvale Avenue	Westbound	AM	1,916	0.96	E	1,919	0.96	E	32.5	D	32.6	D	0.17%
		PM	2,012	1.01	F	2,027	1.01	F	35.6	E	36.1	E	0.75%
	Eastbound	AM	1,882	0.94	E	1,896	0.95	E	31.6	D	32.0	D	0.76%
		PM	1,924	0.96	E	1,933	0.97	E	32.8	D	33.0	D	0.44%

SOURCE: Korve Engineering and Caltrans (2007)

Project BART Ridership. The potential project-related impacts on both BART lines and the BART Station by the project were investigated. The project generated BART trips were assigned to each of the BART lines at the Fruitvale BART Station on the basis of the baseline ridership share of each line. The number of new project-related trips assigned to BART during either peak hour ranges from one to seven per line, which would result in less than a one percent increase in ridership. The increases are all less than the three percent significance threshold for impact on BART service. In addition, load factors would be less than 115 percent for lines in the East Bay and 135 percent for transbay lines, with the proposed project, and would be in compliance with the performance measures of BART described in the *2003 Congestion Management Program* (CMP 2003) of the Alameda County Congestion Management Agency.

During the morning peak hour, passengers entering the Fruitvale BART Station would increase by approximately one percent due to the project. During the evening peak hour, passengers exiting the Fruitvale BART Station would increase by just over one percent due to the project. On average, the proposed project would result in an average increase of less than one person per train on the busiest BART line during either peak hour. The project is not expected to adversely affect the operation of the Fruitvale BART Station.

Project AC Transit Ridership. The potential project-related impacts on AC Transit were evaluated by calculating the total number of bus trips generated by the project and then distributing the bus trips to the bus lines near the project based on the trip distribution pattern. Since the maximum load factor does not reach 125 percent with the project, the threshold of significance is not met, thus the project's contribution to transit impacts as it concerns AC Transit Ridership would be less than significant.

Mitigation: None Required.

Pedestrian and Bicycle Facilities Impacts

Impact TRANS-9: Development of the proposed project would conflict with existing pedestrian and/or bicycle facilities. (Less than Significant)

As described in the *Environmental Setting* of this section, there are Class 1, 2, and 3 bicycle facilities on East 7th Street and Fruitvale Avenue-Tilden Way that provide access to the project area. The project is not in conflict with the City's long term plans to add bicycle lanes to East 12th Street.

With the exception of the at-grade railroad crossing on 29th Avenue just south of the proposed project site and Derby Avenue south of East 12th Street, all streets provide sufficient sidewalks for pedestrian circulation in the project area. However, as part of the project, sidewalks would be installed along Derby Avenue along the edge of the project site. Transit trips generated by the project exiting the project site from any street would have sufficient sidewalks available for paths to BART or AC Transit bus stops. The pedestrian path to the Fruitvale Bart Station is east along East 12th Street from the project site. Pedestrian paths to the AC Transit bus stops include walking

west along East 12th Street from the project site to the intersection of East 12th Street and 26th Avenue, walking north along 29th Avenue from the project site to the intersection of International Boulevard and 29th Avenue, and walking east along East 12th Street from the project site to the Fruitvale BART Station.

Mitigation: None Required.

Impact TRANS-10: Development of the proposed project would require improvements to pedestrian and/or bicycle facilities. (Less than Significant)

The project would result in a significant impact if it would increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature that does not comply with Caltrans design standards, or due to the introduction of incompatible uses. The project, including all potential improvements to be implemented by the project, would be built to modern engineering standards, and would not create design features dangerous to pedestrians, bicyclists, or motorists. Thus, the project would not create a significant impact to pedestrians or bicyclists relative to project design. This is nevertheless discussed under *Evaluation of Non-CEQA Impacts,* presented further in this section.

Mitigation: None Required.

