

City of Oakland Housing Element



January 1, 2007 - June 30, 2014

Draft Environmental Impact Report

State Clearinghouse Number: 2009092065



August 2010

City of Oakland Housing Element



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Prepared for:
City of Oakland
Community and Economic Development Agency
Planning Division
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August 2010

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2009092065

Project Title: City of Oakland 2007-2014 Housing Element

Lead Agency: City of Oakland--CEDA

Contact Person: Devan Reiff, AICP

Mailing Address: 250 Frank H. Ogawa Plaza, Suite 3315

Phone: 510-238-3550

City: Oakland

Zip: 94612

County: Alameda

Project Location: County: Alameda

City/Nearest Community: Oakland

Cross Streets: Citywide

Zip Code:

Lat. / Long.: ° ' " N/ ° ' " W

Total Acres:

Assessor's Parcel No.:

Section:

Twp.:

Range:

Base:

Within 2 Miles: State Hwy #: I-880; I-580; SR-13; SR-24

Waterways: San Francisco Bay, Oakland Estuary

Airports: Oakland International

Railways:

Schools:

Document Type:

CEQA:

☐ NOP

☒ Draft EIR

NEPA:

☐ NOI

Other:

☐ Joint Document

☐ Early Cons

☐ Supplement/Subsequent EIR

☐ EA

☐ Final Document

☐ Neg Dec

(Prior SCH No.)

☐ Draft EIS

☐ Other

☐ Mit Neg Dec

Other

☐ FONSI

Local Action Type:

☒ General Plan Update

☐ Specific Plan

☐ Rezone

☐ Annexation

☒ General Plan Amendment

☐ Master Plan

☐ Prezone

☐ Redevelopment

☒ General Plan Element

☐ Planned Unit Development

☐ Use Permit

☐ Coastal Permit

☐ Community Plan

☐ Site Plan

☐ Land Division (Subdivision, etc.)

☐ Other

Development Type:

☒ Residential: Units Citywide Acres

☐ Water Facilities: Type MGD

☐ Office: Sq.ft. Acres Employees

☐ Transportation: Type

☐ Commercial: Sq.ft. Acres Employees

☐ Mining: Mineral

☐ Industrial: Sq.ft. Acres Employees

☐ Power: Type MW

☐ Educational

☐ Waste Treatment: Type MGD

☐ Recreational

☐ Hazardous Waste: Type

☐ Other:

Project Issues Discussed in Document:

☐ Aesthetic/Visual

☐ Fiscal

☐ Recreation/Parks

☐ Vegetation

☐ Agricultural Land

☐ Flood Plain/Flooding

☐ Schools/Universities

☐ Water Quality

☒ Air Quality

☐ Forest Land/Fire Hazard

☐ Septic Systems

☐ Water Supply/Groundwater

☐ Archeological/Historical

☐ Geologic/Seismic

☐ Sewer Capacity

☐ Wetland/Riparian

☐ Biological Resources

☐ Minerals

☐ Soil Erosion/Compaction/Grading

☐ Wildlife

☐ Coastal Zone

☒ Noise

☐ Solid Waste

☐ Growth Inducing

☐ Drainage/Absorption

☐ Population/Housing Balance

☐ Toxic/Hazardous

☐ Land Use

☐ Economic/Jobs

☐ Public Services/Facilities

☒ Traffic/Circulation

☐ Cumulative Effects

☒ Other Climate Change/Greenhouse Gasses

Present Land Use/Zoning/General Plan Designation:

All designations

Project Description: (please use a separate page if necessary)

In accordance with State law, the City of Oakland (City) proposes to adopt a General Plan Amendment (GPA)—Housing Element 2007-2014, as part of the City's General Plan. The City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its "fair share" of housing need, known as the Regional Housing Needs Allocation (RHNA). The City can accommodate the new housing without rezoning or further General Plan amendments, through current opportunity sites, and with projects either built, under construction, approved or in predevelopment.

Note: The state Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

January 2008

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".
If you have already sent your document to the agency please denote that with an "S".

☒ Air Resources Board	☒ Office of Historic Preservation
☐ Boating & Waterways, Department of	☐ Office of Public School Construction
☐ California Highway Patrol	☐ Parks & Recreation
☒ Caltrans District #4	☐ Pesticide Regulation, Department of
☐ Caltrans Division of Aeronautics	☐ Public Utilities Commission
☒ Caltrans Planning (Headquarters)	☐ Reclamation Board
☐ Coachella Valley Mountains Conservancy	☒ Regional WQCB #2
☐ Coastal Commission	☐ Resources Agency
☐ Colorado River Board	☒ S.F. Bay Conservation & Development Commission
☐ Conservation, Department of	☐ San Gabriel & Lower L.A. Rivers and Mtns Conservancy
☐ Corrections, Department of	☐ San Joaquin River Conservancy
☐ Delta Protection Commission	☐ Santa Monica Mountains Conservancy
☐ Education, Department of	☒ State Lands Commission
☐ Energy Commission	☐ SWRCB: Clean Water Grants
☐ Fish & Game Region #	☒ SWRCB: Water Quality
☐ Food & Agriculture, Department of	☐ SWRCB: Water Rights
☐ Forestry & Fire Protection	☐ Tahoe Regional Planning Agency
☐ General Services, Department of	☒ Toxic Substances Control, Department of
☐ Health Services, Department of	☒ Water Resources, Department of
☒ Housing & Community Development	
☐ Integrated Waste Management Board	☒ Other <u>State Geologist (attn: John Parrish)</u>
☒ Native American Heritage Commission	☒ Other <u>Office of Planning and Research</u>
☐ Office of Emergency Services	

Local Public Review Period (to be filled in by lead agency)

Starting Date August 16, 2010

Ending Date September 30, 2010

Lead Agency (Complete if applicable):

Consulting Firm: PBS&J

Address: 475 Sansome Street, Suite 2000

City/State/Zip: San Francisco, CA 94111

Contact: Rachel Schuett

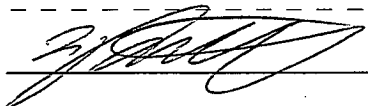
Phone: 415-362-1500

Applicant: City of Oakland--CEDA

Address: 250 Frank H. Ogawa Plaza, Suite 3315

City/State/Zip: Oakland, CA 94612

Phone: 510-238-3550

Signature of Lead Agency Representative: 

Date: 8/16/10

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA, OAKLAND, CALIFORNIA 94612 – 2033

Community and Economic Development Agency
Planning & Zoning Services Division

(510) 238-3941
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**CITY OF OAKLAND 2007-2014 HOUSING ELEMENT
NOTICE OF RELEASE AND AVAILABILITY OF
DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)
AND
NOTICE OF PUBLIC HEARINGS ON DEIR**

TO: All Interested Parties

SUBJECT: Notice of Release/Availability of DEIR for the City of Oakland *2007-2014 Housing Element*, and Notice of Public Hearing on the same.

REVIEW/COMMENT PERIOD: August 16, 2010 – September 30, 2010

CASE NO.: ER 08-0009; State Clearing House Number 2009092065

PROJECT SPONSOR: City of Oakland

PROJECT LOCATION: Citywide

PROJECT DESCRIPTION: In accordance with State law, the City of Oakland (City) proposes to adopt a General Plan Amendment (GPA) for the *Housing Element 2007-2014*, as part of the City's General Plan. The City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its "fair share" of housing need, known as the Regional Housing Needs Allocation (RHNA). The City can accommodate the new housing without rezoning or further GPAs, through current opportunity sites, and with projects either built, under construction, approved or in predevelopment. Some Housing Sites may be on the Cortese List.

ENVIRONMENTAL REVIEW: A Notice of Preparation of an EIR, and Initial Study, was issued by the City on September 21, 2009 and considered by the Planning Commission on October 7, 2009 and by the Landmarks Preservation Advisory Board on October 19, 2009. A DEIR has now been prepared for the project under the requirements of the California Environmental Quality Act (CEQA), pursuant to Public Resources Code Section 21000 et. seq. The DEIR analyzes potentially significant environmental impacts in the following environmental categories: Transportation and Circulation; Air Quality; Noise; Climate Change/Greenhouse Gas Emissions. All other impacts are either less than significant or would be mitigated to less than significant levels through the City's Uniformly Applied Development Standards (Standard Conditions of Approval), as detailed in the Initial Study that was previously released. The DEIR identifies significant unavoidable environmental impacts related to: Air Quality (odors and gaseous toxic air contaminants) and Transportation and Circulation (certain identified roadway segments, previously identified impacted intersections, at-grade railroad crossing, and certain identified State Highway facilities).

In addition, although not required under CEQA, the DEIR also identified some 'project-level' impacts of development of residential housing under the *2007-2014 Housing Element*. Specifically, Air Quality impacts relating to odors and gaseous toxic air contaminants (found to be significant unavoidable); and Traffic impacts related to identified roadway segments impacts, previously identified impacted intersections, at-grade railroad crossings impacts, and identified State Highway impacts (all found to be significant unavoidable).

Although certain future housing projects would be required to perform additional studies and must follow the feasible recommendations resulting from such studies, no further CEQA review would be required for above-identified project-level impacts, as such impacts have already been identified as Significant Unavoidable. Thus, specific residential developments would not have to prepare an EIR and/or Mitigated Negative Declaration solely based upon such impacts/recommendations.

Further, the DEIR identifies project-level Less than Significant impacts which might occur as a result of specific housing development, but which would *not* result in a significant impact under CEQA. Specifically, future residential development projects would result in less-than-significant GHG impacts and would not be required to undergo project-specific GHG analysis under CEQA.

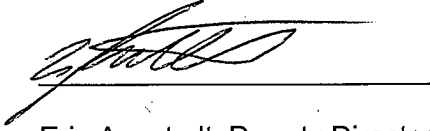
Starting on Monday, August 16, 2010, copies of the DEIR will be available for review or distribution to interested parties at no charge at the Community and Economic Development Agency, Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612, Monday through Friday, 8:30 a.m. to 5:00 p.m. Additional copies are available for review at the Oakland Public Library, Social Science and Documents, 125 14th Street, Oakland, CA 94612. The Draft EIR may also be reviewed on the City's website at the "Current Environmental Review" page (paste this link into your browser):
www2.oaklandnet.com/Government/o/CEDA/o/PlanningZoning/s/Application/DOWD009157

PUBLIC HEARINGS ON DEIR:

Wednesday, September 15, 2010 at 6:00 p.m. Meeting of the City Planning Commission, Hearing Room 1, City Hall, One Frank H. Ogawa Plaza, Oakland, CA.

The City of Oakland is hereby releasing this DEIR, finding it to be accurate and complete and ready for public review. Members of the public are welcome to attend these hearings and provide comments. Comments on the DEIR should focus on whether the DEIR is sufficient in discussing possible impacts to the physical environment, ways in which potential adverse effects may be avoided or minimized through mitigation measures, and alternatives to the project in light of the EIR's purpose to provide useful and accurate information about such factors. Comments may be made at the public hearings described above or in writing. Please address all written comments to Devan Reiff, AICP, Community and Economic Development Agency, Planning Division; 250 Frank H. Ogawa Plaza, Suite 3315; Oakland, California 94612 or by e-mail to dreiff@oaklandnet.com. **Comments must be received no later than 4:00 p.m. on September 30, 2010.**

After all comments have been received, a Final EIR will be prepared and the Planning Commission will consider certification of the EIR and rendering a decision on the project at a public hearing, date yet to be determined. All comments received will be considered by the City prior to finalizing the EIR and taking any further action pertaining to the Project. If you challenge the environmental document or other actions pertaining to the Project in court, you may be limited to raising only those issues raised at the public hearings described above or in written correspondence received by the Community and Economic Development Agency on or prior to September 30, 2010. For further information please contact Devan Reiff at (510) 238-3550 or at dreiff@oaklandnet.com

A handwritten signature in dark ink, appearing to read 'Eric Angstadt', is written over a horizontal line.

Eric Angstadt, Deputy Director, Community & Economic Development Agency
Environmental Review Officer

Date of Notice: August 12, 2010

City of Oakland

2007–2014 Housing Element EIR

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Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
A/C	Asphalt & Concrete
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ACCMA	Alameda County Congestion Management Agency
ACCWP	Alameda Countywide Clean Water Program
ACM	asbestos-containing materials
APS	Alternative Planning Strategy
AQP	Air Quality Plan
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BMPs	Best management practices
BSC	California Building Standards Commission
CAA	Clean Air Act
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAP	Bay Area Clean Air Plan
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CAT	Climate Action Team
CBD	Central Business District
CCCC	California Climate Change Center
CCR	California Code of Regulations
CCTP	Climate Change Technology Program
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CH ₄	Methane
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	CO ₂ equivalents

ADMINISTRATIVE DRAFT – NOT FOR PUBLIC REVIEW

CPUC	California Public Utilities Commission
dB	Decibel
dBA	A-Weighted Sound Level
DPM	Diesel particulate matter
DWR	California Department of Water Resources
EB	Eastbound
EBMUD	East Bay Municipal Utilities District
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Fwy	Freeway
GBV	Ground-Borne Vibration
GHG	Greenhouse gases
GIS	Geographic Information System
GPA	General Plan Amendment
GWP	Global warming potential
HCD	State Department of Housing and Community Development
HFCs	Hydrofluorocarbons
HPE	Historic Preservation Element
HRA	Health risk assessment
HV	Heating and ventilation system
HVAC	Heating, ventilation, and cooling
I-580	Interstate 580
I-80	Interstate 80
I-980	Interstate 980
ICLEI	Local Governments for Sustainability
IPCC	International Panel on Climate Change
ITE	Institute of Transportation Engineers
ITS	Intelligent transportation system
LOS	Level of service
LUTE	Land Use and Transportation Element
MACT	Maximum Achievable Control Technology
MMRP	Mitigation Monitoring and Reporting Program
MMT CO ₂ e	Metric tons of CO ₂ equivalents
MND	Mitigated Negative Declarations
MOE	Measure of effectiveness

ADMINISTRATIVE DRAFT – NOT FOR PUBLIC REVIEW

MPO	metropolitan planning organization
MTC	Metropolitan Transportation Commission
N ₂ O	Nitrous oxide
NB	Northbound
NO ₂	Nitrogen Dioxide
NOP	Notice of Preparation
NO _x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
OAL	Office of Administrative Law
OPR	Office of Planning and Research
OSCAR	Open Space, Conservation and Recreation Element
OSHA	Occupational Safety and Health Administration
PCM	Parallel climate model
PFC	Perfluorocarbons
PM ₁₀	Respirable particulate matter
PM _{2.5}	Fine particulate matter
PMP	Pedestrian Master Plan
PPV	Peak particle velocity
PRC	State Public Resources Code
RHNA	Regional Housing Needs Allocation
RMS	Root mean square
ROG	Reactive organic gases
SB	Southbound
SCA	Standard Conditions of Approval
SCS	Sustainable Communities Strategy
SDI	Oakland Sustainability Community Development Initiative
SF ₆	Sulfur hexafluoride
SIP	State Implementation Plan
SO ₂	Sulfur dioxide
SR	State Route
SWP	State Water Project
TACs	Toxic Air Contaminants
TCMs	Transportation control measures
TDM	Transportation Demand Management
TIS	Traffic Impact Study
TRU	Trucks with operating refrigeration units
UNFCCC	United Nations Framework Convention on Climate Change
UP	Union Pacific

ADMINISTRATIVE DRAFT – NOT FOR PUBLIC REVIEW

UWMP	Urban Water Management Plans
V/C	Volume-to-capacity
VdB	Vibration decibel notation
VMT	Vehicle miles traveled
WB	Westbound
WSA	Water Supply Assessments

Summary

S.1 PROJECT OVERVIEW AND PROJECT LOCATION

This Environmental Impact Report (EIR) addresses the environmental impacts related to the *General Plan 2007-2014 Housing Element*. In accordance with State law, the City of Oakland proposes to adopt a General Plan Amendment (GPA) for the City of Oakland General Plan – Housing Element Update 2007-2014 (proposed project or *2007-2014 Housing Element*) as a part of the City’s *General Plan*. An updated Housing Element is required of each city in the State of California (State) to address the housing needs of all residents, in all income levels, over the planning period (2007-2014). The City’s previous *Housing Element* for the 1999-2006 planning period was adopted on June 15, 2004. The *2007-2014 Housing Element* identifies opportunities to improve and expand the City’s housing stock; it does not, however, result in the actual new construction or revitalization of housing units in the City.

This EIR identifies the potential environmental impacts, and associated Standard Conditions of Approval (SCAs) and Mitigation Measures designed to substantially reduce/eliminate such impacts, that would result from adoption and implementation of the City’s *2007-2014 Housing Element*. Implementation would allow development of the remaining 13,501 units required to meet the Regional Housing Needs Allocation (RHNA) target (14,629 total less 1,128 built). The location of these 13,501 units are called “Housing Sites” throughout this document.¹

S.2 SURROUNDING SETTING

The City of Oakland (City) is located in northern Alameda County (County) on the east side of San Francisco Bay (Bay) (See Figure 2-1, Regional Location, in Section 2, Project Description). The City is bounded by the Cities of Berkeley and Emeryville to the north, the City of San Leandro to the south, the East Bay Regional Park District to the east, and the City of Alameda to the west. The City is approximately 15 miles east of the City and County of San Francisco, and 90 miles southwest of the City of Sacramento. Interstate 80 (I-80) provides access to the City from the northwest, while Interstates 580 (I-580) and 980 (I-980) provide access from the southeast.

The City encompasses 56 square miles of land and 24 square miles of water, and is mostly urbanized. The City is physically defined by the Bay and Estuary to the southwest, and the crest of the Oakland Hills to the northeast. The shoreline extends for 19 miles, from the City of Emeryville to the City of San Leandro. Topography is varied; portions of the City are rolling or hilly, with elevations within the City limits rising from sea level to 1,760 feet at Grizzly Peak.

Most of the City’s existing urban development is located on the coastal shelf, near the Bay and Estuary, which varies in width from two to four miles. The City contains a wide range of residential, commercial, industrial, public, and open space land uses. Residential areas vary from very dense neighborhoods,

¹ This is a conservative analysis, because it is arguable that the 5,005 units with Planning approvals should *not* be included, as they have already been subject to CEQA review.

exceeding 25,000 persons per square mile, to semi-rural neighborhoods with one-acre lots. The City has an estimated population of 420,183.²

S.3 GOALS AND OBJECTIVES OF THE 2007-2014 HOUSING ELEMENT

The *2007-2014 Housing Element* is focused on the following eight goals that provide direction and guidance for meeting the City's housing needs through 2014. The goals are discussed in more detail in Section 2, Project Description.

- Goal 1: Provide adequate sites suitable for housing for all income groups.
- Goal 2: Promote the development of adequate housing for low- and moderate-income households.
- Goal 3: Remove constraints to the availability and affordability of housing for all income groups.
- Goal 4: Conserve and improve older housing and neighborhoods.
- Goal 5: Preserve affordable rental housing.
- Goal 6: Promote equal housing opportunity.
- Goal 7: Promote sustainable development and sustainable communities.
- Goal 8: Increase public access to information through technology.

In fulfilling these goals, the primary objectives of the *2007-2014 Housing Element* are to 1) make sure there is consistency between the *2007-2014 Housing Element* and the other elements of the City's *General Plan*, and 2) meet the requirements of State law by providing the following:

- An assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs; this includes identifying a zone or zones where emergency shelters are allowed as a permitted use without a conditional use permit or other discretionary permit (known as "SB2");
- A statement of the community's goals, quantified objectives, and policies relative to the maintenance, preservation, improvement, and development of housing;
- An inventory of developable sites capable of accommodating development of housing for a range of income types to meet the City's share of the Regional Housing Need Allocation (RHNA); and
- A program which sets forth a schedule of actions through 2014 to implement the policies and achieve the goals and objectives of the *Housing Element*.

² 2008 data from the Demographics Research Unit of the State Department of Finance, Table E-5.

S.4 2007-2014 HOUSING ELEMENT

Background

The purpose of a Housing Element is to identify current and projected housing needs, and set goals, policies, and programs to address those needs. The *2007-2014 Housing Element* is an update to the 2004 *Housing Element* of the City's *General Plan*. The current *Housing Element* was adopted by the City Council, and was subsequently certified as legally adequate by the State Department of Housing and Community Development (HCD) in 2004. The *2007-2014 Housing Element* is a statement by the City of its current and future housing needs and proposed actions to facilitate the provision of housing to meet those needs at all income levels, and presents a comprehensive set of housing policies and actions between January 1, 2007 and June 30, 2014. The *2007-2014 Housing Element* satisfies the requirements of State law, and is consistent with the other elements of the City's *General Plan*, adopted at various times.

Regional Housing Need Allocation (RHNA). Under State law, new housing construction need is determined, at a minimum, through a RHNA process.³ In the RHNA process, the State HCD determines the amount of housing needed for all income groups in each region, based on existing housing need and expected population growth. In April 2007, the State HCD determined that, at a minimum, the nine-county Bay Area needed to provide 214,500 units between 2007 and 2014 to satisfy regional demand. Additionally, each city's share of regional housing demand is based on a plan prepared by the Association of Bay Area Governments (ABAG), the Regional Housing Needs Determination, which was adopted in May 2008. Under the ABAG plan, the City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its "fair share" of the State's housing need.

Housing Element Update Process. In February 2009, the City made the draft *2007-2014 Housing Element* available to the public on the City's website, and sent a draft to the State HCD, for preliminary review. The City held a community workshop on April 14, 2009 to present the *Housing Element* to residents and members of the for-profit and non-profit housing communities. Following changes requested by HCD, the Revised Public Review draft of the *Housing Element* was presented at a public hearing of the Oakland City Planning Commission on June 3, 2009. After the Planning Commission recommends the *Housing Element* to the City Council, a public meeting will be scheduled before the City Council's Community and Economic Development Committee; following that committee's recommendation, the City Council will hold a public hearing to consider adopting the *2007-2014 Housing Element*. HCD will then receive the adopted *Housing Element*, and consider certifying it after a period of review.

Relationship of the Housing Element to the City's General Plan. State law requires that a *General Plan* and its constituent elements "...comprise an integrated, internally consistent and compatible statement of policies for the adopting agency."⁴ This implies that all elements have equal legal status and no one

³ California Government Code, Section 65584.

⁴ California Government Code, Section 65300.5.

element is subordinate to any other element. The *Housing Element* must be consistent with land use goals and policies set forth in the *Land Use and Transportation Element (LUTE)* of the *General Plan*. However, the *General Plan* contains many policies which may in some cases address different goals, policies, and objectives and thus some policies may compete with each other. The fact that a specific project or, in this case, the *Housing Element*, does not meet all *General Plan* goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of the California Environmental Quality Act (CEQA) (City Council Resolution No. 79312 C.M.S.; adopted June 2005).

2007-2014 Housing Element Components

As discussed above, the City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its “fair share” of the State’s housing need. The allocation is equivalent to an annual need of 1,951 housing units for the seven-and-a-half-year planning period (2007-2014). Of the 14,629 new housing units required in Oakland’s RHNA:

- 1,900 should be affordable to very low income households (those making below 50 percent of the median area income);
- 2,089 should be affordable to low income households (those making below 80 percent of the median area income);
- 3,142 should be affordable to moderate income households (those making below 120 percent of median area income); and
- 7,489 should be market rate units (or “above moderate income units”).

The proposed project includes plans and implementation strategies to meet the City’s RHNA of 14,629 units of varying affordability. The City intends to meet this target as shown in Table S-1. Each of the categories of housing production indicated in Table S-1 is described in more detail below.

Table S-1
Actual Housing Production and Balance of Units to be Provided

	No. of units	No. of units
Regional Housing Needs Allocation	14,629	
Units Constructed (1/1/07-6/08)		1,128
Units with Planning Approvals (entitlements or funded with subsidies)		5,005
Units Planned (site acquisition or pre-development)		7,070
Subtotal		13,203
Remaining units to be accommodated through 2014	1,426	

Source: Public Review Draft *Housing Element*, Table 4-2, 2009.

- *Units Constructed.* Since January 1, 2007, 1,128 units have been constructed, satisfying eight percent of the City’s RHNA.
- *Units with Planning Approvals.* In addition to the units built or under construction, the 2007-2014 *Housing Element* identifies that between January 2007 and August 2008, 4,442 market-rate

units had planning approvals (entitlements) and 563 affordable units were funded, but neither group has started construction. These 5,005 units represent 34 percent of the RHNA.

- *Units Planned.* During the same time period, there were 7,022 market rate units and 48 affordable units in pre-development, meaning either with a formal zoning pre-application on file with the City's Planning and Zoning Division, or, in the case of the affordable housing units, with preliminary funding commitments or site acquisition assistance from the City. These 7,070 units make up 48 percent of the RHNA.
- *Remaining Units.* Based on housing unit construction and approvals since January 1, 2007, the City has already committed to developing 90 percent of the units needed to satisfy the RHNA requirement in the planning period. The remaining 1,426 units required to meet the RHNA allocation of 14,629 units could be accommodated on City-identified Opportunity Sites. The Opportunity Sites, as illustrated in Figure 2-2 of Section 2, Project Description, could accommodate 8,672 units, based on current market trends and recent development proposals received by the City.

Opportunity Sites. The *Housing Element* identifies potential locations within City where additional housing units can be constructed, called "Opportunity Sites." Figure 2-2 in Section 2, Project Description, identifies approximately 185 Opportunity Sites, divided into the 12 Planning Areas. Development at the Opportunity Sites would not require changes to the City's *General Plan* land use designations. As a result, implementation of the policies, programs, and other actions contained in the 2007-2014 *Housing Element* would not change the pattern of development anticipated by the *Land Use and Transportation Element (LUTE)* of the *General Plan*.

The goal of developing 14,629 dwelling units under the *Housing Element* would be subject to the goals, policies, and programs of the *General Plan* and its Conformity Guidelines; the Municipal Code (which includes the City's Planning and Building Codes); the SCA (included in Appendix A of this document -- all Appendices are on a separate CD at the back cover of this EIR); and the State's redevelopment laws, which permit the creation of defined redevelopment areas where property taxes assessed in the district are spent on affordable housing citywide and redevelopment area-specific improvements. All of these other adopted policies and regulations are assumed to apply to the *Housing Element* and serve to address many of the environmental impacts that might otherwise occur.

This EIR identifies the potential environmental impacts, and associated SCAs and Mitigation Measures designed to substantially reduce/eliminate such impacts, that would result from adoption and implementation of the City's 2007-2014 *Housing Element*. Implementation would allow development of the remaining 13,501 units required to meet the RHNA target (14,629 total less 1,128 built). The location of these 13,501 units are called "Housing Sites" throughout this document.⁵

⁵ This is a conservative analysis, because it is arguable that the 5,005 units with Planning approvals should *not* be included, as they have already been subject to CEQA review.

S.5 EVALUATION OF ENVIRONMENTAL IMPACTS

The City of Oakland prepared an Initial Study and issued a Notice of Preparation of a Draft Environmental Impact Report (NOP) on September 21, 2009. The Initial Study is included as Appendix A and the NOP is included as Appendix C (all Appendices are on a separate CD at the back cover of this EIR). The public comment period for the scope of the EIR lasted until 5:00 p.m. on October 21, 2009. The NOP was sent to responsible and trustee agencies and interested organizations and individuals. The NOP stated that the “Initial Study screened out environmental factors that will not be further studied in the Draft EIR. However, the Draft EIR will address the potential environmental effects for air quality, climate change, noise, and transportation. All other impacts would be mitigated to less-than-significant levels.” Written comments received by the City in response to the NOP and comments received at the Planning Commission and Landmarks Board meetings were taken into account during the preparation of the EIR. The Introduction to each environmental topic within Section 3 provides a summary of the relevant NOP scoping comments. The written comments received are included in Appendix D-2 (all Appendices are on a separate CD at the back cover of this EIR). Responses to the NOP, Initial Study, and public hearing comments are provided in Section 6 of this document.

The Initial Study for the *2007-2014 Housing Element* identifies the potential environmental impacts and associated Standard Conditions of Approval and Mitigation Measures designed to substantially reduce or eliminate impacts that would result from adoption and implementation of the City’s *2007-2014 Housing Element*. The Initial Study evaluated the impacts associated with development of the remaining 13,501 housing units needed to meet the RHNA target (14,629 total less 1,128 built). Therefore, this EIR also evaluates the effects of development of 13,501 housing units to meet the RHNA target. The Initial Study determined that the *2007-2014 Housing Element* would result in less-than-significant impacts related to: aesthetics/shadows/winds, agricultural resources, biological resources, cultural resources, geology/soils, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, population/housing, public services, recreation, and utilities/service systems.

As a result of the conclusions in the Initial Study, this document discusses impacts related to transportation, air, noise, and climate change. The *2007-2014 Housing Element* would have significant and unavoidable (not able to be avoided or reduced to less than significant by feasible mitigation measures) impacts related to:

Transportation and Circulation

A. Roadway Segments

- #5 San Pablo Avenue (SR 123) south of Stanford Avenue in the AM peak hour in both directions and in the PM peak hour in both directions (2035)⁶
- #9 West Grand Avenue west of Martin Luther King Way, westbound in the AM peak hour and eastbound in the PM peak hour (2035)

⁶ 2015 and 2035 refer to Cumulative 2015 plus Project and Cumulative 2035 plus Project conditions, respectively.

- #11 Telegraph Avenue south of 51st Street, southbound in the AM peak hour and northbound in the PM peak hour (2035)
 - #18 Grand Avenue between Harrison Street and I-580, eastbound in the PM peak hour (Existing plus Project), westbound in the AM peak hour, and eastbound in the PM peak hour (2015 and 2035)
 - #21 Fruitvale Avenue south of I-580, northbound in the AM peak hour, southbound in the PM peak hour (Existing plus Project), in both directions in the AM peak hour, and in both directions in the PM peak hour (2015 and 2035)
 - #24 Foothill Boulevard north of Seminary Avenue, westbound in the PM peak hour (2015 and 2035)
 - #25 MacArthur Boulevard west of 98th Avenue, westbound in the AM peak hour and westbound in the PM peak hour (2035)
 - #26 MacArthur Boulevard east of Lincoln Avenue, westbound in the AM peak hour and eastbound in the PM peak hour (2035)
 - #29 International Boulevard between 23rd Avenue and Fruitvale Avenue, eastbound in the PM peak hour (2015 and 2035)
 - #30 International Boulevard west of Seminary Avenue, eastbound in the PM peak hour (2015 and 2035)
- B. Previously Identified Significant/Unavoidable Impacted Intersections
- There are 140 intersections in the City which have been identified, in previous EIRs, to have significant unavoidable impacts. The complete list of these intersections is in Section 3.2, Transportation and Circulation, in Table 3.2-4.
- C. State Highway Segments
- #45 SR 13 north of I-580, northbound in the PM peak hour (Existing Plus Project)
 - #46 SR 24 east of I-580, eastbound in the AM peak hour and both directions in the PM peak hour (Existing Plus Project)
 - #52 I-880 north of 66th Avenue, northbound in the PM peak hour (Existing Plus Project)
- D. Residential development under the *2007-2014 Housing Element* has the potential to introduce additional vehicle, bicycle, and pedestrian traffic to existing at-grade railroad crossings, thereby potentially contributing to safety issues along railroad corridors.

Air Quality

- E. Residential development proposed under the *Housing Element* could expose occupants at certain sites to substantial health risk from gaseous Toxic Air Contaminants (TACs) emitted locally from stationary sources.

- F. Residential development proposed under the *Housing Element* could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources.

Due to these significant unavoidable environmental effects, approval of the 2007-2014 *Housing Element* would require the adoption of a Statement of Overriding Consideration (Public Resources Code Section 21081; CEQA Guidelines Section 5093), indicating that the City of Oakland is aware of the significant environmental consequences and believes that the benefits of approving the 2007-2014 *Housing Element* outweigh its significant and unavoidable environmental impacts (CEQA Guidelines Section 15092, 15096(h)).

Table S-2 presents a summary of the impacts of the 2007-2014 *Housing Element*, proposed mitigation measures, SCAs, and each impact's level of significance after mitigation. The environmental impacts are identified and classified as "Significant," "Less Than Significant," or "No Impact." According to CEQA Guidelines Section 15382, a significant impact is ". . . a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project . . ." CEQA Guidelines Section 15126.4 states that an EIR ". . . shall describe feasible mitigation measures which could minimize significant adverse impacts. . ." In this EIR, mitigation measures are identified for all of the impacts labeled "Significant." The inclusion of these measures in Table S-2, located later in this Summary, provides a comprehensive listing in one place of all the impacts and mitigation measures recommended for the 2007-2014 *Housing Element*.

The City's Uniformly Applied Development Standards are incorporated into projects as SCAs regardless of a project's environmental determination. As applicable, the SCAs are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects, in part, pursuant to CEQA Guidelines section 15183. In reviewing project applications, the City determines which of the SCAs are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approvals(s) required for the project. Depending on the specific characteristics of the project type and/or project site, the City will determine which SCAs apply to each project; for example, SCAs related to creek protection permits will only be applied projects on creekside properties.

The SCAs incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Water Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, *Housing Element*-related mitigation measures, California Building Code, and Uniform Fire Code, among others), which have been found to substantially mitigate environmental effects. Where there are peculiar circumstances associated with a project or project site that will result in significant environmental impacts despite implementation of the SCAs, the City will determine whether there are feasible mitigation measures to reduce the impact to less-than-significant levels in the course of appropriate CEQA review (mitigated negative declarations or EIRs). Refer to Appendix A for a complete listing of the City's SCAs (all Appendices are on a separate CD at the back cover of this EIR).

Mitigation Measures and Standard Conditions of Approval

Project-specific mitigation measures and SCAs are identified throughout the DEIR to reduce the effects of significant environmental impacts and: 1) would be included as part of the design, construction, and operations of the proposed project; 2) would be made conditions of approval for the project; and 3) would be subject to the monitoring and reporting requirements of CEQA and the terms of the discretionary approvals of the project.

Mitigation measures, SCAs, and other applicable federal, State, and local policies are presented throughout this document in order to reduce or eliminate impacts.

Project-Level Review

This Draft EIR is intended to reduce/eliminate the impacts associated with new residential development under the *Housing Element*. While not legally required by CEQA, the DEIR, in each relevant chapter, also addresses significant unavoidable impacts at the project-level; that is, impacts which might result from *specific* housing development projects, such as:

- *Transportation:* identified roadway segments impacts, previously identified impacted intersections, at-grade railroad crossings impacts, and identified State Highway impacts; and
- *Air Quality:* gaseous Toxic Air Contaminants (TACs) and odor impacts.

Although certain future housing projects would be required to perform additional studies and must follow the feasible recommendations resulting from such studies, no further CEQA review would be required for above identified project-level impacts, as such impacts have already been identified as significant unavoidable. Thus, specific residential developments would not have to prepare an Environmental Impact Report and/or Mitigated Negative Declaration solely based upon such impacts/recommendations.

Further, the Draft EIR identifies project-level less-than-significant impacts which might occur at a specific housing development, but which would *not* result in a significant impact under CEQA. For example, in the Climate Change chapter, in impact CC-1 (Project-Level thresholds), the analysis states future residential development projects would result in less-than-significant Greenhouse Gas impacts and would not be required to undergo project-specific GHG analysis under CEQA because (a) residential development under the *Housing Element* would not exceed the BAAQMD project-level threshold of 4.6 MT CO₂e per service population; or (b) alternatively, individual residential developments of less than 172 units would not exceed the BAAQMD project-level Threshold of 1,100 MT CO₂e.

S.6 ALTERNATIVES

CEQA Guidelines states, “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (CEQA Guidelines Section 15126.6(a)). One of the alternatives analyzed must be the “no project” alternative. The “no project” analysis must discuss the existing conditions, as well as

what would be reasonably expected to occur in the foreseeable future if the project were not approved and development continued to occur in accordance with existing plans and consistent with available infrastructure and community services (CEQA Guidelines, Section 15126.6(e)(3)(C)).

Description of Alternatives

No-Project Alternative: No Further Build

No-Project Alternative, No Further Build, assumes buildout of no more than 1,128 units under the *2007-2014 Housing Element*. As of June 2008, the City of Oakland has constructed 1,128 housing units have been constructed throughout the City, which satisfies approximately eight percent of the Regional Housing Needs Allocation (RHNA). However, this alternative assumes that no additional housing units would be developed between 2007 to 2014 beyond the 1,128 units that have already been constructed in the City. As with the proposed project, the 1,128 units constructed under the No-Project Alternative include:

- 115 units of market rate and affordable housing, with a building permit that has been “finalized” by the City’s Building Services division; and
- 1,013 units of market rate or affordable housing that is under construction (with a building permit issued by the City’s Building Services division).

Alternative 1: Transit-Oriented Growth

Alternative 1, Transit-Oriented Growth, would result in development of a total of 14,629 housing units in order to fulfill 100 percent of the RHNA. As with the proposed project, Alternative 1 would include: 1,128 units that have been built as of June 2008; 5,005 units already entitled to be built between 2007 and 2014; 7,070 units that were planned as of June 2008 (meaning either with a formal zoning pre-application on file with the City’s Planning and Zoning Division, or, in the case of affordable housing units, with preliminary funding commitments or site acquisition assistance from the City); and 1,426 units to be accommodated at Opportunity Sites throughout the City by 2014.

Alternative 1 would allow development within a quarter mile of a BART station, while at the same time, would not allow development on Housing Sites within one mile of the following roadway segments, which were identified as:

- Roadway Segment #5: San Pablo Avenue (SR 123) south of Stanford Avenue
- Roadway Segment #9: West Grand Avenue west of Martin Luther King Way
- Roadway Segment #11: Telegraph Avenue south of 51st Street
- Roadway Segment #18: Grand Avenue between Harrison Street & I-580
- Roadway Segment #21: Fruitvale Avenue south of I-580
- Roadway Segment #24: Foothill Boulevard north of Seminary Avenue
- Roadway Segment #25: MacArthur Boulevard west of 98th Avenue

- Roadway Segment #26: MacArthur Boulevard east of Lincoln Avenue
- Roadway Segment #29: International Boulevard between 23rd Avenue & Fruitvale Avenue
- Roadway Segment #30: International Boulevard west of Seminary Avenue

Therefore, development would be encouraged on approximately 70 Housing Sites and discouraged on the other sites.

Alternative 2: Reduced Air Quality Impacts

Build Alternative 2, Reduced Air Quality Impacts, would allow construction of a total of 13,501 housing units by 2014 in order to fulfill 100 percent of the RHNA. As with the proposed project and Alternative 1, this alternative would include: 1,128 units that have been built as of June 2008; 5,005 units already entitled to be built between 2007 and 2014; 7,070 units that were planned as of June 2008; and 1,426 units to be accommodated at Opportunity Sites throughout the City by 2014.

Alternative 2 prohibits development on Housing Sites that are within 1,000 feet of gaseous TAC sources. Therefore, under this Alternative, development would be encouraged on approximately 140 Housing Sites and discouraged on the other sites.

Alternatives Considered but rejected as infeasible

The City considered, but rejected as infeasible the following alternatives: locating the required housing units in the RHNA to sites outside Oakland; reducing the number of RHNA housing units that would be built in the planning period; excluding new housing units from areas with high concentrations of particulate matter (PM), such as freeways, highways and roadways; excluding new units from an area at some distance from odor-causing sources; and building new housing units at a distance from railroad crossings.

Alternatives Analysis

Table 5-2 indicates whether each alternative would have a greater, similar, or lesser impact than the *2007-2014 Housing Element*. A more detailed analysis of the *Housing Element* alternatives is provided in Section 5 of this document.

Environmentally Superior Alternative

On the basis of comparing the extent to which the alternatives would reduce or avoid the significant impacts associated with the project, as proposed, the No Project Alternative: No Further Build would be the environmentally superior alternative. However, CEQA requires the selection of alternative other than the No Project Alternative as the environmentally superior alternative (see CEQA Guidelines, Section 15126.6(e)(2)).

The City has balanced the impacts from traffic congestion in Alternative 1: Transit Oriented Growth, with improved public health in Alternative 2: Reduced Air Quality Impacts, and determined that Alternative 2 is the Environmentally Superior Alternative, as required by CEQA.

S.7 AREAS OF CONTROVERSY

The following topics were raised in written or oral comments received in response to the NOP of this EIR. This summary list is compiled based on comments stated during the City's scoping meetings held by the Oakland Planning Commission and the Landmark Preservation Advisory Board (included in Appendix D-1) and written comments received (included in Appendix D-2; all Appendices are on a separate CD at the back cover of this EIR). Each of these topics is addressed in this Draft EIR.

Major areas of controversy (including some non-CEQA issues) include, but are not limited to, the following:

- **Water Supply**
 - The water supply analysis needs to be updated to reflect the most recent EBMUD Water Supply Management Program (WSMP), which was prepared in October 2009
- **Transportation**
 - The dangers of at-grade railroad crossings should be considered including collisions of trains and pedestrian and trains and private vehicles
 - Use of the Alameda County Congestion Management Agency Countywide traffic model
 - Prepare Traffic Impact Study
 - Consideration of land use planning locates housing, jobs and neighborhood services near major transit modes
 - Encourage alternative transportation use
 - Consider secondary impacts on pedestrians and bicyclists
 - Consider use of TDM measures
 - Consider adequacy of mitigation measures relative to CMP criteria
 - Consider impacts of the project on the Metropolitan Transportation System (MTS)
 - Consider impacts of project on CMP transit levels
 - Consider opportunities to promote Countywide bicycle routes identified in the Alameda County Countywide Bicycle Plan
 - Consider the Alameda County Pedestrian Plan
- **Noise**
 - Consider mitigation measures to incorporate sound walls

Additional comments were raised related to issues beyond the scope of the analysis in this EIR prepared pursuant to CEQA, including current zoning regulations regarding view corridors in the CBD and the established character of the Gold Coast neighborhood.

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts		Mitigation Measures	Level of Significance With Mitigation
3.2 Transportation			
TR-1.	The LOS analysis (Appendix E-6) conducted for the 2007-2014 <i>Housing Element</i> identified several roadway segments where the LOS would drop from an acceptable LOS to an unacceptable LOS with the addition of project generated traffic. The LOS analysis also identified roadway segments that operate or would operate at an unacceptable LOS without project generated traffic, where the project would increase the V/C ratio by more than 0.03. Both of these conditions would be considered a significant impact. (SU)	Mitigation: An individual project's contribution to a significant roadway segment or intersection impact can only be determined on a site-by-site or case-by-case basis, which is outside the scope of this environmental analysis. In addition, the feasibility and effectiveness of mitigation measures can also only be determined on a site-by-site or case-by-case basis. Therefore, to mitigate potential traffic impacts for residential development under the <i>2007-2014 Housing Element</i>, the following mitigation measures are incorporated: TR-1.1 Traffic Impact Study (TIS) for Residential Projects. Prior to approval of a development application for a residential development, that may impact any roadway segment or intersection identified as having a significant impact, the project applicant shall retain a qualified traffic engineer to conduct a Traffic Impact Study (TIS), in accordance with then-current City policies and practices, to identify whether the project would contribute additional vehicular trips to a significant traffic impact on a study roadway segment(s) or intersection(s). The TIS shall be performed in accordance with then-current City policies and practices, and shall generally identify: 1. The number of trips generated by the proposed project; 2. The mode split for vehicular trips (i.e. the number of generated trips that would be made by private vehicle); 3. The distribution of vehicular trips on local roadways;	SU

⁷ The City already requires as a Standard Condition of Approval (SCA-25), the development of a Transportation Demand Management (TDM) Plan for developments with 50 residential units or greater.