Construction

Impact TRANS-11: Construction of the proposed project would affect traffic flow and circulation, parking, and pedestrian safety. (Potentially Significant)

During the construction period, temporary and intermittent transportation impacts would result from truck movements as well as construction worker vehicles traveling to and from the project site. The construction-related traffic would result in a temporary reduction to the capacities of project area streets because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Given the proximity of I-880 freeway ramps, use of local roadways would be limited. Truck traffic that occurs during the peak commute hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) could result in worse levels of service and higher delays at local intersections than during off-peak hours. Also, parking of construction workers' vehicles would temporarily increase parking occupancy levels in the area.

As part of the build-out of the proposed project, all sidewalks and pedestrian ramps bordering the project site will be reconstructed. All ramps adjacent to the project site are to be upgraded to full Americans with Disabilities Act (ADA) compliance.

> **Standard Condition TRANS-11:** Prior to the issuance of each building permit, the project sponsor and construction contractor shall meet with the Transportation Services Division of the Oakland Public Works Agency and other appropriate City of Oakland agencies 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 this project and other nearby projects that could be simultaneously under construction. The project sponsor shall develop a construction management plan for review and approval by the City Transportation Services Division. The plan shall include at least the following items and requirements:

- 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.
- Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- Location of construction staging areas for materials, equipment, and vehicles (must be located on the project site).
- 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 haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the project applicant.
- Temporary construction fences to contain debris and material and to secure the site.
- Provisions for removal of trash generated by project construction activity.
- A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager.
- Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks can be identified and corrected.
- Subject to City review and approval, prior to start of construction, a construction worker transportation demand management (TDM) program shall be implemented to encourage construction workers to carpool or use alternative transportation modes in order to reduce the overall number of vehicle trips associated with construction workers.

Significance after Implementation of Standard Condition: Less than Significant.

Congestion Management Program Evaluation

Impact TRANS-12: Development of the proposed project would have a cumulative impact on roadway segments in the regional traffic network. (Less than Significant)

The Alameda County Congestion Management Program (CMP) requires the assessment of development-driven impacts to regional roadways. Because the project would generate more than 100 “net new” p.m. peak-hour trips, the CMP requires the use of the Countywide Travel Demand Forecasting Model to assess the impacts on regional roadways near the project site, such as those identified in the Metropolitan Transportation Commission’s Metropolitan Transportation System

(MTS) Network. Roadways identified in the MTS Network near the project site include International Boulevard, East 12th Street, 29th Avenue, Fruitvale Avenue, and I-880.

The Countywide Model is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process takes into account changes in travel patterns due to future growth and balances trip productions and attractions.

For the purposes of the CMP Analysis, the land uses of the proposed project were added to the assumptions in the Countywide Model; the land use assumptions in the Countywide Model for the rest of the City of Oakland were not modified. At this time, these land uses are different from the Oakland Cumulative Scenario that was used for the cumulative analysis in this EIR. This version of the Countywide Model was based on ABAG *Projections 2002* land uses for 2010 and 2025. **Table IV.C-17** and **Table IV.C-18** summarize the freeway analysis for the 2010 and 2025 densities, volume-capacity ratios, and corresponding LOS. **Tables IV.C-19** and **IV.C-20** summarize the volume-capacity ratio and LOS for major roadway segments in the study area for 2010, 2010 with BRT, 2025, and 2025 with BRT. As shown in the tables, the CMP analysis identified no additional project-related traffic impacts or cumulative impacts.

Mitigation: None Required.

Evaluation of Non-CEQA Impacts

95th Percentile Queues

Although not required under CEQA or by the City of Oakland's significance criteria, the City would like to assess the project's effect on 95th percentile queuing as part of its review of the proposed project. As such, 95th percentile queues are evaluated where closely spaced signalized intersections exist, and where queues can be expected to exceed the given storage. In the baseline condition, intersections along the Fruitvale Avenue corridor are generally fairly congested, with relatively short storage lengths. With the anticipated growth in the area, queues can be expected to exceed storage at a number of locations along Fruitvale Avenue. The baseline storage lengths for all applicable locations are provided in **Table IV.C-21**.

As noted in Mitigation Measure TRANS-4a, the proposed northbound right-turn lane at the East 12th Street at 29th Avenue intersection would not accommodate the expected 95th percentile queues during the p.m. peak hour in the 2025 plus Project Conditions due to physical constraints. However, since the expected queuing would not reach upstream intersections, it has not been evaluated as part of this 95th percentile queuing analysis.

TABLE IV.C-17
2010 PEAK-HOUR FREEWAY LEVEL OF SERVICE (LOS) – ACCMA LAND USE

			Volume-to-Capacity Methodology						Density Methodology				
			2010			2010 + Project			2010		2010 + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS	pc/mi/ln	LOS	pc/mi/ln	LOS	Percent Project Volume
I-880 West of 23rd Street	Westbound	AM	1,854	0.93	E	1,869	0.93	E	30.8	D	31.2	D	0.82%
		PM	1,946	0.97	E	1,957	0.98	E	33.5	D	33.8	D	0.57%
	Eastbound	AM	1,821	0.91	E	1,826	0.91	E	30.0	D	30.1	D	0.23%
		PM	1,861	0.93	E	1,879	0.94	E	31.0	D	31.5	D	0.94%
I-880 East of 29th Avenue/Fruitvale Avenue	Westbound	AM	1,811	0.91	E	1,815	0.91	E	29.7	D	29.8	D	0.18%
		PM	1,902	0.95	E	1,917	0.96	E	32.1	D	32.6	D	0.79%
	Eastbound	AM	1,780	0.89	D	1,794	0.90	D	29.0	D	29.3	D	0.80%
		PM	1,818	0.91	E	1,827	0.91	E	29.9	D	30.1	D	0.47%

SOURCE: Korve Engineering (2007) and Caltrans

TABLE IV.C-18
CUMULATIVE (YEAR 2025) PEAK-HOUR FREEWAY LEVEL OF SERVICE (LOS) – ACCMA LAND USE

			Volume-to-Capacity Methodology						Density Methodology				
			2025			2025 + Project			2025		2025 + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS	pc/mi/ln	LOS	pc/mi/ln	LOS	Percent Project Volume
I-880 West of 23rd Street	Westbound	AM	1,957	0.98	E	1,973	0.99	E	33.9	D	34.4	D	0.78%
		PM	2,055	1.03	F	2,066	1.03	F	37.3	E	37.7	E	0.54%
	Eastbound	AM	1,926	0.96	E	1,930	0.96	E	32.8	D	32.9	D	0.22%
		PM	1,959	0.98	E	1,977	0.99	E	34.2	D	34.7	D	0.89%
I-880 East of 29th Avenue/Fruitvale Avenue	Westbound	AM	1,913	0.96	E	1,917	0.96	E	32.5	D	32.6	D	0.17%
		PM	2,010	1.01	F	2,025	1.01	F	35.6	E	36.1	E	0.75%
	Eastbound	AM	1,886	0.94	E	1,900	0.95	E	31.6	D	32.0	D	0.76%
		PM	1,913	0.96	E	1,922	0.96	E	32.8	D	33.0	D	0.44%