LTS = Less than Significant SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
	4. Based on a quantitative evaluation of the information provided under 1 through 3, above, the City shall make a significance determination of the traffic impact(s) to roadway(s) or intersection(s) resulting from the proposed project; and	
	5. If the level of impact identified under 4 would be significant, Mitigation Measure TR-1.2 shall be employed.	
TR-1.2	<i>Other Mitigations.</i> Depending on the results of the TIS conducted in TR-1.1, the project applicant's traffic engineer shall evaluate the feasibility of the following broad measures at the intersections identified in TR-1.1 above, and implement those measures determined feasible by the City:⁷ • Install new traffic signals and other roadway improvements that support not only vehicle travel, but all other modes safely to and through the intersection, • Modify signal operation or phasing, • Change lane assignment, • Install bike and pedestrian facilities, and/or • Optimize signal timing (i.e., adjust the allocation of green time for each intersection approach) for the peak hours.	
	To implement those measures determined feasible by the City, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:	

LTS = Less than Significant

SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
	Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction.	
	Current City Standards call for the elements listed below: 2070L Type Controller w/ Cabinet Assembly and License seat, - GPS communication (clock), - Accessible pedestrian signals (audible and tactile), and crosswalks according to Federal and State Access Board guidelines, - Countdown Pedestrian Head Module Switch out, - City Standard ADA wheelchair ramps, - Video Detection on Existing (or new, if required) Mast Arm Poles, full actuation (where applicable), - Polara Push Buttons (full actuation), - Bicycle detection (full actuation), - Pull Boxes, - Signal interconnect and communication w/ trenching (where applicable), or through (E) conduit (where applicable)- 600 feet minimum, - Conduit replacement contingency, - Fiber Switch, - PTZ Camera (where applicable), and	
	<i>LTS = Less than Significant</i> <i>SU = Significant and Unavoidable</i>	

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
	- Signal timing plans. - The project sponsor shall fund, prepare, and install the approved plans and improvements.	
TR-2. Roadway Segment #18, Grand Avenue between Harrison Street and I-580, would operate at an unacceptable LOS E (V/C 0.97) in the eastbound direction in the PM peak hour in the Existing Plus Project scenario compared to LOS D (V/C 0.92) in the Existing condition. The addition of project-generated traffic would cause the LOS to drop from an acceptable to an unacceptable LOS, a significant impact. (SU)	Mitigation Measures TR-1.1 and TR-1.2 would be applied by the City on a project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TR-1.1 and TR-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s); however, on roadway segments that are particularly congested, impacts would likely remain significant and unavoidable. Given that project specific quantitative analysis of Mitigation Measures TR-1.1 and TR-1.2 was not undertaken in this programmatic EIR, it is conservatively concluded that these mitigation measures would not satisfactorily mitigate the significant impacts identified below and that impacts would remain significant and unavoidable. Therefore, when an impacted roadway segment or state highway segment is identified, it is conservatively assumed that a significant and unavoidable impact might result. Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-3. At Roadway Segment #21, Fruitvale Avenue south of I-580, would operate at LOS E (V/C 0.96) in the northbound direction in the AM peak hour in the Existing Plus Project scenario, compared to LOS D (V/C 0.89) in the Existing condition. Roadway Segment #21 would operate at LOS F (V/C 1.08) during the PM peak hour in the southbound direction, compared with LOS E (V/C 0.95) in the Existing condition. The LOS on Roadway Segment #21 would drop from an acceptable LOS D to an unacceptable LOS E in the northbound direction, a significant impact. Roadway Segment #21 would operate	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
LTS = Less than Significant		SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
at an unacceptable LOS E (southbound) without the project; however, the project's trip contribution would increase the V/C 0.13, which is a significant impact. (SU)		
TR-4. Roadway Segment #18, Grand Avenue between Harrison Street and I-580, would operate at a LOS F with a V/C ratio of 1.14 in the westbound direction in the AM peak hour in the Cumulative 2015 with Project scenario, compared to a LOS F with a V/C ratio of 1.10 in the 2015 Baseline scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project; however the project's trip contribution would increase the V/C ratio by 0.04, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-5. In the PM peak hour, Roadway Segment #18 would operate at LOS F with a V/C ratio of 1.12 in the eastbound direction in the Cumulative 2015 with Project scenario, as compared to a LOS F with a V/C ratio of 1.07 in the 2015 Baseline scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project; however the project's trip contribution would increase the V/C ratio by 0.05, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-6. Roadway Segment #21, Fruitvale Avenue south of I-580, would operate at a LOS F (V/C 1.06) in the northbound direction and LOS F (V/C 1.07) in the southbound direction in the AM peak hour in the Cumulative 2015 with Project scenario, compared to the 2015 Baseline scenario which would operate at a LOS F (V/C 1.00) in the northbound direction and a LOS E (V/C 0.96) in the southbound direction. Roadway Segment #21 would operate at an unacceptable LOS F (northbound) and LOS E (southbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.06 (northbound) and 0.11 (southbound), which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
<i>LTS = Less than Significant SU = Significant and Unavoidable</i>		

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
TR-7. In the PM peak hour, Roadway Segment #21 would operate at a LOS F (V/C 1.07) in the northbound direction and a LOS F (V/C 1.06) in the southbound direction, in the Cumulative 2015 with Project scenario, compared to a LOS E (V/C 0.99) in the northbound direction and a LOS D (V/C 0.94) in the southbound direction in the 2015 Baseline scenario. Roadway Segment #21 would operate at an unacceptable LOS E (northbound) and LOS D (southbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.08 (northbound) and 0.12 (southbound), which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-8. Roadway Segment #23, Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at a LOS F in the westbound direction in the AM peak hour with a V/C ratio of 1.01 in the Cumulative 2015 with Project condition, compared to a LOS E in the same direction with a V/C ratio of 0.99 for the 2015 Baseline scenario. However, Roadway Segment #23 V/C ratio would not increase by more than 0.03 and, therefore, is not a significant impact. (LTS)	Mitigation: None required.	
TR-9. Roadway Segment #23, Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at LOS F in the PM peak hour (V/C 1.03) in the eastbound direction in the Cumulative 2015 with Project scenario, compared to a LOS F with a V/C of 1.00 (rounded) in the 2015 Baseline scenario. Roadway Segment #23 would operate at an unacceptable LOS F without the project; and the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)	Mitigation: None required.	
TR-10. Roadway Segment #24, Foothill Boulevard north of Seminary Avenue, would operate at LOS E in the eastbound direction in the AM peak hour with a V/C ratio of 0.97 in the Cumulative 2015 with Project scenario, compared to a LOS D with a V/C ratio of 0.94 in the 2015 Baseline scenario. Roadway Segment #24 would operate at an unacceptable LOS D without the project; and, the project's trip contribution would not increase the V/C ratio by more than 0.03 and,	Mitigation: None required.	
<i>LTS = Less than Significant</i>		<i>SU = Significant and Unavoidable</i>

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
therefore, is not a significant impact. (LTS)		
TR-11. In the PM peak hour, Roadway Segment #24 (Foothill Boulevard north of Seminary Avenue) would operate at LOS F with a V/C ratio of 1.07 in the westbound direction, compared to a LOS E with a V/C ratio of 0.99 in the 2015 Baseline Scenario. Roadway Segment #24 would operate at an unacceptable LOS E without the project; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-12. Roadway Segment #29, International Boulevard between 23rd Avenue and Fruitvale Avenue, would operate at a LOS E in the eastbound direction in the PM peak hour with a V/C ratio of 0.95 in the Cumulative 2015 with Project scenario, compared to LOS D with a V/C ratio of 0.90 in the 2015 Baseline scenario. Roadway Segment #29 would operate at an acceptable LOS D without the project; however, the project's trip contribution would cause the segment to operate at LOS E and increase the V/C ratio by 0.05, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-13. Roadway Segment #30, International Boulevard west of Seminary Avenue, would operate at a LOS E in the eastbound direction in the PM peak hour with a V/C ratio of 0.96 in the Cumulative 2015 with Project scenario, compared to LOS D with a V/C ratio of 0.90 in the 2015 Baseline scenario. Roadway Segment #30 would operate at an acceptable LOS D; and the project's trip contribution would cause the segment to drop to LOS E and increase the V/C ratio by 0.06, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-14. Roadway Segment #41 Telegraph Avenue north of Claremont Avenue would operate at a LOS F in the northbound direction in the PM peak hour with a V/C ratio of 1.02 under the Cumulative 2015 with Project scenario, compared to LOS E with a V/C ratio of 1.00 (rounded) in the 2015 Baseline scenario. Roadway Segment #41 would operate at an unacceptable LOS E without the project; and the project's trip contribution would not increase the V/C ratio by more than 0.03	Mitigation: None required.	
<i>LTS = Less than Significant SU = Significant and Unavoidable</i>		

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
and, therefore, is not a significant impact.(LTS)		
TR-15. Roadway Segment #5, San Pablo Avenue south of Stanford Avenue, would operate at LOS E in the north- and southbound directions in the AM peak hour (V/C 0.98 and 0.99, respectively) in the Cumulative 2035 with Project scenario, compared to a LOS E in the southbound direction in the 2035 Baseline scenario (V/C 0.95). Roadway Segment #5 would operate at an acceptable LOS D in the northbound direction and LOS E in the southbound direction without the project; however, the project's trip contribution would increase the V/C ratio by 0.04 (northbound) and 0.04 (southbound), which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-16. Roadway Segment #5 in the PM peak hour, the north- and southbound directions would operate at a LOS F (V/C 1.01 and 1.03, respectively) in the Cumulative 2035 with Project scenario, compared to the 2035 Baseline scenario which would operate at a LOS E in the both directions (V/C 0.95 and 0.98, respectively). Roadway Segment #5 would operate at an unacceptable LOS E without the project; however, the project's contribution would increase the V/C ratio by 0.06 (northbound) and 0.05 (southbound), which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-17. Roadway Segment #9, West Grand Avenue west of Martin Luther King Jr. Way, would operate at a LOS F in the westbound direction in the AM peak hour (V/C 1.07) in the Cumulative 2035 with Project scenario, compared to a LOS F in the 2035 Baseline scenario (V/C 1.01). Roadway Segment #9 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would increase the V/C ratio by 0.06, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-18. In the PM peak hour, Roadway Segment #9 would operate at a LOS F in the eastbound direction (V/C 1.38) in the Cumulative 2035 with Project scenario, compared with a LOS F for the 2035 Baseline scenario (V/C 1.30). Roadway Segment #9 would operate at an	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
unacceptable LOS F without the project; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)		
TR-19. Roadway Segment #11, Telegraph Avenue south of 51st Street, would operate at LOS E (V/C 0.92) in the southbound direction in the AM peak hour in the Cumulative 2035 with Project condition, compared to a LOS D (V/C 0.86) in the 2035 Baseline scenario. Roadway Segment #11 would operate at an acceptable LOS D without the project during the AM peak hour; however, the project's trip generation would reduce the LOS to an unacceptable LOS E, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-20. During the PM peak hour, the Roadway Segment #11 would operate at a LOS E (V/C 0.95) in the northbound direction in the Cumulative 2035 with Project scenario, compared to a LOS D (V/C 0.87) for the 2035 Baseline scenario. Roadway Segment #11 would operate at an acceptable LOS D without the project during the PM peak hour; however, the project's trip contribution would reduce the LOS to an unacceptable LOS E, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-21. Roadway Segment #18, Grand Avenue between Harrison Street and I-580, would operate at LOS F (V/C 1.47) in the westbound direction in the AM peak hour in the Cumulative 2035 with Project scenario, compared with a LOS F (V/C 1.43) for the 2035 Baseline scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.04, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-22. In the PM peak hour, Roadway Segment #18 would operate at a LOS F (V/C 1.41) in the eastbound direction in the Cumulative 2035 with Project Scenario, compared to a LOS F (V/C 1.36) for the 2035 Baseline Scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
0.05, which is a significant impact. (SU)		
TR-23. Roadway Segment #21, Fruitvale Avenue south of I-580, would operate at LOS F in the north- and southbound directions (V/C 1.07 and 1.08, respectively) in the AM peak hour in the Cumulative 2035 with Project scenario, compared with LOS F (V/C 1.00) in the northbound direction and LOS E (V/C 0.97) in the southbound direction the 2035 Baseline scenario. Roadway Segment #21 would operate at an unacceptable LOS F (northbound) and LOS E (southbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.07 (northbound) and 0.09 (southbound), which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-24. During the PM peak hour, Roadway Segment #21 would operate at a LOS F in both directions (V/C 1.07 and 1.08, respectively) in the Cumulative 2035 with Project scenario, compared to LOS E (V/C 0.99) in the northbound direction and LOS E (V/C 0.95) in the southbound direction for the 2035 Baseline scenario. Roadway Segment #21 would operate at an unacceptable LOS E (northbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. In the southbound direction the LOS would drop from an acceptable LOS E without the project to an unacceptable LOS F, also a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-25. Roadway Segment #23, Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at LOS F (V/C 1.09) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared with a LOS F (V/C 1.07) in the 2035 Baseline scenario. Roadway Segment #23 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)	Mitigation: None required.	
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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
TR-26. During the PM peak hour, Roadway Segment #23 would operate at LOS F (V/C 1.10) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.07) in the 2035 Baseline scenario. Roadway Segment #23 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS) TR-27. Roadway Segment #24, Foothill Boulevard north of Seminary Avenue, would operate at LOS F (V/C 1.29) during the AM peak hour in the eastbound direction in the Cumulative 2035 with Project scenario, compared to a LOS F (V/C 1.26) in the 2035 Baseline scenario. Roadway Segment #24 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)	Mitigation: None required. Mitigation: None required.	
TR-28. During the PM peak hour, Roadway Segment #24 would operate at LOS F (V/C 1.35) in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.27) in the 2035 Baseline scenario. Roadway Segment #24 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-29. Roadway Segment #25, MacArthur Boulevard west of 98th Avenue, would operate at LOS F (V/C 1.17) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.09) in the 2035 Baseline scenario. Roadway Segment #25 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
TR-30. During the PM peak hour, Roadway Segment #25 would operate at a LOS F (V/C 1.11) in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS E (V/C 0.97) in the 2035 Baseline scenario. Roadway Segment #25 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.14, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-31. Roadway Segment #26, MacArthur Boulevard east of Lincoln Avenue, would operate at LOS F (V/C 1.38) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.34) in the 2035 Baseline scenario. Roadway Segment #26 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.04, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-32. During the PM peak hour, Roadway Segment #26 would operate at a LOS F (V/C 1.51) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.45) in the 2035 Baseline scenario. Roadway Segment #26 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.06, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU
TR-33. Roadway Segment #29, International Boulevard between 23rd Avenue and Fruitvale Avenue, would operate at LOS E (V/C 0.95) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared to a LOS D (V/C 0.92) in the 2035 Baseline scenario. Roadway Segment #29 would operate at an acceptable LOS D without the project during the AM peak hour, and the project's trip contribution would increase the V/C ratio by 0.03. Nonetheless, because the segment would go from LOS D to LOS E, and the segment is outside of Downtown, there would be a significant unavoidable impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
TR-34. During the PM peak hour, Roadway Segment #29 would operate at a LOS F (V/C 1.05) in the eastbound direction in the 2035 with Project scenario, compared to LOS F (V/C 1.00) in the 2035 Baseline scenario. Roadway Segment #29 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.05, which is a significant impact. (SU) TR-35. During the PM peak hour, Roadway Segment #30, International Boulevard west of Seminary Avenue, would operate at a LOS F (V/C 1.08) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to a LOS F (V/C 1.02) in the 2035 Baseline scenario. Roadway Segment #30 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would increase the V/C ratio by 0.06, which is a significant impact. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented. Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.	SU SU
TR-36. Roadway Segment #41, Telegraph Avenue north of Claremont Avenue, would operate at LOS F (V/C 1.02) during the AM peak hour in the southbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.00) in the 2035 Baseline scenario. Roadway Segment #41 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)	Mitigation: None required.	SU
TR-37. During the PM peak hour, Roadway Segment #41 would operate at a LOS F (V/C 1.07) in the northbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.04) in the 2035 Baseline scenario. Roadway Segment #41 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact.(LTS)	Mitigation: None required.	SU

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
TR-38. Roadway Segment #44, 27th Street west of Valdez Street (near Broadway), would operate at LOS E eastbound in the PM peak hour (V/C 0.92) in the Cumulative 2035 with Project scenario, compared to LOS D (V/C 0.90) in the 2035 Baseline scenario. Roadway Segment #44 would operate at an acceptable LOS D without the project; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)	Mitigation: None required.	
TR-39. Development under the 2007-2014 <i>Housing Element</i> would increase the demand for pedestrian and bicycle facilities, but would not fundamentally conflict with projects or programs supporting alternative transportation. (LTS)	Mitigation: None required.	
TR-40. Development under the 2007-2014 <i>Housing Element</i> would contribute traffic to roadway segments that will operate at an unacceptable LOS. Development under the <i>Housing Element</i> would also cause an increase in the V/C ratio of more than 0.03 on roadway segments that would already operate at an unacceptable LOS. Therefore, the <i>Housing Element</i> would result in cumulatively considerable impacts for the years 2015 and 2035. (SU)	Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented, but the feasibility and effectiveness of these mitigation measures has not been determined in this program level analysis. Therefore, impacts are conservatively assumed to be significant and unavoidable.	SU
TR-41. During construction of housing proposed under the project, there may be a need to temporarily close traffic lanes, prohibit parking, and/or block traffic lanes. Construction requires the delivery of building materials, sometimes the import or export of earth fill materials, as well as travel by construction workers on a daily basis to and from the sites, potentially disrupting local traffic flow depending on the specific construction site. Such activities are a temporary but unavoidable part of the construction process. This would constitute a temporary significant impact lasting throughout the construction period. However, compliance with SCA-33 would reduce this impact. (LTS)	Mitigation: None required.	
TR-42. Development under the 2007-2014 <i>Housing Element</i> would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety	Mitigation: None required.	

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
risks. (LTS) TR-43. Development under the 2007-2014 <i>Housing Element</i> has the potential to introduce additional vehicle, bicycle, and pedestrian traffic to existing at-grade railroad crossings, thereby potentially contributing to safety issues along railroad corridors. For example, vehicle traffic generated by new housing development may potentially cause vehicle queuing at intersections, resulting in traffic backing up onto at-grade railroad crossings, possibly resulting in train/automobile/pedestrian collisions and potentially causing injuries and/or fatalities. A substantial increase in traffic generated by housing development could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains) and would constitute a significant impact. (SU)	Mitigation: The following Mitigation Measure TR-43.1 should be applied to housing projects that generate substantial multi-modal traffic traveling across at-grade railroad crossings that could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains): <i>TR-43.1 Transportation Impact Studies (TIS) for At-grade Railroad Crossings.</i> The TIS, otherwise required to be prepared for proposed housing developments, in accordance with standard City policies and practices, must evaluate potential impacts to at-grade railroad crossing resulting from project-related traffic. The TIS should examine whether the proposed project would generate substantial multimodal traffic across at-grade railroad crossings that could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, pedestrians and trains), which may include a Diagnostic Review for each railroad crossing. If required, the Diagnostic Review must be completed with all affected properties and Stakeholders, in coordination with the California Public Utility Commission (CPUC). It will include: roadway and rail descriptions; collision history; traffic volumes for all modes; train volumes; vehicular speeds; train speeds; and existing rail and traffic controls. Based on the Diagnostic Review and the number of Project trips, the TIS will evaluate if the proposed project increases hazards at the crossing. For example, vehicle traffic generated by the proposed project may cause vehicle queuing at intersections resulting in traffic backing up onto at-grade railroad crossings. Where the TIS identifies substantially hazardous crossing conditions caused by the proposed project, mitigations	SU

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
	relative to the project's traffic contribution to the crossings may be applied through project redesign and/or incorporation of measures to reduce potential adverse impacts. Any proposed improvements must be coordinated with CPUC and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings). These measures may include: • Installation of additional warning signage; • Improvements to warning devices at existing highway rail crossings; • Installation of concrete panels to provide a smooth crossing surface; • Reduction in the flangeway gap to improve pedestrian and bicyclist safety; • Installation of median separation to prevent vehicles from driving around railroad crossing gates; • Improvements to traffic signaling at intersections adjacent to crossings (e.g., signal preemption); • Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains; • Where soundwalls, landscaping, buildings, etc. would be installed near crossings, maintain the visibility of warning devices and approaching trains; • Elimination of driveways near crossings; • Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way; and/or	

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Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
TR-44. Development under the 2007-2014 <i>Housing Element</i> that would result in less than two emergency access routes for streets exceeding 600 feet in length, could result in a significant impact unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions. (LTS)	• Installation of grade separations at crossings. The incorporation of mitigation measures identified in this mitigation measure could reduce the project's impact to the at-grade railroad crossing to a less-than-significant level. However, to the extent that installation of safety mechanisms is not feasible (physically, financially or otherwise), impacts would remain significant and unavoidable.	SU
TR-45. Development under the 2007-2014 <i>Housing Element</i> would increase traffic volumes on State (Caltrans) highways within and outside the City of Oakland (in the Existing Plus Project scenario): ▪ #45 SR 13 north of I-580, northbound in the PM peak hour ▪ #46 SR 24 east of I-580, eastbound in the AM peak hour and both directions in the PM peak hour ▪ #52 I-880 north of 66th Avenue, northbound in the PM peak hour The increase in traffic volume would constitute a significant impact on some state highway segments. (SU).	Mitigation: None required. Mitigation: None available. These freeway segments are in dense, built-up areas, where freeway widening to increase freeway capacity could be difficult. Furthermore, the cost for freeway widening would be prohibitive since there is no funding source available to pay for such improvements. In order to minimize the <i>Housing Element's</i> impact on the freeway system, individual projects with significant unavoidable impacts on roadway segments shall develop and implement a Parking and Transportation Demand Management Plan in accordance with SCA-25. The plan will include strategies to reduce single occupancy travel, and increase bicycle, pedestrian, transit, and carpool use.	
3.3 Air Quality		
Plan-Level Impacts		
AQ-1. The proposed project would create new area and mobile sources of air pollutants that would generate emissions of criteria air pollutants. However, the population growth for the plan area does not	Mitigation: None required.	LTS = Less than Significant SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
exceed values in the current AQP. The <i>Housing Element</i> would be consistent with the control measures included in the current AQP, and the rate of increase in vehicle miles traveled or vehicle trips associated with the proposed project would be less than the rate of increase in population. As such, impacts on criteria air pollutants would be less than significant. (LTS) AQ-2a. Residential development proposed under the <i>Housing Element</i> could expose occupants at certain sites to substantial health risks from diesel particulate matter (DPM) from mobile and stationary sources. However, compliance with the City's Standard Conditions of Approval would reduce impacts to a less-than-significant level. (LTS) AQ-2b. Residential development proposed under the <i>Housing Element</i> could expose occupants at certain sites to substantial health risk from gaseous TACs emitted locally from stationary sources. Although compliance with the City's Standard Conditions of Approval would provide that site-specific health risk assessments would be prepared, there is no assurance that such exposures could be reduced to a safe level at every site. (SU) AQ-3. Residential development proposed under the <i>Housing Element</i> could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources. (SU)	Mitigation: None required. Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant and unavoidable impact is identified, no measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors. Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant/unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors. Mitigation: None required.	SU SU
Project-Level Impacts		
AQ-4a. Residential development at specific project sites proposed under the <i>Housing Element</i> could expose occupants to diesel particulate matter from stationary and mobile sources. However, compliance with the City's Standard Conditions of Approval would reduce impacts to a less-than-significant level. (LTS)		

LTS = Less than Significant

SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
AQ-4b. Residential development proposed under the <i>Housing Element</i> could expose occupants at certain sites to substantial health risk from gaseous TACs emitted locally from stationary sources. Although compliance with the City's Standard Conditions of Approval would provide that site-specific health risk assessments would be prepared, there is no assurance that such exposures could be reduced to a safe level at every site. (SU)	Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant unavoidable impact is identified, no measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors.	SU
AQ-5. Residential development at specific project sites proposed under the <i>Housing Element</i> could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources. (SU)	Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant and unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors.	SU
AQ-6. Traffic generated by the proposed project would increase traffic volumes at intersections in the plan area. This traffic would emit CO, but not enough to exceed ambient air quality standards. As such, project impacts on localized CO concentrations would be less than significant, and no project-specific CO analysis would be required. (LTS)	Mitigation: None required.	
AQ-7. Construction and operational emissions from the proposed project would not have cumulative impacts. (LTS)	Mitigation: None required.	
AQ-8. Cumulative traffic volumes would not result in cumulative impacts. (LTS)	Mitigation: None required.	
AQ-9. Individual TAC impacts would make a considerable contribution to the affected residents' exposures to TACs. Impacts related to gaseous TACs cannot be mitigated and would be cumulatively significant and unavoidable. (SU)	Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant/unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors.	SU
AQ-10. Odor impacts are unmitigable and could make a considerable contribution to the affected residents' exposures to odor sources. (SU)	Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant and unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors.	SU

LTS = Less than Significant SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts		Mitigation Measures	Level of Significance With Mitigation
3.4	Noise		
NO-1.	The construction of housing units under the <i>Housing Element</i> would potentially increase construction noise levels at sensitive receptors located near construction sites. Compliance with the City's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)	Mitigation: None required.	
NO-2.	Construction activities could generate excessive ground-borne vibration during the construction period. Compliance with the City's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)	Mitigation: None required.	
NO-3.	If residential uses are located near an existing railway line, residents could be exposed to excessive interior noise and ground-borne vibration. Compliance with the City's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)	Mitigation: None required.	
NO-4.	Sensitive receptors at the Housing Sites could be exposed to noise above Normally Acceptable levels for multi-family residential units. Compliance with the City's Standard Conditions of Approval would reduce these impacts to less than significant. (LTS)	Mitigation: None required.	
NO-5.	The proposed project would result in a less-than-significant increase in noise levels as provided by the City of Oakland threshold of 5 dBA. (LTS)	Mitigation: None required.	
NO-6.	Noise generated by stationary sources, such as mechanical ventilation equipment, could increase noise levels in the vicinity of new residential developments. Compliance with the City's Municipal Code would reduce impacts to a less-than-significant level. (LTS)	Mitigation: None required.	
NO-7.	Noise generated by commercial aircraft using Oakland International Airport would not produced unacceptable noise levels at any of the Housing Sites. (LTS)	Mitigation: None required.	

LTS = Less than Significant

SU = Significant and Unavoidable

Table S-2
Summary of Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Level of Significance With Mitigation
NO-8. Construction activity from the proposed project in combination with other foreseen development projects would not have cumulative noise effects. (LTS)	Mitigation: None required.	
NO-9. Implementation of the proposed project and related projects would result in a less-than-significant increase in noise levels as provided by the City of Oakland threshold of 5 dBA. (LTS)	Mitigation: None required.	
NO-10. Cumulative development could increase stationary source noise levels in the plan area; however, the proposed project's stationary source contributions would not be considerable and their cumulative impacts would be less than significant. (LTS)	Mitigation: None required.	
3.5 Climate Change		
CC-1. The future development proposed under the 2007-2014 <i>Housing Element</i> would not emit GHGs in exceedance of BAAQMD's project-level threshold of 1,100 MT CO ₂ e/yr and 4.6 MT CO ₂ e/sp/yr, resulting in a less-than-significant impact. (LTS)	Mitigation: None required.	
CC-2. The 2007-2014 <i>Housing Element</i> would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in a less-than-significant impact. (LTS)	Mitigation: None required.	
CC-3. The 2007-2014 <i>Housing Element</i> would not emit GHGs in exceedance of BAAQMD's plan-level threshold of 6.6 MT CO ₂ e/sp/yr, resulting in a less-than-significant impact. (LTS)	Mitigation: No mitigation measures are necessary because the emissions would not exceed the BAAQMD threshold.	
CC-4. The 2007-2014 <i>Housing Element</i> would not result in a cumulatively considerable contribution to a cumulative Greenhouse Gas impact from GHG emissions. (LTS)	Mitigation: None required.	

LTS = Less than Significant SU = Significant and Unavoidable

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Section 1

Introduction

1.1 PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

This Environmental Impact Report (EIR) addresses the potential environmental effects of the construction and operation of the City of Oakland *2007-2014 Housing Element*. The purpose of City of Oakland General Plan – *Housing Element Update 2007-2014* (also referred to in this document as the proposed project, *2007-2014 Housing Element*, or *Housing Element*) is to identify current and projected housing needs, and set goals, policies, and programs to address those needs. Under requirements set by the Association of Bay Area Governments (ABAG), the City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its “fair share” of the State’s housing need. The allocation is equivalent to an annual need of 1,951 housing units for the seven-and-a-half-year planning period (2007-2014). The *Housing Element* also identifies potential locations within the City where additional housing units can be constructed, called “Opportunity Sites.”

The lead agency for an EIR is the public agency that has the principal responsibility for carrying out or approving a project. This EIR has been prepared by the City of Oakland, which is the lead agency for the *2007-2014 Housing Element*. This EIR assesses the potential for significant impacts including, but not limited to, those concerning transportation, air quality, climate change, and noise. As defined in the California Environmental Quality Act (CEQA) Guidelines Section 15382, a “significant effect on the environment” is:

. . . a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

This EIR is prepared in accordance with CEQA, as amended, and the CEQA Guidelines. As the CEQA Guidelines state, an EIR is an “informational document” intended to inform public agency decision-makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives. Although certification of this EIR would not constitute a decision to approve the *2007-2014 Housing Element*; the City of Oakland will use the certified EIR, along with other information and public processes, to determine whether to approve, modify, or disapprove the *2007-2014 Housing Element*, and to specify any applicable mitigation measures as part of conditions of project approvals. If the City approves the *2007-2014 Housing Element*, the City must consider and apply the information in this EIR and adopt findings regarding each significant effect identified in this EIR.

1.2 TYPE OF EIR

Program-Level Review

According to the CEQA Guidelines Section 15168[a], a local agency may prepare a program-level EIR to address a series of actions that can be characterized as one large project or series of actions that are linked geographically; logical parts of a sequence of contemplated events; rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts that can be mitigated in similar ways.

This program-level draft environmental impact report (Draft EIR) is designed to assess the environmental impacts of the proposed *2007-2014 Housing Element*. As noted above, under CEQA, program-level environmental review is used in environmental analyses for a series of actions that can be characterized as one large project because they are logically related. For some site-specific purposes, a program-level environmental document may provide sufficient detail to enable an agency to make informed site-specific decisions within the program, allowing an agency to carry out an entire program without having to prepare additional site-specific environmental documents. In other cases, the formulation of site-specific issues is unknown until subsequent design and the preparation of later project-level environmental documents. In such situations, the program-level EIR may properly focus on “broad policy alternatives and programmatic mitigation measures,” as well as “regional influences, secondary effects, cumulative impacts. . . and other factors that apply to the program as a whole,” [CEQA Guidelines Section 15168(b)(4) and (d)(2)].

Project-Level Review

Under CEQA, project-level environmental analysis examines the environmental impacts of an individual project, and examines phases of the project including construction and operation. Project-level analysis may be conducted once a sufficient level of detail is known regarding a proposed project. With a detailed project description and an understanding of the existing environmental conditions, the potential environmental effects of the proposed project may be understood and analyzed. Here, although not required under CEQA, some ‘project-level’ impacts of development of residential housing under the *2007-2014 Housing Element* are discussed to the extent that such impacts are known. Specifically, Climate Change and Greenhouse Gases impacts, found to be less than significant in Section 3.5; Air Quality impacts in Section 3.3 regarding odors and gaseous toxic air contaminants, which were found to be significant unavoidable; Traffic impacts in Section 3.2, which identified roadway segment impacts, previously identified impacted intersections, at-grade railroad crossings impacts, and State Highway impacts, found to be significant unavoidable.

Pursuant to CEQA Guidelines Sections 15183, 15162-15164, 15168, and 15183.5, future program-level and project-level environmental analyses may be tiered from this EIR, as described under Subsection 1.4, Use of This Report, below.

1.3 EIR PROCESS

Initial Study and NOP

The City of Oakland prepared an Initial Study and issued a Notice of Preparation of a Draft Environmental Impact Report (NOP) on September 21, 2009. The Initial Study is included as Appendix A and the NOP is included as Appendix C (all Appendices are on a separate CD at the back cover of this EIR). The public comment period for the scope of the EIR lasted until 5:00 p.m. on October 21, 2009. The NOP was sent to responsible and trustee agencies and interested organizations and individuals. The NOP stated that the “Initial Study screened out environmental factors that will not be further studied in the Draft EIR. However, the Draft EIR will address the potential environmental effects for air quality, climate change, noise, and transportation. All other impacts would be mitigated to less-than-significant levels.”

The Initial Study for the *2007-2014 Housing Element* was prepared in accordance with the CEQA, which can be found in the State Public Resources Code (PRC), Section 21000 et. seq., and the CEQA Guidelines, found in State Code of Regulations, Title 14, Chapter 3, Section 15000 et. seq., as amended. The Initial Study identifies the potential environmental impacts, and associated Standard Conditions of Approval (SCAs) designed to substantially reduce/eliminate such impacts, resulting from adoption and implementation of the City’s *2007-2014 Housing Element*, including the remaining 13,501 housing units needed to be built in order to meet the RHNA target (14,629 total less 1,128 built). Compliance with the City of Oakland’s SCAs would reduce all impacts identified in the Initial Study to a less than significant level and no mitigation measures were required.

An EIR scoping session was held on October 7, 2009 in conjunction with a Planning Commission meeting. At that time, the Planning Commission decided that the scope of the Draft EIR as outlined in the NOP was sufficient and that no additional environmental topics would be studied. During the NOP comment period, the City also received oral comments at the Landmarks Preservation Advisory Board (LPAB) on October 19, 2009 and determined that the historic resources issues as identified in the Initial Study for the project were adequate (see Appendix D-1--all Appendices are on a separate CD at the back cover of this EIR).

Written comments received by the City in response to the NOP and comments received at the Planning Commission and LPAB meetings were taken into account during the preparation of the EIR. Written NOP comments were received from public agencies and concerned organizations regarding several issues to be addressed in the EIR. Generally, the written comments pertained to: water and wastewater treatment service as well as water recycling and conservation; safety issues associated with at-grade rail crossings; use of the Alameda County Congestion Management Agency’s Countywide Model; aesthetic impacts in the Gold Coast area; and land use decisions which reduce vehicular traffic. Each NOP comment has been reviewed and considered in preparing this EIR. The introduction to each environmental topic within Section 3 provides a summary of the relevant NOP scoping comments. The written comments received are included in Appendix D-2 (all Appendices are on a separate CD at the back cover of this EIR). Responses to the NOP, Initial Study, and public hearing comments are provided in Section 6 of this document, as appropriate.

Draft EIR

As previously stated, this Draft EIR provides an analysis of physical impacts anticipated to result from the *2007-2014 Housing Element*. Where significant impacts are identified, the Draft EIR recommends feasible mitigation measures to reduce or eliminate the significant impacts and identifies which significant impacts are unavoidable. Alternatives to the *2007-2014 Housing Element* are also presented. This environmental document is considered a draft under CEQA since it must be reviewed and commented upon by public agencies, organizations, and individuals before being finalized.

Public Review

This Draft EIR is being distributed for a 45-day public review and comment period. Readers are invited to submit written comments on the adequacy and completeness of the document (e.g., does this Draft EIR identify and analyze the possible environmental impacts and recommend appropriate mitigation measures? Does it consider and evaluate a reasonable range of alternatives to the *2007-2014 Housing Element*?). Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects. CEQA Guidelines Section 15096(d) calls for responsible agencies to provide comments on those project activities within the agency's area of expertise and to support those comments with either oral or written documentation.¹

Written comments should be submitted to:

Devan Reiff, Project Manager
City of Oakland
Community and Economic Development Agency
250 Frank H. Ogawa Plaza, Suite 3315
Oakland, CA 94612
Email: DReiff@oaklandnet.com

A public hearing to take comments on the adequacy of the Draft EIR will be held before the Planning Commission (see Notice of Availability/Release of DEIR in the front of this document). Hearing notices will be mailed to responsible agencies. Additionally, all hearings will be noticed and advertised in the following ways, including but not limited to:

- Notice in local newspapers;
- Written notice to all persons on the *2007-2014 Housing Element* "interested persons" list, which includes those who have attended public meetings and who have specifically requested to be added to the "interested persons" list, and other known parties;
- Written notice to all neighboring jurisdictions, including but not limited to Alameda County, the cities of Piedmont, Emeryville, Alameda, San Leandro, and Berkeley; and
- Notice on the City's website "Current Environmental Review Documents," accessible at:

<http://www2.oaklandnet.com/Government/o/CEDA/o/PlanningZoning/s/Application/DOWD009157>

¹ CEQA Section 21069 defines a responsible agency as a public agency, other than the lead agency, which has responsibility for carrying out or approving a project.

Final EIR

Following the close of the public review and comment period, written responses will be prepared that address all substantive written and oral comments on the Draft EIR. The Final EIR will consist of the Draft EIR, the comments received during the public review period, responses to the comments, and any revisions to the Draft EIR as a result of public agency, public comments, and/or City-initiated changes.

Project Review and Approval

The City must certify that it has reviewed and considered the information in the EIR and that the EIR has been completed in conformity with the requirements of CEQA before any decision can be made regarding the *2007-2014 Housing Element*. Pursuant to CEQA Guidelines Section 15091, no public agency shall approve or carry out a project for which an EIR has been certified and which identifies one or more unavoidable significant effects of that project, unless the public agency makes one or more of the following findings, which must be supported by substantial evidence in the record:

- Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Mitigation Monitoring and Reporting Program

Pursuant to CEQA Guidelines Section 15097, if it approves the *2007-2014 Housing Element*, the City must adopt a Mitigation Monitoring and Reporting Program (MMRP) for the proposed project. A MMRP is a mechanism used for the monitoring and reporting of revisions to the project or conditions of approval that the public agency has required as mitigation measures to lessen or avoid significant environmental effects. The City can conduct the reporting or monitoring, or it can delegate the responsibilities to another public agency or a private entity that accepts the delegation. Implementation of the MMRP would reduce the severity or eliminate the identified significant impacts.

Pursuant to CEQA Guidelines Section 15097(b), where the project at issue is the adoption of the general plan, specific plan, community plan, or other plan-level document, the monitoring plan shall apply to policies and any portion of the plan that is a mitigation measure or adopted alternative.

Statement of Overriding Considerations

If the City of Oakland decides to approve the *2007-2014 Housing Element*, and if the *2007-2014 Housing Element* would result in significant impacts that cannot be mitigated to less-than-significant levels, then the City must indicate that any such unavoidable significant impacts are acceptable due to overriding considerations as described in CEQA Guidelines Section 15093. This is known as a “Statement of

Overriding Considerations.” In preparing this statement, CEQA requires the City to balance the benefits of the project against its unavoidable environmental effects. If the City finds that the benefits of the project being considered outweigh the project’s unavoidable adverse environmental effects, then the adverse environmental effects may be considered acceptable (CEQA Guidelines Section 15093).

Even if a Statement of Overriding Considerations is adopted for the *2007-2014 Housing Element*, a MMRP (as described above) would be adopted to reduce significant project impacts to the extent feasible, including those impacts that cannot be reduced to a less-than-significant level. The City would use the MMRP as a mechanism to ensure that mitigation measures imposed as conditions of approval are implemented during and after construction so as to control and minimize project impacts.

1.4 USE OF THIS REPORT

An EIR is an informational document, with the purpose to make the public and decision-makers aware of the environmental consequences of a project. As noted earlier, the City of Oakland is the lead agency for the EIR. Thus, the Oakland City Council and Planning Commission will review this report and weigh its contents against economic, social, neighborhood, and other considerations to determine whether the *2007-2014 Housing Element* should be approved as proposed, approved with conditions, or not approved.

CEQA documents (Initial Studies or EIRs) on specific plans, policy documents, or individual residential and/or mixed-use development projects in the City of Oakland may be tiered from this EIR. (CEQA Guidelines Section 15183, 15162-15164, 15168, and 15183.5). Pursuant to CEQA Guidelines Section 15385, tiering may occur from a broader environmental analysis to a narrower environmental analysis, or site-specific environmental analysis, by incorporating by reference the general discussions and concentrating solely on the issues specific to the EIR subsequently prepared. Tiering is appropriate when “the sequence of an EIR is from a general plan, policy or program EIR to a program, plan, or policy EIR of a lesser scope, or to a site-specific EIR of a lesser scope.” (CEQA Guidelines Section 15383[a]). This EIR for the *2007-2014 Housing Element* can function as a first-tier environmental document that assesses and documents the broad environmental impacts of the development of 13,501 residential units in the City of Oakland by 2014, with the understanding that a more detailed specific plan or project level review may be required to assess future projects. The analysis contained in this EIR may also be used as a reference for subsequent environmental review of specific plans, infrastructure improvements, zoning amendments, impact fees, and other development proposals.

Pursuant to CEQA Guidelines Section 15183, streamlined environmental review is allowed for projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts particular to the project, or to the project site. CEQA Guidelines Section 15162, 15163, and 15164 allow for the preparation of a Subsequent EIR and/or Negative Declaration, Supplemental EIR, an Addendum to an EIR, respectively, to a certified EIR when certain conditions are satisfied. Section 15168 allows for the streamlining of environmental review for projects that are determined, pursuant to Section 15162, not to have additional environmental impacts or require additional information, beyond the recommendations and analysis contained in the program EIR. Such projects would not require the preparation of an environmental document.

CEQA Guidelines Section 15183.5 (adopted March 18, 2010) allows tiering and streamlining of the analysis of greenhouse gas emissions. Pursuant to CEQA Guidelines Section 15183.5[a], “Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in Section 15152 (tiering), 15167 (staged EIRs), 15168 (program EIRs), 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).”

This EIR will be used as a first-tier environmental document for the subsequent review of a variety of public and private residential development projects, and as previously indicated, may provide CEQA clearance for such projects.

The surrounding residents and businesses, and any other interested individuals, may also review the EIR to evaluate the effects of the *2007-2014 Housing Element* on existing conditions in the City, and to assess the proposed mitigation measures’ ability to reduce potential environmental consequences.

1.5 REPORT ORGANIZATION

This section provides an overview of the EIR, its purpose, and its intended uses. Section 2, Project Description, provides a description of the *2007-2014 Housing Element* land use, development, circulation, and design features, and summarizes the various approvals that might be granted for the *2007-2014 Housing Element*. Section 3, Environmental Analysis, analyzes the potential environmental impacts from the *2007-2014 Housing Element* in various categories, including air quality, climate change, noise, and transportation. The analysis for each category in Section 3 is divided into two parts:

- The **Setting** section provides a general overview of existing conditions within the City of Oakland. Federal, State, and local regulations are also identified and discussed when relevant.
- The **Impacts and Mitigation Measures** section provides a description of the criteria used to evaluate whether an impact is considered significant. Here, the City’s significance criteria are applied. The City’s significance criteria are based on standards identified in CEQA, the State CEQA Guidelines, applicable public policies and regulations, professional judgment, and judicial decisions. The thresholds of significance identified in this document are based upon the same thresholds that are or have been used in other major City environmental documents.

The potential environmental impacts of the *2007-2014 Housing Element* are enumerated, summarized, and discussed. If the potential impact is determined to be less than significant, no mitigation measures are required. If the potential impact is determined to be significant, potentially feasible mitigation measures that would reduce the impact are identified. The significance of the impact after mitigation is also indicated.

Also included are lists of the applicable General Plan policies, Municipal Code regulations, the City’s SCAs, and other mitigation required for reducing the impacts of the proposed project.

Section 3 also includes an analysis of the cumulative impacts of the *2007-2014 Housing Element* combined with other past, present, and reasonably foreseeable future projects. (In the case of the climate change discussion, the entirety of that discussion is in a cumulative context because climate change is a global cumulative impact.)

Section 4, Other CEQA Considerations, discusses other topical issues required by CEQA, such as unavoidable adverse effects, and growth-inducing effects. This section also includes a brief discussion of the environmental topics that were scoped out of the EIR.

Section 5, Alternatives, contains a description and assessment of alternatives to the *2007-2014 Housing Element*, including, among others, a No-Project Alternative, and identifies the environmentally superior alternative.

Section 6, Responses to NOP/Initial Study and Public Hearing Comments, provides a general response to the issues raised in response to the Notice of Preparation (NOP) and the Initial Study. The comments raised at the public scoping session are included in Appendix D-1; the comment letters are included in Appendix D-2.

Section 7, List of Preparers, list individuals involved in the preparation of this EIR.

All Appendices are on a separate CD at the back cover of the hard copy of this EIR. Appendices are also available as separate electronic documents at City's website, "Current Environmental Review Documents," accessible at:

<http://www2.oaklandnet.com/Government/o/CEDA/o/PlanningZoning/s/Application/DOWD009157>

Section 2

Project Description

2.1 INTRODUCTION

This Environmental Impact Report (EIR) addresses the environmental impacts related to implementation of the *2007-2014 Housing Element*. In accordance with State law, the City of Oakland proposes to adopt a General Plan Amendment (GPA) for the City of Oakland General Plan – Housing Element Update 2007-2014 (proposed project, *2007-2014 Housing Element*, or *Housing Element*) as a part of the City's *General Plan*. An updated Housing Element is required of each city in the State of California (State) to address the housing needs of all residents, in all income levels, over the planning period (2007-2014). The City's previous Housing Element for the 1999-2006 planning period was adopted on June 15, 2004. The *2007-2014 Housing Element* identifies opportunities to improve and expand the City's housing stock; it would not, however, result in the actual new construction or revitalization of housing units in the City.

2.2 SURROUNDING LAND USES AND SETTING

The City of Oakland (City) is located in northern Alameda County (County) on the east side of the San Francisco Bay (Bay) (See Figure 2-1). The City is bounded by the Cities of Berkeley and Emeryville to the north, the City of San Leandro to the south, the East Bay Regional Park District to the east, and the City of Alameda to the west. The City is approximately 15 miles east of the City of San Francisco, and 90 miles southwest of the City of Sacramento. Interstate 80 (I-80) provides access to the City from the northwest, while Interstates 580 (I-580) and 980 (I-980) provide access from the southeast.

The City encompasses 56 square miles of land and 24 square miles of water, and is mostly urbanized. The City is physically defined by the Bay and Estuary to the southwest, and the crest of the Oakland Hills to the northeast. The shoreline extends for 19 miles, from the City of Emeryville to the City of San Leandro. Topography is varied; portions of the City are rolling or hilly, with elevations within the City limits rising from sea level to 1,760 feet at Grizzly Peak.