SOURCE: Korve Engineering (2007) and Caltrans

TABLE IV.C-19
2010 AND 2010 PLUS PROJECT PEAK-HOUR
ROADWAY SEGMENT LEVEL OF SERVICE (LOS) – ACCMA LAND USE

			Volume-to-Capacity Methodology					
			2010			2010 + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS
International Boulevard Between 26th Avenue and 29th Avenue	Westbound	AM	390	0.43	B	392	0.44	B
		PM	382	0.42	B	383	0.43	B
	Eastbound	AM	301	0.33	A	301	0.33	A
		PM	452	0.50	B	455	0.50	B
International Boulevard Between 29th Avenue and Fruitvale Avenue	Westbound	AM	415	0.46	B	417	0.46	B
		PM	347	0.39	B	356	0.40	B
	Eastbound	AM	333	0.37	B	345	0.38	B
		PM	512	0.57	C	519	0.58	C
East 12th Street Between 23rd Avenue and 29th Avenue	Westbound	AM	586	0.65	C	592	0.66	C
		PM	376	0.42	B	382	0.42	B
	Eastbound	AM	258	0.29	A	260	0.29	A
		PM	500	0.56	C	508	0.56	C
East 12th Street Between 29th Avenue and Fruitvale Avenue	Westbound	AM	557	0.62	C	578	0.64	C
		PM	303	0.34	A	324	0.36	B
	Eastbound	AM	275	0.31	A	287	0.32	A
		PM	520	0.58	C	527	0.59	C
29th Avenue Between International Blvd. and East 12th Street	Northbound	AM	152	0.17	A	166	0.18	A
		PM	208	0.23	A	217	0.24	A
	Southbound	AM	185	0.21	A	188	0.21	A
		PM	187	0.21	A	197	0.22	A
29th Avenue Between East 12th Street and Animal Shelter	Northbound	AM	172	0.19	A	192	0.21	A
		PM	208	0.23	A	264	0.29	A
	Southbound	AM	88	0.10	A	152	0.17	A
		PM	147	0.16	A	193	0.21	A
Fruitvale Avenue Between International Blvd. and 16th Street	Northbound	AM	275	0.31	A	283	0.31	A
		PM	371	0.41	B	376	0.42	B
	Southbound	AM	316	0.35	B	318	0.35	B
		PM	274	0.30	A	284	0.31	A
San Leandro Street Between Fruitvale Street and 34th Avenue	Westbound	AM	189	0.21	A	189	0.21	A
		PM	437	0.49	B	439	0.49	B
	Eastbound	AM	337	0.37	B	339	0.38	B
		PM	320	0.36	B	321	0.36	B

SOURCE: Korve Engineering (2007) and Caltrans

TABLE IV.C-20
CUMULATIVE (YEAR 2025) AND 2025 PLUS PROJECT PEAK-HOUR ROADWAY SEGMENT LEVEL OF SERVICE (LOS) – ACCMA LAND USE

			Volume-to-Capacity Methodology					
			2025 Base			2025 + Project		
Location	Direction	Peak Hour	Veh/lane	V/C	LOS	Veh/lane	V/C	LOS
International Boulevard Between 26th Avenue and 29th Avenue	Westbound	AM	516	0.57	C	518	0.58	C
		PM	482	0.54	B	484	0.54	B
	Eastbound	AM	346	0.38	B	347	0.39	B
		PM	468	0.52	B	470	0.52	B
International Boulevard Between 29th Avenue and Fruitvale Avenue	Westbound	AM	459	0.51	B	461	0.51	B
		PM	376	0.42	B	384	0.43	B
	Eastbound	AM	345	0.38	B	357	0.40	B
		PM	600	0.67	C	607	0.67	C
East 12th Street Between 23rd Avenue and 29th Avenue	Westbound	AM	637	0.71	C	643	0.71	C
		PM	490	0.54	C	496	0.55	C
	Eastbound	AM	310	0.34	A	312	0.35	B
		PM	517	0.57	C	524	0.58	C
East 12th Street Between 29th Avenue and Fruitvale Avenue	Westbound	AM	616	0.68	C	637	0.71	C
		PM	328	0.36	B	349	0.39	B
	Eastbound	AM	293	0.33	A	304	0.34	B
		PM	543	0.6	C	551	0.61	C
29th Avenue Between International Blvd. and East 12th Street	Northbound	AM	161	0.18	A	174	0.19	A
		PM	205	0.23	A	214	0.24	A
	Southbound	AM	218	0.24	A	221	0.24	A
		PM	194	0.22	A	204	0.23	A
29th Avenue Between East 12th Street and Animal Shelter	Northbound	AM	169	0.19	A	188	0.21	A
		PM	227	0.25	A	283	0.31	A
	Southbound	AM	106	0.12	A	170	0.19	A
		PM	168	0.19	A	214	0.24	A
Fruitvale Avenue Between International Blvd. and 16th Street	Northbound	AM	299	0.33	A	308	0.34	A
		PM	409	0.45	B	414	0.46	B
	Southbound	AM	356	0.4	B	358	0.40	B
		PM	281	0.31	A	290	0.32	A
San Leandro Street Between Fruitvale Street and 34th Avenue	Westbound	AM	208	0.23	A	208	0.23	A
		PM	470	0.52	B	471	0.52	B
	Eastbound	AM	394	0.44	B	396	0.44	B
		PM	332	0.37	B	333	0.37	B

SOURCE: Korve Engineering (2007) and Caltrans

TABLE IV.C-21
BASELINE CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	300'	300'	300'	400'		
International / Fruitvale	400'			365'		
San Leandro / Fruitvale	600'			300'	300'	
East 9th / Fruitvale	100'	100'		100'	550'	
East 8th / Fruitvale	NA			100'	100'	-

The 95th percentile queues for all scenarios are shown in **Table IV.C-22** through **Table IV.C-27**. The 95th percentile queue length is an approximation of a worst-case scenario queue length calculated using the average queues over the course of a given peak hour. Thus, the values are not shown in precise increments.

For the Baseline Conditions and Baseline plus Project Conditions, none of the 95th percentile queue lengths exceed their respective lanes' storage lengths at the intersections of East 12th Street at Fruitvale Avenue, International Boulevard at Fruitvale Avenue, or San Leandro Street at Fruitvale Avenue. At the intersection of East 9th Street at Fruitvale Avenue, both northbound turning movements and the southbound through-right movement contain queues exceeding their storage lengths and grow longer with the addition of the project during both peak hours. At the intersection of East 8th Street at Fruitvale Avenue, the southbound through queue would exceed the baseline storage during the p.m. peak hour.

For the 2010 Baseline Conditions and 2010 plus Project Conditions, none of the 95th percentile queue lengths exceed their respective lanes' storage lengths at the intersections of East 12th Street at Fruitvale Avenue or International Boulevard at Fruitvale Avenue. The San Leandro Street and Fruitvale Avenue intersection's southbound left-turn and through queues would exceed its storage length in the 2010 Baseline Condition and 2010 plus Project Conditions during the p.m. peak hour. At the intersection of East 9th Street at Fruitvale Avenue, both northbound turning movements and the southbound through-right movement contain queues exceeding their storage lengths and grow longer with the addition of the project during both peak hours. At the intersection of East 8th Street at Fruitvale Avenue, the southbound through queue would exceed the baseline storage during the p.m. peak hour.

For Cumulative Baseline Conditions and Cumulative plus Project Conditions, the 95th percentile queue at the southbound through movement at the intersection of East 12th Street at Fruitvale Avenue would exceed the baseline storage during the p.m. peak hour. At the intersections of International Boulevard at Fruitvale Avenue, none of the 95th percentile queue lengths exceed their respective lanes' storage lengths. At the San Leandro Street and Fruitvale Avenue intersection, northbound through queues would exceed its storage length during the a.m. peak hour, and the southbound left-turn and through queues would exceed its storage length during the p.m. peak hour. At the intersection of East 9th Street at Fruitvale Avenue, both northbound turning movements and the southbound through-right movement contain queues

TABLE IV.C-22
BASELINE CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	AM Peak Hour						PM Peak Hour					
	Northbound			Southbound			Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	145’	33’	-	190’			135’	220’	-			
International/Fruitvale	146’			197’			191’			161’		
San Leandro / Fruitvale	198’			170’	165’		243’			300’	287’	
East 9th / Fruitvale	**366’**	**363’**		3’	**352’**		100’	**354’**		1’	**818’**	
East 8th / Fruitvale	NA			13’	38’	-	NA			14’	**199’**	-

Bold = Queue length exceeds storage length.