More than a dozen named creeks traverse the City, generally flowing from the crest of the hills south, to the Bay. It has been modified extensively by past land filling activities and creation of a shipping channel between the City and the City of Alameda. The City also contains a number of lakes, including Lake Merritt, Lake Temescal, and a portion of Lake Chabot. Most of the City's natural hydrology has been altered by urban development, including major flood control project that buried or culverted many of the flatland creeks.

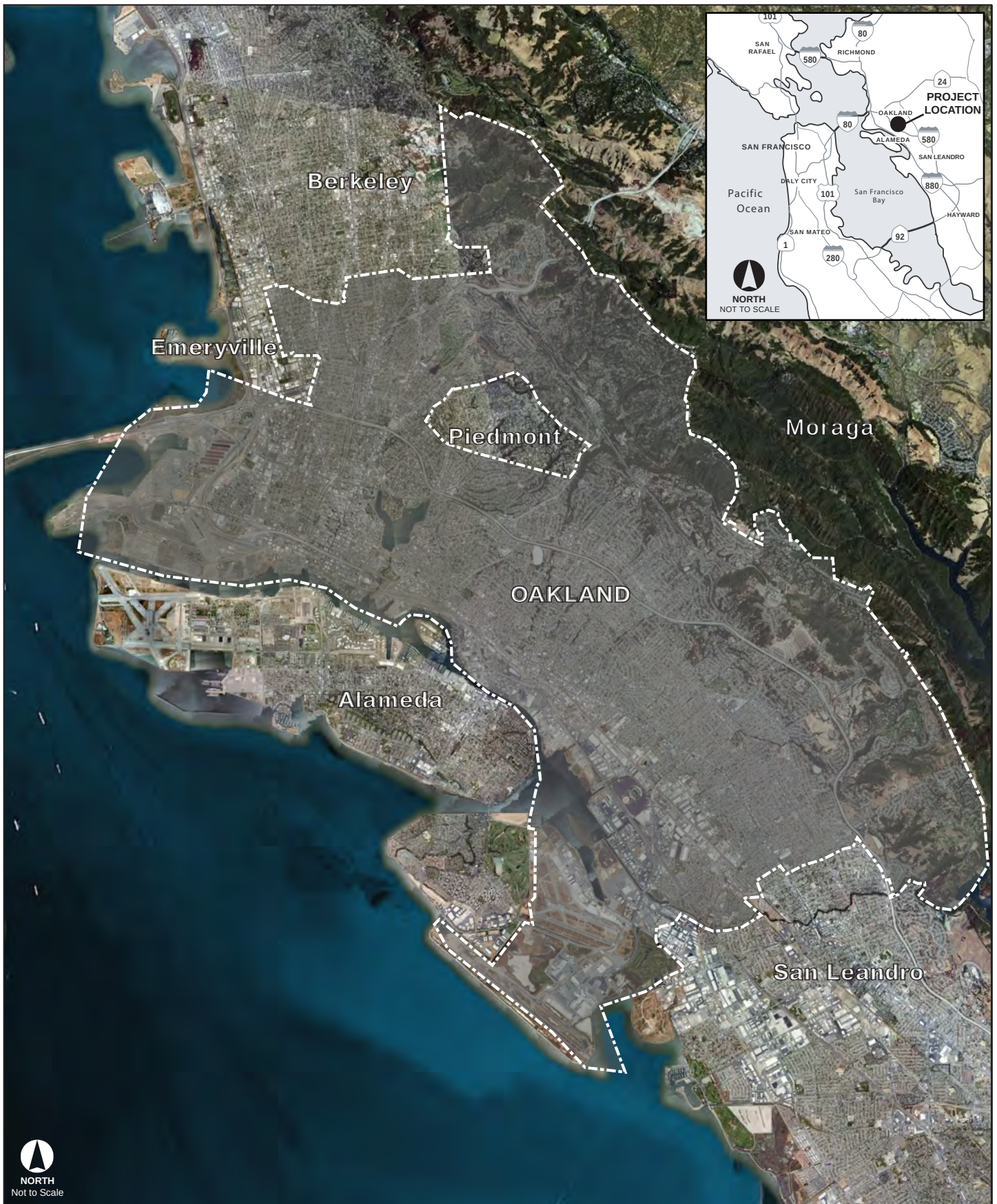


FIGURE 2-1
Regional Location

Source: PBS&J, 2009.

The City includes a number of distinct plant and animal communities. Approximately 20 percent of the land area in the City limits can be characterized as non-urbanized woodland, brushland, grassland, or wetland. Most of the City's natural vegetation has been modified, first by redwood logging, then by grazing, agriculture, and planting of non-native species, and finally by urbanization. The City's natural landscape is complimented by an urban landscape that includes yards, street trees, gardens, and "urban" wildlife.¹

Most of the City's existing urban development is located on the coastal shelf, near the Bay and Estuary, which varies in width from two to four miles. The City contains a wide range of residential, commercial, industrial, public, and open space land uses. Residential areas vary from very dense neighborhoods, exceeding 25,000 persons per square mile, to semi-rural neighborhoods with one-acre lots. The City has an estimated population of 420,183.²

2.3 CITY OF OAKLAND HOUSING ELEMENT BACKGROUND

Housing Elements

The purpose of a Housing Element is to identify current and projected housing needs, and set goals, policies, and programs to address those needs. The *2007-2014 Housing Element* is an update to the Housing Element of the City's *General Plan*. The current Housing Element was adopted by the City Council, and was subsequently certified as legally adequate by the State Department of Housing and Community Development (HCD) in 2004. The *2007-2014 Housing Element* is a statement by the City of its current and future housing needs and proposed actions to facilitate the provision of housing to meet those needs at all income levels, and presents a comprehensive set of housing policies and actions between January 1, 2007 and June 30, 2014. The *2007-2014 Housing Element* satisfies the requirements of State law, and is consistent with the other elements of the City's *General Plan*, adopted in 1998. The City's housing policies and strategies have been developed within a broader regulatory and policy context that includes these major initiatives over the last few years:

- *Consolidated Plan (May 2005)*. The City's affordable housing strategy is outlined in the Consolidated Plan for Housing and Community Development prepared in May 2005. The Consolidated Plan – which is required as part of the City's federally-funded housing and community development programs – sets forth the City's needs, market conditions, strategies, and actions for addressing the housing needs of very low and low income households.
- *Blue Ribbon Commission on Housing (September 2007)*. A Blue Ribbon Commission was devised by the City Council in 2006 to develop recommendations for a comprehensive housing strategy to ensure that housing (both rental and homeownership) is affordable to all income levels within the City.

¹ City of Oakland. *Oakland General Plan Land Use and Transportation Element*. October 31, 1997. Pages II-1-3.

² 2008 data from the Demographics Research Unit of the State Department of Finance, Table E-5.

- *Mayor's Task Force on Housing (February 2008)*. In February 2008, Mayor Dellums proposed a comprehensive housing policy based on findings from the Blue Ribbon Commission; however, note that it has not yet been implemented. Further discussion will continue during the Housing Element planning period.

Regional Housing Needs Allocation

Under State law, new housing construction need is determined, at a minimum, through a Regional Housing Needs Allocation (RHNA) process.³ In the RHNA process, the State HCD determines the amount of housing needed for all income groups in each region, based on existing housing need and expected population growth. In April 2007, the State HCD determined that, at a minimum, the nine-county Bay Area needed to provide 214,500 units between 2007 and 2014 to satisfy regional demand.

Each city's share of regional housing demand is based on a plan prepared by the Association of Bay Area Governments (ABAG), the Regional Housing Needs Determination, which was adopted in May 2008. The City of Oakland (along with all other cities and counties in the State) must plan to accommodate its share of the housing need of persons at all income levels. Under the ABAG plan, the City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its "fair share" of the State's housing need. The allocation is equivalent to an annual need of 1,951 housing units for the seven-and-a-half-year planning period (2007-2014).

Housing Element Update Process

In February 2009, the City made the draft *2007-2014 Housing Element* available to the public on the City's website, and sent a draft to the State HCD, for preliminary review. A community workshop was held on April 14, 2009 to present the *Housing Element* to residents and members of the for-profit and non-profit housing communities. Following changes requested by HCD, the Revised Public Review draft of the *Element* was presented at a public hearing of the Oakland City Planning Commission on June 3, 2009. After the Planning Commission recommended the *Housing Element* to the City Council, it will be scheduled for a public meeting before the City Council's Community and Economic Development Committee; following that committee's recommendation, the City Council will hold a public hearing to consider adopting the *2007-2014 Housing Element*. HCD will then receive the adopted Housing Element, and consider certifying it after a period of review.

Relationship of the Housing Element to the City's General Plan

State law requires that a *General Plan* and its constituent elements "...comprise an integrated, internally consistent and compatible statement of policies for the adopting agency."⁴ This implies that all elements have equal legal status and no one element is subordinate to any other element. The *Housing Element* must be consistent with land use goals and policies set forth in the *Land Use and Transportation Element (LUTE)* of the *General Plan*, and other General Plan Elements. However, the *General Plan* contains many policies which may in some cases address different goals, policies, and objectives and thus some

³ California Government Code, Section 65584.

⁴ California Government Code, Section 65300.5.

policies may compete with each other. The Planning Commission and City Council, in deciding whether to approve a proposed project, must decide whether, on balance, the project is consistent (i.e., in general harmony) with the *General Plan*. The fact that a specific project does not meet all *General Plan* goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of the California Environmental Quality Act (CEQA) (City Council Resolution No. 79312 C.M.S.; adopted June 2005).

2.4 PROJECT OBJECTIVES

The 2007-2014 *Housing Element* is focused on the following eight goals that provide direction and guidance for meeting the City's housing needs through 2014:

- *Goal 1: Provide adequate sites suitable for housing for all income groups.* This goal is designed to encourage the City to maintain an adequate supply of land to meet the regional housing share under the ABAG Regional Housing Needs Determination, specifically, targeting development and marketing resources in the downtown area, and along the City's major corridors, which are easily accessible to transit, jobs, shopping, and services and encouraging the re-use of industrial and commercial buildings for joint living quarters and working spaces. The City will also support the construction of secondary units in single-family zones and recognize these units as a source of affordable housing, and provide for the inclusion of mobile homes and manufactured housing in appropriate locations. Consistent with the *General Plan Land Use and Transportation Element*, adopted in 1998, the City will review and revise the residential development regulations with the intent of encouraging and sustaining a diverse mix of housing types and densities throughout the City for all income levels.
- *Goal 2: Promote the development of adequate housing for low- and moderate-income households.* As stated in the title, this goal is designed to encourage the financing for development of affordable housing for low- and moderate-income households. The City's financing programs will promote a mix of housing types, including homeownership, multifamily rental housing, and housing for seniors and persons with special needs and develop and promote programs and mechanisms to expand opportunities for lower-income households to become homeowners. The City will also continue to refine and implement programs to permit projects to exceed the maximum allowable density set by zoning, if they include units set aside for occupancy by very low-, low-, and moderate-income households and/or seniors, and consider a comprehensive housing policy that addresses concerns from all constituents.
- *Goal 3: Remove constraints to the availability and affordability of housing for all income groups.* This goal is designed to promote intergovernmental coordination in review and approval of residential development proposals when more than one governmental agency has jurisdiction. This goal would also encourage the City to continue to implement permit processes that facilitate the provision of housing and annually review and revise permit approval processes, allow flexibility in the application of zoning, building, and other regulations, and reduce the cost of development through reasonable fees and improvement standards.

- *Goal 4: Conserve and improve older housing and neighborhoods.* This goal would work in several ways to Conserve and improve older housing and neighborhoods. First, the City will abate blighting conditions through a combination of code enforcement, financial assistance, and public investment. Support the preservation and rehabilitation of existing housing stock with an emphasis on housing occupied by senior citizen, disabled, and low-income populations. Second, by encouraging the relocation of structurally sound housing units scheduled for demolition to compatible neighborhoods, when appropriate land can be found. And third, by providing varieties of loan programs to assist with the rehabilitation of owner-occupied and rental housing for very low and low-income households and assist senior citizen and disabled population with housing rehabilitation so that they may remain in their homes.
- *Goal 5: Preserve affordable rental housing.* The City will seek to preserve the affordability of subsidized rental housing for lower-income households that may be at-risk of converting to market rate housing by working with owners of assisted projects that have substantial needs for capital improvements to maintain the use of the properties as decent affordable housing and continuing to administer programs to protect existing tenants from unreasonable rent increases. The City will also seek mechanisms for protecting and improving the existing stock of residential hotels, which provide housing of last resort for extremely low-income households and continuing to use regulatory controls to limit the loss of housing and rental housing units due to their conversion to non-residential use.
- *Goal 6: Promote equal housing opportunity.* The City will actively support efforts to provide education and counseling regarding housing discrimination, to investigate discrimination complaints, and to pursue enforcement when necessary. The City will also provide reasonable accommodations to persons with disabilities in access to public facilities, programs, and services and encourage future regional housing allocations by ABAG to avoid over-concentration of low-income housing in communities with high percentages of such housing. The City will work to promote fair lending practices throughout the City to ensure that low-income and minority residents have fair access to capital resources needed to acquire and maintain housing.
- *Goal 7: Promote sustainable development and sustainable communities.* The City will develop and promote programs to foster the incorporation of sustainable design principles, energy efficiency and smart growth principles into residential developments and encourage the incorporation of energy conservation design features in existing and future residential development beyond minimum standards required by State building code. The City will also continue to direct development toward existing communities and encourage infill development at densities that are higher than—but compatible with—the surrounding communities and work with developers to encourage construction of new housing that, where feasible, reduces the footprint of the building and landscaping, preserves green spaces, and supports ecological systems. The City will encourage linkage of land use planning with public health planning as a way to improve the health of Oakland's residents, reduce personal and government health costs and liabilities, and create more disposable income for housing.
- *Goal 8: Increase public access to information through technology.* As part of a comprehensive update to the City's Permit Tracking System, the City will increase public access to information on City policies, programs, regulations, permit processes, and the status of specific parcels

through electronic means and expand the availability of information regarding meetings, hearings, programs, policies and housing-related issues through development and improvement of its web site. The City will also update the its Geographic Information System (GIS) to provide more accurate and user-friendly access to information about parcels and neighborhoods.

In fulfilling these goals, the primary objectives of the *2007-2014 Housing Element* are to 1) make sure there is consistency between the *2007-2014 Housing Element* and the other elements of the City's *General Plan*, and 2) meet the requirements of State law by providing the following:

- An assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs; this includes identifying a zone or zones where emergency shelters are allowed as a permitted use without a conditional use permit or other discretionary permit (known as "SB2");
- A statement of the community's goals, quantified objectives, and policies relative to the maintenance, preservation, improvement, and development of housing;
- An inventory of developable sites capable of accommodating development of housing for a range of income types to meet the City's share of the Regional Housing Need Allocation (RHNA); and
- A program which sets forth a schedule of actions through 2014 to implement the policies and achieve the goals and objectives of the housing element.

2.5 2007-2014 HOUSING ELEMENT COMPONENTS

As discussed above, the City must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its "fair share" of the State's housing need. The allocation is equivalent to an annual need of 1,951 housing units for the seven-and-a-half-year planning period (2007-2014). Of the 14,629 new housing units required in Oakland's RHNA:

- 1,900 should be affordable to very low income households (those making below 50 percent of the median area income);
- 2,089 should be affordable to low income households (those making below 80 percent of the median area income);
- 3,142 should be affordable to moderate income households (those making below 120 percent of median area income); and
- 7,489 should be market rate units (or "above moderate income units").

Planned and Proposed Housing Production

The proposed project includes plans and implementation strategies to meet the City's RHNA of 14,629 units of varying affordability. The City intends to meet this target as shown in Table 2-1. Each of the categories of housing production indicated in Table 2-1 is described in more detail below.

Table 2-1
Actual Housing Production and Balance of Units to be Provided

	No. of units	No. of units
Regional Housing Needs Allocation	14,629	
Units Constructed (1/1/07-6/08)		1,128
Units with Planning Approvals (entitlements or funded with subsidies)		5,005
Units Planned (site acquisition or pre-development)		7,070
Subtotal		13,203
Remaining units to be accommodated through 2014	1,426	

Source: Public Review Draft Housing Element, Table 4-2, 2009.

Units Constructed. Since January 1, 2007, 1,128 units have been constructed, satisfying eight percent of the City’s RHNA. That total includes:

- 115 units of market rate and affordable housing, with a building permit that has been “finalized” by the City’s Building Services division; and
- 1,013 units of market rate or affordable housing that is under construction (with a building permit issued by the City’s Building Services division).

It should be noted that these units are part of the project and help satisfy the Housing Element’s RHNA target; however, under CEQA, these already constructed units are regarded as part of the existing built environment and are, thus, part of the setting against which new units (the remaining 13,501 units needed to meet the RHNA target) would be evaluated for their impacts.

Units with Planning Approvals. In addition to the units built or under construction, the *2007-2014 Housing Element* identifies that between January 2007 and August 2008, 4,442 market-rate units had planning approvals (entitlements) and 563 affordable units were funded, but neither group has started construction. These 5,005 units represent 34 percent of the RHNA.

Units Planned. During the same time period, there were 7,022 market rate units and 48 affordable units in pre-development, meaning either with a formal zoning pre-application on file with the City’s Planning and Zoning Division, or, in the case of the affordable housing units, with preliminary funding commitments or site acquisition assistance from the City. These 7,070 units make up 48 percent of the RHNA.

Remaining Units. Based on housing unit construction and approvals since January 1, 2007, the City has already committed to developing 90 percent of the units needed to satisfy the RHNA requirement in the planning period. The remaining 1,426 units required to meet the RHNA allocation of 14,629 units could be accommodated on City-identified “Opportunity Sites.” The Opportunity Sites could potentially accommodate up to 8,672 units.⁵ Nearly 100 percent of the City’s development capacity consists of

⁵ See Chapter 4 of *2007-2014 Housing Element*, “Methodology” section, “Group 4” discussion.

higher density housing sites (densities exceeding 30 dwelling units per acre), all of which are located within developed areas already served with needed infrastructure, including sewer, water, stormwater, and transportation facilities.

Opportunity Sites

In addition to the Housing Sites with units in pre-development and units that have been approved, the *Housing Element* identifies potential locations within the City where additional housing units can be on Opportunity Sites. As of the date of this EIR, there are no applications with the City to develop any of these sites, so details on the intensity, orientation, massing, access, and other site-specific features of a potential development on these sites is, at best, informed speculation. Accordingly, many of the impacts associated with implementation of the *2007-2014 Housing Element* on sites where there are currently no development applications can be described only in general terms.

The Assessor's Parcel Numbers associated with the Opportunity Sites are listed in Table 2-2. Figure 2-2 identifies approximately 185 Opportunity Sites along with sites where there are planning approvals and pre-development applications, divided into the 12 Planning Areas. Development at the Opportunity Sites would not require changes to the City's *General Plan* land use designations. As a result, implementation of the policies, programs, and other actions contained in the *2007-2014 Housing Element* would not change the pattern of development anticipated by the *LUTE* of the City's *General Plan*.

In sum, this EIR identifies the potential environmental impacts, and associated Standard Conditions of Approval (SCAs) and Mitigation Measures designed to substantially reduce/eliminate such impacts that would result from adoption and implementation of the City's *2007-2014 Housing Element*. Implementation would allow development of the remaining 13,501 units required to meet the RHNA target (14,629 total less 1,128 built). The potential locations of these 13,501 units are called "Housing Sites" throughout this document.⁶ For the purposes of the EIR discussion, "Housing Sites" includes "Opportunity Sites" as described above, and sites that are approved for development or are in predevelopment, as shown in the legend in Figure 2-2, and in subsequent figures throughout the document.

⁶ This is a conservative analysis, because it is arguable that the 5,005 units with Planning approvals should *not* be included, as they have already been subject to CEQA review.

Table 2-2
Opportunity Sites and Assessor's Parcel Numbers Zoned Greater Than 30 Units per Acre

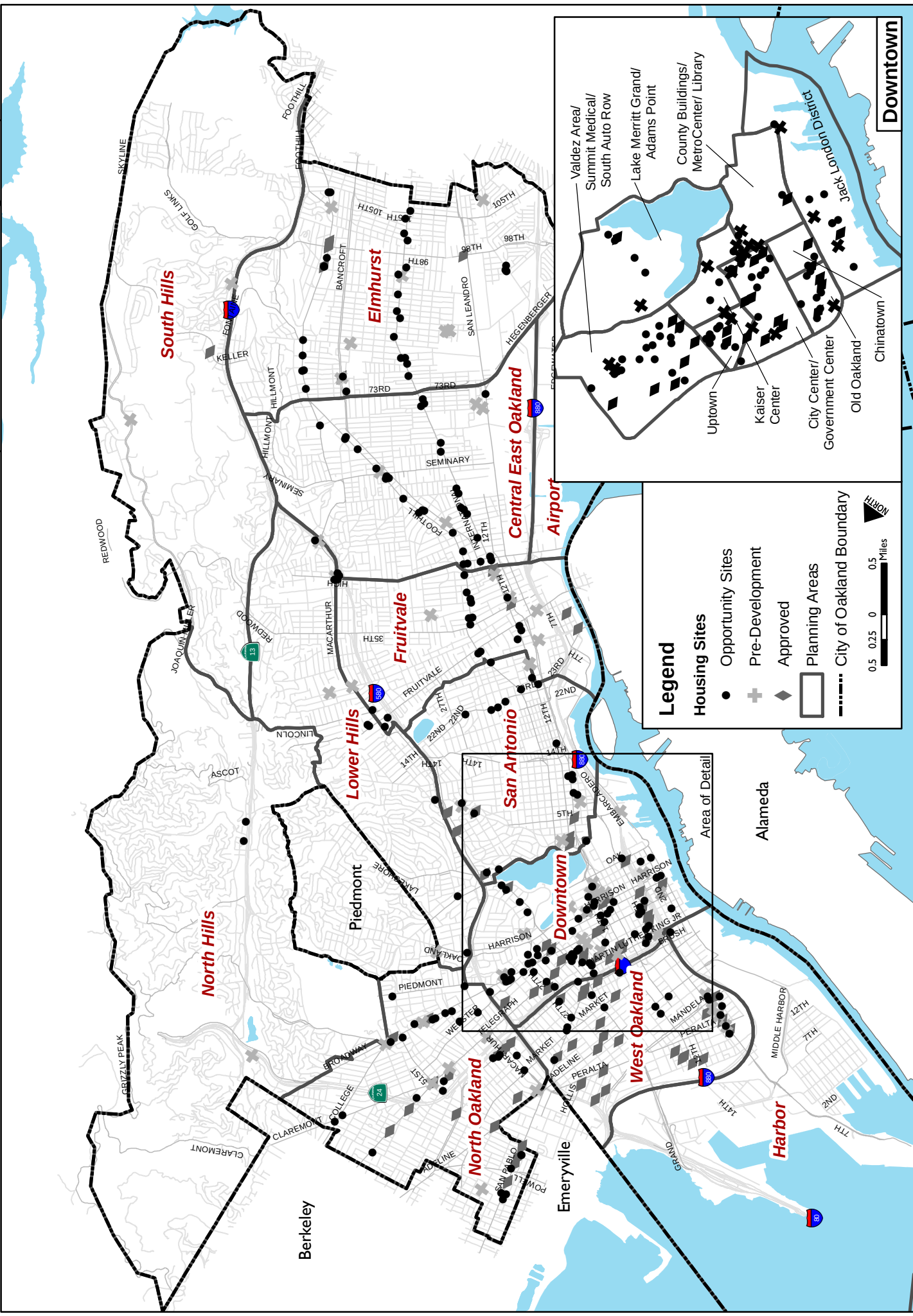
Site #	APN	Site #	APN
OC-CC-01	008 -0626-024	OC-OO-31	001 -0209-009
OC-CC-01	008 -0626-025	OC-OO-31	001 -0209-010
OC-CC-02	002 -0063-006	OC-OO-31	001 -0209-011
OC-CC-02	002 -0069-003-01	OC-OO-31	001 -0209-014-01
OC-CC-03	003 -0039-002-02	OC-OO-31	001 -0209-015
OC-CC-03	003 -0039-003	OC-OO-32	001 -0211-004
OC-CC-04	002 -0055-001	OC-OO-32	001 -0211-005
OC-CC-05	002 -0051-006-02	OC-OO-32	001 -0211-006
OC-CC-06	002 -0057-004-02	OC-OO-32	001 -0211-016
OC-CC-07	003 -0065-002-00	OC-OO-33	002 -0035-005-02
OC-CC-08	008 -0621-008-07	OC-UT-34	008 -0647-019-01
OC-CC-09	008 -0624-037-00	OC-UT-34	008 -0647-020-01
OC-CC-10	008 -0626-017-00	OC-UT-34	008 -0647-021-01
OC-CC-11	008 -0626-030-01	OC-UT-34	008 -0647-016
OC-CM-12	019 -0025-002-05	OC-UT-34	008 -0647-017
OC-CM-12	019 -0027-013-03	OC-UT-34	008 -0659-022
OC-CM-13	001 -0167-010-00	OC-UT-34	008 -0659-023
OC-CM-14	002 -0079-004-00	OC-UT-35	008 -0649-001-01
OC-CT-15	001 -0197-004	OC-UT-35	008 -0649-001-02
OC-CT-15	001 -0197-005	OC-UT-35	008 -0649-009
OC-CT-15	001 -0197-006	OC-UT-35	008 -0649-010
OC-CT-16	001 -0195-003	OC-UT-36	008 -0648-011-03
OC-CT-16	001 -0195-004-02	OC-UT-37	008 -0647-028-04
OC-CT-16	001 -0195-008	OC-UT-38	008 -0658-009-01
OC-CT-16	001 -0195-009	OC-UT-39	008 -0659-002-01
OC-CT-16	001 -0195-010	OC-VSA-40	008 -0667-005-03
OC-JLD-17	001 -0133-001	OC-VSA-41	009 -0682-001-01
OC-JLD-17	001 -0133-002	OC-VSA-41	009 -0682-031-04
OC-JLD-18	001 -0149-005	OC-VSA-42	008 -0672-005
OC-JLD-19	001 -0159-005	OC-VSA-42	008 -0672-006
OC-JLD-20	001 -0149-007	OC-VSA-42	008 -0672-007-01
OC-JLD-21	001 -0161-007-07	OC-VSA-42	008 -0672-007-02
OC-KC-22	008 -0624-007-00	OC-VSA-42	008 -0672-008
OC-KC-23	008 -0625-002-01	OC-VSA-42	008 -0672-014-01
OC-KC-24	008 -0627-015-01	OC-VSA-42	008 -0672-015
OC-KC-25	008 -0637-003-03	OC-VSA-42	008 -0672-018
OC-LGA-26	010 -0772-020-01	OC-VSA-42	008 -0672-019
OC-LGA-27	010 -0776-013-00	OC-VSA-43	008 -0671-024
OC-LGA-28	010 -0780-015-08	OC-VSA-43	008 -0671-025
OC-OO-29	001 -0201-008	OC-VSA-43	008 -0671-026
OC-OO-29	001 -0201-009	OC-VSA-43	008 -0671-027-02
OC-OO-29	001 -0201-010	OC-VSA-43	008 -0671-031-02
OC-OO-29	001 -0201-011	OC-VSA-43	008 -0671-032-02
OC-OO-30	001 -0211-012	OC-VSA-43	008 -0671-033-02
OC-OO-30	001 -0211-011	OC-VSA-43	008 -0671-034-02
OC-OO-30	001 -0211-015	OC-VSA-43	008 -0671-035-02

Table 2-2
Opportunity Sites and Assessor's Parcel Numbers Zoned Greater Than 30 Units per Acre

Site #	APN	Site #	APN
OC-VSA-43	008 -0671-037-03	NO-82	016 -1455-020-00
OC-VSA-43	008 -0671-029-02	NO-83	048A-7070-007-01
OC-VSA-43	008 -0671-030-02	WO-84	003 -0055-024-01
OC-VSA-43	008 -0671-036-02	WO-85	003 -0019-003-00
OC-VSA-43	008 -0671-023-03	WO-86	004 -0069-002-01
OC-VSA-43	008 -0671-004-02	WO-87	004 -0069-001
OC-VSA-44	009 -0685-018-06	WO-87	004 -0069-002-02
OC-VSA-45	008 -0656-002-01	WO-88	004 -0079-010
OC-VSA-46	008 -0658-006-02	WO-88	004 -0079-011
OC-VSA-47	008 -0674-003-01	WO-88	004 -0079-012
OC-VSA-48	009 -0684-037-01	WO-88	004 -0079-013
OC-VSA-49	009 -0685-018-04	WO-88	004 -0079-014
OC-VSA-50	009 -0686-003-00	WO-88	004 -0079-015
OC-VSA-51	009 -0698-002-01	WO-88	004 -0079-017-01
OC-VSA-52	009 -0702-001-02	WO-89	004 -0095-014
OC-VSA-53	009 -0704-016-01	WO-89	004 -0095-015
OC-VSA-54	009 -0705-004-00	WO-89	004 -0095-016
OC-VSA-55	009 -0705-005-00	WO-89	004 -0095-017
OC-VSA-56	009 -0705-006-00	WO-90	006 -0003-017
OC-VSA-57	009 -0705-007-00	WO-90	006 -0003-018
OC-VSA-58	009 -0733-004-07	WO-90	006 -0003-019
OC-VSA-59	010 -0798-003-07	WO-90	006 -0003-020
OC-VSA-60	009 -0698-002-03	WO-90	006 -0003-021
NO-61	013 -1184-001	WO-91	000O-0390-010-07
NO-62	012 -0959-021-01	WO-92	006 -0017-022-00
NO-63	012 -0965-024-00	WO-92	006 -0017-021-00
NO-64	012 -0976-016-00	WO-92	006 -0017-020-00
NO-65	012 -0978-002-01	WO-92	006 -0017-019-00
NO-66	012 -0982-002-04	WO-92	006 -0017-018-00
NO-67	012 -0986-025-01	WO-93	004 -0073-008-00
NO-68	012 -1000-007-01	WO-94	004 -0069-004
NO-69	013 -1108-024-01	WO-95	001 -0121-027-02
NO-70	012 -0963-001	WO-96	004 -0033-007-00
NO-71	012 -0969-029	WO-97	005 -0377-019-01
NO-71	012 -0969-030	WO-98	005 -0378-017-01
NO-71	012 -0969-041-02	WO-99	005 -0411-001-05
NO-72	016 -1459-004	WO-100	009 -0691-003-01
NO-73	013 -1128-008-00	WO-101	009 -0723-015-01
NO-74	013 -1136-004-02	WO-102	009 -0692-015-02
NO-75	014 -1216-031-02	SA-103	025 -0733-008-02
NO-76	014 -1224-010-01	SA-104	020 -0105-004-00
NO-77	014 -1240-009-01	SA-105	020 -0154-006-00
NO-78	014 -1268-002-00	SA-106	019 -0034-003-00
NO-79	015 -1305-018-01	SA-107	019 -0036-005-02
NO-80	016 -1424-022-05	SA-108	019 -0037-001-01
NO-81	016 -1442-039-01	SA-109	020 -0113-001-00
SA-110	020 -0118-013-00	CE-146	035 -2389-015
SA-111	023 -0419-001-02	CE-146	035 -2389-016

Table 2-2
Opportunity Sites and Assessor's Parcel Numbers Zoned Greater Than 30 Units per Acre

Site #	APN	Site #	APN
SA-112	021 -0248-008-01	CE-147	035 -2385-001
SA-113	021 -0252-001-00	CE-148	035 -2401-001-01
SA-114	022 -0351-061-00	CE-149	035 -2351-005-02
SA-115	023 -0415-001-00	CE-150	035 -2352-008-01
FV-116	033 -2138-053-01	CE-151	035 -2353-026-01
FV-117	033 -2134-002-01	CE-152	035 -2359-022-01
FV-118	033 -2128-003-00	CE-153	035 -2363-029-00
FV-119	032 -2084-051	CE-154	035 -2364-022-01
FV-120	033 -2135-031-00	CE-155	035 -2364-024-00
FV-121	032 -2087-018-00	CE-156	035 -2366-018-00
FV-122	025 -0726-008-00	CE-157	035 -2378-006-00
FV-123	026 -0747-015-03	CE-158	038 -3222-019-01
FV-124	025 -0689-001-01	CE-159	038 -3232-015-01
FV-125	025 -0690-008-01	CE-160	039 -3279-015-03
FV-126	025 -0720-007-02	CE-161	041 -4050-021-00
FV-127	026 -0834-022-01	EH-162	045 -5292-005
FV-128	028 -0906-027-01	EH-163	040 -3334-015-01
FV-129	030 -1981-133-00	EH-164	044 -4968-003-01
FV-130	032 -2079-018-00	EH-165	046 -5423-002-02
FV-131	033 -2177-001-01	EH-166	047 -5509-039-01
FV-132	026 -0835-006-01	EH-167	045 -5194-001-00
CE-133	033 -2153-004-01	EH-168	047 -5516-017-01
CE-134	034 -2251-002-01	EH-169	044 -4972-006-05
CE-135	041 -4166-031-02	EH-170	046 -5421-012-01
CE-135	041 -4164-024-03	EH-170	046 -5421-010-00
CE-135	041 -4164-031-02	EH-171	043 -4580-013-00
CE-135	041 -4162-001-05	EH-172	042 -4252-001-00
CE-136	041 -4129-001-02	EH-172	042 -4252-002-00
CE-136	041 -4129-004-00	EH-172	042 -4252-003-02
CE-137	041 -4131-003-01	EH-172	042 -4252-004-02
CE-138	039 -3312-030-00	EH-172	042 -4252-005-02
CE-138	039 -3312-033-01	EH-172	042 -4252-006-00
CE-139	035 -2389-012	EH-173	043 -4551-011-01
CE-140	039 -3281-009-02	EH-174	041 -4202-001-00
CE-141	039 -3279-013-02	EH-174	041 -4202-002-00
CE-142	039 -3276-028-02	EH-174	041 -4202-003-00
CE-143	038 -3201-001	EH-175	040 -3368-023-01
CE-144	038 -3182-023	EH-176	041 -4198-001-01
CE-144	038 -3182-022	EH-176	041 -4198-005-00
CE-144	038 -3182-021	EH-177	040 -3355-056-00
CE-144	038 -3182-006	EH-178	047 -5594-001-00
CE-145	035 -2376-001	EH-179	044 -5014-006-03
CE-146	035 -2389-013	EH-180	044 -5014-005-00
CE-146	035 -2389-014	NH-181	048D-7244-021-06
NH-182	048F-7352-012-01	LH-185	011 -0836-001-01
LH-183	030 -1981-150-00	LH-186	010 -0812-008-01
LH-184	023 -0476-021-01		



Source: City of Oakland

Figure 2-2
Planning Areas
Includes Housing Opportunity Sites, Pre-Development and Approved Projects



The goal of developing 14,629 dwelling units under the *Housing Element* would be subject to the goals, policies, and programs of the City's *General Plan* and its Conformity Guidelines; the Municipal Code (which includes the Planning and Building Codes); the SCAs (included in Appendix A, on a separate CD at the back cover of this EIR); and State redevelopment laws, which permit the creation of defined redevelopment areas where property taxes assessed in the district are spent on affordable housing citywide and redevelopment area-specific improvements. All of these other adopted policies and regulations are assumed to apply to the *Housing Element* and serve to address many of the impacts that might otherwise occur in the City.

2.6 REQUESTED APPROVALS

Actions/Permits that may be Required, and for which this Document Provides CEQA Clearance, Include without Limitation

The City's 2007-2014 *Housing Element* will be adopted by the City Council following review and recommendation by the City's Planning Commission. Individual housing development projects would be reviewed and approved as required by the procedures of the City's *Planning Code*.

Although the project does not require other public agency approvals, the City is required to submit a draft of the 2007-2014 *Housing Element* to the California Department of Housing and Community Development (HCD), per Section 65585 of the State Government Code, and consider HCD's findings on the *Housing Element* before it can be adopted by the City Council as a General Plan Amendment.

Section 3

Environmental Analysis

3.1 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

Organization of this Section

This section of the Draft EIR presents an analysis of environmental factors that may be affected by the *2007-2014 Housing Element* (proposed project). The environmental analysis has been prepared consistent with CEQA Guidelines Sections 15125 and 15126, which provide directions on describing the environmental setting, and considering and discussing environmental impacts, respectively. For each issue, the following information is presented:

- Setting—describes existing baseline conditions, including the environmental context and regulatory background.
- Environmental Analysis—identifies thresholds of significance and evaluates how the proposed project would affect the baseline conditions.
- Standard Conditions of Approval (SCA), General Plan Policies, and Municipal Code Regulations—identifies existing rules and regulations within the City of Oakland that are required for all development projects and that could reduce, eliminate, or avoid impacts associated with the proposed project.
- Mitigation Measures—identifies ways to reduce, eliminate, or avoid impacts that are considered significant and adverse.

Classification of Impacts

Since the Housing Sites (including the Opportunity Sites) identified under the *2007-2014 Housing Element* are located on land within the City of Oakland (the lead agency), the City's CEQA Criteria/Thresholds of Significance are applied for evaluation of the proposed project. The City's CEQA Thresholds were drafted to be consistent with CEQA and State CEQA Guidelines and to take into consideration applicable State and federal regulations.

The impact assessment portion for each environmental discussion in this EIR includes an impact statement that highlights the environmental consequences of the proposed action with regard to that environmental topic. An explanation of each impact and an analysis of its significance follow the impact statement.

An array of policies and regulations govern the construction and location of new housing in the City. Therefore, included in the analysis of each impact are lists of the SCA, General Plan policies, and Municipal Code regulations that would apply to the proposed project. In addition, the City adopted EIRs for the *LUTE* and *Historic Preservation Element* in 1998. Separate Mitigated Negative Declarations

(MNDs) were adopted by the City for the *Open Space, Conservation and Recreation Element (OSCAR)* (1996), *1999-2006 Housing Element* (2004), *Safety Element* (2004), and *Noise Element* (2005) of the City's General Plan. Relevant policies and mitigation measures from these documents are incorporated by reference into this EIR.

For each impact, a level of significance is determined and is reported in the impact statement. Conclusions of significance are defined as follows:

- Significant (S) impacts include effects that would exceed established or defined thresholds. For example, if the demolition under the proposed project would remove a historic resource, then the removal of the resource would be considered a significant adverse impact.
- Potentially significant (PS) impacts include those cases where it is not precisely clear whether a significant effect would occur; the analysis in these instances conservatively assesses the worst-case conditions, but the discussion acknowledges that there is uncertainty regarding the extent of the impact. For example, potential glare from vehicles at proposed parking areas into nearby sensitive residential uses could occur. The extent of glare that could annoy residents cannot be precisely determined and can be considered a potentially significant impact.
- Less-than-significant (LTS) impacts include effects that would be noticeable but would not exceed established or defined thresholds. For example, changes to the building massing and appearance of a site, such as that proposed under the proposed project, can be noticeable but would be a less-than-significant impact if the changes would not be adverse and substantial, per the significance criteria.
- No Impact (NI) is a situation where there would be no adverse effect on the environment. For example, if no agricultural resources are extant at a site where ground disturbance would occur, then no impact to this resource would occur.

For each impact identified as being significant (S) or potentially significant (PS), the EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect.

If the mitigation measures would reduce the impact to a less-than-significant (LTS) level, this is stated in the EIR. If the mitigation measures would reduce, but not diminish these effects to a less-than-significant level, the EIR classifies the impacts as "significant unavoidable effects (SU)."

The City's Uniformly Applied Development Standards (See Appendix A on a separate CD at the back cover of this EIR) are incorporated into projects as SCAs, regardless of a project's environmental determination. As applicable, the SCAs are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects, in part, pursuant to CEQA Guidelines section 15183. In reviewing project applications, the City determines which of the SCAs are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approvals that are required for the proposed project. Depending on the specific characteristics of the project type and/or project site, the City will determine which standards conditions apply to each project; for example, standard conditions related to creek protection permits will only get applied to projects on creekside properties.

The SCAs incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, California Building Code and Uniform Fire Code, among others), all of which have been found to substantially mitigate environmental effects. Where there are peculiar circumstances associated with a project or project site that will result in significant environmental impacts despite implementation of the SCAs, the City will determine whether there are feasible mitigation measures to reduce the impact to less-than-significant levels in the course of appropriate CEQA review (mitigated negative declarations or EIRs). Refer to Appendix A for the text of the City's SCAs, on a separate CD at the back cover of this EIR. .

Mitigation Measures and Standard Conditions of Approval

Project-specific mitigation measures and SCAs are identified throughout the Draft EIR to reduce the effects of significant environmental impacts and: 1) would be included as part of the design, construction, and operations of the proposed project; 2) would be made conditions of approval for the project; and 3) would be subject to the monitoring and reporting requirements of CEQA and the terms of the discretionary approvals of the project.

Mitigation measures, SCAs, and other applicable federal, State, and local policies are presented throughout this document in order to reduce or eliminate impacts.

Enumeration of Impacts and Mitigation

Each impact topic is numbered using an alpha-numerical system that identifies the environmental issue. For example, NO-1 denotes the first impact discussion in the Noise subsection. The following two letter codes are used to identify the environmental issues discussed in this section:

- TR – Transportation
- NO – Noise
- AQ – Air Quality
- CC – Climate Change

Mitigation measures are numbered to correspond to the impacts they address; e.g., Mitigation Measure TR-3.1 refers to the first mitigation for Impact 3 in the Transportation section. A brief title is included to easily identify the mitigation measure.

CEQA Methodological Requirements

CEQA Guidelines Section 15151 describes standards for the preparation of an adequate EIR. Specifically, “an EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.” In practice, this means that EIR preparers should adopt a reasonable methodology upon which to estimate impacts. This approach means making reasonable assumptions using the best information available. In some cases, typically

when information is scarce or where there are possible variations in project characteristics, EIR preparers will employ a reasonable “worst-expected-case analysis” in order to capture the largest expected potential change from existing baseline conditions that a project might have. The worst-expected-case scenarios are not mandated by CEQA, but are commonly practiced to address uncertainty, particularly for any large project that is expected to be constructed over multiple phases. While worst-expected-case scenarios are often employed, CEQA requires analysis of a project’s reasonably foreseeable, most likely impacts, not the less likely maximum possible impacts.

For the purposes of this EIR, the development scenario that was analyzed is the development of 13,501 new housing units before 2014. The scientific methodology in each of the technical sections: Transportation, Air Quality, Noise, and Climate Change, identifies the impacts associated with build out of all of these new housing units over the planning horizon, a reasonable worst-expected-case scenario.

Environmental Setting (Baseline)

An EIR must describe the physical conditions and environmental resources within the project site and in the project vicinity, and evaluate all potential effects on those physical conditions and resources (see CEQA Guidelines Section 15125):

An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.

Furthermore, CEQA Guidelines Section 15126.2(a) explains that:

In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

The environmental setting used for purposes of this EIR considers the current state of the Housing Sites as a baseline for comparison of new conditions that would be generated by the *2007-2014 Housing Element*: increased vehicle trip generation (and related noise and air quality impacts) and other potential environmental effects. As properly measured against the existing environmental setting, impacts from the project include the net new effects of development plus temporary impacts associated with construction.

Types of Effects and Impacts

Pursuant to CEQA Guidelines Section 15126.2, consideration of direct and indirect physical impacts of a project is required in determining the significance of the project’s impacts. The types of physical impacts associated with the proposed project are listed below, together with examples of how these impacts are calculated.

Physical Impacts

Footprint Impacts. The land area occupied by the proposed new housing units comprises the project's building footprint. The building footprint plus the land to be occupied or disturbed during construction of the project comprise the project footprint. However, footprint impacts of the potential housing units (such as biologically sensitive areas, areas subject to flooding or severe groundshaking, impact highly scenic view corridors, or disturb cultural resources) were determined in the Initial Study to be less than significant, with mitigation. As such, these issues will not be discussed further in this document.

Impacts to Ambient Conditions. Ambient conditions refer to the background transportation, air quality, and noise conditions surrounding the Housing Sites. Impacts to ambient conditions can be induced both by construction as well as increases in activity at a site. Transportation impacts are those that involve changes to the flow or service levels of access ways within and around the Housing Sites. Transportation impacts are dependent on the level of activity within the project building envelope, points of ingress and egress of the Housing Sites, and the location and number of outsiders traveling to, from, and past the project site. Also associated with transportation impacts are provisions for vehicle parking since an inadequate supply of on-site parking spaces would affect parking supply outside the Housing Sites. Projections of transportation impacts during project construction and operation are important considerations in estimating the change to ambient air quality and noise levels at the Housing Sites. The air quality and noise analyses also consider the impacts of construction activities.