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-23
BASELINE PLUS PROJECT CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	AM Peak Hour						PM Peak Hour					
	Northbound			Southbound			Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	145’	33’	-	192’			127’	220’	-	176’		
International/Fruitvale	150’			198’			194’			167’		
San Leandro / Fruitvale	203’			170’	165’		307’			300’	287’	
East 9th / Fruitvale	**366’**	**367’**		4’	**356’**		100’	**363’**		1’	**826’**	
East 8th / Fruitvale	NA			13’	39’	-	NA			14’	**201’**	-

Bold = Queue length exceeds storage length.

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-24
2010 BASELINE CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	AM Peak Hour						PM Peak Hour					
	Northbound			Southbound			Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	150’	40’	-	237’			132’	234’	-	211’		
International/Fruitvale	156’			216’			213’			183’		
San Leandro / Fruitvale	386’			193’	195’		352’			**349’**	**325’**	
East 9th / Fruitvale	**451’**	**459’**		3’	**781’**		**311’**	**401’**		2’	**957’**	
East 8th / Fruitvale	NA			15’	40’	-	NA			17’	**291’**	-

Bold = Queue length exceeds storage length.

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-25
2010 PLUS PROJECT CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	AM Peak Hour						PM Peak Hour					
	Northbound			Southbound			Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	149’	40’	-	240’			126’	223’	-	213’		
International/Fruitvale	157’			213’			216’			189’		
San Leandro / Fruitvale	392’			190’	195’		382’			**351’**	**328’**	
East 9th / Fruitvale	**451’**	**463’**		3’	**786’**		**308’**	**413’**		2’	**957’**	
East 8th / Fruitvale	NA			15’	40’	-	NA			7’	**300’**	-

Bold = Queue length exceeds storage length.

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-26
2025 BASELINE CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	AM Peak Hour						PM Peak Hour					
	Northbound			Southbound			Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	150’	59’	-	**492’**			158’	269’	-	**442’**		
International/Fruitvale	227’			385’			256’			237’		
San Leandro / Fruitvale	**673’**			192’	229’		595’			**320’**	**326’**	
East 9th / Fruitvale	**698’**	**824’**		3’	**1048’**		**431’**	**525’**		11’	**1071’**	
East 8th / Fruitvale	NA			**108’**	65’	-	NA			8’	**300’**	-

Bold = Queue length exceeds storage length.

SOURCE: Korve Engineering and Caltrans (2007)

TABLE IV.C-27
2025 PLUS PROJECT CONDITIONS 95TH PERCENTILE QUEUE LENGTHS

	AM Peak Hour						PM Peak Hour					
	Northbound			Southbound			Northbound			Southbound		
Intersection	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**
East 12th / Fruitvale	150’	59’	-	**495’**			149’	252’	-	**456’**		
International/Fruitvale	235’			391’			261’			247’		
San Leandro / Fruitvale	**678’**			192’	228’		630’			**320’**	**323’**	
East 9th / Fruitvale	**699’**	**831’**		3’	**1072’**		**426’**	**534’**		11’	**1055’**	
East 8th / Fruitvale	NA			**109’**	65’	-	NA			8’	**300’**	-

Bold = Queue length exceeds storage length.

SOURCE: Korve Engineering and Caltrans (2007)

exceeding their storage lengths and grow longer with the addition of the project during both peak hours. At the intersection of East 8th Street at Fruitvale Avenue, southbound left-turn queues exceed the baseline storage in the a.m. peak hour, and southbound through queues exceed the baseline storage in the p.m. peak hour.