Consumption/By-Products Impacts. Consumption/by products impacts, such as increased utilities and public services demand, hazardous materials usage, and waste generation can be induced by construction activities as well as increases in activity at a site. However, the consumption/by-product impacts associated with the *2007-2014 Housing Element* were determined in the Initial Study to be less than significant, with mitigation; they will not be discussed further in this document.

Cumulative Impacts. Cumulative impacts refer to “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental effects” (CEQA Guidelines Section 15355). An EIR is required to analyze cumulative impacts and propose feasible options for mitigating or avoiding the project's contribution to any significant cumulative impacts, if the project's contribution is “cumulatively considerable” (Public Resources Code Section 21083; CEQA Guidelines Section 15130).¹ The discussion of cumulative impacts should reflect the severity of the impacts and their likelihood of occurrence. CEQA Guidelines Section 15130(b) states that an EIR's analysis of cumulative impacts should be based on either a list of past, present, and probable future projects producing related impacts or a summary of projections contained in an adopted general plan or related planning document. When using a list, factors to consider in determining whether to include a related project include the nature of each environmental resource that is being examined, the location of the project and its type (CEQA Guidelines Section 15130(b)(2)).

¹ Cumulatively considerable means that “the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” CEQA Guidelines, Section 15065(a).

Economic and Social Effects

Under CEQA, economic and social effects of a project are not required to be evaluated. However, lead agencies may choose to present economic or social information in, or associated with, an EIR in order to disclose the relative impact of a project, or series of projects, on these important community considerations. In addition, there are specific ways that economic or fiscal effects may be considered as part of the EIR. CEQA Guidelines Section 15131 states:

- a. Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.
- b. Economic or social effects of a project may be used to determine the significance of physical changes caused by the project.
- c. Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment identified in the EIR.

Environmental Effects Not Found to be Significant

During preparation of the Initial Study, the following issue areas were found to have no or less-than-significant impacts with incorporation of SCAs, General Plan policies, and Municipal Code regulations and therefore are not addressed in detail in this EIR: Aesthetics, Shadow, and Wind; Agriculture; Biological Resources; Cultural Resources; Geology And Soils; Hazards and Hazardous Materials; Hydrology And Water Quality; Land Use; Mineral Resources; Population and Housing; Public Services; Recreation; and Utilities and Service Systems. Pursuant to CEQA Guidelines section 15128, the reasons these issues were determined not to be significant are detailed in the Initial Study (see Appendix A, on a separate CD at the back cover of this EIR) and are not further discussed herein.

3.2 TRANSPORTATION AND CIRCULATION

Introduction

This section of the EIR describes the existing transportation conditions in the City of Oakland, including transit services, and pedestrian and bicycle facilities, and provides an analysis of the transportation-related impacts associated with development of 13,501 housing units under the *2007-2014 Housing Element*. Figure 3.2-1 illustrates the local and regional street system, freeways, and arterial highways and Bay Area Rapid Transit (BART) stations. In addition, this figure shows transportation systems with the Housing Site locations where housing has either been approved, planned, or are available for future housing development.

In a programmatic environmental review, the cumulative impacts of a series of independent projects or actions are evaluated. Because the exact size and location of the housing projects anticipated to be developed under the *2007-2014 Housing Element* are not known, a more general traffic review was undertaken to analyze impacted roadway segments that are likely to be affected by development under the *Housing Element*. These roadway segments are major arterials located near Housing Sites, and, therefore, are the most likely to be affected by trips generated by the additional housing units.

The analysis evaluates the traffic-related impacts of the development under the *2007-2014 Housing Element* during both the weekday morning and evening peak hours. Traffic conditions were assessed at 44 arterial roadway segments and nine Interstate/State Highway linkages, as listed in Table 3.2-1.

Traffic conditions at these roadway segments and linkages are assessed for the following six scenarios:

- **Existing** – based on existing volumes obtained from traffic counts and site and area observations.
- **Existing Plus Project** – This includes projected traffic generated by the proposed project, but no changes to the transportation network.
- **Cumulative Year 2015 Baseline No Project** - This includes traffic generated by non-project development anticipated through 2015 (using ABAG Projections), along with programmed transportation network improvements (highway and transit) in the year 2015. However, the project traffic is *not* included in this scenario (project traffic is traffic resulting from build out under the *2007-2014 Housing Element*, 13,501 new units of housing).\
- **Cumulative Year 2015 Baseline Plus Project** – This scenario is the same as Cumulative Year 2015 Baseline No Project, but includes the traffic generated by the full buildout of the project with 13,501 new residential units.

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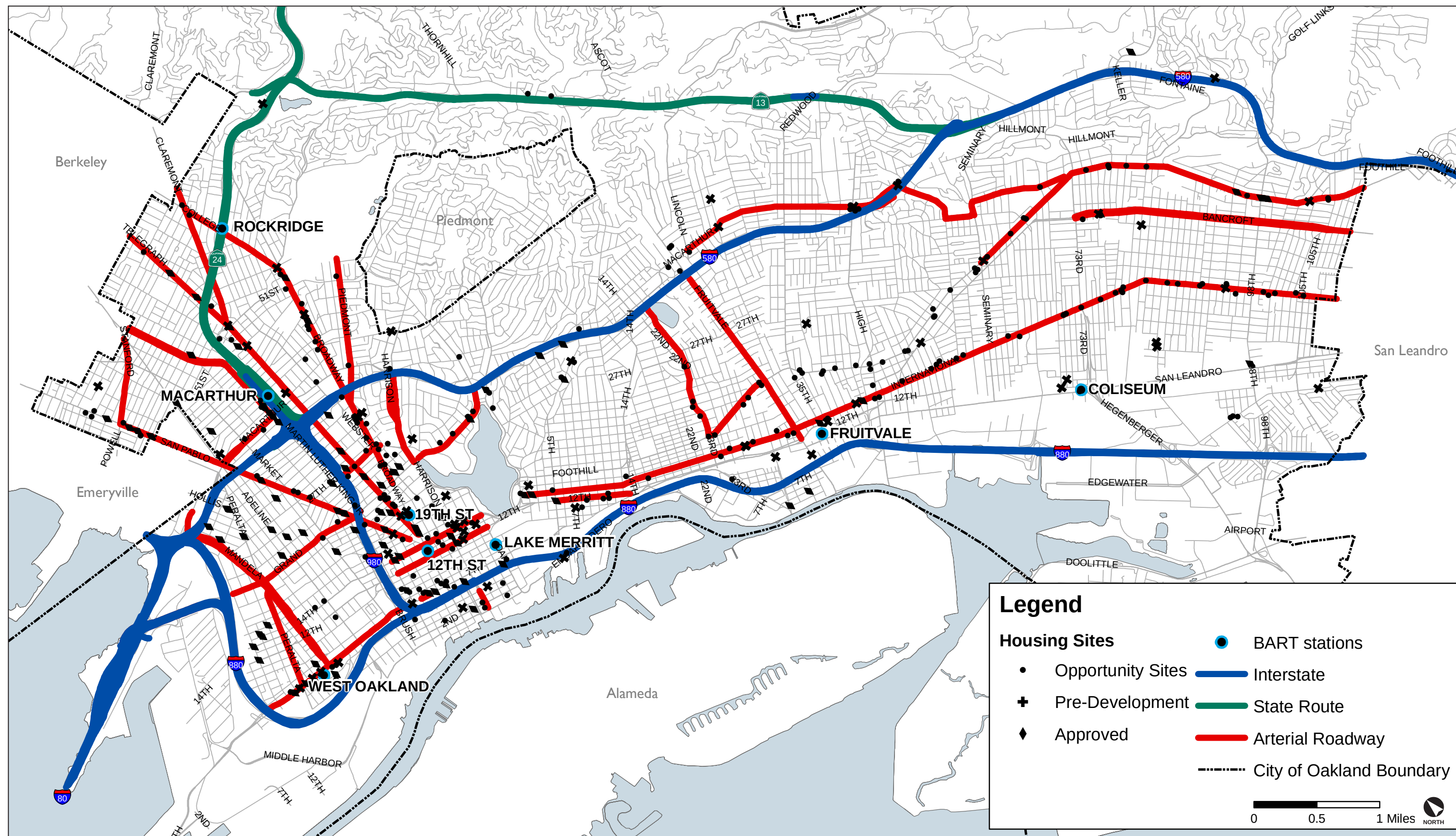


FIGURE 3.2-1
Local/Regional Transportation Network

Source: City of Oakland, 2009; PBS&J, 2009.

Table 3.2-1
Arterial Roadway Segments and Interstate/State Highways

Arterials		Interstate/State Highways	
1.	Mandela Parkway n/o 7th Street	45.	SR-13 n/o Jct I-580
2.	7th Street e/o Mandela Parkway	46.	SR-24 e/o Jct I-580
3.	7th Street w/o Peralta Street	47.	SR-77 e/o Jct I-880
4.	Peralta Street n/o 7th Street	48.	I-80 e/o Powell Street
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue	49.	SR-185 at Oakland City Limit
6.	Stanford Avenue e/o San Pablo Avenue	50.	SR-260 at Jct I-880
7.	MacArthur Boulevard w/o Martin Luther King Way	51.	I-580 e/o Edwards Avenue
8.	Martin Luther King Way n/o MacArthur Boulevard	52.	I-880 n/o 66th Avenue
9.	West Grand Avenue w/o Martin Luther King Way	53.	I-980 at 14th Street overcrossing
10.	Claremont Avenue s/o College Avenue		
11.	Telegraph Avenue s/o 51st Street		
12.	Piedmont Avenue n/o MacArthur Boulevard		
13.	Mountain Boulevard s/o Snake Road		
14.	<i>7th Street b/w Clay & Jefferson (EB One-Way)</i>		
15.	<i>12th Street w/o Oak Street (WB One-Way)</i>		
16.	<i>14th Street w/o Oak Street</i>		
17.	27th Street w/o Harrison Street		
18.	Grand Avenue b/w Harrison Street & I-580		
19.	5th Avenue s/o East 12th Street		
20.	East 12th Street e/o 5th Avenue		
21.	Fruitvale Avenue s/o I-580		
22.	23rd Avenue n/o Foothill Boulevard		
23.	Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue		
24.	Foothill Boulevard n/o Seminary Avenue		
25.	MacArthur Boulevard w/o 98th Avenue (WB Only)		
26.	MacArthur Boulevard e/o Lincoln Avenue		
27.	MacArthur Boulevard e/o High Street		
28.	MacArthur Boulevard e/o 98th Avenue (EB Only)		
29.	International Boulevard b/w 23rd Avenue & Fruitvale Avenue		
30.	International Boulevard w/o Seminary Avenue		
31.	International Boulevard w/o 98th Avenue		
32.	Edes Avenue w/o of 85th Avenue		
33.	Bancroft Avenue s/o 73rd Avenue		
34.	Oakland Avenue s/o Pearl Street (NB One-Way)		
35.	Harrison Street s/o Pearl Street (SB One-Way)		
36.	Harrison Street n/o Grand Avenue		
37.	Broadway n/o MacArthur Boulevard		
38.	Broadway n/o Grand Avenue		
39.	Broadway s/o College Avenue		
40.	San Pablo Avenue (SR 123) n/o West Grand Avenue		
41.	Telegraph Avenue n/o Claremont Avenue		
42.	Claremont Avenue e/o (n/o) 52nd Street		
43.	College Avenue s/o Claremont Avenue		
44.	27th Street w/o Valdez Street		

Key

n/o: north of

e/o: east of

s/o: south of

w/o: west of

b/w: between

Source: Dowling Associates, Inc., 2009.

Note: *Italics* indicates study segments that are located within the Downtown area. Level of Service standards for Downtown segments are different than the other arterial segments listed in this table (See Thresholds of Significance on p.3.2-41.).

- **Cumulative Year 2035 Baseline No Project** – This scenario includes traffic generated by proposed non-project development in 2035, based on *ABAG Projections*, and it includes transportation network improvements projected to be completed based on the Regional Transportation Plan for the Bay Area and the Alameda County Congestion Management Agency (ACCMA).
- **Cumulative Year 2035 Baseline Plus Project** – This is the same as Cumulative Year 2035 Baseline No Project, but includes traffic generated by the full-buildout of the project, with 13,501 new residential units in Oakland.

Where potentially significant impacts have been identified on study roadway segments, mitigation measures have been recommended to reduce impacts.

An Alameda County Congestion Management Agency (ACCMA) study was not conducted because ACCMA determined that the 13,501 new housing units provided under the *Housing Element* is less than the new housing units that are included in the adopted *Land Use and Transportation Element (LUTE)* of the *General Plan* and included in the ACCMA model. Given that the housing units included in the *LUTE* are already accounted for in the model, development under the *Housing Element* would not generate 100 or more PM peak hour trips above what is accounted for in the model. Therefore, compliance with the Land Use Analysis Program of the Congestion Management Program (CMP) would not be required¹.

This chapter is accompanied by Appendix E, consisting of sub-appendices E-1 through E-7 (all Appendices are on a separate CD at the back cover of this EIR), which include the following data:

- E-1 – Traffic Counts (Roadway Segments)
- E-2 – Traffic Counts (Caltrans-State Highways)
- E-3 – Trip Generation and Distribution
- E-4 – Volume Computation
- E-5 - Capacities Used in LOS Analysis
- E-6 – LOS Analysis
- E-7 – Alameda Countywide Transportation Model – Transportation Improvement Projects List

Setting

The study area for the *2007-2014 Housing Element* is the City of Oakland. Oakland is a major transportation hub for the East Bay and the Bay Area as a whole. The City has a multi-modal transportation system serving both passenger and freight movements. The City's transportation systems are important not only locally, but also in the context of regional, West Coast, national, and even international transportation services. The transportation-related context in which development under the *2007-2014 Housing Element* would be developed is described below, including existing transit services and 'non-motorized travel' such as bicycle and pedestrian facilities. Intersection and roadway levels of

¹ March 17, 2010 communication between ACCMA and City of Oakland staff.

service are then defined and current conditions for both study roadway segments and selected ‘impacted intersections’ (as identified by the City of Oakland’s Transportation Services Division) within the City of Oakland are summarized. The setting section concludes with a discussion of proposed roadway improvements and the transportation-related regulatory setting.

Roadway Segments

State Highways. As shown in Figure 3.2-1, freeways provide access north via Interstate 80/Interstate 580 (I-80/I-580), south via I-880, west via the Bay Bridge to San Francisco and the Peninsula, and east via State Route (SR) 24 and I-80/I-580. The California Department of Transportation (Caltrans) is responsible for five freeways and four arterial highways within the City boundaries. Caltrans freeways include I-880, I-580, SR 24, I-980, and SR 13. The “daily traffic” volume noted below is an average over seven days (i.e., Monday-Sunday) in 2008, and because volumes can vary significantly depending on where the count is taken along a highway, a low-high range has been provided.

- I-880 (Nimitz Freeway) is a major north–south freeway that extends along the San Francisco Bay from the San Leandro boundary to I-80 at the approach to the Bay Bridge. I-880 provides links to points south along the Bay to Santa Clara. Daily traffic volumes range from 126,000 to 216,000 vehicles, depending upon the segment.
- I-580 extends from the San Leandro boundary in the MacArthur Boulevard corridor to the interchange with I-80. I-580 provides access to the Livermore Valley and, farther east, to the Central Valley via the Altamont Pass; it provides access to Marin County via the Richmond-San Rafael Bridge. Daily traffic volumes range from 144,000 to 216,000 vehicles, depending on location.
- SR 24 provides a connection to I-580 from central Contra Costa County (Walnut Creek) via the Caldecott Tunnel. It continues as I-980 south of I-580, connecting to I-880. Daily traffic volumes range from 118,000 to 157,000 vehicles.
- I-980 connects I-580 to I-880 through downtown Oakland. It collects and distributes traffic within downtown Oakland. Daily traffic volumes range from 61,000 to 105,000 vehicles.
- SR 13 provides a connection between I-580 and SR 24 near the City of Piedmont and the Montclair neighborhood of Oakland and continues as an arterial street (Ashby Avenue) through Berkeley north of SR 24. Daily traffic volumes range from 44,000 to 72,000 vehicles.

Caltrans arterial (also called conventional) highways include SR 77, SR 123, SR 185, and SR 61/SR 260:

- 42nd Avenue (SR 77) links I-880 to International Boulevard (East 14th Street). Daily traffic volumes range from 15,200 to 19,600 vehicles.
- San Pablo Avenue north of I-580 is designated as SR 123. San Pablo Avenue connects downtown Oakland to points north along the I-80 corridor to the Carquinez Bridge. Daily traffic volumes range from 25,000 to 27,000 vehicles.

- International Boulevard (formerly East 14th Street) from 42nd Avenue south is designated as SR 185 providing access from downtown Oakland south to Hayward. Daily traffic volumes range from 23,600 to 27,000 vehicles.
- Doolittle Drive (SR 61) provides access between Alameda and the Davis Street interchange in San Leandro via the eastern boundary of Metropolitan Oakland International Airport. The daily traffic volume is approximately 20,200 vehicles.
- SR 260 (signed SR 61) connects Alameda and Oakland via the Webster Street and Posey Tubes under the Inner Harbor. The daily traffic volume is approximately 55,000 vehicles at the Oakland portals.

Local Streets and Roadways. The street and roadway system in Oakland consists of varying grid patterns in the flatlands and the circuitous, winding street pattern necessitated by the topography of the hills. The local street and roadway system ranges from two-lane local streets serving residential areas to four- and six-lane arterials that link the major activity centers in Oakland and provide connections to surrounding jurisdictions. All major arterials are shown in Figure 3.2-1, and listed, below.

Using the convention of the hills to the north and the Bay to the south, the major east-west arterials include:

- MacArthur Boulevard
- Foothill Boulevard
- International Boulevard/East 14th Street
- San Leandro Street
- Grand Avenue (a portion)

The major north-south arterials include:

- Adeline Street
- Telegraph Avenue
- Broadway
- Park Boulevard
- Fruitvale Avenue
- High Street
- Hegenberger Road/73rd Avenue
- 98th Avenue

Study Roadway Segments. For the purposes of this analysis 44 arterial roadway segments and nine Interstate/State Highway roadway segments were selected for study as listed in Table 3.2-1. The study segments were selected based on their physical proximity to Housing Sites and anticipated trip distribution, based on known trip distribution patterns and projected development densities on the sites.

The final list of study roadway segments was selected in consultation with the City of Oakland's Transportation Services Division. These roadway segments represent locations along major routes near the Housing Sites identified in the *2007-2014 Housing Element*. These roadway segments are most likely to be impacted by proposed project traffic. The State Highway/Interstate roadway segments were those for which Caltrans was able to provide recent count data. More specifically, the segments selected for analysis were locations where Caltrans could provide actual count data in Oakland that was less than three years old.

Previously Identified Impacted Intersections. In addition to the study roadway segments mentioned above, a number of other intersections have been identified by the City of Oakland's Transportation Services Division as being 'impacted.' These 'impacted intersections' are operating, or are projected to operate at an unacceptable level of service (LOS), based upon published EIRs or other traffic analyses for other projects. Although it is not legally required to analyze project-related impacts for the *Housing Element*, the EIR nevertheless identifies these 'impacted intersections' in order to provide additional information about identified potential traffic-related impacts and to provide CEQA clearance for future housing development projects, pursuant to state CEQA Guidelines sections 15183,² 15162 through 15164³ and 15168.⁴ A summary of the impacted intersections is included, below.

Public Transit Services

Public transit serving the City of Oakland include Alameda-Contra Costa Transit District (AC Transit) buses, BART, ferry service, and Amtrak trains.

AC Transit. AC Transit's service territory covers 364 square miles with an inventory of 696 motor buses. AC Transit carries on average 47 transit trips per capita per year. On an average weekday, 227,000 boarding passengers are carried. It operates 93 different transit lines, 66 local and 27 transbay. AC Transit serves the majority of the transit trips that begin and end within the City of Oakland. Oakland and Berkeley are the core of the AC Transit system that serves the East Bay from El Sobrante to Milpitas. Downtown Oakland is well-served by three regional transit corridors from the north- College/Broadway, Telegraph, and San Pablo Avenues- and three from the east- MacArthur, Foothill, and International (East 14th) Boulevards. Cross-town trunk routes and local feeder routes provide service coverage to most of the Oakland flatlands. The Oakland hills are also served by local feeder routes and commute hours-only service.

The location of Housing Sites superimposed with existing AC Transit routes is shown in Figure 3.2-2.

² Section 15183 allows a streamlining of environmental review for projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts particular to the project, or the project site.

³ Sections 15162-15164 allows for the preparation of a Subsequent EIR and/or Negative Declaration, a Supplemental EIR, and/or and Addendum to an EIR that has already been certified when certain conditions are met.

⁴ Section 15168 allows for the streamlining of environmental review for projects that are determined, pursuant to Section 15162, not to have additional environmental impacts or require additional information, beyond the recommendations and analysis contained in the Program EIR. Such projects would not require the preparation of an environmental document.

Bay Area Rapid Transit (BART). BART is a heavy-rail transit system serving four counties of the Bay Area. The current system consists of five lines with Oakland at the crossroads serving as the major transfer point among lines. As shown in Figure 3.2-1, Oakland is served by eight stations: MacArthur, 19th Street/Oakland, 12th Street/Oakland City Center, Lake Merritt, Fruitvale, Coliseum/Oakland Airport, West Oakland, and Rockridge. These stations collectively serve 61,000 passenger trips per day (in spring 2008), or roughly one in every six BART passenger trips. The 12th Street/Oakland City Center station carries 13,400 trips on an average day, by far the most of any station in Oakland.

Ridership during peak periods frequently exceeds the number of seats, and any major increases in ridership may increase crowding and/or require additional service. During the peak hours trains arriving at the downtown stations provide standing room only. Increases in BART ridership eventually could limit the opportunity to increase use of system for travel within Oakland during peak periods, since arriving trains in Oakland may already be at capacity.

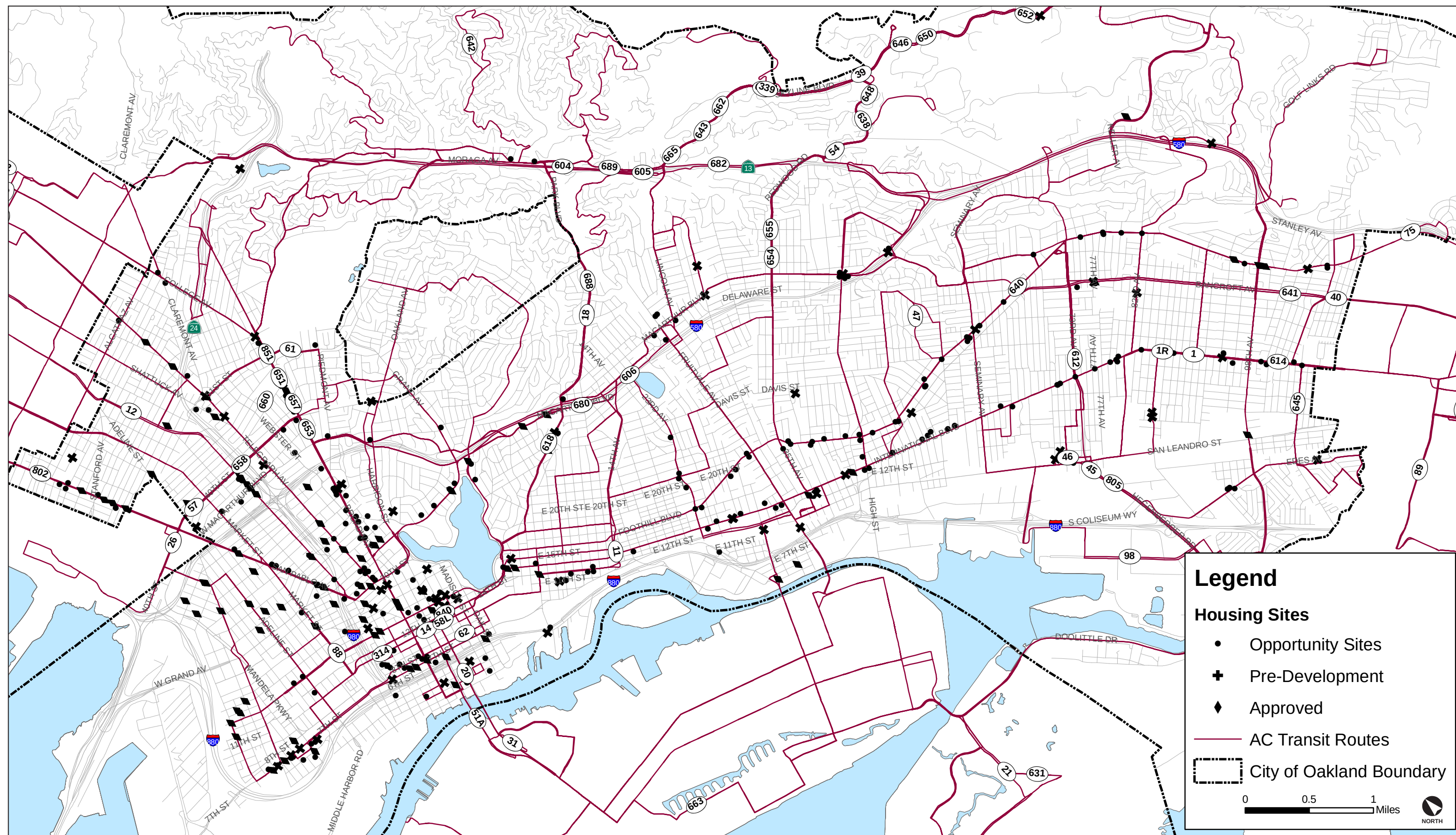
Ferry. Ferry service has been available in the Oakland area since late 1989, after the Loma Prieta earthquake, and ridership has steadily increased. There are two stops in the East Bay (Jack London Square and Main Street, Alameda) and two in San Francisco (San Francisco Ferry Building and Pier 41). Additional ferry services are provided primarily for recreational purposes (e.g., Angel Island).

Amtrak. Amtrak provides intercity rail service to Oakland at the Jack London Square station at 2nd and Alice Streets. Corridor train services include the Capitol Corridor trains, serving San Jose-Sacramento-Auburn; the San Joaquin trains, serving Oakland-Bakersfield; and a daily long distance train, the Coast Starlight (Los Angeles-Seattle).

Non-Motorized Travel

Non-motorized travel refers to walking and bicycling facilities, which are described in the following subsections.

Pedestrian Facilities and Circulation. The City of Oakland adopted a Pedestrian Master Plan (PMP) in November 2002 as part of the Land Use and Transportation Element of the City's General Plan. The pedestrian route network developed four types of sidewalk facilities and routing designations (city, district, neighborhood, and walkway), with design guidelines for each type. The City owns and maintains approximately 1,500 linear miles of sidewalk and more than 150 blocks of pedestrian walkways. Sidewalks generally range from five to 15 feet in width, with the widest sidewalks found in the downtown and business districts of the City. Crosswalks and pedestrian signals exist at most of the City's major intersections. Curb ramps are located at many corners throughout the city, and audible pedestrian signals are concentrated in the downtown and neighborhood commercial districts.



Source: City of Oakland, 2010; PBS&J, 2010.

Bicycle Facilities. According to the 2007 Bicycle Master Plan, the City of Oakland provides bicycle facilities throughout the City. Currently, Oakland has approximately 90 miles of bikeways. Bikeways in the City of Oakland are classified as Bicycle Paths, Bicycle Lanes, and Bicycle Routes, and are defined as follows:

- Bicycle Paths (Class 1) – these facilities are located off-street and can serve both bicyclists and pedestrians. Class 1 paths are typically 8 to 12 feet wide excluding shoulders and are generally paved.
- Bicycle Lanes (Class 2) – these facilities provide a dedicated (striped) area for bicyclists within the paved street width through the use of striping and signage. They are typically five to six feet wide.
- Bicycle Routes (Class 3) – These facilities are found along streets that do not provide sufficient width for dedicated bicycle lanes and are also provided on low-volume streets. The street is then designated as a bicycle route through the use of signage informing drivers to expect bicyclists. The 2007 Oakland Bicycle Master Plan also identifies the following variations on the standard bicycle route:
 - Arterial Bicycle Routes (Class 3A) – Bicycle routes may be used on some arterial streets where bicycle lanes are not feasible and parallel streets do not provide adequate connectivity. These streets should promote shared use with lower posted speed limits (preferably 25 mph), shared lane bicycle stencils on the pavement, wide curb lanes, and signage.
 - Bicycle Boulevards (Class 3B) – These are bicycle routes on residential streets that prioritize through trips for bicyclists. The route should appeal to cyclists of varied skill levels by providing direct connections on streets with low traffic volumes. The route should reduce delay to bicyclists by assigning right-of-way to travel on the route. Traffic calming should be introduced as needed to discourage drivers from using the boulevard as a through route. Intersections with major streets should be controlled by traffic signals with bicycle actuation.

Currently, Bicycle Lanes (Class 2) are provided on streets, including 73rd Avenue, Bancroft Avenue, Grand Avenue, MacArthur Boulevard, Market Street, and Telegraph Avenue. Examples of Bicycle Routes (Class 3) include Webster/Shafter Streets, Washington/Clay Streets, and Skyline Boulevard. Bicycle Paths (Class 1) include the Montclair Railroad Trail and completed sections of the San Francisco Bay Trail. Other completed segments of the San Francisco Bay Trail include Bicycle Lanes (Class 2) or Bicycle Routes (Class 3) on Mandela Parkway, 2nd/3rd Streets, Embarcadero, and East 7th Street.

The City's bicycle facilities include those within the jurisdiction of the Port of Oakland and also link to bicycle facilities within the jurisdiction of the East Bay Regional Park District, namely Martin Luther King, Jr. Regional Shoreline, and Temescal Regional Recreation Area. Of California cities with populations over 150,000, Oakland has the third highest cycling rate for commute trips (tied with Anaheim at 1.2 percent), following San Francisco (2.0 percent) and Sacramento (1.4 percent) (Bicycle Master Plan Update, 2007).

The Bicycle Master Plan is the citywide, long-range policy document for promoting bicycling as a viable means of transportation and recreation in Oakland. Policy T4.4 of *Envision Oakland* (1998), the *LUTE* of the Oakland *General Plan*, recommended the preparation, adoption, and implementation of a Bicycle Master Plan. To be eligible for funding from the State's Bicycle Transportation Account, local jurisdictions must complete bicycle transportation plans and update or reaffirm those plans every five years (Streets and Highways Code 890-894.2). Oakland's original Bicycle Master Plan was completed in 1999 and reaffirmed by the City Council in 2005. Although the 2007 update to the Bicycle Master Plan provides a planning vision for approximately twenty years (through 2027), it must be updated or reaffirmed at least every five years for the City of Oakland to be eligible for State Bicycle Transportation Account funds.⁵

The 2007 Bicycle Master Plan Update proposes a Bikeway Network, which, when completed, will include approximately 218 miles of bikeways in Oakland. Most of the proposed bikeways are on-street bikeways and would be constructed within the curb-to-curb width of existing streets. At completion, the proposed Bikeway Network will include:

- 34 miles of Bicycle Paths (Class 1)
- 93 miles of Bicycle Lanes (Class 2)
- 22 miles of Bicycle Routes (Class 3)
- 36 miles of Arterial Bicycle Routes (Class 3A)
- 33 miles of Bicycle Boulevards (Class 3B)

The City has funding sources for implementing the bicycle network; \$350,000 a year is available from Measure B funding, and another \$300,000 per year is available from Transportation Development Act Article 3 funds. Bikeways are also eligible for grant funding from multiple sources. Bikeways are included in other capital improvements per the Bicycle Master Plan's Policy 1B, which is focused on routine accommodation of bicycle facilities and directs the City to: address bicycle safety and access in the design and maintenance of all streets.

Railroad Crossings. There are many major active rail lines within the City of Oakland, some of which are in proximity to Housing Sites, as shown in Figure 3.2-3. Figure 3.2-3 shows only the major active rail lines and excludes the many spur tracks and sidings, as well as railroad yards. The existing at-grade railroad crossings are identified on Figure 3.2-4, and the potential of increased collision risk from vehicles traveling across at-grade railroad crossings is analyzed and discussed in the impact discussion, below (TR-43).

⁵ Telecommunication with Jason Patton, Oakland Bicycle and Pedestrian Program Manager, with Steve Colman, Dowling Associates, December 2, 2009.

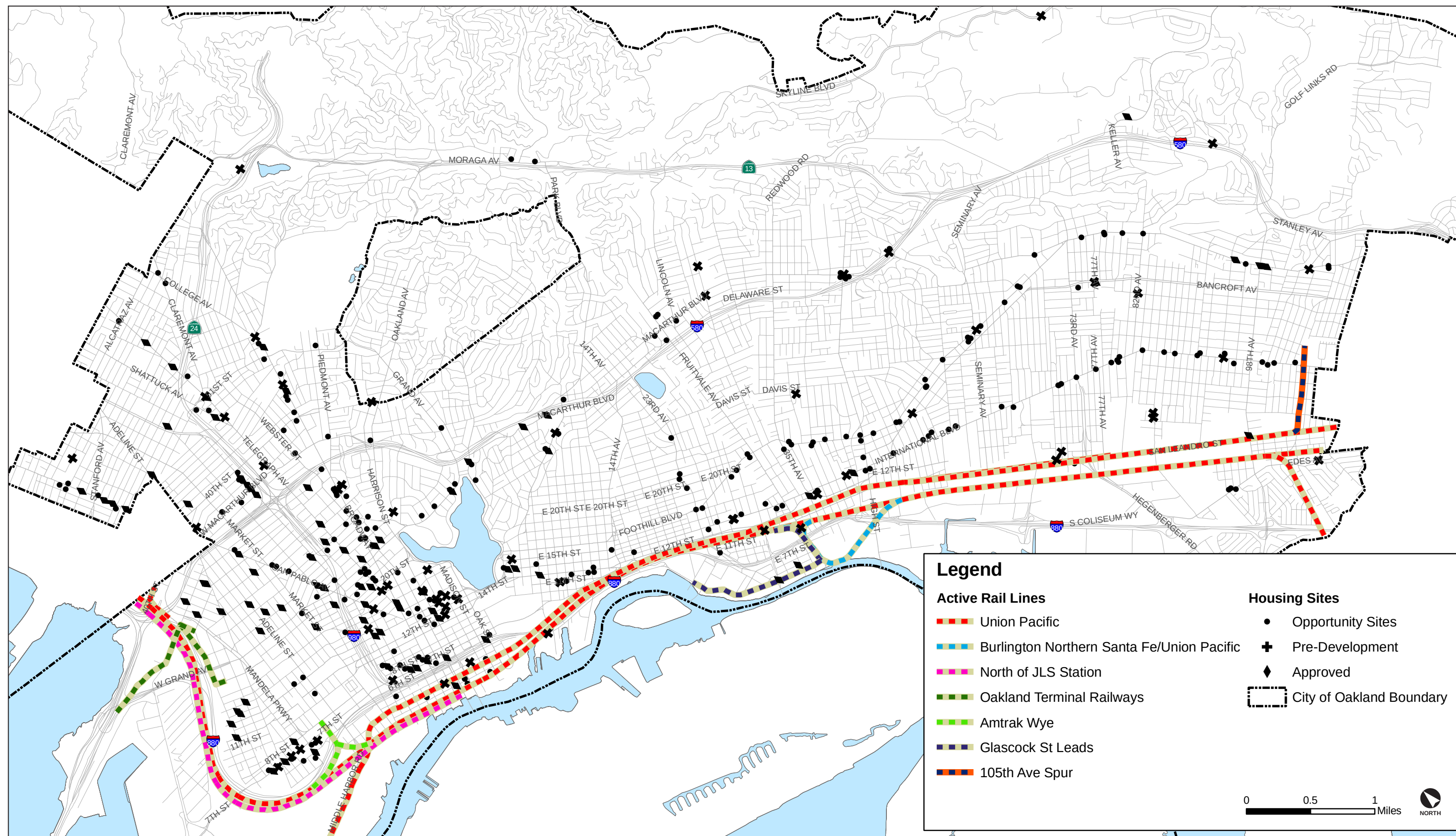


FIGURE 3.2-3
Major Active Rail Lines

Source: City of Oakland, 2010; PBS&J, 2010.

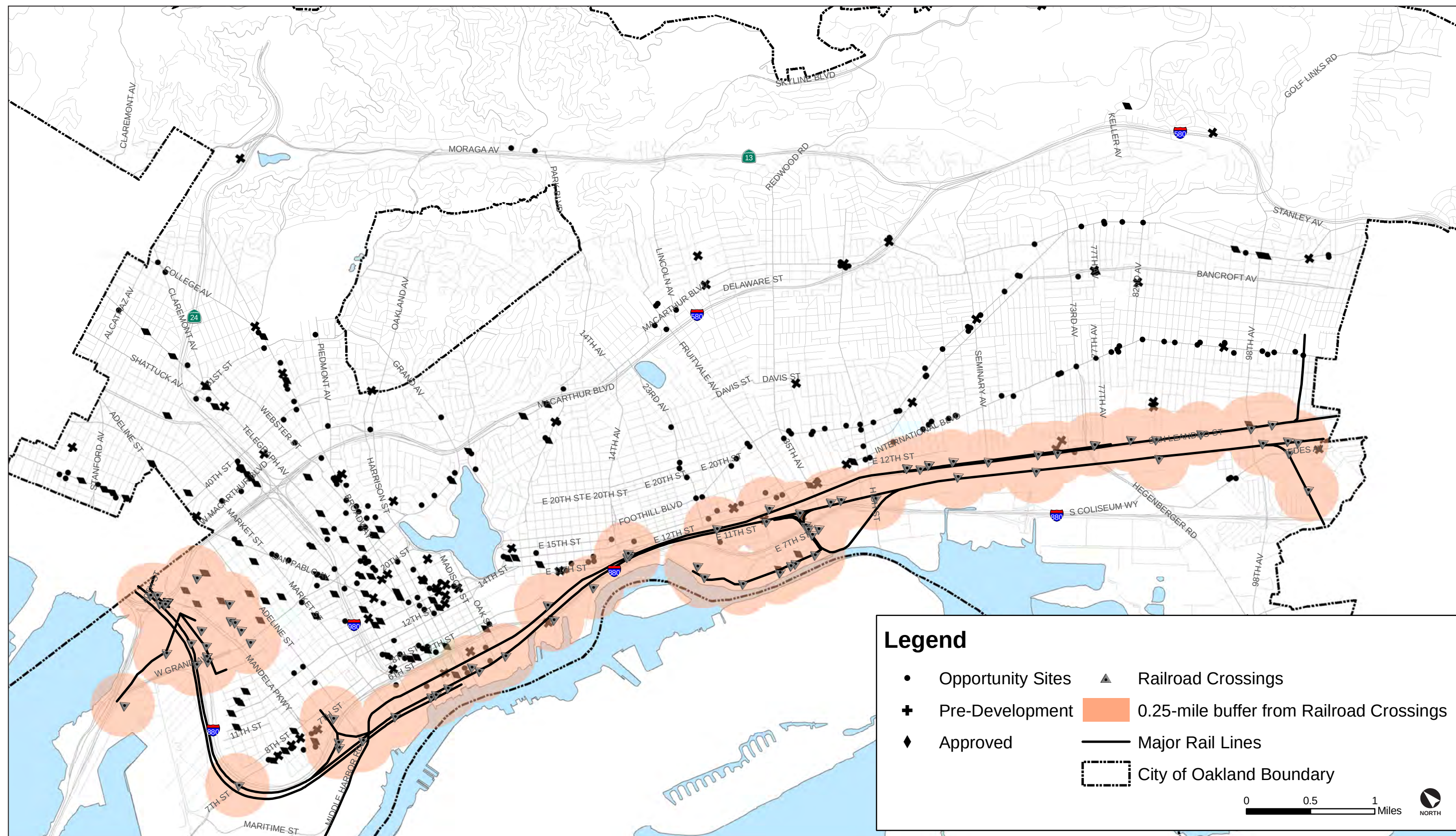


FIGURE 3.2-4
Railroad Crossings

Source: City of Oakland, 2010; PBS&J, 2010.

Existing Traffic Conditions

Daily traffic volumes, volume to capacity (V/C) ratios, and levels of service (LOS) provide a general picture of the traffic conditions throughout the city. They indicate which streets carry more traffic, how traffic is dispersed, and what the operating conditions are on the local roadways. The operating conditions are measured in terms of a grading system called LOS. For roadway segments and freeways, the measure of effectiveness (MOE) used to determine LOS is the V/C ratio. For practical purposes, this is essentially how much of the roadway's available capacity in an hour in a given direction is being used, e.g., a V/C of 0.89 means that 89 percent of the roadway's maximum physical capacity is being used. Capacity is determined by roadway characteristics, such as the number of lanes, the spacing between signals, the type of roadway, and whether left turn lanes or medians are provided. The LOS determination for intersections used a different MOE, the average vehicle delay experienced by motorists traveling through the intersection. For this programmatic EIR, the roadway segment LOS is used to determine significance.

Level of Service

LOS is a qualitative assessment of intersection and roadway operating characteristics on the basis of traffic volumes, capacity, and delays, all of which influence motorists' perceptions of traffic conditions. The LOS is generally described in terms of travel time and speed, freedom to maneuver, traffic interruptions, comfort and convenience. The LOS applies quantifiable traffic measures such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. These measures differ by roadway type because the user's perceptions vary by roadway type.

Individual LOS are designated by letters "A" (indicating free-flow traffic conditions with little or no delay experienced by motorists) to "F" (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). LOS A to C are generally considered satisfactory service levels, although LOS C represents traffic conditions on urban streets where maneuverability begins to be restricted due to increased traffic volumes, and intersection delays become noticeable. LOS D can be described as conditions where increased traffic affects maneuverability, causes speeds to drop well below the speed limit, and results in long delays at some intersections. LOS E and F are generally considered to be unacceptable, though some jurisdictions (like the City of Oakland) consider LOS E to be acceptable in certain areas (like the Downtown central business district) in recognition of the positive effect of traffic congestion in promoting the use of transit or other methods of travel.⁶ LOS E, which is generally the limit of acceptable delay, would occur with excessive delays at some intersections causing traffic to back up into the adjacent intersection. LOS F indicates very long delays with facilities sometimes operating at less than capacity.

To establish existing baseline traffic conditions on arterial roadway segments, 48-hour traffic counts were conducted, and then the peak hour selected for the weekday morning (typically an hour between 7:00 a.m. to 9:00 a.m.) and evening (an hour between 4:00 p.m. to 6:00 p.m.). Traffic counts were conducted at the

⁶ City of Oakland, *General Plan Land Use and Transportation Element*, Policy T3.3 (Allowing Congestion Downtown).

study roadway segments in late May and early June 2009 while area schools were in normal session. Roadway characteristics (lanes, etc.) were assembled from Google Earth, other traffic studies, and personal knowledge.

The peak-hour directional traffic volumes at each of the study roadway segments are included in Appendices E-1 and E-2. Based on the existing capacities for the study roadway segments (Appendix E-5) and the peak-hour directional volumes collected from traffic counts (Appendices E-1, E-2, and E-4), a V/C ratio and corresponding LOS was identified for each roadway segment. LOS is a qualitative measure of the quality of traffic service, ranging from A (best) to F (poorest). Higher V/C ratios mean poorer LOS. The precise values used are included in the LOS analysis in Appendix E-6. An explanation for how the capacities were developed and the analysis done is provided under the “Methodology for Analysis.” The V/C ratio and LOS level for each roadway segment is presented in Table 3.2-23.2-2. As described further under ‘Thresholds of Significance,’ below, the City of Oakland considers LOS D or better to be acceptable operating conditions for intersections outside the Downtown area, and LOS E or better to be acceptable for intersections within the Downtown area. Peak hour volumes are generally used to measure LOS. Traffic volumes are at or near capacity during the weekday peak periods on some freeway and arterial sections.

As part of a required monitoring program of roads on its congestion management network, the Alameda County Congestion Management Agency (ACCMA) surveyed several roadways. Table 3.2-3 shows freeway segments that were monitored by the ACCMA, based on floating car studies in Oakland, and observed to have an unacceptable LOS F during the PM peak period in 2008. For freeway sections, LOS F is defined as an average travel speed of less than 35 mph for more than 15 minutes.⁷

Previously Identified Impacted Intersections

CEQA does not require analysis of project-related impacts for the *Housing Element*, and intersection LOS was not analyzed. However, the City of Oakland’s Transportation Services Division has identified intersections which were found to have significant unavoidable impacts from recently published EIRs or traffic studies for development projects. These impacted intersections are mapped in Figures 3.2-5 and 3.2-6, and listed in Table 3.2-4, below.

⁷ The 2000 *Highway Capacity Manual* (HCM 2000) uses density to define LOS rather than average speeds for basic freeway segments. The Florida Department of Transportation (FDOT) methodology uses volumes. Given that density is difficult to measure in the field (typically requiring aerial photographs), and volumes are much more readily measured, a volume-to-capacity (V/C) ratio is typically used as a proxy to define LOS. Further, provided the free-flow speed is the same, volume and density are the same since volume is equal to density times speed.