In general, the increase in queuing as a result of the addition of project traffic is fairly small. Also, as shown earlier in the Intersection Impacts section, the proposed project would not contribute enough traffic to any of the intersections analyzed along Fruitvale Avenue to meet average delay, critical movement delay, or volume-to-capacity ratio significance thresholds. Project traffic would not represent over five percent of the cumulative growth at any of these intersections. Thus, no improvements would be required to mitigate the project's contribution to queuing.

Evaluation of Project's Proposed Parking Supply

The Court of Appeal 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.[11] 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 City of Oakland, in its review of the proposed project, wants 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 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's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area.

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11 San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco (2002) 102 Cal.App.4th 656.

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 EIR evaluates whether the project's estimated parking demand (both project-generated and project-displaced) 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. Project-displaced parking results from the project's removal of standard on-street parking, City or Agency owned/controlled parking and/or legally required off-street parking (non-open-to-the-public parking which is legally required).

City Off-Street Parking and Loading Requirements

The proposed parking supply complies with the City's Planning Code requirements for off-street parking. The City's parking requirements are based on the zoning designation for the property. The project site is planned to be located in zone "C-45" (Community Shopping Commercial Zone). According to the City's Planning Code requirement (Title 17 Chapter 17.116), the proposed project would require a total of 843 vehicle parking spaces (see **Table IV.C-28**) and 10 loading spaces (see **Table IV.C-29**). The proposed project would provide 1,121 total parking spaces, and would meet the Parking Planning Code requirements. The proposed project would provide two freight loading spaces as well as non-freight loading areas for small trucks, van, automobile deliveries in each of the buildings, for a total of eight loading spaces. The proposed loading spaces may not meet the Off-Street Loading Requirements of the Oakland Planning Code and therefore may require a variance or other exception to the Zoning Regulations for the facilities as currently proposed.

TABLE IV.C-28
CITY OF OAKLAND OFF-STREET PARKING PLANNING CODE REQUIREMENTS

Land Use	Project Size[a]	Zone Requirement	Requirement at Project Buildout	Proposed Supply[b]
Commercial	30,000	One space for each 900 square feet of floor area	33	65
Condominium / Townhouse	810	One space per dwelling unit	810	1,056
		Total	**843**	**1,121**

[a] Project size expressed in gross square footage, except for Residential (in dwelling units). The 30,000 square feet of commercial land use encompasses the parking required for 25,950 square feet of commercial land use and a 5,000 square-foot community educational facility, as described in the Project Description in Chapter III.

[b] Planned Unit Development (PUD) approval allows the distribution of loading spaces without reference to lot or block lines (Oakland Municipal Code § 17.122.100(F)).

SOURCE: Korve Engineering (2007); City of Oakland, Municipal Code, Chapter 17.116, Off-Street Parking and Loading Requirements

According to the City's Planning Code requirement (Title 17 Chapter 17.116.200), a regular parking space shall not be less than 18 feet long and 8.5 feet wide for all parking patterns except

for parallel parking. A compact parking space shall be not less than 16 feet long and 7.5 feet wide for all parking patterns except for parallel parking.

According to the City's Planning Code requirement (Title 17 Chapter 17.116.210), maneuvering aisles necessary for access into and out of required parking spaces shall have minimum width of 24 feet where parking is at an angle of 90 degrees or less but more than 60 degrees.

Parking Demand

The proposed project's parking demand is estimated by applying parking generation rates taken from the Institute of Transportation Engineers' *Parking Generation* (ITE 3rd Edition, 2004) to the project land uses. According to empirically-collected data, land uses similar in size and type to the proposed project generate a demand for a total of about 1,263 parking spaces (see **Table IV.C-30)**. The total proposed on-site parking supply of 1,131 spaces would not accommodate the estimated demand.