Table 3.2-2
Existing V/C Ratio and LOS at Study Roadway Segments

		Northbound/Eastbound				Southbound/Westbound			
		AM	AM	PM	PM	AM	AM	PM	PM
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Arterial Roadway Segments									
1.	Mandela Parkway n/o 7th Street	0.11	B	0.14	C	0.11	B	0.18	C
2.	7th Street e/o Mandela Parkway	0.10	B	0.20	C	0.24	C	0.18	C
3.	7th Street w/o Peralta Street	0.22	C	0.21	C	0.20	C	0.21	C
4.	Peralta Street n/o 7th Street	0.06	B	0.09	B	0.08	B	0.10	B
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue	0.46	C	0.73	C	0.41	C	0.59	C
6.	Stanford Avenue e/o San Pablo Avenue	0.17	C	0.42	C	0.30	C	0.26	C
7.	MacArthur Boulevard w/o Martin Luther King Way	0.15	C	0.29	C	0.18	C	0.26	C
8.	Martin Luther King Way n/o MacArthur Boulevard	0.15	C	0.27	C	0.10	B	0.15	C
9.	West Grand Avenue w/o Martin Luther King Way	0.44	C	0.59	C	0.40	C	0.42	C
10.	Claremont Avenue s/o College Avenue	0.27	C	0.31	C	0.26	C	0.23	C
11.	Telegraph Avenue s/o 51st Street	0.34	C	0.43	D	0.36	C	0.43	D
12.	Piedmont Avenue n/o MacArthur Boulevard	0.36	C	0.56	C	0.45	C	0.42	C
13.	Mountain Boulevard s/o Snake Road	0.53	C	0.54	C	0.46	C	0.47	C
14.	7th Street b/w Clay & Jefferson (EB One-Way)	0.21	C	0.28	C	N/A	N/A	N/A	N/A
15.	12th Street w/o Oak Street (WB One-Way)	N/A	N/A	N/A	N/A	0.51	D	0.33	C
16.	14th Street w/o Oak Street	0.21	C	0.52	D	0.49	D	0.34	C
17.	27th Street w/o Harrison Street	0.13	C	0.23	C	0.22	C	0.20	C
18.	Grand Avenue b/w Harrison Street & I-580	0.29	C	0.92	D	0.73	D	0.48	D
19.	5th Avenue s/o East 12th Street	0.25	C	0.40	C	0.34	C	0.26	C
20.	East 12th Street e/o 5th Avenue	0.22	C	0.30	C	0.32	C	0.23	C
21.	Fruitvale Avenue s/o I-580	0.89	D	0.78	D	0.73	D	0.95	E
22.	23rd Avenue n/o Foothill Boulevard	0.19	C	0.34	C	0.36	C	0.31	C

Table 3.2-2
Existing V/C Ratio and LOS at Study Roadway Segments

		Northbound/Eastbound				Southbound/Westbound			
		AM V/C Ratio	AM LOS	PM V/C Ratio	PM LOS	AM V/C Ratio	AM LOS	PM V/C Ratio	PM LOS
23.	Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue	0.38	C	0.54	C	0.52	C	0.56	C
24.	Foothill Boulevard n/o Seminary Avenue	0.28	C	0.32	C	0.29	C	0.38	C
25.	MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A	N/A	N/A	0.42	C	0.44	C
26.	MacArthur Boulevard e/o Lincoln Avenue	0.34	C	0.64	C	0.39	C	0.43	C
27.	MacArthur Boulevard e/o High Street	0.38	C	0.52	C	0.30	C	0.37	C
28.	MacArthur Boulevard e/o 98th Avenue (EB Only)	0.11	B	0.17	C	N/A	N/A	N/A	N/A
29.	International Boulevard b/w 23rd Avenue & Fruitvale Avenue	0.32	C	0.53	C	0.43	C	0.34	C
30.	International Boulevard w/o Seminary Avenue	0.34	C	0.57	C	0.58	C	0.62	C
31.	International Boulevard w/o 98th Avenue	0.30	C	0.50	C	0.35	C	0.49	C
32.	Edes Avenue w/o of 85th Avenue	0.28	C	0.29	C	0.17	C	0.24	C
33.	Bancroft Avenue s/o 73rd Avenue	0.35	C	0.34	C	0.29	C	0.41	C
34.	Oakland Avenue s/o Pearl Street (NB One-Way)	0.73	C	0.43	C	N/A	N/A	N/A	N/A
35.	Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A	N/A	N/A	0.39	C	0.25	C
36.	Harrison Street n/o Grand Avenue	0.44	C	0.68	C	0.37	C	0.31	C
37.	Broadway n/o MacArthur Blvd	0.17	C	0.34	C	0.19	C	0.25	C
38.	Broadway n/o Grand Avenue	0.30	C	0.41	D	0.27	C	0.33	C
39.	Broadway s/o College Avenue	0.23	C	0.47	C	0.33	C	0.34	C
40.	San Pablo Avenue (SR 123) n/o West Grand Avenue	0.22	C	0.34	C	0.21	C	0.22	C
41.	Telegraph Avenue n/o Claremont Avenue	0.34	C	0.51	C	0.36	C	0.54	C
42.	Claremont Avenue e/o (n/o) 52nd Street	0.07	B	0.12	B	0.12	B	0.14	C
43.	College Avenue s/o Claremont Avenue	0.36	C	0.64	C	0.28	C	0.66	C
44.	27th Street w/o Valdez Street	0.13	C	0.19	C	0.21	C	0.20	C

Table 3.2-2
Existing V/C Ratio and LOS at Study Roadway Segments

	Interstate/State Highway	Northbound/Eastbound				Southbound/Westbound			
		AM V/C Ratio	AM LOS	PM V/C Ratio	PM LOS	AM V/C Ratio	AM LOS	PM V/C Ratio	PM LOS
45.	SR-13 n/o Jct I-580	0.67	C	0.61	C	0.64	C	0.58	C
46.	SR-24 e/o Jct I-580	0.46	B	0.85	D	0.87	D	0.43	B
47.	SR-77 e/o Jct I-880	0.14	A	0.22	A	0.26	A	0.21	A
48.	I-80 e/o Powell Street	0.66	C	0.57	C	0.80	D	0.80	D
49.	SR-185 at Oakland City Limit	0.26	A	0.27	A	0.13	A	0.22	A
50.	SR-260 at Jct I-880	0.59	C	0.49	C	0.42	B	0.74	D
51.	I-580 e/o Edwards Avenue	0.78	D	1.01	F	0.64	C	0.57	C
52.	I-880 n/o 66th Avenue	0.66	C	0.80	D	0.81	D	0.80	D
53.	I-980 at 14th Street overcrossing	0.59	C	0.82	D	0.53	C	0.34	B

Source: Dowling Associates, Inc., 2009.

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A = Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

Table 3.2-3
State Highway Segments in Oakland Operating At LOS F

Location	Facility Type
I-80 WB from I-80/I-580 split to Bay Bridge Toll Plaza	Freeway
SR-24 EB from I-580 to Caldecott Tunnel	Freeway
I-580 SB from I-80/ I-580 to I-980/ SR-24	Freeway
I-980 NB from I-880 to I-580	Freeway
I-80 SB (WB) to I-580 EB	Ramp Connector
I-580 WB to I-80 NB (EB)	Ramp Connector
SR-13 NB to SR-24 EB	Ramp Connector
I-580 WB/ SR-24 to I-80 NB	Ramp Connector
San Pablo Avenue (SR-123) SB from Emeryville border to 35 th Street	Arterial
SR-260 SB from 7 th Street/ Webster Street to Webster Tube	Arterial

Source: Congestion Management Agency, Congestion Management Program, 2008.

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document^{b,c}	Year	Current		Horizon		
						AM LOS	PM LOS	Year	AM LOS	PM LOS
7th/8th St	&	5th Ave	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	F
7th St/12th St (SB)	&	14th Ave	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	F
16th Street	&	23rd Ave	Oak to Ninth Avenue DEIR	C	2004	B	C	2025	B	E
27th Street	&	Northgate/I-980 on-ramp	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	F
Adeline St	&	5th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
Atlantic Ave	&	Webster St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	E	F
Broadway	&	3rd St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	F
Broadway	&	5th St	Oak to Ninth Avenue DEIR	C	2004	C	F	2025	E	F
Broadway	&	5th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	E	F
Broadway	&	7th St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	E
Broadway	&	12th St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	E
Broadway	&	23rd St	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	C	E
Broadway	&	38th St (south)	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	E	2025	A	A

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Year	Current		Horizon		
						AM LOS	PM LOS	Year	AM LOS	PM LOS
Broadway	&	51st St / Pleasant Valley Ave	5175 Broadway Project Env. Review Checklist	C	2007	D	E	2025	F	F
Broadway	&	Coronado Ave	5175 Broadway Project Env. Review Checklist	C	2007	E	F	2025	F	F
Broadway	&	Hawthorne Ave/Brook St	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	C	2025	C	E
Broadway	&	MacArthur Blvd	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	D
Broadway	&	MacArthur Blvd	MacArthur BART Transit Village EIR	C	2006	D	D	2030	F	F
Broadway	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	D	D	2025	D	E
Bush St	&	11th St / I-980 WB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	E	B
Castro St	&	17th St	Uptown Mixed Use Project EIR	C	2003	C	C	2025	C	E
Castro St	&	17th St / I-980 EB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	E	D
East 7th St	&	23rd Ave	Gateway Community Development Project	D	2004	B	B	2025	F	B
East 7th St	&	Kennedy St	Gateway Community Development Project	D	2004	A	C	2025	B	F
East 8th St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	B	C	2025	C	E
East 9th St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	D	E	2025	F	F
East 9th St	&	I-880 NB Off-ramp	Gateway Community Development Project	D	2004	F	F	2025	F	F
East 12th St	&	22nd Ave	Gateway Community Development Project	D	2004	B	D	2025	C	F
East 12th St	&	23rd Ave	Gateway Community Development Project	D	2004	C	B	2025	E	D
East 12th St	&	25th Ave	Gateway Community Development Project	D	2004	F	F	2025	F	F
East 12th St	&	26th Ave	Gateway Community Development Project	D	2004	D	B	2025	F	C
East 12th St	&	29th Ave	Gateway Community Development Project	D	2004	B	B	2025	D	E
East 12th St	&	30th Ave	Gateway Community Development Project	D	2004	C	B	2025	F	C
East 12th St	&	Derby Ave	Gateway Community Development Project	D	2004	C	C	2025	F	F
East 12th St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	C	C	2025	F	F
Embarcadero	&	5th Ave	Oak to Ninth Avenue DEIR	C	2004	F	F	2025	D	F

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Year	Current		Horizon		
						AM LOS	PM LOS	Year	AM LOS	PM LOS
Embarcadero	&	Broadway	Oak to Ninth Avenue DEIR	C	2004	A	A	2025	B	F
Embarcadero	&	I-880 NB Off-ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	F
Embarcadero	&	I-880 SB On-ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	E
Embarcadero	&	Webster St	Jack London Square Redevelopment DEIR	C	2003	A	B	2025	E	F
Foothill Blvd	&	14th Ave (EB)	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	F
Foothill Blvd	&	14th Ave (WB)	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	E	C
Foothill Blvd	&	Fruitvale Ave	Gateway Community Development Project	D	2004	E	E	2025	F	F
Franklin St	&	2nd St	Jack London Square Redevelopment DEIR	C	2003	F	B	2025	F	B
Franklin St	&	3rd St	Jack London Square Redevelopment DEIR	C	2003	F	B	2025	F	D
Franklin St	&	17th St	Uptown Mixed Use Project EIR	C	2003	B	B	2025	E	D
Frontage Road	&	West Grand Ave	Uptown Mixed Use Project EIR	C	2003	C	E	2025	F	F
Fruitvale Ave	&	East 9th St	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	D	E	2035	F	F
Fruitvale Ave	&	International Blvd	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	B	B	2035	F	F
Fruitvale Ave	&	San Leandro St	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	C	C	2035	F	F
Golf Links	&	I-580 On/Off-Ramp	Oak Knoll ADSEIR	D	2009	E	E			
Grand Ave	&	El Embarcadero	Kaiser Center Redevelopment Project DEIR	D	2008	C	F	2030	C	F
Grand Ave	&	MacArthur Blvd (EB)/I-580 EB Off-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	D	E	2030	E	F
Harrison St	&	7th St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	C	E
Harrison St	&	20th St/Kaiser Center Access Road	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	E	F
Harrison St	&	21st St	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	F
Harrison St	&	27th St/24th St	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	F	F
Harrison St (stop controlled)	&	29th Street	Alta Bates Summit Hospital DEIR	C	2009	A (E)	A (E)	2035	F (F)	C (F)

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Year	Current		Horizon		
						AM LOS	PM LOS	Year	AM LOS	PM LOS
Harrison St	&	Grand Ave	Uptown Mixed Use Project EIR	C	2008	C	D	2030	F	F
Harrison St	&	Lakeside Drive	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	C	E
Harrison St	&	MacArthur Blvd (WB) / Santa Clara Ave	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
Harrison St	&	Stanley Pl/I-580 EB Off-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
I-880 Northbound Ramp	&	7th St	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	C	E
International Blvd	&	29th Ave	Gateway Community Development Project	D	2004	B	C	2025	C	F
International Blvd	&	34th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	A	A	2035	E	C
International Blvd	&	38th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	B	A	2035	F	D
International Blvd	&	42nd Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	D	D	2035	F	F
International Blvd	&	98th Ave	Arcadia Park DEIR	C	2004; 2005	C	D	2025	D	F
International Blvd	&	High St	Gateway Community Development Project	D	2004	C	D	2025	D	E
Jackson St	&	5th St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	B
Jackson St	&	6th St	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	F	F
Jackson St	&	6th St / I-880 NB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	F	F	2030	F	F
Kaiser Center Access Road	&	21st St	Kaiser Center Redevelopment Project DEIR	D	2008	B	B	2030	B	E
Lakeshore Ave	&	Foothill Blvd	Oak to Ninth Avenue DEIR	C	2004	C	B	2025	E	B
Lakeshore Ave	&	Lake Park Ave	Oak to Ninth Avenue DEIR	C	2004	D	D	2025	D	E
Lakeshore Ave	&	MacArthur Blvd	Oak to Ninth Avenue DEIR	C	2004	C	E	2025	C	F
Lakeshore Ave	&	MacArthur Blvd (EB)/I-580 EB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	F	F
Mandela Pkwy	&	7th St	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	E	F

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Year	Current		Horizon		
						AM LOS	PM LOS	Year	AM LOS	PM LOS
Manila Ave	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	C	2025	E	D
Maritime St	&	7th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
Market St	&	3rd St	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	E	F
Market St	&	5th St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	E	F
Market St	&	7th St	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	F	F
Market St	&	40th St	MacArthur BART Transit Village EIR	C	2006	B	C	2030	E	D
Market St	&	MacArthur Blvd	MacArthur BART Transit Village EIR	C	2006	B	C	2030	F	F
Market St	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	B	C	2025	B	E
Martin Luther King Jr. Way	&	5th St	Jack London Square Redevelopment DEIR	C	2003			2025	E	F
Mountain Blvd	&	Keller Ave	Siena Hill DEIR	C	2000; 2001	C	B	2020	D	E
Northgate Ave	&	West Grand Ave	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	C	C
Oak St	&	5th St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	F
Oak St	&	5th St / I-880 SB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	E	F	2030	F	F
Oak St	&	7th St	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	F
Oak St	&	14th St	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	D	F
Oakland Ave	&	MacArthur Blvd (WB) / Santa Clara Ave / I-580 WB Off-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
Oakland Ave	&	Monte Vista Ave	Kaiser Center Redevelopment Project DEIR	D	2007	B	B	2030	D	F
Oakland Ave	&	Perry Pl/I-580 EB Ramps	Kaiser Center Redevelopment Project DEIR	D	2008	B	F	2030	F	F
Oakland Avenue	&	Perry/ I-580 off-ramp	Alta Bates Summit Hospital DEIR	C	2009	B	D	2035	F	F
Piedmont Ave	&	Pleasant Valley Ave	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	B	D	2025	C	F

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Year	Current		Year	Horizon	
						AM LOS	PM LOS		AM LOS	PM LOS
Piedmont Avenue	&	MacArthur Blvd	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	D
Powell St	&	Christie St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	C	F
Powell St	&	Hollis St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	C	F
Powell St	&	I-80 Northbound Ramps	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	C	F
San Leandro St	&	35th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	A	B	2035	F	F
San Leandro St	&	37th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	A	B	2035	F	F
San Leandro St	&	85th Ave	Arcadia Park DEIR	C	2004; 2005	B	B	2025	B	E
San Leandro St	&	98th Ave	Arcadia Park DEIR	C	2004; 2005	D	D	2025	D	F
San Leandro St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	C	C	2025	F	F
San Pablo Ave	&	27th St	Uptown Mixed Use Project EIR	C	2003	A	B	2025	B	E
San Pablo Ave	&	40th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	C	F
San Pablo Ave	&	Thomas L. Berkley Way	Uptown Mixed Use Project EIR	C	2003	B	B	2025	C	F
San Pablo Ave	&	West Grand Ave	Uptown Mixed Use Project EIR	C	2003	B	B	2025	C	F
Shafter Ave	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	C	2025	E	D
Shattuck Ave	&	52nd St	MacArthur BART Transit Village EIR	C	2006	D	D	2030	F	D
Stanford Ave	&	San Pablo Ave	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	C	E
Telegraph Ave	&	19th St	Uptown Mixed Use Project EIR	C	2003	B	B	2025	F	E
Telegraph Ave	&	23rd St	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	D	F
Telegraph Ave	&	24th St	Broadway & West Grand Avenue DEIR	C	2004	B	C	2025	B	F
Telegraph Ave	&	27th St	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	C	F
Telegraph Avenue	&	27th St	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	F	F
Telegraph Ave	&	38th St	MacArthur BART Transit Village EIR	C	2006	B	C	2030	D	F
Telegraph Ave	&	40th St	MacArthur BART Transit Village EIR	C	2006	C	C	2030	F	F

Table 3.2-4
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Year	Current		Horizon		
						AM LOS	PM LOS	Year	AM LOS	PM LOS
Telegraph Ave	&	51st St	MacArthur BART Transit Village EIR	C	2006	D	D	2030	F	F
Telegraph Ave	&	52nd St / Claremont Ave	MacArthur BART Transit Village EIR	C	2006	B	B	2030	F	E
Telegraph Avenue	&	Grand Avenue	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	F
Telegraph Ave	&	MacArthur Blvd	MacArthur BART Transit Village EIR	C	2006	B	B	2030	E	F
Telegraph Avenue	&	MacArthur Blvd	Alta Bates Summit Hospital DEIR	C	2009	C	B	2035	E	F
Telegraph Ave	&	Thomas L. Berkley Way	Uptown Mixed Use Project EIR	C	2003	B	B	2025	F	F
Telegraph Ave	&	West Grand Ave	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	D	E
Telegraph Ave	&	West Grand Ave	Uptown Mixed Use Project EIR	C	2003	C	C	2025	E	E
Telegraph Ave	&	William St	Uptown Mixed Use Project EIR	C	2003	A	A	2025	E	F
Webster St	&	8th St	Oak to Ninth Avenue DEIR	C	2004	C	E	2025	D	E
West Grand Ave	&	Broadway	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	C	E
West Grand Ave	&	Brush Street (stop controlled)	Alta Bates Summit Hospital DEIR	C	2009	E (F)	F (F)	2035	F (F)	F (F)
West Grand Ave	&	Harrison St	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	F	D
West Grand Ave	&	I-880 Frontage Road	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
West Grand Ave	&	Mandela Pkwy	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	E	F
West Grand Ave	&	Maritime St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
West Grand Ave	&	Market St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	E
West Grand Ave	&	San Pablo Street	Alta Bates Summit Hospital DEIR	C	2009	B	B	2035	C	F
West St	&	40th St	MacArthur BART Transit Village EIR	C	2006	B	B	2030	B	E

Source: City of Oakland Transportation Services Division, 2010.

Notes:

- All intersection sin this Table in **bold** were identified as having unacceptable LOS (significant and unavoidable impacts), in current or future scenarios in previous environmental documents.
- C/D/F indicates the status of the environmental document as being Certified/Draft/Final.
- Projects that have not yet been certified are: Gateway (2007), BRT (2007), Oak Knoll, Kaiser Center (2009), and Fruitvale Transit Village II (2009).

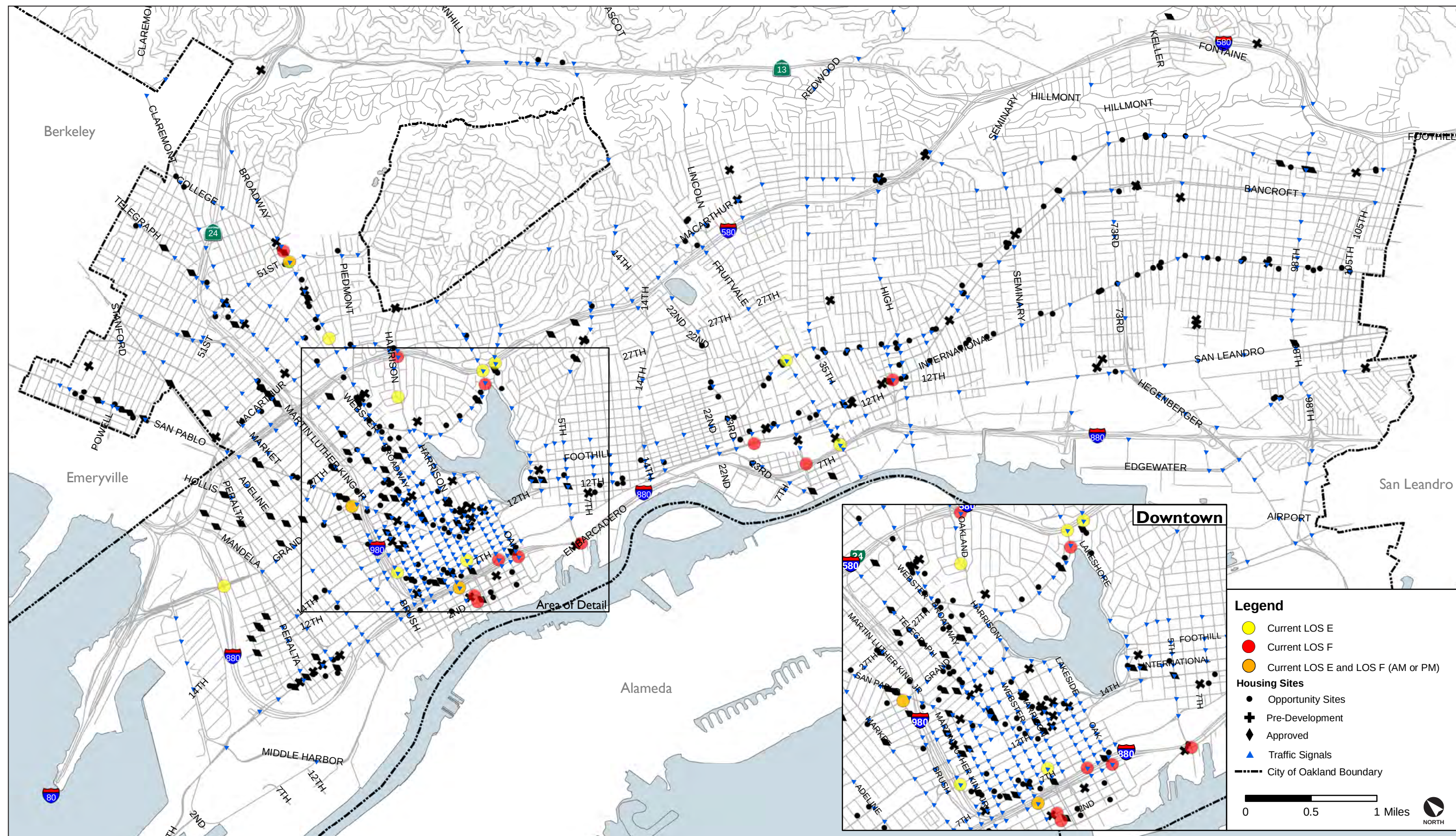


FIGURE 3.2-5
Previously-Identified Impacted Intersections with LOS E or LOS F in Current Year (2000-2009)

Source: City of Oakland, 2010; PBS&J, 2010.

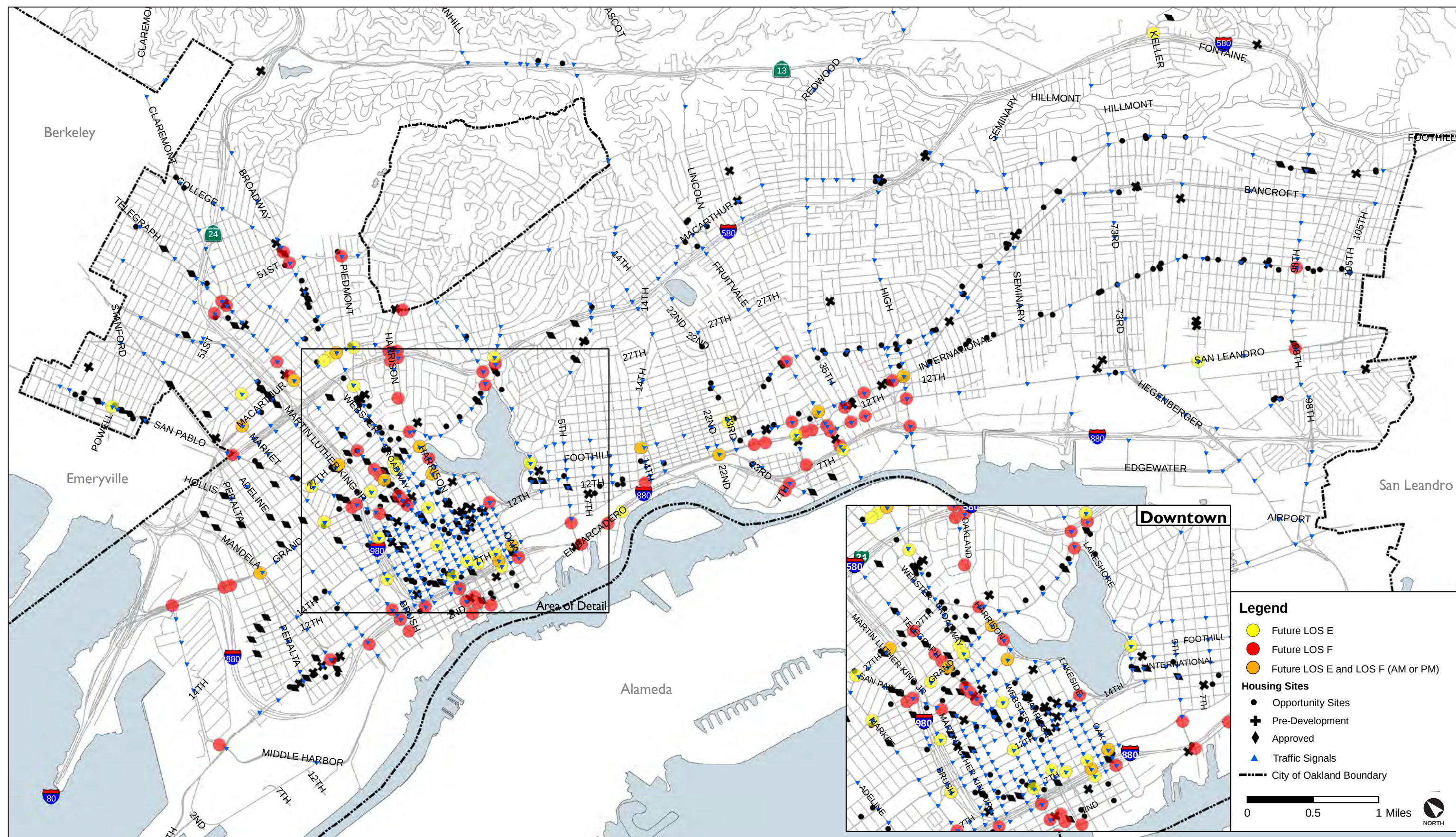


FIGURE 3.2-6
Previously-Identified Impacted Intersections with LOS E or LOS F in Horizon Year (2025-2035)

Source: City of Oakland, 2010; PBS&J, 2010.

The impacted intersections have been identified in order to provide more information about potential traffic-related impacts and to provide CEQA clearance for future housing development projects, pursuant to state CEQA Guidelines sections 15183,⁸ 15162 through 15164⁹ and 15168.¹⁰

Although intersection level of service was not analyzed specifically for this EIR, the trips generated by development under the *Housing Element* are included in the traffic model for the horizon year. Previous development near these intersections have been found to have significant unavoidable impacts, either in the current or future scenario, and no mitigation measures are available or have been acceptable to the City in order to reduce the impact to less than significant. Therefore, those intersections that have been cleared through this EIR may not require additional CEQA clearance for housing projects. However, a Transportation Impact Study may still be required in accordance with standard City policy and practice.

Roadway Improvements –Approved and Funded and Assumed in Transportation Model

A number of roadway improvements have been completed since 1998, when the *LUTE* of the *General Plan* was adopted, other improvements are still underway. The improvements emphasize a multi-modal approach to addressing the impacts of residential development, and take into account the physical limitations of increasing roadway capacity in an older, mostly built-out city. These improvements, while not completed yet in 2010, were included in 2015 and 2035 baseline (without project) conditions as part of the Alameda Countywide Transportation Model, as shown in Table 3.2-5 later in this section. Refer to Appendix E-7 (on a separate CD at the back cover of this EIR) for a complete list of projects included in the model.

Bikeways and bicycle parking projects completed under the Bicycle Master Plan (2007) and Bicycle Parking Ordinance (2008) are not included in the traffic model, unless implementation created a physical change to existing vehicle travel lanes.

⁸ Section 15183 allows a streamlining of environmental review for projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts particular to the project, or the project site.

⁹ Sections 15162-15164 allows for the preparation of a Subsequent EIR and/or Negative Declaration, a Supplemental EIR, and/or and Addendum to an EIR that has already been certified when certain conditions are met.

¹⁰ Section 15168 allows for the streamlining of environmental review for projects that are determined, pursuant to Section 15162, not to have additional environmental impacts or require additional information, beyond the recommendations and analysis contained in the Program EIR. Such projects would not require the preparation of an environmental document.

Applicable Plans and Regulations

Local

City of Oakland General Plan. The Oakland General Plan guides the physical development and character of the City. The General Plan sets forth City policies regarding the types and locations for future land uses and activities and is used by the City Council and Planning Commission in considering planning and land use decisions. The General Plan is comprised of numerous elements, and those containing policies relevant to transportation resources primarily are contained in the *LUTE*. The goals and policies contained in the various General Plan Elements are often competing. In reviewing a project for conformity with the General Plan, the City is required to ‘balance’ the competing goals and policies. Case law has determined that a project “need not be in perfect conformity with each and every policy” and that “no project could completely satisfy every policy stated in the General Plan, and that state law does not impose such a requirement.” (*Sequoyah Hills Homeowners Association vs. City of Oakland*, 1993). Applicable transportation-related objectives and policies from the General Plan are listed below.

Land Use and Transportation Element (LUTE). *LUTE Policy Framework: Encouraging Alternative Means of Transportation.* “A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposed that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The City will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary.”¹¹

- Integrating Transportation and Land Use Planning. Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes. (Objective T2)
- Encouraging Transit-Oriented Development. Transit-oriented development should be encouraged at existing or proposed transit nodes, defined by the convergence of two or more modes of public transit such as BART, bus, shuttle service, light rail or electric trolley, ferry, and inter-city or commuter rail. Discussion of the vision of each of Oakland's BART Stations is discussed on the next pages. (Policy T2)
- Guiding Transit-Oriented Development. Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods. (Objective T2.2)
- Promoting Neighborhood Services. Promote neighborhood-serving commercial development within one-quarter to one-half mile of established transit routes and nodes. (Objective T2.3)

¹¹ City of Oakland. *Oakland General Plan Land Use and Transportation Element*. October 31, 1997.

- Linking Transportation and Economic Development. Encourage transportation improvements that facilitate economic development. (Objective T2.4)
- Making Use of Existing Infrastructure. Take advantage of existing transportation infrastructure and capacity that is underutilized. For example, where possible and desirable, convert unused travel lanes to bicycle or pedestrian paths or amenities. (Objective T2.5)
- Linking Transportation and Activities. Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers). (Objective T2.6)
- Including Bikeways and Pedestrian Walks. The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realized streets, wherever possible. (Policy T3.5)
- Incorporating Design Features for Alternative Travel. The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking. (Policy T4.1)

City of Oakland Bicycle Master Plan. The *Bicycle Master Plan (Plan)* envisions Oakland “will be a city where bicycling is fully integrated into daily life, providing transportation and recreation that are both safe and convenient.” The details of the *Plan* guide Oakland to “promote the routine accommodation of bicyclists in its projects and programs” and directs the development of the City’s bikeway network. The *Plan* includes policies, goals, and actions that would promote bicycling in Oakland through improvements to infrastructure, education, and coordination.

The policies in the *Plan* which are relevant to the *Housing Element* are:

- Work to develop and improve Oakland’s bikeway network. (BMP Policy 1A)
- Routine Accommodation. Address bicycle safety and access in the design and maintenance of all streets. (BMP Policy 1B)
- Safe Routes to Transit. Improve bicycle access to transit, bicycle parking at transit facilities, and bicycle access on transit vehicles. (BMP Policy 1C)
- Parking and Support Facilities. Promote secure and conveniently located bicycle parking at destinations throughout Oakland. (BMP Policy 1D)
- Project Development. Prioritize and design bicycle projects in cooperation with key stakeholders. (BMP Policy 3B)

City of Oakland Transit First Policy. In October 1996, the City adopted what is known as the “Transit First” Policy, a resolution which supports public transit and other alternatives to single occupant vehicles. It directs the *LUTE* to incorporate “various methods of expediting transit services on designated streets, and encouraging greater transit use.”

City of Oakland Planning Code. The City's Planning Code provides additional requirements for the provision of parking, loading and bicycle facilities within the City of Oakland. Development under the *2007-2014 Housing Element* would be subject to the Oakland Planning Code with regard to off-street parking and loading requirements, specifically:

Chapter 17.116. Off-Street Parking and Loading Requirements. The residential parking requirements, measured per dwelling unit, are:

- Two spaces for single family detached unit, except in R-35, R-36, and R-40 zones, where 1.5 spaces per dwelling unit are required, and in R-36 zones meeting certain maximum space requirements, one space per dwelling unit;
- One space for each secondary unit; and
- One and a half spaces for multi-family units, except one space per unit in C-28 zones and any zone combined with the S-12 zone. One-half space per unit in S-15 zones. No parking is required in C-52 zones.

The parking ratios have not been substantially revised since the adoption of the code in 1965.

The City's Planning code (Chapter 17.117), updated in 2008, also requires the provision of bicycle parking facilities for multi-family dwelling units, with one parking space required for each 20 dwelling units, and a minimum of two parking spaces in a bicycle rack or racks; and a locker or locked enclosure for residential developments without a private garage for each unit, at the rate of one space for every four dwelling units.

City of Oakland Standard Conditions of Approval

The City has established City's Standard Conditions of Approval (SCAs) that apply to all projects within the City, including projects that would be developed under the *2007-2014 Housing Element*. The City's SCAs relevant to parking and traffic are listed below. These conditions of approval will be adopted as requirements of each development project within the City, if the projects are approved by the City to help ensure that no significant impacts occur, as a result they are not listed as mitigation measures.

SCA-25 Parking and Transportation Demand Management. Any project under the *2007-2014 Housing Element*, which involves development of 50 or more new residential units, or 50,000 sq. ft. or more of new non-residential space, would be subject to the following SCAs.

Prior to issuance of a final inspection of the building permit. The applicant shall submit for review and approval by the Planning and Zoning Division a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The applicant shall implement the approved TDM plan. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four modes of travel shall be considered. Strategies to consider include the following:

- a) Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement

- b) Construction of bike lanes per the Bicycle Master Plan; Priority Bikeway Projects
- c) Signage and striping onsite to encourage bike safety
- d) Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, countdown signals, bulb outs, etc.) to encourage convenient crossing at arterials
- e) Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan
- f) Direct transit sales or subsidized transit passes
- g) Guaranteed ride home program
- h) Pre-tax commuter benefits (checks)
- i) On-site car-sharing program (such as City Car Share, Zip Car, etc.)
- j) On-site carpooling program
- k) Distribution of information concerning alternative transportation options
- l) Parking spaces sold/leased separately
- m) Parking management strategies; including attendant/valet parking and shared parking spaces

SCA-92 Traffic Fairshare for Projects Located in Southeast Oakland

Any project under the *2007-2014 Housing Element* located within the Southeast Oakland Hills TIP/TIF area, which generally extends along both sides of the I-580 freeway corridor between the Seminary Avenue and the 98th Avenue interchanges. Exceptions to this standard include the following:

- a) Affordable housing units.
- b) Residential remodeling where there is no change in use or the number of units.
- c) Reconstruction of a razed structure if proof of destruction is submitted that shows the destruction of the house prior to the Ordinance.

Prior to the issuance of a certificate of occupancy. Project applicants shall submit fair share traffic payments to the City in accordance with Chapter 10.70 of the Oakland Municipal Code for funding capital improvement projects to accommodate future traffic demand in the area.

SCA-33 Construction Traffic and Parking

Prior to the issuance of a demolition, grading or building permit. The project applicant and construction contractor shall meet with 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 applicant shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following items and requirements:

- a) A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.
- b) Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- c) Location of construction staging areas for materials, equipment, and vehicles at an approved location.
- d) A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.
- e) Provision for accommodation of pedestrian flow.

Major Project Cases:

- f) Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces or insert name of street.
- g) Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the applicant's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the City Building Inspector and/or photo

documentation, at the applicant's expense, before the issuance of a Certificate of Occupancy.

- h) Any heavy equipment brought to the construction site shall be transported by truck, where feasible.
- i) No materials or equipment shall be stored on the traveled roadway at any time.
- j) Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.
- k) All equipment shall be equipped with mufflers.
- l) Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

Impacts and Mitigation Measures

This section evaluates the potential adverse impacts related to vehicular traffic generated by development under the *2007-2014 Housing Element*. The impact discussion is focused on the impacts of vehicular traffic on study roadway segments, although impacts to transit, and pedestrian and bicycle facilities are also discussed. Although it is not a CEQA impact, the parking demand of the full project buildout is discussed at the end of this section, for informational purposes. Additionally, known impacts to intersections (outside the scope of this EIR) are identified for informational purposes. This section begins with a detailed explanation of the significance criteria utilized to determine whether an effect would be significant. Then traffic impacts are assessed at the study roadway segments in the study area for the following scenarios:¹²

- Existing Plus Project
- Cumulative Year 2015 Baseline Plus Project
- Cumulative Year 2035 Baseline Plus Project

Thresholds of Significance

Given that the *2007-2014 Housing Element* is a planning document, only significance thresholds 1 through 5 and 8 through 10 are applicable. However, project-level thresholds 6a through 6h are included to show how the level of significance for the previously impacted intersections included in Table 3.2-4 and Figures 3.2-5 and 3.2-6 was determined. No further analysis of the previously analyzed impacts has been conducted and no further discussion of thresholds 6a through 6f is included.

It should be noted that threshold 1 and 6g are identical, both refer to a CMP required analysis. As discussed under Introduction, at the beginning of this section, a separate CMP analysis was not

¹² See pages 3.2-1 and 3.2-6 for a description of these scenarios.

conducted, therefore no further discussion of threshold 1 is included. Threshold 4 and 6h (conflict with adopted policies, plans or programs supporting alternative transportation), as well as threshold 5 and 7 (cumulative impacts) are also identical, for plan-level and project-level review, respectively. Therefore thresholds 6g, 6h, and 7 are not discussed further since they apply to project-level review and are covered by thresholds 1, 4, and 5 in the plan-level thresholds.

A project would have a significant impact on the environment in relation to transportation effects if it would:

Plan-Level Impacts (for “Study Roadway Segments”)

1. For a Congestion Management Program (CMP) required analysis, (i.e., projects that generate 100 or more peak hour trips) a significant impact would occur if the project would cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project;
2. At a study roadway segment located within the Downtown area where the with-project LOS would be worse than LOS E (i.e., LOS F), or for a study roadway segment located outside the Downtown area where the LOS would be worse than LOS D (i.e., LOS E or F), a significant impact would occur if the project would increase the V/C ratio (compared to the no-project alternative) by more than 0.03;
3. At a study roadway segment located within the Downtown area a significant impact would occur if the LOS would drop from an acceptable LOS (i.e. LOS E or better) to worse than LOS E (i.e., LOS F), or for a study roadway segment located outside the Downtown area a significant impact would occur if the LOS would drop from an acceptable LOS (i.e. LOS D or better) to worse than LOS D (i.e., LOS E or F) as a result of the proposed project;
4. A significant impact would occur if the project would fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes, pedestrian safety); and/or
5. A plan’s contribution to cumulative impacts is considered “considerable” (i.e., significant) when the plan exceeds at least one of the segment thresholds listed above in thresholds #1 through #3 for years 2015 or 2035.

Project-Level Impacts (For Previously-analyzed “Impacted Intersections”)¹³

- 6a. At a study, signalized intersection which is located outside the Downtown¹⁴ area, the project would cause the LOS to degrade to worse than LOS D;
- 6b. At a study, signalized intersection which is located within the Downtown area, the project would cause the LOS to degrade to worse than LOS E;
- 6c. At a study, signalized intersection outside the Downtown area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four (4) or more seconds, or degrade to worse than LOS E;
- 6d. At a study, signalized intersection for all areas where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more, or degrade to worse than LOS E;
- 6e. At a study, signalized intersection for all areas where the level of service is LOS F, the project would cause (a) the total intersection average vehicle delay to increase by two (2) or more seconds, or (b) an increase in average delay for any of the critical movements of four (4) seconds or more; or (c) the volume-to-capacity (“V/C”) ratio exceeds three (3) percent (but only if the delay values cannot be measured accurately);
- 6f. At a study, unsignalized intersection the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant;
- 6g. For a Congestion Management Program (CMP) required analysis, (i.e., projects that generate 100 or more PM peak hour trips) cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project;
- 6h. Would fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes, pedestrian safety); and/or
- 7. A project’s contribution to cumulative impacts is considered “considerable” (i.e., significant) when the project exceeds at least one of the segment or intersection-related thresholds listed above in # 6a-6g, for years 2015 or 2035.

¹³ Although not legally required to analyze project-related impact for the *Housing Element*, the City nevertheless analyzed certain intersections (“impacted intersections”) which were previously found to have significant unavoidable impacts from recently published EIRs or other traffic analysis that has been completed, in order to provide more information about potential traffic-related impacts and to provide CEQA clearance for future housing projects that are consistent with the adopted *Housing Element* and this EIR, pursuant to CEQA Guidelines sections 15183, 15162-15164, and 15168.

¹⁴ Downtown is defined in the *LUTE* of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west.

Other CEQA Thresholds

8. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks;
9. Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or
10. Result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions.

Methodology for Analysis

Cumulative impacts were evaluated through the use of a regional travel forecasting model (Travel Demand Model) developed by ACCMA. It includes all relevant land development in the horizon years studied (2015 and 2035), as well anticipated major roadway improvements, as listed in Appendix E-7 (on a separate CD at the back cover of this EIR). The impact analysis for the *2007-2014 Housing Element* is based on the travel forecasts generated by the Travel Demand Model to provide the future baseline No Project Alternative. The projects included in the Model (as listed in Appendix E-7) within the City of Oakland, and the scenario they are included in are summarized in Table 3.2-5.

**Table 3.2-5
Programmed Roadway Improvements Within the City of Oakland
Included in the ACCMA Model**

Programmed Improvement	Source	Scenarios For Which the Improvement is Included
I-880 66 th Avenue/Hegenberger interchange improvements (2015)	ACCMA Model	Cumulative Year 2015 Baseline No Project Cumulative Year 2015 Baseline Plus Project Cumulative Year 2035 Baseline No Project Cumulative Year 2035 Baseline Plus Project
I-880 new southbound HOV lane (Hegenberger to Marina Avenue) (2015)	ACCMA Model	Cumulative Year 2015 Baseline No Project Cumulative Year 2015 Baseline Plus Project Cumulative Year 2035 Baseline No Project Cumulative Year 2035 Baseline Plus Project
I-880 Broadway/Jackson ramp improvements (2035)	ACCMA Model	Cumulative Year 2035 Baseline No Project Cumulative Year 2035 Baseline Plus Project
SR 24 New Caldecott Tunnel fourth bore (2035)	ACCMA Model	Cumulative Year 2035 Baseline No Project Cumulative Year 2035 Baseline Plus Project
AC Transit Bus Rapid Transit Project, Telegraph Avenue/International Blvd. (2035)	ACCMA Model	Cumulative Year 2035 Baseline No Project Cumulative Year 2035 Baseline Plus Project
Oakland Airport Transit Connector (2035)	ACCMA Model	Cumulative Year 2035 Baseline No Project Cumulative Year 2035 Baseline Plus Project

Source: Dowling Associates, 2010. See also Appendix E-7 (*all Appendices are on a separate CD at the back cover of this EIR*).