TABLE IV.C-29
CITY OF OAKLAND LOADING PLANNING CODE REQUIREMENTS

Land Use	Project Size (in Square Feet)	Requirement at Project Buildout	Proposed Supply
Site I (Residential)	266,800	2	0
Site II (Residential)	195,766	2	0
Site III (Residential)	141,124	1	0
Site IV (Residential)	124,610	1	0
Site V & VI (Residential)	417,510	2	1
Residential Subtotal	*1,145,810*	*8*	*1*
Site II (Commercial)	2,900	0	0
Site III (Commercial)	2,900	0	0
Site IV (Commercial)	10,700	1	0
Site V & VI (Commercial)	13,500	1	1
Commercial Subtotal	*30,000*	*2*	*1*
	Total	**10**	**2**

SOURCE: Korve Engineering (2007); City of Oakland, Municipal Code, Chapter 17.116, Off-Street Parking and Loading Requirements

Although the calculation of the project's parking demand indicates that the demand would not be fully accommodated by the proposed on-site parking supply, parking demand rates provided by ITE may not accurately reflect the demand for the proposed project. Since the project site lies approximately 1,900 feet from the Fruitvale BART Station, transit usage would be much higher for the project site than for the study sites used by ITE to determine parking demand rates. Also, as noted, the proposed project would meet all City of Oakland off-street parking requirements.

TABLE IV.C-30
ESTIMATED PEAK PROJECT-GENERATED PARKING DEMAND

Land Use	Project Size[a]	Parking Demand Rate	Parking Demand	Proposed Supply	Shortfall
Commercial[b]	30,000	2.65 vehicles per 1,000 sq. ft. GLA	80	65	(15)
Residential Condominium / Townhouse	810	1.46 vehicles per dwelling unit	1,183	1,056	(127)
		Total	**1,263**	**1,121**	**(142)**

a Project size expressed in gross square footage, except for Residential (in dwelling units).
b Land Use: 820; Shopping Center; Monday-Thursday Non-December Peak Period Parking Demand. The 30,000 square feet of commercial land use encompasses the parking demand for 25,950 square feet of commercial land use and a 5,000 square-foot community educational facility, as described in the Project Description in Chapter III.
c Land Use: 230; Residential Condominium/Townhouse.

SOURCE: Korve Engineering; Institute of Transportation Engineers, *Parking Generation* (Third Edition), 2004

For all of these reasons, the project's contribution to cumulative parking impacts would not be significant.

Pedestrian and Bicycle Facilities

Although not required under CEQA or by the City of Oakland's significance criteria, the effects of increased vehicular traffic on pedestrians are assessed as part of the review of the proposed project. Due to the project site's close proximity to several schools and the size of the residential component of this project, pedestrian conditions at the intersection of East 12th Street and 29th Avenue (which would fail in the 2025 plus Project Conditions) would deteriorate in the area and should be improved. Implementation of Recommendations 1 and 2 would result in improved pedestrian conditions at the intersection of East 12th Street and 29th Avenue.

Recommendation 1 *(Pedestrian and Bicycle Facilities)*: The project shall construct City Standard sidewalks at the at-grade railroad crossing on 29th Avenue south of the project site.

Recommendation 2 *(Pedestrian and Bicycle Facilities)*: The project shall construct pedestrian bulb-outs in the northeast and southeast corners of the East 12th Street at 29th Avenue intersection.

The pedestrian bulb-out in the northeast corner would extend approximately eight feet into each roadway (East 12th Street at 29th Avenue). On-street parking spaces would be removed as needed to construct the bulb-outs. Along the northbound approach to this intersection (29th Avenue), roadway width is limited due to the lack of on-street parking. Thus, the bulb-out in the southeast quadrant would only extend into East 12th Street because it would otherwise overlap with the northbound right-turn lane on 29th Avenue. The bulb-outs would increase pedestrian safety and improve the operation of the intersection by decreasing crossing times. The bulb-

outs would not decrease level of service of the intersection due to the presence of on-street parking along the frontage of the proposed project site. Bulb-outs should be constructed based on the City of Oakland's Standard Plans.

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