As shown in Table 3.2-5 projects included in the 2015 scenario are also included in the 2035 model run. Projects outside of Oakland that were included in the model run are also included in Appendix E-7. The model includes not only City of Oakland land development, but also development in the nine-county Bay Area. The total growth in households and jobs for Oakland was based on the Association of Bay Area Governments (ABAG) *Projections 2007*. These were the most recent demographic projections available at the time of the analysis. Use of the model makes it consistent with other environmental analyses and transportation studies done in Oakland. All of the scenarios labeled “No Project” include the ABAG-anticipated growth in the relevant years, without the *Housing Element* additional units.

Existing LOS is shown in Table 3.2-2. The project impacts (the addition to traffic volumes resulting from development of 13,501 housing units) were estimated using adjusted Institute of Transportation Engineers (ITE) trip generation rates that were reviewed and approved by City staff.¹⁵ The rates were based on the ITE rates for apartment (land use 220) and high-rise apartment (land use 222), because all proposed sites are expected to be developed with multi-family units. Because ITE rates reflect typical North American suburban situations, where the majority of person-trips are made by private vehicle, rather than denser cities like Oakland, where alternative modes of transportation are more heavily utilized, the ITE rates were reduced by 20 percent to account for higher transit, walking, and bicycle mode use. The 20 percent was agreed to based on MTC travel forecasts for 2015.¹⁶ The high-rise rates (land use 222) were applied in the central, downtown, and Chinatown areas of Oakland, whereas other areas used the apartment (land use 220) trip rates adjusted downward by 20 percent. The rates used in the impact analysis are shown in Table 3.2-6.

Table 3.2-6
Vehicle Trip Generation Rates per Dwelling Unit

Location	Weekday	AM Peak	PM Peak
Central/Downtown/Chinatown	3.36	0.24	0.28
All Other	5.32	0.41	0.50

Note: Weekday rates represent a 24-hour period; AM and PM Peak are for a one-hour period.

If all 13,501 housing units were developed and occupied, they would generate approximately 61,900 vehicle trips on an average weekday, with 4,660 vehicle trips in the morning (AM) peak hour, and 5,610 vehicle trips in the afternoon (PM) peak hour (see Appendix E-3, on a separate CD at the back cover of this EIR). Given that housing units developed under the *Housing Element* would be distributed throughout the City, associated trips would also be distributed throughout the City, not just concentrated in one location.

¹⁵ Institute of Transportation Engineers. *Trip Generation 8th Edition – An Informational Report*. Washington, DC: Institute of Transportation Engineers, 2008.

¹⁶ The reduction was based on comparing the Oakland/Alameda “superdistrict” (SD) to two other suburban SD’s in the Bay Area: Livermore/Pleasanton and Concord Martinez (SD 15 and 18). Converting person trips to vehicle trips indicated that the Oakland SD generated approximately 80 percent of the vehicle trips per household that the suburban areas did. Because ITE rates are based on suburban study sites, the 20 percent factor was used to reduce the “published” rate in ITE’s *Trip Generation, 8th edition* to a rate more appropriate to Oakland.

Trip distribution for each planning area in which new housing units would be located was developed from examination of traffic impact studies, other EIRs, and professional judgment. Trip generation and distribution factors are included as Appendix E-3 (on a separate CD at the back cover of this EIR).

As stated above, the CMA model provided traffic forecasts for the 2015 and 2035 scenarios. In addition, a scenario using existing count data plus project trip generation (Existing Plus Project scenario) was also developed. The roadway LOS were calculated using AM and PM peak hour directional traffic volumes at several key locations throughout Oakland that were selected because they would be the mostly likely to be affected by residential development at the Housing Sites. Since this is a program-level analysis, a more generalized approach was taken in the LOS analysis than would be typically used in a project-level EIR. The method is based on the *2000 Highway Capacity Manual*, which is the most widely accepted method for performing level of service analysis. However, some of the detailed input values, such as roadway grades, percentage of heavy vehicles, intersection signal timing, and so on, have been given generalized or ‘default’ values. This considerably simplifies the analysis and allows for a greater number of locations to be analyzed than if the more detailed intersection level of service method were used. This methodology is identical to the one used in the 1998 Oakland *General Plan LUTE DEIR*,¹⁷ although some parameters in the methodology have been updated since then. It is also the methodology used by the ACCMA to assess impacts on its CMP-monitored system.

The Florida Department of Transportation has developed and maintains this methodology, which is why it is sometimes referred to as the “FDOT method.” More information is available from their website at: www.dot.state.fl.us/planning/systems/sm/los/default.shtm. The method uses a traffic volume (either from an existing count or projected by a model); the capacity of the roadway segment based on the roadway classification (i.e., arterial, collector, etc.), presence of left turn lanes, whether it is divided/undivided, and number of lanes; and results in a letter level of service (A through F). The segment evaluations were conducted for the AM and PM peak hours based on the CMA model forecasts for Year 2015 and Year 2035. The detailed tables are included as Appendix E-6 on a separate CD at the back cover of this EIR.

The discussion of impacts and mitigation measures focuses on the 2015 results since development under the *2007-2014 Housing Element* is anticipated to be complete by 2015. However, the 2035 forecasts and LOS results indicate what conditions will be like for the major roadways in Oakland for the longer term.

The tables indicate the facility type as either freeway (Fwy) or arterial by class (Class 1, 2, or 3). The arterial class is based on the number of traffic signals per mile. The directional volumes are extracted from CMA model plots and are most representative of volumes along that segment. The V/C is calculated using capacities derived from the FDOT tables¹⁸ the facility type, number of lanes, and area type (i.e., Central Business District (CBD) vs. non-CBD). Roadway segment capacities are included in Appendix E-5.

¹⁷ City of Oakland. *General Plan – Land Use and Transportation Element: Environmental Impact Report*. February 1998.

¹⁸ FDOT Systems Planning Service – Quality/Level of Service. www.dot.state.fl.us/planning/systems/sm/los/default.shtm. Accessed on August 4, 2009.

Environmental Analysis

For each potential impact associated with the proposed project, a level of significance is determined and is reported in the impact statement. Conclusions of significance are defined as follows: significant impact (S), potentially significant impact (PS), less than significant (LTS), or no impact (NI). For each impact identified as being significant (S) or potentially significant (PS), the EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to a less-than-significant (LTS) level successfully, this is stated in the EIR. If the mitigation measures would not diminish significant or potentially significant impacts to a less-than-significant level, the impacts are classified as “significant unavoidable impacts (SU).” For this section, TR refers to transportation.

City Roadway Segment Level of Service

TR-1. The LOS analysis (Appendix E-6) conducted for the 2007-2014 Housing Element identified several roadway segments where the LOS would drop from an acceptable LOS to an unacceptable LOS with the addition of project generated traffic. The LOS analysis also identified roadway segments that operate or would operate at an unacceptable LOS without project generated traffic, where the project would increase the V/C ratio by more than 0.03. Both of these conditions would be considered a significant impact. (SU)

Mitigation: An individual project’s contribution to a significant roadway segment or intersection impact can only be determined on a site-by-site or case-by-case basis, which is outside the scope of this environmental analysis. In addition, the feasibility and effectiveness of mitigation measures can also only be determined on a site-by-site or case-by-case basis. Therefore, to mitigate potential traffic impacts for residential development under the *2007-2014 Housing Element*, the following mitigation measures are incorporated:

TR-1.1 Traffic Impact Study (TIS) for Residential Projects. Prior to approval of a development application for a residential development, that may impact any roadway segment or intersection identified as having a significant impact, the project applicant shall retain a qualified traffic engineer to conduct a Traffic Impact Study (TIS), in accordance with then-current City policies and practices, to identify whether the project would contribute additional vehicular trips to a significant traffic impact on a study roadway segment(s) or intersection(s).

The TIS shall be performed in accordance with then-current City policies and practices, and shall generally identify:

1. The number of trips generated by the proposed project;
2. The mode split for vehicular trips (i.e. the number of generated trips that would be made by private vehicle);
3. The distribution of vehicular trips on local roadways;
4. Based on a quantitative evaluation of the information provided under 1 through 3, above, the City shall make a significance determination of the traffic impact(s) to roadway(s) or intersection(s) resulting from the proposed project; and

5. If the level of impact identified under 4 would be significant, Mitigation Measure TR-1.2 shall be employed.

TR-1.2 Other Mitigations. Depending on the results of the TIS conducted in TR-1.1, the project applicant's traffic engineer shall evaluate the feasibility of the following broad measures at the intersections identified in TR-1.1 above, and implement those measures determined feasible by the City:¹⁹

- Install new traffic signals and other roadway improvements that support not only vehicle travel, but all other modes safely to and through the intersection,
- Modify signal operation or phasing,
- Change lane assignment,
- Install bike and pedestrian facilities, and/or
- Optimize signal timing (i.e., adjust the allocation of green time for each intersection approach) for the peak hours.

To implement those measures determined feasible by the City, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction.

Current City Standards call for the elements listed below:

- 2070L Type Controller w/ Cabinet Assembly and License seat,
- GPS communication (clock),
- Accessible pedestrian signals (audible and tactile), and crosswalks according to Federal and State Access Board guidelines,
- Countdown Pedestrian Head Module Switch out,
- City Standard ADA wheelchair ramps,
- Video Detection on Existing (or new, if required) Mast Arm Poles, full actuation (where applicable),

¹⁹ The City already requires as a Standard Condition of Approval (SCA-25), the development of a Transportation Demand Management (TDM) Plan for developments with 50 residential units or greater.

- Polara Push Buttons (full actuation),
- Bicycle detection (full actuation),
- Pull Boxes,
- Signal interconnect and communication w/ trenching (where applicable), or through (E) conduit (where applicable)- 600 feet minimum,
- Conduit replacement contingency,
- Fiber Switch,
- PTZ Camera (where applicable), and
- Signal timing plans.

The project sponsor shall fund, prepare, and install the approved plans and improvements.

Mitigation Measures TR-1.1 and TR-1.2 would be applied by the City on a project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TR-1.1 and TR-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s); however, on roadway segments that are particularly congested, impacts would likely remain significant and unavoidable. Given that project specific quantitative analysis of Mitigation Measures TR-1.1 and TR-1.2 was not undertaken in this programmatic EIR, it is conservatively concluded that these mitigation measures would not satisfactorily mitigate the significant impacts identified below and that impacts would remain significant and unavoidable. Therefore, when an impacted roadway segment or state highway segment is identified, it is conservatively assumed that a significant and unavoidable impact might result.

Significance after Mitigation: Significant and unavoidable.

A. Existing Plus Project

This section compares the traffic generated by the proposed project to the existing transportation network. This analysis presents the extent of project impacts relative to existing conditions.

Traffic Volumes. To estimate the Existing Plus Project roadway segment conditions, traffic generated by the project was added to the existing segment volumes. Per threshold 2, a significant impact would occur when project-generated traffic increases traffic volumes by more than three percent if the with-project LOS is worse than E in the Downtown, or worse than D outside the Downtown. Figure 3.2-7 shows the AM and PM peak hour segment volumes under the Existing Plus Project conditions. Table 3.2-7 summarizes LOS and V/C ratios at the study roadway segments under the Existing Plus Project scenario for the AM peak hour. The LOS and V/C ratio calculation sheets are presented in Appendix E-6.

Roadway Network. No modifications to the existing roadway network system were assumed in this scenario.

Existing Plus Project Roadway Segment Operations. As shown in Tables 3.2-7 and 3.2-8, the majority of study roadway segments would operate at LOS D or better during both the AM and PM peak hours in the Existing Plus Project scenario, except:

- # 18 Grand Avenue between Harrison Street and Interstate 580 would operate at LOS E with a V/C ratio of 0.97 during the PM peak hour in the northbound direction.
- # 21 Fruitvale Avenue south of I-580 would operate at LOS E with a V/C ratio of 0.96 during the AM peak hour in the northbound direction, and LOS F with a V/C ratio of 1.08 in the southbound direction in the PM peak hour.
- Additionally, Interstate and State Highways #45, 46, 51, and 52 operate at LOS E or F in the existing plus project condition, as shown in Table 3.2-7 and 3.2-8.

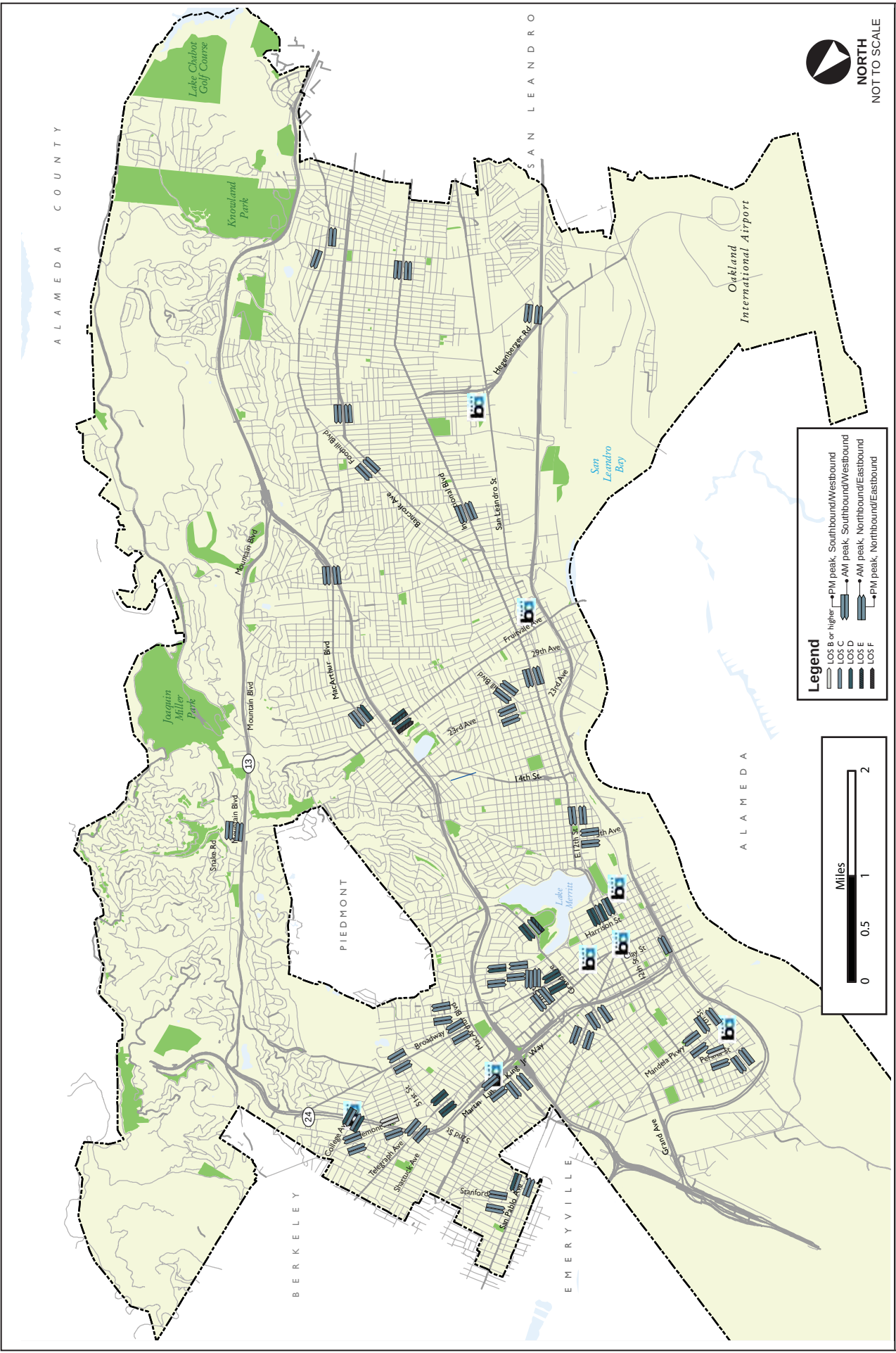
Existing Plus Project Impacts and Mitigation Measures

TR-2. Roadway Segment #18, Grand Avenue between Harrison Street and I-580, would operate at an unacceptable LOS E (V/C 0.97) in the eastbound direction in the PM peak hour in the Existing Plus Project scenario compared to LOS D (V/C 0.92) in the Existing condition. The addition of project-generated traffic would cause the LOS to drop from an acceptable to an unacceptable LOS, a significant impact. (SU)

Most of Grand Avenue in this segment has two travel lanes in each direction, with left turn pockets, parking, and bike lanes. The area is entirely built up or has park land adjacent. Additional travel lanes would require eliminating parking for merchants along this street, or eliminating the existing bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after mitigation: Significant and unavoidable.



Source: Dowling Associates, 2009.

FIGURE 3.2-7
Existing Plus Project LOS (AM/PM)

**Table 3.2-7
Roadway Segment Evaluation – Existing + Project AM Peak Hour**

		Northbound/Eastbound				Southbound/Westbound			
		Existing AM		Existing + Project AM		Existing AM		Existing + Project AM	
		V/C Ratio	AM LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Arterial Roadway Segments									
1.	Mandela Parkway n/o 7th Street	0.11	B	0.14	C	0.11	B	0.15	C
2.	7th Street e/o Mandela Parkway	0.10	B	0.13	C	0.24	C	0.27	C
3.	7th Street w/o Peralta Street	0.22	C	0.31	C	0.20	C	0.28	C
4.	Peralta Street n/o 7th Street	0.06	B	0.11	B	0.08	B	0.13	C
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue	0.46	C	0.50	C	0.41	C	0.45	C
6.	Stanford Avenue e/o San Pablo Avenue	0.17	C	0.17	C	0.30	C	0.31	C
7.	MacArthur Boulevard w/o Martin Luther King Way	0.15	C	0.18	C	0.18	C	0.21	C
8.	Martin Luther King Way n/o MacArthur Boulevard	0.15	C	0.19	C	0.10	B	0.15	C
9.	West Grand Avenue w/o Martin Luther King Way	0.44	C	0.51	C	0.40	C	0.46	C
10.	Claremont Avenue s/o College Avenue	0.27	C	0.28	C	0.26	C	0.26	C
11.	Telegraph Avenue s/o 51st Street	0.34	C	0.40	D	0.36	C	0.42	D
12.	Piedmont Avenue n/o MacArthur Boulevard	0.36	C	0.41	C	0.45	C	0.50	C
13.	Mountain Boulevard s/o Snake Road	0.53	C	0.54	C	0.46	C	0.47	C
14.	7th Street b/w Clay & Jefferson (EB One-Way)	0.21	C	0.24	C	N/A	N/A	N/A	N/A
15.	12th Street w/o Oak Street (WB One-Way)	N/A	N/A	N/A	N/A	0.51	D	0.55	D
16.	14th Street w/o Oak Street	0.21	C	0.28	C	0.49	D	0.56	D
17.	27th Street w/o Harrison Street	0.13	C	0.16	C	0.22	C	0.25	C
18.	Grand Avenue b/w Harrison Street & I-580	0.29	C	0.33	C	0.73	D	0.77	D
19.	5th Avenue s/o East 12th Street	0.25	C	0.29	C	0.34	C	0.39	C
20.	East 12th Street e/o 5th Avenue	0.22	C	0.26	C	0.32	C	0.37	C
21.	Fruitvale Avenue s/o I-580	0.89	D	0.96	E	0.73	D	0.84	D

**Table 3.2-7
Roadway Segment Evaluation – Existing + Project AM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	Existing AM			Existing + Project AM			Existing AM			Existing + Project AM		
	V/C Ratio	AM LOS		V/C Ratio	LOS		V/C Ratio	LOS		V/C Ratio	LOS	
22. 23rd Avenue n/o Foothill Boulevard	0.19	C		0.22	C		0.36	C		0.40	C	
23. Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue	0.38	C		0.41	C		0.52	C		0.54	C	
24. Foothill Boulevard n/o Seminary Avenue	0.28	C		0.32	C		0.29	C		0.34	C	
25. MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A		N/A	N/A		0.42	C		0.49	C	
26. MacArthur Boulevard e/o Lincoln Avenue	0.34	C		0.38	C		0.39	C		0.44	C	
27. MacArthur Boulevard e/o High Street	0.38	C		0.42	C		0.30	C		0.34	C	
28. MacArthur Boulevard e/o 98th Avenue (EB Only)	0.11	B		0.13	C		N/A	N/A		N/A	N/A	
29. International Boulevard b/w 23rd Avenue & Fruitvale Avenue	0.32	C		0.35	C		0.43	C		0.46	C	
30. International Boulevard w/o Seminary Avenue	0.34	C		0.38	C		0.58	C		0.62	C	
31. International Boulevard w/o 98th Avenue	0.30	C		0.34	C		0.35	C		0.39	C	
32. Edes Avenue w/o of 85th Avenue	0.28	C		0.31	C		0.17	C		0.20	C	
33. Bancroft Avenue s/o 73rd Avenue	0.35	C		0.37	C		0.29	C		0.31	C	
34. Oakland Avenue s/o Pearl Street (NB One-Way)	0.73	C		0.79	D		N/A	N/A		N/A	N/A	
35. Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A		N/A	N/A		0.39	C		0.43	C	
36. Harrison Street n/o Grand Avenue	0.44	C		0.49	C		0.37	C		0.43	C	
37. Broadway n/o MacArthur Boulevard	0.17	C		0.23	C		0.19	C		0.25	C	
38. Broadway n/o Grand Avenue	0.30	C		0.40	D		0.27	C		0.38	D	
39. Broadway s/o College Avenue	0.23	C		0.26	C		0.33	C		0.36	C	
40. San Pablo Avenue (SR 123) n/o West Grand Avenue	0.22	C		0.25	C		0.21	C		0.24	C	
41. Telegraph Avenue n/o Claremont Avenue	0.34	C		0.36	C		0.36	C		0.38	C	

**Table 3.2-7
Roadway Segment Evaluation – Existing + Project AM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound			
	Existing AM			Existing + Project AM			Existing AM		Existing + Project AM	
	V/C Ratio	AM LOS		V/C Ratio	LOS		V/C Ratio	LOS	V/C Ratio	LOS
42. Claremont Avenue e/o (n/o) 52nd Street	0.07	B		0.09	B		0.12	B	0.14	C
43. College Avenue s/o Claremont Avenue	0.36	C		0.40	C		0.28	C	0.32	C
44. 27th Street w/o Valdez Street	0.13	C		0.15	C		0.21	C	0.23	C
Interstate/State Highways										
45. SR-13 n/o Jct I-580	0.67	C		0.68	D		0.64	C	0.65	C
46. SR-24 e/o Jct I-580	0.46	B		0.99	E		0.87	D	0.87	D
47. SR-77 e/o Jct I-880	0.14	A		0.14	A		0.26	A	0.27	A
48. I-80 e/o Powell Street	0.66	C		0.67	C		0.80	D	0.80	D
49. SR-185 at Oakland City Limit	0.26	A		0.26	A		0.13	A	0.14	A
50. SR-260 at Jct I-880	0.59	C		0.59	C		0.42	B	0.44	B
51. I-580 e/o Edwards Avenue	0.78	D		0.78	D		0.64	C	0.65	C
52. I-880 n/o 66th Avenue	0.66	C		0.66	C		0.81	D	0.82	D
53. I-980 at 14th Street overcrossing	0.59	C		0.61	C		0.53	C	0.54	C

Source: Dowling Associates, Inc., 2009.

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

**Table 3.2-8
Roadway Segment Evaluation – Existing + Project PM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	Existing PM			Existing + Project PM			Existing PM			Existing + Project PM		
	V/C Ratio	LOS		V/C Ratio	LOS		V/C Ratio	LOS		V/C Ratio	LOS	
Arterial Roadway Segments												
1.	Mandela Parkway n/o 7th Street	0.14	C		0.19	C		0.18	C		0.23	C
2.	7th Street e/o Mandela Parkway	0.20	C		0.24	C		0.18	C		0.22	C
3.	7th Street w/o Peralta Street	0.21	C		0.32	C		0.21	C		0.31	C
4.	Peralta Street n/o 7th Street	0.09	B		0.15	C		0.10	B		0.16	C
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue	0.73	C		0.79	D		0.59	C		0.65	C
6.	Stanford Avenue e/o San Pablo Avenue	0.42	C		0.43	C		0.26	C		0.27	C
7.	MacArthur Boulevard w/o Martin Luther King Way	0.29	C		0.33	C		0.26	C		0.30	C
8.	Martin Luther King Way n/o MacArthur Boulevard	0.27	C		0.33	C		0.15	C		0.20	C
9.	West Grand Avenue w/o Martin Luther King Way	0.59	C		0.67	C		0.42	C		0.49	C
10.	Claremont Avenue s/o College Avenue	0.31	C		0.32	C		0.23	C		0.24	C
11.	Telegraph Avenue s/o 51st Street	0.43	D		0.50	D		0.43	D		0.51	D
12.	Piedmont Avenue n/o MacArthur Boulevard	0.56	C		0.62	C		0.42	C		0.49	C
13.	Mountain Boulevard s/o Snake Road	0.54	C		0.55	C		0.47	C		0.48	C
14.	7th Street b/w Clay & Jefferson (EB One-Way)	0.28	C		0.32	C		N/A	N/A		N/A	N/A
15.	12th Street w/o Oak Street (WB One-Way)	N/A	N/A		N/A	N/A		0.33	C		0.37	C
16.	14th Street w/o Oak Street	0.52	D		0.60	D		0.34	C		0.42	D
17.	27th Street w/o Harrison Street	0.23	C		0.26	C		0.20	C		0.23	C
18.	Grand Avenue b/w Harrison Street & I-580	0.92	D		0.97	E		0.48	D		0.53	D
19.	5th Avenue s/o East 12th Street	0.40	C		0.45	C		0.26	C		0.32	C

**Table 3.2-8
Roadway Segment Evaluation – Existing + Project PM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	Existing PM			Existing + Project PM			Existing PM			Existing + Project PM		
	V/C Ratio	LOS		V/C Ratio	LOS		V/C Ratio	LOS		V/C Ratio	LOS	
20. East 12th Street e/o 5th Avenue	0.30	C		0.36	C		0.23	C		0.28	C	
21. Fruitvale Avenue s/o I-580	0.78	D		0.86	D		0.95	E		1.08	F	
22. 23rd Avenue n/o Foothill Boulevard	0.34	C		0.38	C		0.31	C		0.35	C	
23. Foothill Boulevard b/w Fruitvale Ave & 23rd Avenue	0.54	C		0.57	C		0.56	C		0.58	C	
24. Foothill Boulevard n/o Seminary Avenue	0.32	C		0.38	C		0.38	C		0.46	C	
25. MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A		N/A	N/A		0.44	C		0.58	C	
26. MacArthur Boulevard e/o Lincoln Avenue	0.64	C		0.70	C		0.43	C		0.49	C	
27. MacArthur Boulevard e/o High Street	0.52	C		0.57	C		0.37	C		0.42	C	
28. MacArthur Boulevard e/o 98th Avenue (EB Only)	0.17	C		0.21	C		N/A	N/A		N/A	N/A	
29. International Boulevard b/w 23rd Avenue & Fruitvale Avenue	0.53	C		0.58	C		0.34	C		0.38	C	
30. International Boulevard w/o Seminary Avenue	0.57	C		0.63	C		0.62	C		0.68	C	
31. International Boulevard w/o 98th Avenue	0.50	C		0.57	C		0.49	C		0.55	C	
32. Edes Avenue w/o of 85th Avenue	0.29	C		0.34	C		0.24	C		0.29	C	
33. Bancroft Avenue s/o 73rd Avenue	0.34	C		0.38	C		0.41	C		0.45	C	
34. Oakland Avenue s/o Pearl Street (NB One-Way)	0.43	C		0.50	C		N/A	N/A		N/A	N/A	
35. Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A		N/A	N/A		0.25	C		0.30	C	
36. Harrison Street n/o Grand Avenue	0.68	C		0.75	C		0.31	C		0.38	C	
37. Broadway n/o MacArthur Boulevard	0.34	C		0.40	C		0.25	C		0.32	C	
38. Broadway n/o Grand Avenue	0.41	D		0.54	D		0.33	C		0.46	D	
39. Broadway s/o College Avenue	0.47	C		0.51	C		0.34	C		0.38	C	
40. San Pablo Avenue (SR 123) n/o West Grand Avenue	0.34	C		0.38	C		0.22	C		0.25	C	

Table 3.2-8
Roadway Segment Evaluation – Existing + Project PM Peak Hour

	Northbound/Eastbound				Southbound/Westbound			
	Existing PM		Existing + Project PM		Existing PM		Existing + Project PM	
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
41. Telegraph Avenue n/o Claremont Avenue	0.51	C	0.54	C	0.54	C	0.55	C
42. Claremont Avenue e/o (n/o) 52nd Street	0.12	B	0.14	B	0.14	C	0.16	C
43. College Avenue s/o Claremont Avenue	0.64	C	0.70	C	0.66	C	0.70	D
44. 27th Street w/o Valdez Street	0.19	C	0.21	C	0.20	C	0.22	C
Interstate/State Highways								
45. SR-13 n/o Jct I-580	0.61	C	0.92	E	0.58	C	0.58	C
46. SR-24 e/o Jct I-580	0.85	D	0.89	E	0.43	B	0.93	E
47. SR-77 e/o Jct I-880	0.22	A	0.43	B	0.21	A	0.23	A
48. I-80 e/o Powell Street	0.57	C	0.81	D	0.80	D	0.80	D
49. SR-185 at Oakland City Limit	0.27	A	0.27	A	0.22	A	0.23	A
50. SR-260 at Jct I-880	0.49	C	0.61	C	0.74	D	0.76	D
51. I-580 e/o Edwards Avenue	1.01	F	1.01	F	0.57	C	0.59	C
52. I-880 n/o 66th Avenue	0.80	D	0.89	E	0.80	D	0.81	D
53. I-980 at 14th Street overcrossing	0.82	D	0.82	D	0.34	B	0.35	B

Source: Dowling Associates, Inc., 2009.

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A =Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

TR-3. *At Roadway Segment #21, Fruitvale Avenue south of I-580, would operate at LOS E (V/C 0.96) in the northbound direction in the AM peak hour in the Existing Plus Project scenario, compared to LOS D (V/C 0.89) in the Existing condition. Roadway Segment #21 would operate at LOS F (V/C 1.08) during the PM peak hour in the southbound direction, compared with LOS E (V/C 0.95) in the Existing condition. The LOS on Roadway Segment #21 would drop from an acceptable LOS D to an unacceptable LOS E in the northbound direction, a significant impact. Roadway Segment #21 would operate at an unacceptable LOS E (southbound) without the project; however, the project's trip contribution would increase the V/C 0.13, which is a significant impact. (SU)*

Most of Fruitvale Avenue in this area has only one travel lane in each direction, with few left turn pockets and on-street parking present in many areas. The adjacent frontage is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

B. Cumulative 2015 Baseline No Project

This discussion provides a basis for the Cumulative 2015 without Project impact analysis. This section discusses the traffic generated by non-project development anticipated through 2015 (using ABAG *Projections*), along with programmed transportation network improvements (highway and transit) in the year 2015. However, the project traffic is *not* included in this scenario (project traffic is traffic resulting from build out under the 2007-2014 *Housing Element*, 13,501 new units of housing).

Traffic Volumes. To estimate the Cumulative 2015 Baseline No Project (hereafter referred to as 2015 Baseline), roadway segment conditions and traffic volumes, traffic generated by non-project development anticipated through 2015 was added to the programmed transportation network improvements by 2015. Per threshold 2, a significant impact would occur when project-generated traffic increases traffic volumes by three percent or more if the with-project LOS is worse than E in the Downtown, or worse than D outside the Downtown.

Tables 3.2-9 and 3.2-10 summarize LOS and V/C ratios at the study roadway segments in the AM and PM peak hours under the 2015 Baseline scenario, peak period with significant impacts are shown in bold. The LOS and V/C ratio calculation sheets are presented in Appendix E-6 (on a separate CD at the back cover of this EIR).

Roadway Network. Refer to Table 3.2-5, and Appendix E-7.

**Table 3.2-9
Roadway Segment Evaluation – 2015 AM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	No-Project			Project			No-Project			Project		
	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS
Arterial Roadway Segments												
1.	Mandela Parkway n/o 7th Street											
2.	7th Street e/o Mandela Parkway											
3.	7th Street w/o Peralta Street											
4.	Peralta Street n/o 7th Street											
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue											
6.	Stanford Avenue e/o San Pablo Avenue											
7.	MacArthur Boulevard w/o Martin Luther King Way											
8.	Martin Luther King Way n/o MacArthur Boulevard											
9.	West Grand Avenue w/o Martin Luther King Way											
10.	Claremont Avenue s/o College Avenue											
11.	Telegraph Avenue s/o 51st Street											
12.	Piedmont Avenue n/o MacArthur Boulevard											
13.	Mountain Boulevard s/o Snake Road											
14.	7th Street b/w Clay & Jefferson (EB One-Way)											
15.	12th Street w/o Oak Street (WB One-Way)											
16.	14th Street w/o Oak Street											
17.	27th Street w/o Harrison Street											
18.	Grand Avenue b/w Harrison Street & I-580											
19.	5th Avenue s/o East 12th Street											
20.	East 12th Street e/o 5th Avenue											

**Table 3.2-9
Roadway Segment Evaluation – 2015 AM Peak Hour**

		Northbound/Eastbound						Southbound/Westbound					
		No-Project			Project			No-Project			Project		
		2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS
21.	Fruitvale Avenue s/o I-580	1.00	F	1.06	F	0.96	F	0.96	E	1.07	F		
22.	23rd Avenue n/o Foothill Boulevard	0.19	C	0.22	C	0.40	C	0.40	C	0.43	C		
23.	Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue	0.38	C	0.41	C	0.99	E	0.99	E	1.01	F		
24.	Foothill Boulevard n/o Seminary Avenue	0.94	D	0.97	E	0.29	C	0.29	C	0.34	C		
25.	MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A	N/A	N/A	0.64	C	0.64	C	0.71	D		
26.	MacArthur Boulevard e/o Lincoln Avenue	0.34	C	0.38	C	0.64	C	0.64	C	0.69	C		
27.	MacArthur Boulevard e/o High Street	0.49	C	0.53	C	0.42	C	0.42	C	0.46	C		
28.	MacArthur Boulevard e/o 98th Avenue (EB Only)	0.11	B	0.13	C	N/A	N/A	N/A	N/A	N/A	N/A		
29.	International Boulevard b/w 23rd Avenue & Fruitvale Avenue	0.32	C	0.35	C	0.81	D	0.81	D	0.85	D		
30.	International Boulevard w/o Seminary Avenue	0.34	C	0.38	C	0.73	C	0.73	C	0.78	D		
31.	International Boulevard w/o 98th Avenue	0.30	C	0.34	C	0.54	C	0.54	C	0.57	C		
32.	Edes Avenue w/o of 85th Avenue	0.28	C	0.31	C	0.17	C	0.17	C	0.20	C		
33.	Bancroft Avenue s/o 73rd Avenue	0.35	C	0.37	C	0.29	C	0.29	C	0.31	C		
34.	Oakland Avenue s/o Pearl Street (NB One-Way)	0.73	C	0.79	D	N/A	N/A	N/A	N/A	N/A	N/A		
35.	Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A	N/A	N/A	0.39	C	0.39	C	0.43	C		
36.	Harrison Street n/o Grand Avenue	0.44	C	0.49	C	0.37	C	0.37	C	0.43	C		
37.	Broadway n/o MacArthur Boulevard	0.17	C	0.23	C	0.30	C	0.30	C	0.36	C		
38.	Broadway n/o Grand Avenue	0.30	C	0.40	D	0.24	C	0.24	C	0.34	C		
39.	Broadway s/o College Avenue	0.23	C	0.26	C	0.56	C	0.56	C	0.59	C		
40.	San Pablo Avenue (SR 123) n/o West Grand Avenue	0.30	C	0.34	C	0.40	C	0.40	C	0.44	C		

**Table 3.2-9
Roadway Segment Evaluation – 2015 AM Peak Hour**

		Northbound/Eastbound				Southbound/Westbound			
		No-Project		Project		No-Project		Project	
		2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS	2015 AM V/C Ratio	2015 AM LOS
41.	Telegraph Avenue n/o Claremont Avenue	0.70	C	0.72	C	0.74	C	0.76	D
42.	Claremont Avenue e/o (n/o) 52nd Street	0.07	B	0.09	B	0.14	C	0.16	C
43.	College Avenue s/o Claremont Avenue	0.48	C	0.53	C	0.28	C	0.32	C
44.	27th Street w/o Valdez Street	0.16	C	0.17	C	0.28	C	0.30	C
Interstate/State Highways									
45.	SR-13 n/o Jct I-580	0.84	D	0.85	D	0.89	E	0.90	E
46.	SR-24 e/o Jct I-580	0.46	B	0.46	B	0.87	D	0.87	D
47.	SR-77 e/o Jct I-880	0.33	B	0.33	B	0.26	A	0.27	A
48.	I-80 e/o Powell Street	0.70	D	0.70	D	0.80	D	0.80	D
49.	SR-185 at Oakland City Limit	0.26	A	0.26	A	0.13	A	0.14	A
50.	SR-260 at Jct I-880	0.71	D	0.71	D	0.54	C	0.56	C
51.	I-580 e/o Edwards Avenue	0.78	D	0.78	D	0.95	E	0.96	E
52.	I-880 n/o 66th Avenue	0.90	E	0.90	E	0.81	D	0.82	D
53.	I-980 at 14th Street overcrossing	0.59	C	0.61	C	0.53	C	0.54	C

Source: Dowling Associates, Inc., 2009

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A = Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

**Table 3.2-10
Roadway Segment Evaluation – 2015 PM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	No-Project			Project			No-Project			Project		
	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS
Arterial Roadway Segments												
1. Mandela Parkway n/o 7th Street	0.14	C	0.19	C	0.18	C	0.18	C	0.23	C	0.23	C
2. 7th Street e/o Mandela Parkway	0.19	C	0.23	C	0.18	C	0.18	C	0.22	C	0.22	C
3. 7th Street w/o Peralta Street	0.21	C	0.32	C	0.21	C	0.21	C	0.31	C	0.31	C
4. Peralta Street n/o 7th Street	0.05	B	0.11	B	0.05	B	0.05	B	0.11	B	0.11	B
5. San Pablo Avenue (SR 123) s/o Stanford Avenue	0.69	C	0.74	C	0.83	D	0.83	D	0.88	D	0.88	D
6. Stanford Avenue e/o San Pablo Avenue	0.60	C	0.61	C	0.34	C	0.34	C	0.35	C	0.35	C
7. MacArthur Boulevard w/o Martin Luther King Way	0.49	C	0.53	C	0.24	C	0.24	C	0.28	C	0.28	C
8. Martin Luther King Way n/o MacArthur Boulevard	0.27	C	0.33	C	0.15	C	0.15	C	0.20	C	0.20	C
9. West Grand Avenue w/o Martin Luther King Way	0.77	D	0.84	D	0.42	C	0.42	C	0.49	C	0.49	C
10. Claremont Avenue s/o College Avenue	0.62	C	0.63	C	0.58	C	0.58	C	0.59	C	0.59	C
11. Telegraph Avenue s/o 51st Street	0.70	D	0.78	D	0.43	D	0.43	D	0.51	D	0.51	D
12. Piedmont Avenue n/o MacArthur Boulevard	0.58	C	0.64	C	0.56	C	0.56	C	0.62	C	0.62	C
13. Mountain Boulevard s/o Snake Road	0.71	C	0.72	C	0.64	C	0.64	C	0.64	C	0.64	C
14. 7th Street b/w Clay & Jefferson (EB One-Way)	0.33	C	0.37	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15. 12th Street w/o Oak Street (WB One-Way)	N/A	N/A	N/A	N/A	0.34	C	0.34	C	0.38	C	0.38	C
16. 14th Street w/o Oak Street	0.59	D	0.67	D	0.26	C	0.26	C	0.34	C	0.34	C
17. 27th Street w/o Harrison Street	0.21	C	0.24	C	0.20	C	0.20	C	0.23	C	0.23	C
18. Grand Avenue b/w Harrison Street & I-580	1.07	F	1.12	F	0.48	D	0.48	D	0.53	D	0.53	D
19. 5th Avenue s/o East 12th Street	0.40	C	0.45	C	0.26	C	0.26	C	0.32	C	0.32	C

**Table 3.2-10
Roadway Segment Evaluation – 2015 PM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	No-Project			Project			No-Project			Project		
	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS
20. East 12th Street e/o 5th Avenue	0.45	C	0.51	C		C	0.19	C	0.25	C		C
21. Fruitvale Avenue s/o I-580	0.99	E	1.07	F		F	0.94	D	1.06	F		F
22. 23rd Avenue n/o Foothill Boulevard	0.47	C	0.51	C		C	0.31	C	0.35	C		C
23. Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue	1.00	F	1.03	F		F	0.56	C	0.58	C		C
24. Foothill Boulevard n/o Seminary Avenue	0.32	C	0.38	C		C	0.99	E	1.07	F		F
25. MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A	N/A	N/A		N/A	0.44	C	0.58	C		C
26. MacArthur Boulevard e/o Lincoln Avenue	0.73	D	0.80	D		D	0.43	C	0.49	C		C
27. MacArthur Boulevard e/o High Street	0.62	C	0.68	C		C	0.39	C	0.44	C		C
28. MacArthur Boulevard e/o 98th Avenue (EB Only)	0.39	C	0.44	C		C	N/A	N/A	N/A	N/A		N/A
29. International Boulevard b/w 23rd Avenue & Fruitvale Avenue	0.90	D	0.95	E		E	0.34	C	0.38	C		C
30. International Boulevard w/o Seminary Avenue	0.90	D	0.96	E		E	0.62	C	0.68	C		C
31. International Boulevard w/o 98th Avenue	0.68	C	0.75	C		C	0.49	C	0.55	C		C
32. Edes Avenue w/o of 85th Avenue	0.47	C	0.52	C		C	0.24	C	0.29	C		C
33. Bancroft Avenue s/o 73rd Avenue	0.34	C	0.38	C		C	0.41	C	0.45	C		C
34. Oakland Avenue s/o Pearl Street (NB One-Way)	0.39	C	0.46	C		C	N/A	N/A	N/A	N/A		N/A
35. Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A	N/A	N/A		N/A	0.25	C	0.30	C		C
36. Harrison Street n/o Grand Avenue	0.68	C	0.75	C		C	0.31	C	0.38	C		C
37. Broadway n/o MacArthur Boulevard	0.34	C	0.40	C		C	0.25	C	0.32	C		C
38. Broadway n/o Grand Avenue	0.41	D	0.54	D		D	0.33	C	0.46	D		D
39. Broadway s/o College Avenue	0.45	C	0.49	C		C	0.31	C	0.35	C		C

Table 3.2-10
Roadway Segment Evaluation – 2015 PM Peak Hour

	Northbound/Eastbound						Southbound/Westbound					
	No-Project			Project			No-Project			Project		
	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS	2015 PM V/C Ratio	2015 PM LOS
Interstate/State Highways												
40. San Pablo Avenue (SR 123) n/o West Grand Avenue	0.47	C	0.51	C	0.32	C	0.32	C	0.35	C	0.35	C
41. Telegraph Avenue n/o Claremont Avenue	1.00	E	1.02	F	0.72	C	0.72	C	0.74	C	0.74	C
42. Claremont Avenue e/o (n/o) 52nd Street	0.29	C	0.31	C	0.13	C	0.13	C	0.15	C	0.15	C
43. College Avenue s/o Claremont Avenue	0.64	C	0.70	D	0.66	C	0.66	C	0.70	D	0.70	D
44. 27th Street w/o Valdez Street	0.30	C	0.32	C	0.24	C	0.24	C	0.26	C	0.26	C
Interstate/State Highways												
45. SR-13 n/o Jct I-580	0.92	E	0.93	E	0.90	E	0.90	E	0.90	E	0.90	E
46. SR-24 e/o Jct I-580	0.89	E	0.89	E	0.55	C	0.55	C	0.55	C	0.55	C
47. SR-77 e/o Jct I-880	0.43	B	0.44	B	0.21	A	0.21	A	0.23	A	0.23	A
48. I-80 e/o Powell Street	0.81	D	0.82	D	0.80	D	0.80	D	0.80	D	0.80	D
49. SR-185 at Oakland City Limit	0.27	A	0.28	A	0.25	A	0.25	A	0.26	A	0.26	A
50. SR-260 at Jct I-880	0.61	C	0.61	C	0.79	D	0.79	D	0.81	D	0.81	D
51. I-580 e/o Edwards Avenue	1.01	F	1.01	F	0.81	D	0.81	D	0.83	D	0.83	D
52. I-880 n/o 66th Avenue	0.89	E	0.89	E	0.89	E	0.89	E	0.90	E	0.90	E
53. I-980 at 14th Street overcrossing	0.82	D	0.84	D	0.34	B	0.34	B	0.35	B	0.35	B

Source: Dowling Associates, Inc., 2009.

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A = Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

2015 Baseline Roadway Segment Operations. For informational purposes, the following segments noted from Tables 3.2-9 and 3.2-10 would operate below (poorer than) the City's adopted LOS threshold in the year 2015—*without* the project:

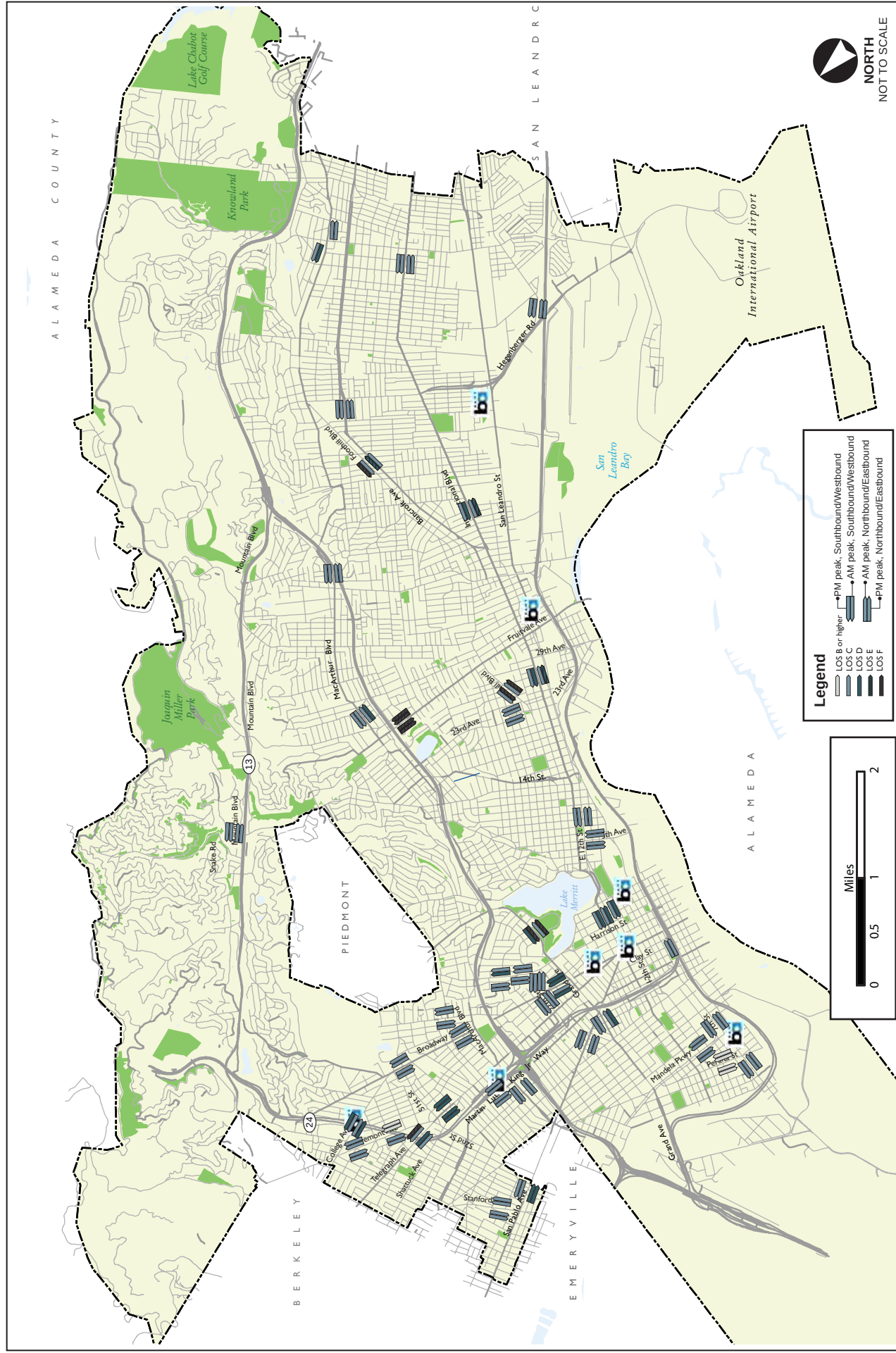
- #18 Grand Avenue between Harrison Street and I-580 would operate at LOS F with a V/C ratio of 1.10 in the westbound direction in the AM peak hour. In the PM peak hour, the LOS would be F in the eastbound direction, with a V/C ratio of 1.07.
- #21 Fruitvale Avenue south of I-580 would operate at LOS F in the northbound direction with a V/C ratio of 1.00 and LOS E in the southbound direction with a V/C ratio of 0.96 in the AM peak hour. In the PM peak hour, the segment would operate at LOS E in the northbound direction with a V/C ratio of 0.99.
- #23 Foothill Boulevard between Fruitvale Avenue and 23rd Avenue would operate at LOS E westbound in the AM peak period, with a V/C ratio of 0.99. In the PM peak hour, the segment would operate at LOS F in the eastbound direction with a V/C ratio of 1.00.
- #24 Foothill Boulevard north of Seminary Avenue would operate at LOS E in the westbound direction in the PM peak hour with a V/C ratio of 0.99.
- #41 Telegraph Avenue north of Claremont Avenue would operate at LOS E in the PM peak hour, with a V/C ratio of 1.00 in the northbound direction.
- Additionally, Interstate and State Highway segments #45, 46, 51, and 52 would operate at LOS E or F in the no-project condition, as shown in Tables 3.2-9 and 3.2-10.

Cumulative 2015 with Project

This analysis compares the extent of project impacts relative to the 2015 Baseline scenario. LOS conditions would be similar to the 2015 Baseline scenario with the addition of the traffic generated by the full buildout of the project, with 13,501 new residential units. As shown in Figure 3.2-8 and Tables 3.2-9 and 3.2-10, V/C ratios would increase at most roadway segments, and nine roadway segments would operate at an unacceptable LOS.

Traffic Volumes. To estimate the Cumulative 2015 with Project roadway segment conditions and traffic volumes, traffic generated by project development anticipated through 2015 was added to the programmed transportation network improvements by 2015. Figure 3.2-8 shows the AM and PM peak hour segment volumes under the Cumulative 2015 with Project conditions. Tables 3.2-9 and 3.2-10 summarizes LOS and V/C ratios at the study roadway segments in the AM and PM peak hours under the Cumulative 2015 with Project scenario. The LOS and V/C ratio calculation sheets are presented in Appendix E-6 (all Appendices are on a separate CD at the back cover of this EIR).

Roadway Network. Refer to Table 3.2-5, and Appendix E-7.



Source: Dowling Associates, 2009.

**FIGURE 3.2-8
2015 with Project LOS (AM/PM)**

Cumulative 2015 with Project Roadway Segment Operations. The following segments would operate below (poorer than) the City's adopted LOS threshold:

- #18 Grand Avenue between Harrison Street and I-580 would operate at LOS F with a V/C ratio of 1.14 in the westbound direction in the AM peak hour. In the PM peak hour, the LOS would be F in the eastbound direction with a V/C ratio of 1.12.
- #21 Fruitvale Avenue south of I-580 would operate at LOS F in both directions (V/C ratio 1.06 northbound and 1.07 southbound) in the AM peak hour. In the PM peak, the LOS would be F in both directions with a V/C ratio of 1.07 northbound and 1.06 southbound.
- #23 Foothill Boulevard between Fruitvale Avenue and 23rd Avenue would operate at LOS F with a V/C ratio of 1.01 in the westbound direction in the AM peak hour. In the PM peak hour, the LOS would be F in the eastbound direction with a V/C ratio of 1.03.
- #24 Foothill Boulevard north of Seminary Avenue would operate at LOS E in the eastbound direction in the AM peak hour with a V/C ratio of 0.97. In the PM peak hour the LOS would be F with a V/C ratio of 1.07.
- #29 International Boulevard between 23rd Avenue and Fruitvale Avenue would operate at LOS E in the eastbound direction in the PM peak hour with a V/C ratio of 0.95.
- #30 International Boulevard west of Seminary Avenue would operate at LOS E in the eastbound direction in the PM peak hour with a V/C ratio of 0.96.
- #41 Telegraph Avenue north of Claremont Avenue would operate at LOS F in the northbound direction in the PM peak hour with a V/C ratio of 1.02.
- Additionally, Interstate and State Highway segments #45 and 52 would operate at LOS E or F in the 2015 plus project condition, as shown in Table 3.2-9 and 3.2-10.

Cumulative 2015 with Project Impacts and Mitigation Measures

This section compares the traffic generated by the proposed project in the year 2015 to the 2015 Baseline. This analysis presents the extent of project impacts relative to 2015 Baseline conditions, and includes descriptions, for informational purposes, of some segments where there are less-than-significant impacts and no mitigation measures are necessary.

TR-4. Roadway Segment #18, Grand Avenue between Harrison Street and I-580, would operate at a LOS F with a V/C ratio of 1.14 in the westbound direction in the AM peak hour in the Cumulative 2015 with Project scenario, compared to a LOS F with a V/C ratio of 1.10 in the 2015 Baseline scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project; however the project's trip contribution would increase the V/C ratio by 0.04, which is a significant impact. (SU)

Most of Grand Avenue in this area has two travel lanes in each direction, with left turn pockets, parking, and bike lanes. The adjacent area is entirely built up or is park land. Additional travel lanes would require eliminating parking for merchants and residents along this street, or eliminating the existing bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

- TR-5. *In the PM peak hour, Roadway Segment #18 would operate at LOS F with a V/C ratio of 1.12 in the eastbound direction in the Cumulative 2015 with Project scenario, as compared to a LOS F with a V/C ratio of 1.07 in the 2015 Baseline scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project; however the project's trip contribution would increase the V/C ratio by 0.05, which is a significant impact. (SU)*

Most of Grand Avenue in this area has two travel lanes in each direction, with left turn pockets, parking, and bike lanes. The adjacent area is entirely built up or is park land. Additional travel lanes would require eliminating parking for merchants and residents along this street, or eliminating the existing bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

- TR-6. *Roadway Segment #21, Fruitvale Avenue south of I-580, would operate at a LOS F (V/C 1.06) in the northbound direction and LOS F (V/C 1.07) in the southbound direction in the AM peak hour in the Cumulative 2015 with Project scenario, compared to the 2015 Baseline scenario which would operate at a LOS F (V/C 1.00) in the northbound direction and a LOS E (V/C 0.96) in the southbound direction. Roadway Segment #21 would operate at an unacceptable LOS F (northbound) and LOS E (southbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.06 (northbound) and 0.11 (southbound), which is a significant impact. (SU)*

Most of Fruitvale Avenue in this area has only one travel lane in each direction, with few left turn pockets and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

- TR-7. *In the PM peak hour, Roadway Segment #21 would operate at a LOS F (V/C 1.07) in the northbound direction and a LOS F (V/C 1.06) in the southbound direction, in the Cumulative 2015 with Project scenario, compared to a LOS E (V/C 0.99) in the northbound direction and a LOS D (V/C 0.94) in the southbound direction in the 2015 Baseline scenario. Roadway Segment #21 would operate at an unacceptable LOS E (northbound) and LOS D (southbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.08 (northbound) and 0.12 (southbound), which is a significant impact. (SU)*

Most of Fruitvale Avenue in this area has only one travel lane in each direction, with few left turn pockets and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 through TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-8. *Roadway Segment #23, Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at a LOS F in the westbound direction in the AM peak hour with a V/C ratio of 1.01 in the Cumulative 2015 with Project condition, compared to a LOS E in the same direction with a V/C ratio of 0.99 for the 2015 Baseline scenario. However, Roadway Segment #23 V/C ratio would not increase by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

TR-9. *Roadway Segment #23, Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at LOS F in the PM peak hour (V/C 1.03) in the eastbound direction in the Cumulative 2015 with Project scenario, compared to a LOS F with a V/C of 1.00 (rounded) in the 2015 Baseline scenario. Roadway Segment #23 would operate at an unacceptable LOS F without the project; and the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

TR-10. *Roadway Segment #24, Foothill Boulevard north of Seminary Avenue, would operate at LOS E in the eastbound direction in the AM peak hour with a V/C ratio of 0.97 in the Cumulative 2015 with Project scenario, compared to a LOS D with a V/C ratio of 0.94 in the 2015 Baseline scenario. Roadway Segment #24 would operate at an unacceptable LOS D without the project; and, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

TR-11. *In the PM peak hour, Roadway Segment #24 (Foothill Boulevard north of Seminary Avenue) would operate at LOS F with a V/C ratio of 1.07 in the westbound direction, compared to a LOS E with a V/C ratio of 0.99 in the 2015 Baseline Scenario. Roadway Segment #24 would operate at an unacceptable LOS E without the project; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)*

Most of Foothill Boulevard in this area has only one travel lane in each direction, with left turn pockets at major intersections, and on-street parking. The City is completing the Foothill/Seminary Public Transit Hub Streetscape project (on Foothill Boulevard from 62nd Avenue to Brookdale Avenue) to calm traffic, improve pedestrian safety, enhance transit facilities, and improve links to local schools.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-12. *Roadway Segment #29, International Boulevard between 23rd Avenue and Fruitvale Avenue, would operate at a LOS E in the eastbound direction in the PM peak hour with a V/C ratio of 0.95 in the Cumulative 2015 with Project scenario, compared to LOS D with a V/C ratio of 0.90 in the 2015 Baseline scenario. Roadway Segment #29 would operate at an acceptable LOS D without the project; however, the project's trip contribution would cause the segment to operate at LOS E and increase the V/C ratio by 0.05, which is a significant impact. (SU)*

Most of International Boulevard in this area has two travel lanes in each direction, with left turn pockets at major intersections, and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-13. *Roadway Segment #30, International Boulevard west of Seminary Avenue, would operate at a LOS E in the eastbound direction in the PM peak hour with a V/C ratio of 0.96 in the Cumulative 2015 with Project scenario, compared to LOS D with a V/C ratio of 0.90 in the 2015 Baseline scenario. Roadway Segment #30 would operate at an acceptable LOS D; and the project's trip contribution would cause the segment to drop to LOS E and increase the V/C ratio by 0.06, which is a significant impact. (SU)*

Most of International Boulevard in this area has two travel lanes in each direction, with left turn pockets at major intersections, and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-14. *Roadway Segment #41 Telegraph Avenue north of Claremont Avenue would operate at a LOS F in the northbound direction in the PM peak hour with a V/C ratio of 1.02 under the Cumulative 2015 with Project scenario, compared to LOS E with a V/C ratio of 1.00 (rounded) in the 2015 Baseline scenario. Roadway Segment #41 would operate at an unacceptable LOS E without the project; and the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact.(LTS)*

Mitigation: None required.

C. Cumulative 2035 Baseline No Project

This section analyzes the traffic generated by proposed non-project development in 2035, based on ABAG *Projections*, and it includes transportation network improvements projected to be completed based on the Regional Transportation Plan for the Bay Area and the ACCMA.

Traffic Volumes. To estimate the Cumulative 2035 Baseline No Project (hereafter referred to as 2035 Baseline) roadway segment conditions and traffic volumes, traffic generated by non-project development anticipated through 2035 was added to the transportation network improvements based on the ACCMA by 2035. The City's standards for acceptable LOS are E or better within the Downtown and D or better outside the Downtown. Tables 3.2-11 and 3.2-12 summarize LOS and V/C ratios at the study roadway segments in the AM and PM peak hour under the 2035 Baseline scenario, unacceptable LOS conditions are shown in bold. The LOS and V/C ratio calculation sheets are presented in Appendix E-6 (all Appendices are on a separate CD at the back cover of this EIR).

Roadway Network. Refer to Table 3.2-5, and Appendix E-7.

2035 Baseline Roadway Segment Operations. For informational purposes, the following roadway segments, as shown in Tables 3.2-11 and 3.2-12, would operate below (poorer than) the City's adopted LOS threshold in the year 2035—*without* the project:

- #5 San Pablo Avenue (SR 123) south of Stanford Avenue, would operate at LOS E in the AM peak hour southbound with a V/C ratio of 0.95, and at LOS E in the PM peak hour in both directions, with a V/C ratio of 0.95 northbound and 0.98 southbound.
- #9 West Grand Avenue west of Martin Luther King Way, would operate at LOS F westbound in the AM peak with a V/C ratio of 1.01, and with a LOS F eastbound in the PM peak hour, with a V/C ratio of 1.30.
- #18 Grand Avenue between Harrison Street and I-580, would operate at LOS F westbound in the AM peak with a V/C ratio of 1.43, and at LOS F eastbound in the PM peak hour, with a V/C ratio of 1.36.
- #21 Fruitvale Avenue south of I-580, in the AM peak would operate at LOS F northbound, with a V/C ratio of 1.00, and LOS E in the southbound direction, with a V/C ratio of 0.97. In the PM peak hour, the segment will operate at LOS E, with a V/C ratio of 0.99.
- #23 Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at LOS F westbound in the AM peak hour, with a V/C ratio of 1.07, and at LOS F eastbound in the PM peak hour, with a V/C ratio of 1.07.

**Table 3.2-11
Roadway Segment Evaluation – 2035 AM Peak Hour**

	Northbound/Eastbound						Southbound/Westbound					
	No-Project			Project			No-Project			Project		
	2035 AM V/C Ratio	2035 AM LOS		2035 AM V/C Ratio	2035 AM LOS		2035 AM V/C Ratio	2035 AM LOS		2035 AM V/C Ratio	2035 AM LOS	
Arterial Roadway Segments												
1.	Mandela Parkway n/o 7th Street											
2.	7th Street e/o Mandela Parkway											
3.	7th Street w/o Peralta Street											
4.	Peralta Street n/o 7th Street											
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue											
6.	Stanford Avenue e/o San Pablo Avenue											
7.	MacArthur Boulevard w/o Martin Luther King Way											
8.	Martin Luther King Way n/o MacArthur Boulevard											
9.	West Grand Avenue w/o Martin Luther King Way											
10.	Claremont Avenue s/o College Avenue											
11.	Telegraph Avenue s/o 51st Street											
12.	Piedmont Avenue n/o MacArthur Boulevard											
13.	Mountain Boulevard s/o Snake Road											
14.	7th Street b/w Clay & Jefferson (EB One-Way)											
15.	12th Street w/o Oak Street (WB One-Way)											
16.	14th Street w/o Oak Street											
17.	27th Street w/o Harrison Street											
18.	Grand Avenue b/w Harrison Street & I-580											
19.	5th Avenue s/o East 12th Street											
20.	East 12th Street e/o 5th Avenue											

**Table 3.2-11
Roadway Segment Evaluation – 2035 AM Peak Hour**

		Northbound/Eastbound				Southbound/Westbound			
		No-Project		Project		No-Project		Project	
		2035 AM V/C Ratio	2035 AM LOS	2035 AM V/C Ratio	2035 AM LOS	2035 AM V/C Ratio	2035 AM LOS	2035 AM V/C Ratio	2035 AM LOS
21.	Fruitvale Avenue s/o I-580	1.00	F	1.07	F	0.97	E	1.08	F
22.	23rd Avenue n/o Foothill Boulevard	0.19	C	0.22	C	0.71	D	0.74	D
23.	Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue	0.38	C	0.41	C	1.07	F	1.09	F
24.	Foothill Boulevard n/o Seminary Avenue	1.26	F	1.29	F	0.61	C	0.66	C
25.	MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A	N/A	N/A	1.09	F	1.17	F
26.	MacArthur Boulevard e/o Lincoln Avenue	0.36	C	0.40	C	1.34	F	1.38	F
27.	MacArthur Boulevard e/o High Street	0.72	C	0.76	D	0.62	C	0.66	C
28.	MacArthur Boulevard e/o 98th Avenue (EB Only)	0.31	C	0.34	C	N/A	N/A	N/A	N/A
29.	International Boulevard b/w 23rd Ave & Fruitvale	0.53	C	0.56	C	0.92	D	0.95	E
30.	International Boulevard w/o Seminary Avenue	0.63	C	0.67	C	0.88	D	0.92	D
31.	International Boulevard w/o 98th Avenue	0.59	C	0.62	C	0.74	C	0.78	D
32.	Edes Avenue w/o of 85th Avenue	0.28	C	0.31	C	0.49	C	0.52	C
33.	Bancroft Avenue s/o 73rd Avenue	0.45	C	0.47	C	0.29	C	0.31	C
34.	Oakland Avenue s/o Pearl Street (NB One-Way)	0.73	C	0.79	D	N/A	N/A	N/A	N/A
35.	Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A	N/A	N/A	0.39	C	0.43	C
36.	Harrison Street n/o Grand Avenue	0.44	C	0.49	C	0.46	C	0.52	C
37.	Broadway n/o MacArthur Boulevard	0.13	C	0.18	C	0.70	C	0.76	C
38.	Broadway n/o Grand Avenue	0.30	C	0.40	D	0.69	D	0.79	D
39.	Broadway s/o College Avenue	0.22	C	0.25	C	0.89	D	0.93	D
40.	San Pablo Avenue (SR 123) n/o West Grand Avenue	0.60	C	0.64	C	0.77	D	0.81	D
41.	Telegraph Avenue n/o Claremont Avenue	0.93	D	0.95	D	1.00	F	1.02	F

**Table 3.2-11
Roadway Segment Evaluation – 2035 AM Peak Hour**

	Northbound/Eastbound				Southbound/Westbound			
	No-Project		Project		No-Project		Project	
	2035 AM V/C Ratio	2035 AM LOS	2035 AM V/C Ratio	2035 AM LOS	2035 AM V/C Ratio	2035 AM LOS	2035 AM V/C Ratio	2035 AM LOS
Interstate/State Highways								
42. Claremont Avenue e/o (n/o) 52nd Street	0.06	B	0.08	B	0.51	C	0.53	C
43. College Avenue s/o Claremont Avenue	0.68	C	0.72	D	0.59	C	0.64	C
44. 27th Street w/o Valdez Street	0.31	C	0.33	C	0.70	D	0.72	D
Interstate/State Highways								
45. SR-13 n/o Jct I-580	1.01	F	1.02	F	1.06	F	1.07	F
46. SR-24 e/o Jct I-580	0.46	B	0.46	B	0.92	E	0.92	E
47. SR-77 e/o Jct I-880	0.29	B	0.29	B	0.26	A	0.27	A
48. I-80 e/o Powell Street	0.76	D	0.77	D	0.94	E	0.94	E
49. SR-185 at Oakland City Limit	0.26	A	0.26	A	0.24	A	0.24	A
50. SR-260 at Jct I-880	0.82	D	0.82	D	0.81	D	0.83	D
51. I-580 e/o Edwards Avenue	0.91	E	0.91	E	1.00	E	1.01	F
52. I-880 n/o 66th Avenue	1.03	F	1.03	F	0.89	E	0.90	E
53. I-980 at 14th Street overcrossing	0.59	C	0.61	C	0.53	C	0.54	C

Source: Dowling Associates, Inc., 2009.

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A = Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

Table 3.2-12
Roadway Segment Evaluation – 2035 PM Peak Hour

	Northbound/Eastbound				Southbound/Westbound				
	No-Project		Project		No-Project		Project		
	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	
Arterial Roadway Segments									
1.	Mandela Parkway n/o 7th Street	0.14	C	0.19	C	0.18	C	0.23	C
2.	7th Street e/o Mandela Parkway	0.60	C	0.64	C	0.23	C	0.27	C
3.	7th Street w/o Peralta Street	0.67	C	0.77	D	0.21	C	0.31	C
4.	Peralta Street n/o 7th Street	0.12	C	0.18	C	0.07	B	0.13	C
5.	San Pablo Avenue (SR 123) s/o Stanford Avenue	0.95	E	1.01	F	0.98	E	1.03	F
6.	Stanford Avenue e/o San Pablo Avenue	0.82	D	0.83	D	0.45	C	0.46	C
7.	MacArthur Boulevard w/o Martin Luther King Way	0.75	C	0.79	D	0.45	C	0.49	C
8.	Martin Luther King Way n/o MacArthur Boulevard	0.21	C	0.27	C	0.09	B	0.15	C
9.	West Grand Avenue w/o Martin Luther King Way	1.30	F	1.38	F	0.74	C	0.81	D
10.	Claremont Avenue s/o College Avenue	0.90	D	0.91	D	0.74	C	0.75	C
11.	Telegraph Avenue s/o 51st Street	0.87	D	0.95	E	0.43	D	0.51	D
12.	Piedmont Avenue n/o MacArthur Boulevard	0.86	D	0.92	D	0.52	C	0.58	C
13.	Mountain Boulevard s/o Snake Road	0.86	D	0.87	D	0.78	D	0.79	D
14.	7th Street b/w Clay & Jefferson (EB One-Way)	0.76	D	0.80	D	N/A	N/A	N/A	N/A
15.	12th Street w/o Oak Street (WB One-Way)	N/A	N/A	N/A	N/A	0.58	D	0.62	D
16.	14th Street w/o Oak Street	0.52	D	0.60	D	0.26	C	0.34	C
17.	27th Street w/o Harrison Street	0.70	D	0.73	D	0.35	C	0.38	C
18.	Grand Avenue b/w Harrison Street & I-580	1.36	F	1.41	F	0.46	D	0.50	D
19.	5th Avenue s/o East 12th Street	0.71	D	0.76	D	0.22	C	0.27	C
20.	East 12th Street e/o 5th Avenue	0.55	C	0.61	C	0.44	C	0.50	C

**Table 3.2-12
Roadway Segment Evaluation – 2035 PM Peak Hour**

		Northbound/Eastbound				Southbound/Westbound			
		No-Project		Project		No-Project		Project	
		2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS
21.	Fruitvale Avenue s/o I-580	0.99	E	1.07	F	0.95	E	1.08	F
22.	23rd Avenue n/o Foothill Boulevard	0.69	C	0.72	D	0.31	C	0.35	C
23.	Foothill Boulevard b/w Fruitvale Avenue & 23rd Avenue	1.07	F	1.10	F	0.89	D	0.92	D
24.	Foothill Boulevard n/o Seminary Avenue	0.75	D	0.81	D	1.27	F	1.35	F
25.	MacArthur Boulevard w/o 98th Avenue (WB Only)	N/A	N/A	N/A	N/A	0.97	E	1.11	F
26.	MacArthur Boulevard e/o Lincoln Avenue	1.45	F	1.51	F	0.52	C	0.58	C
27.	MacArthur Boulevard e/o High Street	0.87	D	0.92	D	0.69	C	0.74	C
28.	MacArthur Boulevard e/o 98th Avenue (EB Only)	0.63	C	0.67	C	N/A	N/A	N/A	N/A
29.	International Boulevard b/w 23rd Avenue & Fruitvale Avenue	1.00	F	1.05	F	0.81	D	0.86	D
30.	International Boulevard w/o Seminary Avenue	1.02	F	1.08	F	0.80	D	0.86	D
31.	International Boulevard w/o 98th Avenue	0.87	D	0.93	D	0.67	C	0.74	C
32.	Edes Avenue w/o of 85th Avenue	0.27	C	0.32	C	0.20	C	0.25	C
33.	Bancroft Avenue s/o 73rd Avenue	0.43	C	0.47	C	0.65	C	0.69	C
34.	Oakland Avenue s/o Pearl Street (NB One-Way)	0.80	D	0.87	D	N/A	N/A	N/A	N/A
35.	Harrison Street s/o Pearl Street (SB One-Way)	N/A	N/A	N/A	N/A	0.25	C	0.30	C
36.	Harrison Street n/o Grand Avenue	0.70	C	0.77	D	0.31	C	0.38	C
37.	Broadway n/o MacArthur Boulevard	0.59	C	0.66	C	0.21	C	0.27	C
38.	Broadway n/o Grand Avenue	0.54	D	0.67	D	0.33	C	0.46	D
39.	Broadway s/o College Avenue	0.77	C	0.81	D	0.51	C	0.56	C
40.	San Pablo Ave (SR 123) n/o West Grand Avenue	0.70	C	0.74	C	0.47	C	0.50	C
41.	Telegraph Avenue n/o Claremont Avenue	1.04	F	1.07	F	0.79	D	0.81	D

Table 3.2-12
Roadway Segment Evaluation – 2035 PM Peak Hour

	Northbound/Eastbound				Southbound/Westbound			
	No-Project		Project		No-Project		Project	
	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS	2035 PM V/C Ratio	2035 PM LOS
Interstate/State Highways								
42. Claremont Avenue e/o (n/o) 52nd Street	0.51	C	0.53	C	0.22	C	0.24	C
43. College Avenue s/o Claremont Avenue	0.69	D	0.75	D	0.66	C	0.70	D
44. 27th Street w/o Valdez Street	0.90	D	0.92	E	0.50	D	0.52	D
Interstate/State Highways								
45. SR-13 n/o Jct I-580	0.99	E	1.01	F	0.99	E	0.99	E
46. SR-24 e/o Jct I-580	0.99	E	0.99	E	0.70	D	0.70	D
47. SR-77 e/o Jct I-880	0.49	C	0.49	C	0.21	A	0.23	A
48. I-80 e/o Powell Street	0.97	E	0.98	E	0.80	D	0.80	D
49. SR-185 at Oakland City Limit	0.27	A	0.28	A	0.26	A	0.26	A
50. SR-260 at Jct I-880	0.76	D	0.76	D	0.91	E	0.94	E
51. I-580 e/o Edwards Avenue	1.02	F	1.02	F	0.94	E	0.95	E
52. I-880 n/o 66th Avenue	1.01	F	1.01	F	0.95	E	0.97	E
53. I-980 at 14th Street overcrossing	0.82	D	0.84	D	0.34	B	0.35	B

Source: Dowling Associates, Inc., 2009.

Notes:

Bold indicates segments that exceed LOS threshold.

Italics indicates study segments that are located within the Downtown area, where acceptable LOS is E or better.

Key:

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

N/A = Not Applicable (used where roadway segment measurements were taken in only one direction, or where roadways are one-way only)

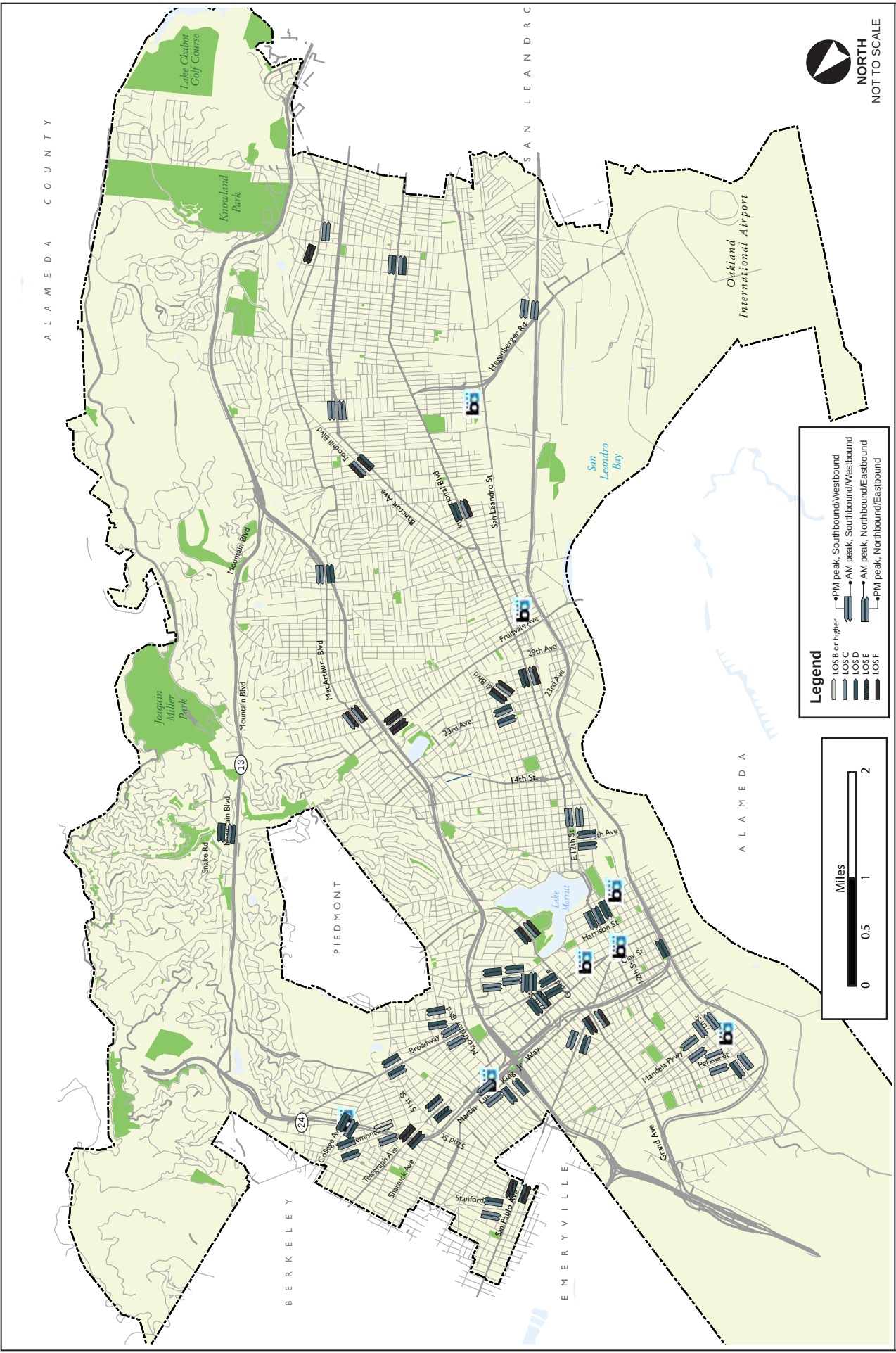
- #24 Foothill Boulevard north of Seminary Avenue would operate at LOS F eastbound in the AM peak hour, with a V/C ratio of 1.26, and westbound in the PM peak hour, with a V/C ratio of 1.27.
- #25 MacArthur Boulevard west of 98th Avenue, westbound would operate at LOS F in the AM peak hour and at LOS E in the PM peak hour, with V/C ratios of 1.09 and 0.97, respectively.
- #26 MacArthur Boulevard east of Lincoln Avenue would operate at LOS F both westbound in the AM peak hour, with a V/C ratio of 1.34, and eastbound in the PM peak hour, with a V/C ratio of 1.45.
- #29 International Boulevard between 23rd Avenue and Fruitvale Avenue would operate at LOS F eastbound in the PM peak hour, with a V/C ratio of 1.00.
- #30 International Boulevard west of Seminary Avenue would operate at LOS F eastbound in the PM peak hour, with a V/C ratio of 1.02.
- #41 Telegraph Avenue north of Claremont Avenue would operate at LOS F both southbound in the AM peak hour and northbound in the PM peak hour, with V/C ratios of 1.00 and 1.04, respectively.
- Additionally, Interstate and State Highway segments #45, 46, 48, 51, and 52 would operate at LOS E or F in the no-project condition, as shown in Tables 3.2-11 and 3.2-12.

Cumulative 2035 with Project

This analysis compares the extent of project impacts relative to 2035 Baseline conditions. LOS conditions would be similar to the 2035 Baseline scenario, but includes traffic generated by the full-buildout of the project, with 13,501 new residential units in Oakland.

Traffic Volumes. To estimate the Cumulative 2035 with Project roadway segment conditions and traffic volumes, traffic generated by the project was added to non-project development anticipated through 2035 and to the transportation network improvements based on the ACCMA by 2035. A significant impact would occur when project-generated traffic increases traffic volumes by more than three percent if the with-project LOS is worse than E in the Downtown, or worse than D outside the Downtown. Figure 3.2-9 shows the AM and PM peak hour segment volumes under the Cumulative 2035 with Project conditions. Tables 3.2-11 and 3.2-12 summarize LOS and V/C ratios at the study roadway segments in the AM and PM peak hour under the Cumulative 2035 with Project scenario. The LOS and V/C ratio calculation sheets are presented in Appendix E-6.

Roadway Network. Refer to Table 3.2-5, and Appendix E-7.



Source: Dowling Associates, 2009.

**FIGURE 3.2-9
2035 with Project LOS (AM/PM)**

Cumulative 2035 with Project Roadway Segment Operations. As shown in Figure 3.2-9 and Tables 3.2-11 and 3.2-12, with the addition of proposed project traffic to 2035 cumulative traffic, the road segments that would fail to meet the City's standard would be:

- #5 San Pablo Avenue (SR 123) south of Stanford Avenue, LOS E in the AM peak hour in both directions (V/C 0.98 northbound and 0.99 southbound), and LOS F in the PM peak hour in both directions (V/C 1.01 northbound and 1.03 southbound).
- #9 West Grand Avenue west of Martin Luther King Way, LOS F westbound in the AM peak hour (V/C 1.07), and LOS F eastbound in the PM peak hour (V/C 1.38).
- #11 Telegraph Avenue south of 51st Street, LOS E southbound in the AM peak hour (V/C 0.92), and LOS E in the PM peak hour northbound (V/C 0.95).
- #18 Grand Avenue between Harrison Street and I-580, LOS F westbound in the AM peak hour (V/C 1.47), and LOS F eastbound in the PM peak hour (V/C 1.41).
- #21 Fruitvale Avenue south of I-580, LOS F in both directions in the AM peak hour (V/C 1.07 northbound and 1.08 southbound), and LOS F in both directions in the PM peak hour (V/C 1.07 northbound and 1.08 southbound).
- #23 Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, LOS F westbound in the AM peak hour (V/C 1.09), and LOS F eastbound in the PM peak hour (V/C 1.10).
- #24 Foothill Boulevard north of Seminary Avenue, LOS F eastbound in the AM peak hour (V/C 1.29), and LOS F westbound in the PM peak hour (V/C 1.35).
- #25 MacArthur Boulevard west of 98th Avenue, LOS F westbound in the AM peak hour (V/C 1.17), and LOS F westbound in the PM peak hour (V/C 1.11).
- #26 MacArthur Boulevard east of Lincoln Avenue, LOS F westbound in the AM peak hour (V/C 1.38), and LOS F eastbound in the PM peak hour (V/C 1.51).
- #29 International Boulevard between 23rd Avenue and Fruitvale Avenue, LOS E westbound in the AM peak hour (V/C 0.95), and LOS F eastbound in the PM peak hour (V/C 1.05).
- #30 International Boulevard west of Seminary Avenue, LOS F eastbound in the PM peak hour (V/C 1.08).
- #41 Telegraph Avenue north of Claremont Avenue, LOS F southbound in the AM peak hour (V/C 1.02), and LOS F northbound in the PM peak hour (V/C 1.07).
- #44 27th Street west of Valdez Street, LOS E eastbound in the PM peak hour (V/C 0.92).

Cumulative 2035 with Project Impacts and Mitigation Measures

TR-15. Roadway Segment #5, San Pablo Avenue south of Stanford Avenue, would operate at LOS E in the north- and southbound directions in the AM peak hour (V/C 0.98 and 0.99, respectively) in the Cumulative 2035 with Project scenario, compared to a LOS E in the southbound direction in the 2035 Baseline scenario (V/C 0.95). Roadway Segment #5 would operate at an acceptable LOS D in the northbound direction and LOS E in the southbound direction without the project;

however, the project's trip contribution would increase the V/C ratio by 0.04 (northbound) and 0.04 (southbound), which is a significant impact. (SU)

San Pablo Avenue in this area is a four lane divided street (two lanes in each direction, with turning pockets). The adjacent area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street. This is also a major transit corridor with bus rapid service along it.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

- TR-16. Roadway Segment #5 in the PM peak hour, the north- and southbound directions would operate at a LOS F (V/C 1.01 and 1.03, respectively) in the Cumulative 2035 with Project scenario, compared to the 2035 Baseline scenario which would operate at a LOS E in the both directions (V/C 0.95 and 0.98, respectively). Roadway Segment #5 would operate at an unacceptable LOS E without the project; however, the project's contribution would increase the V/C ratio by 0.06 (northbound) and 0.05 (southbound), which is a significant impact. (SU)*

San Pablo Avenue in this area is a four lane divided street (two lanes in each direction, with turning pockets). The adjacent area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street. This is also a major transit corridor with bus rapid service along it.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

- TR-17. Roadway Segment #9, West Grand Avenue west of Martin Luther King Jr. Way, would operate at a LOS F in the westbound direction in the AM peak hour (V/C 1.07) in the Cumulative 2035 with Project scenario, compared to a LOS F in the 2035 Baseline scenario (V/C 1.01). Roadway Segment #9 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would increase the V/C ratio by 0.06, which is a significant impact. (SU)*

West Grand Avenue in this area is a four lane divided street (two lanes in each direction, with turning pockets). The adjacent area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street and/or removing the landscaped median.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

- TR-18. In the PM peak hour, Roadway Segment #9 would operate at a LOS F in the eastbound direction (V/C 1.38) in the Cumulative 2035 with Project scenario, compared with a LOS F for the 2035 Baseline scenario (V/C 1.30). Roadway Segment #9 would operate at an unacceptable LOS F*

without the project; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)

West Grand Avenue in this area is a four lane divided street (two lanes in each direction, with turning pockets). The adjacent area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street and/or removing the landscaped median.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-19. Roadway Segment #11, Telegraph Avenue south of 51st Street, would operate at LOS E (V/C 0.92) in the southbound direction in the AM peak hour in the Cumulative 2035 with Project condition, compared to a LOS D (V/C 0.86) in the 2035 Baseline scenario. Roadway Segment #11 would operate at an acceptable LOS D without the project during the AM peak hour; however, the project's trip generation would reduce the LOS to an unacceptable LOS E, which is a significant impact. (SU)

Most of Telegraph Avenue in this area has two travel lanes in each direction, with left turn pockets, parking, and proposed bike lanes. The adjacent area is entirely built up or is park land. Additional travel lanes would require eliminating parking for merchants and residents along this street, or eliminating the proposed bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-20. During the PM peak hour, the Roadway Segment #11 would operate at a LOS E (V/C 0.95) in the northbound direction in the Cumulative 2035 with Project scenario, compared to a LOS D (V/C 0.87) for the 2035 Baseline scenario. Roadway Segment #11 would operate at an acceptable LOS D without the project during the PM peak hour; however, the project's trip contribution would reduce the LOS to an unacceptable LOS E, which is a significant impact. (SU)

Most of Telegraph Avenue in this area has two travel lanes in each direction, with left turn pockets, parking, and proposed bike lanes. The adjacent area is entirely built up or is park land. Additional travel lanes would require eliminating parking for merchants and residents along this street, or eliminating the proposed bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-21. Roadway Segment #18, Grand Avenue between Harrison Street and I-580, would operate at LOS F (V/C 1.47) in the westbound direction in the AM peak hour in the Cumulative 2035 with Project scenario, compared with a LOS F (V/C 1.43) for the 2035 Baseline scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project during the AM peak hour;

however, the project's trip contribution would increase the V/C ratio by 0.04, which is a significant impact. (SU)

Most of Grand Avenue in this area has two travel lanes in each direction, with left turn pockets, parking, and bike lanes. The adjacent area is entirely built up or is park land. Additional travel lanes would require eliminating parking for merchants and residents along this street, or eliminating the existing bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-22. In the PM peak hour, Roadway Segment #18 would operate at a LOS F (V/C 1.41) in the eastbound direction in the Cumulative 2035 with Project Scenario, compared to a LOS F (V/C 1.36) for the 2035 Baseline Scenario. Roadway Segment #18 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.05, which is a significant impact. (SU)

Most of Grand Avenue in this area has two travel lanes in each direction, with left turn pockets, parking, and bike lanes. The adjacent area is entirely built up or is park land. Additional travel lanes would require eliminating parking for merchants and residents along this street, or eliminating the existing bike lanes, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-23. Roadway Segment #21, Fruitvale Avenue south of I-580, would operate at LOS F in the north- and southbound directions (V/C 1.07 and 1.08, respectively) in the AM peak hour in the Cumulative 2035 with Project scenario, compared with LOS F (V/C 1.00) in the northbound direction and LOS E (V/C 0.97) in the southbound direction the 2035 Baseline scenario. Roadway Segment #21 would operate at an unacceptable LOS F (northbound) and LOS E (southbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.07 (northbound) and 0.09 (southbound), which is a significant impact. (SU)

Most of Fruitvale Avenue in this area has only one travel lane in each direction, with few left turn pockets and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-24. During the PM peak hour, Roadway Segment #21 would operate at a LOS F in both directions (V/C 1.07 and 1.08, respectively) in the Cumulative 2035 with Project scenario, compared to LOS E (V/C 0.99) in the northbound direction and LOS E (V/C 0.95) in the southbound direction for the 2035 Baseline scenario. Roadway Segment #21 would operate at an unacceptable LOS E

(northbound) without the project; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. In the southbound direction the LOS would drop from an acceptable LOS E without the project to an unacceptable LOS F, also a significant impact. (SU)

Most of Fruitvale Avenue in this area has only one travel lane in each direction, with few left turn pockets and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, which is contrary to City policy.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-25. *Roadway Segment #23, Foothill Boulevard between Fruitvale Avenue and 23rd Avenue, would operate at LOS F (V/C 1.09) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared with a LOS F (V/C 1.07) in the 2035 Baseline scenario. Roadway Segment #23 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

TR-26. *During the PM peak hour, Roadway Segment #23 would operate at LOS F (V/C 1.10) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.07) in the 2035 Baseline scenario. Roadway Segment #23 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

TR-27. *Roadway Segment #24, Foothill Boulevard north of Seminary Avenue, would operate at LOS F (V/C 1.29) during the AM peak hour in the eastbound direction in the Cumulative 2035 with Project scenario, compared to a LOS F (V/C 1.26) in the 2035 Baseline scenario. Roadway Segment #24 would operate at an unacceptable LOS F without the project during the AM peak*

hour; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)

Mitigation: None required.

TR-28. During the PM peak hour, Roadway Segment #24 would operate at LOS F (V/C 1.35) in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.27) in the 2035 Baseline scenario. Roadway Segment #24 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)

Most of Foothill Boulevard in this area has only one travel lane in each direction, with left turn pockets at major intersections, and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-29. Roadway Segment #25, MacArthur Boulevard west of 98th Avenue, would operate at LOS F (V/C 1.17) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.09) in the 2035 Baseline scenario. Roadway Segment #25 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.08, which is a significant impact. (SU)

Most of MacArthur Boulevard in this area has two travel lanes in each direction, with a median divider (some with landscaping) and left turn pockets at major intersections, and some on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-30. During the PM peak hour, Roadway Segment #25 would operate at a LOS F (V/C 1.11) in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS E (V/C 0.97) in the 2035 Baseline scenario. Roadway Segment #25 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.14, which is a significant impact. (SU)

Most of MacArthur Boulevard in this area has two travel lanes in each direction, with a median divider (some with landscaping) and left turn pockets at major intersections, and some on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking

for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-31. *Roadway Segment #26, MacArthur Boulevard east of Lincoln Avenue, would operate at LOS F (V/C 1.38) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.34) in the 2035 Baseline scenario. Roadway Segment #26 would operate at an unacceptable LOS F without the project during the AM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.04, which is a significant impact. (SU)*

Most of MacArthur Boulevard in this area has just one travel lane in each direction, with no median divider and bike lanes, with on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings or removal of existing bike lanes.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-32. *During the PM peak hour, Roadway Segment #26 would operate at a LOS F (V/C 1.51) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.45) in the 2035 Baseline scenario. Roadway Segment #26 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.06, which is a significant impact. (SU)*

Most of MacArthur Boulevard in this area has just one travel lane in each direction, with no median divider and bike lanes, with on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings or removal of existing bike lanes.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-33. *Roadway Segment #29, International Boulevard between 23rd Avenue and Fruitvale Avenue, would operate at LOS E (V/C 0.95) during the AM peak hour in the westbound direction in the Cumulative 2035 with Project scenario, compared to a LOS D (V/C 0.92) in the 2035 Baseline scenario. Roadway Segment #29 would operate at an acceptable LOS D without the project during the AM peak hour, and the project's trip contribution would increase the V/C ratio by 0.03. Nonetheless, because the segment would go from LOS D to LOS E, and the segment is outside of Downtown, there would be a significant unavoidable impact. (SU)*

Mitigation: Mitigation Measures TR-1.1 through TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-34. *During the PM peak hour, Roadway Segment #29 would operate at a LOS F (V/C 1.05) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.00) in the 2035 Baseline scenario. Roadway Segment #29 would operate at an unacceptable LOS F without the project during the PM peak hour; however, the project's trip contribution would increase the V/C ratio by 0.05, which is a significant impact. (SU)*

Most of International Boulevard in this area has two travel lanes in each direction, with left turn pockets at major intersections, and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings, which is not acceptable to the City.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after mitigation: Significant and unavoidable.

TR-35. *During the PM peak hour, Roadway Segment #30, International Boulevard west of Seminary Avenue, would operate at a LOS F (V/C 1.08) in the eastbound direction in the Cumulative 2035 with Project scenario, compared to a LOS F (V/C 1.02) in the 2035 Baseline scenario. Roadway Segment #30 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would increase the V/C ratio by 0.06, which is a significant impact. (SU)*

Most of International Boulevard in this area has two travel lanes in each direction, with left turn pockets at major intersections, and on-street parking. The area is entirely built up. Additional travel lanes would require eliminating parking for merchants and residents along this street, or additional right of way requiring the demolition of existing buildings which is not acceptable to the City.

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented.

Significance after Mitigation: Significant and unavoidable.

TR-36. *Roadway Segment #41, Telegraph Avenue north of Claremont Avenue, would operate at LOS F (V/C 1.02) during the AM peak hour in the southbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.00) in the 2035 Baseline scenario. Roadway Segment #41 would operate at an unacceptable LOS F without the project; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

TR-37. *During the PM peak hour, Roadway Segment #41 would operate at a LOS F (V/C 1.07) in the northbound direction in the Cumulative 2035 with Project scenario, compared to LOS F (V/C 1.04) in the 2035 Baseline scenario. Roadway Segment #41 would operate at an unacceptable*

LOS F without the project; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact.(LTS)

Mitigation: None required.

TR-38. *Roadway Segment #44, 27th Street west of Valdez Street (near Broadway), would operate at LOS E eastbound in the PM peak hour (V/C 0.92) in the Cumulative 2035 with Project scenario, compared to LOS D (V/C 0.90) in the 2035 Baseline scenario. Roadway Segment #44 would operate at an acceptable LOS D without the project; however, the project's trip contribution would not increase the V/C ratio by more than 0.03 and, therefore, is not a significant impact. (LTS)*

Mitigation: None required.

Non-Motorized Travel Demand

TR-39. *Development under the 2007-2014 Housing Element would increase the demand for pedestrian and bicycle facilities, but would not fundamentally conflict with projects or programs supporting alternative transportation. (LTS)*

Policies in the Land Use and Transportation Element, and the *2007-2014 Housing Element*, promote walking and bicycling as alternative modes to driving. Alternate modes would be encouraged because most Housing Sites are within walking distance of retail and employment opportunities, as well as transit services, particularly in the Downtown area. The use of bicycle facilities, such as bike lanes, would increase as a result of development under the *2007-2014 Housing Element*, but this would be in accord with the goals of the Bicycle Master Plan. This would be a beneficial impact from the standpoint of reducing vehicular traffic, which would in turn lead to improved air quality, and reduced noise levels.

Further, Impacts TR-1 through TR-38, above, acknowledge that along many of the study roadway segments, additional lanes cannot be added because of the presence of existing bike lanes. Therefore, the mitigation suggested also does not conflict with projects or programs supporting alternative transportation.

SCA-25 also encourages accommodating alternative modes of transportation and would be applicable to projects under the *Housing Element* that would include 50 or more residential units. *LUTE* Objective T2 and related policies require provision of mixed use, transit-oriented development that encourage public transit use and increase pedestrian and bicycle trips at major transportation nodes. Given that the development of residential units under the *Housing Element* would be consistent with SCA-25, *LUTE* policies and the Pedestrian Master Plan and the Bicycle Master Plan, impacts would be less than significant.

Mitigation: None required.

Cumulative Impacts to Roadway Segments

TR-40. Development under the 2007-2014 Housing Element would contribute traffic to roadway segments that will operate at an unacceptable LOS. Development under the Housing Element would also cause an increase in the V/C ratio of more than 0.03 on roadway segments that would already operate at an unacceptable LOS. Therefore, the Housing Element would result in cumulatively considerable impacts for the years 2015 and 2035. (SU)

Table 3.2-13, below, summarizes the roadway segments with significant impacts under the different proposed project scenarios (Existing plus Project, 2015 with Project, and 2035 with Project) as outlined under Impact TR-1 through TR-39, above.

Table 3.2-13
Roadway Segments with Significant and Unavoidable Traffic Impacts – Summary

Segment Name	Existing plus Project		2015 with Project		2035 with Project	
	AM	PM	AM	PM	AM	PM
5. San Pablo Avenue s/o Stanford Avenue					NB/SB	NB/SB
9. West Grand Avenue w/o Martin Luther King Way					WB	EB
11. Telegraph Avenue s/o 51st Street					SB	NB
18. Grand Avenue b/w Harrison Street & I 580		EB	WB	EB	WB	EB
21. Fruitvale Avenue s/o I-580	NB	SB	NB/SB	NB/SB	NB/SB	NB/SB
24. Foothill Boulevard n/o Seminary Avenue				WB		WB
25. MacArthur Boulevard w/o 98th Avenue					WB	WB
26. MacArthur Boulevard e/o Lincoln Avenue					WB	EB
29. International Boulevard b/w 23rd Avenue & Fruitvale Avenue				EB	WB	EB
30. International Boulevard w/o Seminary Avenue				EB		EB

Source: Dowling Associates, Inc., 2009.

Notes:

The direction of travel exceeding LOS standard is shown in each cell

NB=northbound, SB=southbound, WB=westbound, EB=eastbound

- a. Planning areas are FV=Fruitvale; DT=Downtown/Central; CE=Central East; SA=San Antonio; NO=North Oakland; WO=West Oakland; EH=Elmhurst; LH=Lower Hills.

Key

n/o = north of e/o = east of s/o = south of w/o = west of b/w = between

Mitigation: Mitigation Measures TR-1.1 and TR-1.2 shall be implemented, but the feasibility and effectiveness of these mitigation measures has not been determined in this program level analysis. Therefore, impacts are conservatively assumed to be significant and unavoidable.

Significance after Mitigation: Significant and unavoidable.

Temporary Congestion due to Construction Activities

TR-41. During construction of housing proposed under the project, there may be a need to temporarily close traffic lanes, prohibit parking, and/or block traffic lanes. Construction requires the delivery of building materials, sometimes the import or export of earth fill materials, as well as travel by construction workers on a daily basis to and from the sites, potentially disrupting local traffic flow depending on the specific construction site. Such activities are a temporary but unavoidable part of the construction process. This would constitute a temporary significant impact lasting throughout the construction period. However, compliance with SCA-33 would reduce this impact. (LTS)

Construction processes for housing development would typically last between six months and two years. During that period, disruptions to normal traffic patterns may occur, and temporary parking restrictions may be necessary. The City's SCA-33, discussed earlier in this section, requires specific actions, including truck scheduling, notification, handling complaints, accommodating pedestrians around the construction site, and related issues to mitigate most construction impacts.

Mitigation: None required.

Potential for a Change in Air Traffic Patterns

TR-42. Development under the 2007-2014 Housing Element would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. (LTS)

A portion of the City of Oakland is located within a Comprehensive Airport Land Use Plan 60 CNEL (Community Noise Equivalent Level) contour for the Oakland International Airport, as discussed in Initial Study Section VII, Hazards and Hazardous Materials (Appendix A). None of the Housing Sites are located within the Oakland International Airport Land Use Master Plan area. Further, development under the Housing Element would be consistent with the existing General Plan land use designations and existing zoning, and would not result in increased height limits for residential buildings. Given that development on the proposed sites would not be within a restricted height area for the Oakland International Airport, no changes in air traffic patterns or related safety risks would occur. Population growth in Oakland could result in some increase in air traffic levels given the proximity to Oakland International Airport. However, the population growth associated with the Housing Element does not exceed projected growth in the area; therefore, impacts would be less than significant.

Mitigation: None required.

Analysis of Potential for Increased Collision Risk Traveling Across At-Grade Railroad Crossings

TR-43. Development under the 2007-2014 Housing Element has the potential to introduce additional vehicle, bicycle, and pedestrian traffic to existing at-grade railroad crossings, thereby potentially contributing to safety issues along railroad corridors. For example, vehicle traffic generated by new housing development may potentially cause vehicle queuing at intersections, resulting in traffic backing up onto at-grade railroad crossings, possibly resulting in train/automobile/pedestrian collisions and potentially causing injuries and/or fatalities. A substantial increase in traffic generated by housing development could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains) and would constitute a significant impact. (SU)

There have been collisions between trains and vehicles and pedestrians in Oakland: in the last ten years, 14 rail crossings in Oakland have been the sites of 45 incidents, including the fatalities of 15 people.²⁰ Despite the work of the California Public Utilities Commission, and the public awareness campaign “Operation Lifesaver,” people and vehicles still occasionally are on railroad tracks when trains are crossing, resulting in collisions. Given that this EIR is a programmatic review which does not analyze impacts to particular intersections or projects, no detailed analysis of vehicle queuing near at-grade crossings is included herein. Also, is not possible to specify the destination points of travel for each of these Housing Sites through this EIR. However, Figure 3.2-3 identifies, for informational purposes, active rail lines within the City of Oakland overlain with the Housing Sites. At-grade crossings and Housing Sites are identified in Figure 3.2-4. Based on these figures, it appears that approximately 60 Housing Sites are within a quarter-mile of the at-grade railroad crossings. These sites contain 4,300 possible units (967 approved units, 1,545 units in predevelopment and 1,780 possible units on Opportunity Sites). However, specific project design details, including estimation of the number of trips, whether they cross railroad tracks to reach destinations, and whether there are any other extenuating circumstances are lacking, and must be evaluated at the project level. The following Mitigation Measure TR-44 lays out this process for the Project-level review. Although the incorporation of mitigation measures identified in TR-44 could reduce the project’s impact to the at-grade railroad crossing to a less-than-significant level, to the extent that installation of safety mechanisms is not feasible (physically, financially or otherwise), impacts would remain significant and unavoidable. Therefore, although certain future housing projects would be required to perform traffic studies and must follow the feasible recommendations resulting from such studies, no further CEQA review would be required on this topic as the impacts have already been identified as significant unavoidable. Thus, specific housing development projects that result in such significant unavoidable at-grade railroad crossing impacts, would not have to prepare an Environmental Impact Report and/or Mitigated Negative Declaration solely based upon such impacts/recommendations.

²⁰ “Frequency of Collisions Report” database query of the Federal Railroad Administration Office of Safety Analysis: <http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/Query/gxrtp50.aspx>.

Mitigation: The following Mitigation Measure TR-43.1 should be applied to housing projects that generate substantial multi-modal traffic traveling across at-grade railroad crossings that could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains):

TR-43.1 Transportation Impact Studies (TIS) for At-grade Railroad Crossings. The TIS, otherwise required to be prepared for proposed housing developments, in accordance with standard City policies and practices, must evaluate potential impacts to at-grade railroad crossing resulting from project-related traffic. The TIS should examine whether the proposed project would generate substantial multimodal traffic across at-grade railroad crossings that could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, pedestrians and trains), which may include a Diagnostic Review for each railroad crossing.

If required, the Diagnostic Review must be completed with all affected properties and Stakeholders, in coordination with the California Public Utility Commission (CPUC). It will include: roadway and rail descriptions; collision history; traffic volumes for all modes; train volumes; vehicular speeds; train speeds; and existing rail and traffic controls. Based on the Diagnostic Review and the number of Project trips, the TIS will evaluate if the proposed project increases hazards at the crossing. For example, vehicle traffic generated by the proposed project may cause vehicle queuing at intersections resulting in traffic backing up onto at-grade railroad crossings.

Where the TIS identifies substantially hazardous crossing conditions caused by the proposed project, mitigations relative to the project's traffic contribution to the crossings may be applied through project redesign and/or incorporation of measures to reduce potential adverse impacts. Any proposed improvements must be coordinated with CPUC and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings).

These measures may include:

- Installation of additional warning signage;
- Improvements to warning devices at existing highway rail crossings;
- Installation of concrete panels to provide a smooth crossing surface;
- Reduction in the flangeway gap to improve pedestrian and bicyclist safety;
- Installation of median separation to prevent vehicles from driving around railroad crossing gates;
- Improvements to traffic signaling at intersections adjacent to crossings (e.g., signal preemption);

- Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains;
- Where soundwalls, landscaping, buildings, etc. would be installed near crossings, maintain the visibility of warning devices and approaching trains;
- Elimination of driveways near crossings;
- Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way; and/or
- Installation of grade separations at crossings.

The incorporation of mitigation measures identified in this mitigation measure could reduce the project's impact to the at-grade railroad crossing to a less-than-significant level. However, to the extent that installation of safety mechanisms is not feasible (physically, financially or otherwise), impacts would remain significant and unavoidable.

Additionally, this DEIR did consider an Alternative that prohibits housing development near railroad crossings, but it was rejected as infeasible (see Section 5).

Significance after Mitigation: Significant and unavoidable.

Emergency Vehicle Access Routes

TR-44. Development under the 2007-2014 Housing Element that would result in less than two emergency access routes for streets exceeding 600 feet in length, could result in a significant impact unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions. (LTS)

The City's Fire Code and Subdivision regulations contain detailed standards and mitigation measures relating to dead end roads. Moreover, it is not anticipated that there would be dead end streets exceeding 600 feet associated with the *Housing Element*. The availability of adequate emergency access routes would be determined on a case-by-case basis for individual development projects. At the time of project review, City staff would review and approve emergency vehicle access routes. Given the requirements in the Fire Code and Subdivision regulations and review by City staff, impacts would be less than significant.

Mitigation: None required.

Increased Traffic on State Highways

TR-45. Development under the 2007-2014 Housing Element would increase traffic volumes on State (Caltrans) highways within and outside the City of Oakland. The increase in traffic volume would constitute a significant impact on some state highway segments. (SU).

Nine State Highway segments were analyzed and presented in Table 3.2-7 through 3.2-12. With the development under the *2007-2014 Housing Element*, the following segments would exceed the City's threshold level of significance for roadway segments during peak periods:

Existing Plus Project

The following roadway segments on State Highways would fail to meet the City's thresholds:

- Roadway Segment #45: SR 13 north of I-580 would operate at LOS E in the PM peak hour in the northbound direction in the Existing Plus Project scenario, as compared to a LOS C in the existing condition.
- Roadway Segment #46: SR 24 east of I-580 would operate at LOS E in the AM peak hour in the eastbound direction in the Existing Plus Project scenario, as compared to LOS B in the existing condition; in the PM peak hour, both east and westbound directions would operate at LOS E in the Existing Plus Project scenario, as compared to LOS D and B, respectively, in the existing condition.
- Roadway Segment #52: I-880 north of 66th Avenue would operate at LOS E in the PM peak hour in the northbound direction in the Existing Plus Project scenario, compared to a LOS D in the existing condition.

2015 Plus Project

There are no roadway segments in the year 2015 that would fail to meet the City's thresholds.

2035 Plus Project

In 2035, there are no state highway segments which would fail to meet the City's thresholds.

Mitigation: None available. These freeway segments are in dense, built-up areas, where freeway widening to increase freeway capacity could be difficult. Furthermore, the cost for freeway widening would be prohibitive since there is no funding source available to pay for such improvements. In order to minimize the *Housing Element's* impact on the freeway system, individual projects with significant unavoidable impacts on roadway segments shall develop and implement a Parking and Transportation Demand Management Plan in accordance with SCA-25. The plan will include strategies to reduce single occupancy travel, and increase bicycle, pedestrian, transit, and carpool use.

Significance after Mitigation: Significant and unavoidable

Planning related Non-CEQA Issues

Parking

The State 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.²¹ 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 proposed 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 generally discussed 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. 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.

Parking is a transportation-related topic which is not a consideration under CEQA, but is discussed in order to inform decision-makers and the public. Estimates have been provided of the aggregate parking demand for build-out of the *2007-2014 Housing Element*, as shown in Table 3.2-14, although the actual parking supply would be considered for each individual housing development on a case-by-case basis. Parking requirements by code are determined based on the type of housing units (e.g., primary vs. secondary) and the environment/area in which the project takes place (e.g., zoning classification). Parking requirements are part of the Oakland Planning Code, Chapter 17.116, and have not been substantially revised since the adoption of the code in 1965.

²¹ *San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco* (2002) 102 Cal.App.4th 656.

**Table 3.2-14
Estimated Parking Demand**

Number of potential units on Housing Sites	Number parking spaces per Oakland zoning code	Number parking spaces per ITE rates^a
13,501	13,501 (1:1 ratio per O.M.C. 17.116.060)	21,737 (1.61:1 ratio) ^b 20,387 (1:51 ratio) ^c

Source: Dowling, Inc., 2009.

Notes:

- a. ITE parking Generation, 3rd Edition, 2004. Rates were not adjusted for urban driving patterns and use of transit.
- b. Code 230 (condo/town home) ITE rate is 1.46 spaces/dwelling unit. A 10 percent reserve factor was added to the peak demand, which is an industry standard ($1.46 * 110 \text{ percent} = 1.61$).
- c. Based on Land Use Code 222 (high rise apartment) plus a 10 percent reserve factor. ($1.37 * 110 \text{ percent} = 1.51$).

In order to balance parking supply and demand for individual development projects under the *2007-2014 Housing Element*, the SCA-25 would be applied. SCA-25 contains strategies for encouraging the use of alternative transportation as well as reducing on-site parking demand. Each of these strategies has pros and cons and should be evaluated on a project-by-project basis. Not every strategy may be suitable for every development site, e.g., shared parking may work well in a large development located adjacent to commercial activities, but would probably not work well for a small development in a more isolated all-residential area. Moreover, the City's "Transit First," and other policies, discourage the creation of more parking.

Increased Transit Demand

Development under the *2007-2014 Housing Element* would increase transit demand. One of the key goals in the *LUTE* is the promotion of transit ridership and encouragement of transit accessibility and improvement of transit service throughout Oakland. This includes Objective T2 and its supporting policies which promote transit ridership and encourage transit accessibility and improved transit service throughout Oakland. Improved service could be offset to some degree by increased ridership that could cause delays and crowding on AC Transit lines and BART trains that are currently operating at or near capacity during peak hours. Increased ridership would increase fares collected on existing routes, since the *2007-2014 Housing Element* proposes new growth along existing transit corridors as shown in Figure 3.2-5. If the project does not require new services to be provided, this would be a net benefit to transit operators, although there could be slightly more crowding at some times on some transit routes.

The bus transit corridors and existing AC Transit routes most likely to see increased ridership are listed in Table 3.2-15, below:

**Table 3.2-15
Increased Ridership on AC Transit Routes**

Corridor/Route	Line Number(s)
7th Street	62
12th Avenue	No bus line
14th Street	26, 618
23rd Avenue	62
27th Street	No bus line
Adeline Street	26
Broadway	51A, 605, 651, 851
Edes Avenue	45, 614
International Boulevard	1/1R
Foothill Boulevard	40, 640, 840
MacArthur Boulevard	57, 58L, 657, 680, 805
Market Street	88
San Pablo Avenue	802
Telegraph Avenue	1/1R

Source: AC Transit, 2010.

In addition, added traffic delays due to the project could increase delays at some intersections and, therefore, reduce the speed of buses. However, this project impact is anticipated to be very small.

BART trains would also experience increased ridership in both peak and non-peak periods. Although there is capacity available in non-peak periods, during peak hours additional ridership could create added crowding on trains. BART has been seeking ways of increasing capacity through station improvements, improved train control systems, reconfiguring seats on existing vehicles, and adding new rail vehicles.

Conclusion

Compliance with *General Plan* objectives T2, T2.2, T2.3, T2.4, T2.5, and T2.6 and policies T2, T3.5, and T4.1 in the *LUTE*, along with SCAs-25, -33, and -92 and Municipal Code Chapter 17.116, would ensure that development under the *2007-2014 Housing Element* would comply with federal, State, and local laws regarding transportation impacts. The *General Plan* policies have been crafted to ensure that future development would comply with federal and State transportation laws. In addition, the *2007-2014 Housing Element* would comply with the City of Oakland Transit First Policy and policies 1A, 1B, 1C, 1D, and 3B in the *City of Oakland Bicycle Master Plan*. Compliance with these policies and SCAs would ensure that impacts related to pedestrian and bicycle facilities, traffic impacts during construction, and emergency access routes would be less than significant.

However, even by complying with the above policies and SCAs, the *2007-2014 Housing Element* would result in several significant and unavoidable impacts. These impacts include: degradation of the level of

service on several roadway segments beyond the City's adopted significance thresholds in all scenarios analyzed; and contribution of traffic to roadway segments that will operate at an unacceptable LOS without the project, causing an increase in V/C ratio of more than three percent. Thus, the proposed project would also have significant cumulative impacts in both 2015 and 2035. Incorporation of Mitigation Measures TR-1.1 and TR-1.2 may reduce impacts to congested roadway segment(s); however, on roadway segments that are particularly congested, impacts would likely remain significant and unavoidable. Given that project specific quantitative analysis of Mitigation Measures TR-1.1 and TR-1.2 was not undertaken in this programmatic EIR, it is conservatively concluded that impacts would remain significant and unavoidable.

The traffic generated by the development under the *Housing Element* could cause queuing at intersections that would cause traffic to back up onto railroad tracks potentially leading to collisions. Mitigation Measure TR-43.1 shall be incorporated. However, to the extent that installation of safety mechanisms would not be physically or financially feasible, impacts would remain significant and unavoidable.

Traffic generated by the proposed project would result in an increase of traffic volumes on State (Caltrans) highways within and outside the City of Oakland. However, given the physical constraints on roadway improvement to state highways, and given that such improvements are in Caltrans jurisdiction, no mitigation is available and impacts would be significant and unavoidable.

As such, even with incorporation of the City's *General Plan*, SCAs, Municipal Code, *Bicycle Master Plan*, Transit First Policy, and Mitigation Measures TR-1.1 through TR-1.2, and TR-43.1, transportation impacts resulting from the *2007-2014 Housing Element* would be significant and unavoidable.

With respect to project-level impacts, although certain future housing projects would be required to perform traffic studies and must follow the feasible recommendations resulting from such studies, no further CEQA review would be required for identified roadway segments, previously identified impacted intersections, at-grade railroad crossings, and identified State Highways, as the impacts have already been identified as significant unavoidable. Thus, specific housing development projects that result in such significant unavoidable identified roadway segments impacts, previously identified impacted intersections, at-grade railroad crossings impacts, and identified State Highway impacts, would not have to prepare an Environmental Impact Report and/or Mitigated Negative Declaration solely based upon such impacts/recommendations.

3.3 AIR QUALITY

Introduction

This section of the EIR evaluates the potential impacts on air quality resulting from the proposed project—the adoption of the *2007-2014 Housing Element*, and the resulting build-out of 13,501 new units of housing. This assessment includes the potential for the project to violate an air quality standard or contribute substantially to an existing or projected air quality violation, to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment, or to expose sensitive receptors to substantial pollutant concentrations, including odors. Air quality effects related to the proposed project are evaluated against State and federal ambient air quality standards, as well as the standards established by the Bay Area Air Quality Management District (BAAQMD). Greenhouse gases and climate change are discussed in Section 3.5, Climate Change.

BAAQMD adopted new CEQA thresholds of significance (BAAQMD Thresholds) on June 2, 2010 to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released new CEQA Guidelines (CEQA Guidelines) in June 2010 which advise lead agencies on how to evaluate potential air quality impacts with the new thresholds of significance.¹

The BAAQMD Guidelines include suggested mitigation measures or policies for Housing Elements to reduce the greenhouse gases and criteria air pollutant emissions associated with construction and operation of residential development. These mitigation measures/policies are geared toward affordable housing, and include; provision of housing that is affordable to low and very low income households, targeting local funds to assist affordable housing developers in incorporating energy efficient designs and features, encouraging high density and mixed-use development in transit rich areas, encouraging transit and pedestrian-oriented design principles for low income residential developments, and offering incentives for projects that provide for infill, mixed-use, and higher density residential development.

The policies in the *Housing Element* that encourage a mix of affordability levels, transit and pedestrian-oriented development, energy efficient design, mixed-use, and higher density development are generally consistent with the BAAQMD promulgated mitigation measures. Development on the Housing Sites identified in the *Housing Element* would constitute urban infill in largely transit-rich areas. Further, as discussed in Section 3.2 Transportation, Oakland has one of the highest rates of pedestrian trips in the region.

This chapter is accompanied by Appendix F, which includes the data from the BAAQMD's Toxic Inventory (2004); all Appendices are on a separate CD at the back cover of this EIR.

¹ Bay Area Air Quality Management District, "California Environmental Quality Act Air Quality Guidelines," June, 2010.

Setting

Air Quality Background

The City of Oakland (City) is within the San Francisco Bay Area Air Basin, so named because the surrounding mountains tend to confine the movement of air and the pollutants it contains. This area includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, the western half of Solano and the southern half of Sonoma counties. The regional climate within the Bay Area is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. A wide range of emissions sources—such as dense population centers, heavy vehicular traffic, and industry—and meteorology within various microclimates primarily influence the air quality within the Bay Area.

Air pollutant emissions within the Bay Area are generated by stationary, area-wide, and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point source emissions occur at identified locations and are usually associated with manufacturing and industry. Examples of air emission point sources are boilers and combustion equipment that produce electricity or generate heat. Area-wide sources consist of many smaller point sources that are widely distributed. Examples of area-wide sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbecue lighter fluid and hair spray. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural sources such as when fine dust particles are pulled off the ground and suspended in the air during high winds.

Both the federal and State governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The national and State ambient air quality standards have been set at levels where concentrations could be generally harmful to human health and welfare, and to protect the most sensitive persons from illness or discomfort with a margin of safety.

The air pollutants for which national and State standards have been promulgated, termed “criteria” pollutants, and which are most relevant to air quality planning and regulation in the Bay Area include ozone, carbon monoxide (CO), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), and sulfur dioxide (SO₂). Each of these is briefly described below.

- *Ozone* is a gas that is formed when reactive organic gases (ROG) and nitrogen oxides (NO_x)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are conducive to its formation.
- *Carbon Monoxide (CO)* is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest in the winter morning when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary

source of CO in the Bay Area, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- *Respirable Particulate Matter* (PM₁₀) and *Fine Particulate Matter* (PM_{2.5}) consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Most particulate matter in urban areas is produced by fuel combustion, motor vehicle travel, and construction activities.
- *Nitrogen Dioxide* (NO₂) is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is an essential ingredient in the formation of ozone. It is emitted as a by-product of fuel combustion.
- *Sulfur dioxide* (SO₂) is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.

In addition, toxic air contaminants, odors, and greenhouse gases are of concern in the Bay Area.

Toxic Air Contaminants (TACs) is a general term for a diverse group of air pollutants that can adversely affect human health. TACs can be present in the air in either a gaseous or a particulate form. The California Air Resources Board (CARB) lists 189 compounds as TACs, including particulate matter produced by diesel engines (DPM), benzene, 1,3-butadiene and formaldehyde. They are not fundamentally different from the criteria pollutants discussed above, but lack ambient air quality standards for a variety of reasons (e.g., insufficient data on toxicity, association with particular workplace exposures rather than general environmental exposure, etc.). The health effects of TACs can result from either acute or chronic exposure; many types of cancer are associated with chronic TAC exposures. Significant environmental sources of TACs include industrial processes (e.g., petroleum refining, electronic component and chemical manufacture, and chrome plating), commercial operations (e.g., auto body shops, gasoline stations and dry cleaners) and transportation activities (particularly from diesel-powered vehicles, including trains, buses, and trucks).

For cancer health effects, the risk is expressed as the number of chances in a population of a million people who might be expected to get cancer over a 70-year lifetime. The number may be stated as “10 in a million” or “10 chances per million.” Often, scientific notation is used and so number is expressed as 1×10^{-5} or 10^{-5} . Therefore, if you have a potential cancer risk of 10 in a million, that means if one million people were exposed to a certain level of a pollutant or chemical there is a chance that 10 of them may develop cancer over their 70-year lifetime. This would be 10 new cases of cancer above the expected rate of cancer in the population. The expected rate of cancer for all causes, including smoking, is about 200,000 to 250,000 chances in a million (one in four to five people).²

Odors affect the human sense of smell. Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to odors can range from psychological (irritation, anger or anxiety) to physiological (circulatory, respiratory, nausea, vomiting or headaches). The ability to detect odors varies widely among the population and is subjective. An odor that may be acceptable to one

² *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community*, CARB (March 19, 2008).

person, could be offensive to another person, (e. g., a coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can easily become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Quality and intensity are two properties present in any odor. The quality of the odor indicates the nature of the smell experience. For example, an odor could be ‘flowery’ or ‘sweet’. The intensity refers to the strength of the odor. When an odor sample is progressively diluted, the odor intensity decreases. Typical odors sources and screening distances are identified, in Table 3.3-5.

Greenhouse Gases (GHGs) is a term for a group of gases that trap heat in the atmosphere. The accumulation of GHGs in the atmosphere regulates the earth’s temperature; however, emissions from human activities such as electricity production and vehicles have elevated the concentration of these gases in the atmosphere. This accumulation of GHGs may contribute to an increase in the temperature of the earth’s atmosphere and contribute to climate change. The principal greenhouse gases contributing to this process include carbon dioxide (CO₂), methane (CH₄), ozone, water vapor, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). Carbon dioxide is the “reference gas” for climate change, meaning that emissions of GHGs are typically reported in “carbon dioxide equivalent” measures. Greenhouse gases and climate change are discussed in Section 3.5, Climate Change.

Existing Regional Air Quality

The major criteria pollutant emissions for the Bay Area and Alameda County are summarized in Table 3.3-1. In the Bay Area, motor vehicles generate the majority of ROG, NO_x, and CO.

Table 3.3-1						
2008 Estimated Average Daily Emissions in Alameda County and the San Francisco Bay Area						
Emissions Source	Emissions in Tons per Day					
	ROG	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Alameda County	76	104	359	4	43	14
San Francisco Bay Area Air Basin	380	496	1753	85	216	85

Source: California Air Resources Board, Almanac Emission Projection Data, 2009.

Measurements of ambient concentrations of the criteria pollutants are used by the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) to assess and classify the air quality of each regional air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national and State standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration exceeds the standard, the area is classified as a “nonattainment” area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

EPA and CARB use different standards for determining whether the Bay Area is an attainment area. Under national standards, the Bay Area was designated as marginal nonattainment area for ozone in 2004. However, EPA recently lowered the national ozone standard and will issue final designations based upon the new standard by March 2010. The Bay Area is in attainment or designated as unclassified for all

other pollutants under national standards. Under State standards, the Bay Area is designated as a nonattainment area for ozone and PM₁₀, and an attainment area for all other pollutants.

Under the Community Air Risk Evaluation (CARE) program, BAAQMD began identifying areas with high TAC emissions and sensitive populations that could be affected by such emissions, and using this information to establish policies and programs to reduce TAC emissions and exposures. During Phase I of CARE, BAAQMD developed a preliminary Bay-Area-wide TAC emissions inventory (for the Year 2000) and compiled demographic and health-statistics data to identify sensitive populations. Five TACs (i.e., DPM, 1,3-butadiene, benzene, hexavalent chromium, and formaldehyde) were estimated to be responsible for about 97 percent of the Bay Area's cumulative cancer risk, and DPM alone accounts for about 80 percent of this cancer risk. Major sources of DPM include on-road and off-road heavy-duty diesel trucks and construction equipment. The highest DPM emissions occur in the urban core areas of eastern San Francisco, western Alameda, and northwestern Santa Clara Counties.³

Existing Local Air Quality

BAAQMD monitors criteria air pollutant concentrations at a number of monitoring stations throughout the Bay Area. The air quality in the Bay Area, including Oakland, has generally improved over the past 20 years, as motor vehicles have become cleaner, agricultural and residential burning has been curtailed, and consumer products containing ROG have been reformulated or replaced.

Table 3.3-2 identifies the federal and State ambient air quality standards for the major criteria air pollutants along with the ambient pollutant concentrations measured at the Oakland (9925 International Boulevard), San Leandro County Hospital and Fremont (Chapel Way) monitoring stations between 2006 and 2008. During 2006 through 2008, there were no violations of the State 1-hour ozone standard, federal 8-hour ozone standard, or the State 8-hour ozone standard. During the period of 2006 through 2008, there were no violations of the federal 24-hour standard for PM₁₀, two violations of the State 24-hour standard for PM₁₀, and 12 violations of the national annual standard for PM_{2.5}. Carbon monoxide, a product of incomplete combustion, was formerly a problem for the Bay Area; however, with improved motor vehicles and fuels, CO levels in Oakland easily meet State and federal standards despite population growth and increased motor vehicle use.

³ Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area, BAAQMD, September 2006.

Table 3.3-2
Summary of Ambient Air Quality in Oakland

Air Pollutants ^a	Year		
	2006	2007	2008
Ozone			
Maximum 1-hour concentration measured	0.088 ppm ^b	0.04 ppm	0.086 ppm
Days exceeding State 0.09 ppm 1-hour standard	0	0	0
Maximum 8-hour concentration measured	0.06 ppm	0.04 ppm	0.06 ppm
Days exceeding national 0.08 ppm 8-hour standard	0	0	0
Days exceeding State 0.07 ppm 8-hour standard ^c	0	0	0
Respirable Particulate Matter (PM₁₀)			
Maximum 24-hour concentration measured	54.0 µg/m ³ ^d	57.5 µg/m ³	37.5 µg/m ³
Days exceeding national 150 µg/m ³ 24-hour standard	0	0	0
Days exceeding State 50 µg/m ³ 24-hour standard	1	1	0
Fine Particulate Matter (PM_{2.5})			
Maximum 24-hour concentration measured	43.9 µg/m ³	51.2 µg/m ³	28.6 µg/m ³
No. of days exceeding national 35 µg/m ³ 24-hour standard ^e	6	6	0
Annual Arithmetic Mean (AAM)	10.3 µg/m ³	8.7 µg/m ³	9.5 µg/m ³
Does measured AAM exceed national 15.0 µg/m ³ AAM standard?	No	No	No
Does measured AAM exceed State 12.0 µg/m ³ AAM standard?	No	No	No
Carbon Monoxide (CO)			
Maximum 8-hour concentration measured	1.81 ppm	1.57 ppm	1.43 ppm
Number of days exceeding national and State 9.0 ppm 8-hour standard	0	0	0
Nitrogen Dioxide (NO₂)			
Maximum 1-hour concentration measured	0.063 ppm	0.058 ppm	0.062 ppm
Days exceeding State 0.25 ppm 1-hour standard	0	0	0

Source: California Air Resources Board, Air Quality Data Statistics website, <http://www.arb.ca.gov/adam/welcome.html>, accessed November 10, 2009.

Notes:

- Data for ozone was obtained from the Oakland – 9925 International Boulevard and San Leandro County Hospital monitoring stations while data for all other criteria pollutants were taken from the Fremont – Chapel Way monitoring station.
- ppm = parts by volume per million of air.
- The California 8-hour ozone standard was implemented on May 17, 2005.
- µg/m³ = micrograms per cubic meter.
- On December 17, 2006, the U.S. EPA implemented a more stringent national 24-hour PM_{2.5} standard revising it from 65 µg/m³ to 35 µg/m³.

BAAQMD has monitored ambient TAC concentrations in the Bay Area since 1985, starting at five stations and expanding over time to eleven stations at present. The annual average concentrations for the TACs monitored at the Oakland station are shown in Table 3.3-3 for the year 2003, the most recent year for which a full data set is available. Based these data, the estimated inhalation cancer risk for a receptor exposed at Oakland's 2003 levels is 122 in a million, which compares to BAAQMD's estimate of 143 in a million for a Bay Area average receptor. These estimates do not include the risk resulting from exposure to DPM, which is not specifically monitored at BAAQMD stations. However, recent BAAQMD modeling studies indicate that exposure to DPM results in a Bay Area average cancer risk of 500-700 in a million, which is substantially greater than the effect of all other monitored TACs combined.⁴

Table 3.3-3
Ambient Concentrations of Carcinogenic TACs at BAAQMD Monitoring Stations in the Plan Area

Compound	Concentration		Unit Risk ^a (per µg/m³)	Cancer Risk (Chances in 1 million)
	(ppb)	(µg/m³)		
Oakland Station (2419 Filbert Street)				
Benzene	0.50	1.63	2.90E-05	47.3
Carbon Tetrachloride	0.11	0.71	4.20E-05	29.8
Chloroform	0.02	0.10	5.30E-06	0.5
Methylene Chloride	0.34	1.20	1.00E-06	1.2
Ethylene Dibromide	0.01	0.08	7.10E-05	5.7
Ethylene Dichloride	0.05	0.21	2.10E-05	4.4
MTBE	0.46	1.68	2.60E-07	0.4
Perchloroethylene	0.05	0.34	5.90E-06	2.0
Trichloroethylene	0.03	0.17	2.00E-06	0.3
Vinyl Chloride	0.15	0.39	7.80E-05	30.4
Total Cancer Risk				122.0

Source: Bay Area Air Quality Management District, *Toxic Air Contaminants Control Program Annual Report 2003, Appendix C-1*.

Notes:

ppb = parts per billion.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

- a. Unit Risk is the probability of contracting cancer if one is continually exposed to an average concentration of 1 $\mu\text{g}/\text{m}^3$ of the specific substance over a period of 70 years, i.e., an average person's lifetime. Multiplying the Unit Risk of a compound by its concentration in $\mu\text{g}/\text{m}^3$ gives its cancer risk per million.

Potential Cancer Risk

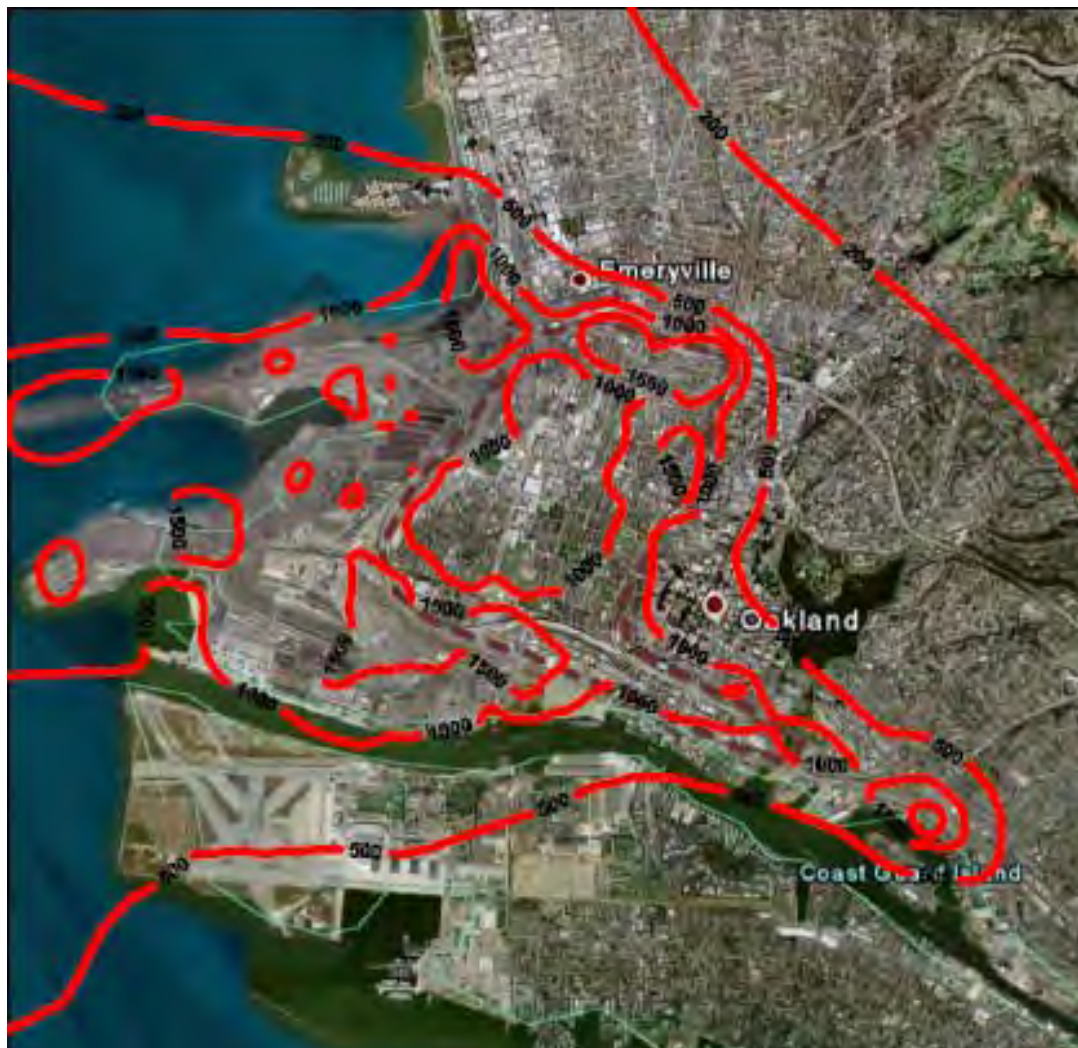
CARB and BAAQMD conducted a health risk assessment (HRA) to understand the emissions pattern and the potential public health risk from exposures to DPM from sources related to Port of Oakland operations, the Union Pacific (UP) rail yard and other significant sources of DPM in and near West Oakland.⁵ Figure 3.3-1 shows the equal risk contours for all DPM emission sources superimposed on the map used to study the potential cancer risks in the West Oakland community. Areas between the "contour" lines are estimated to have the additional cancer risk (due to DPM emissions) which is shown in a number on the label --the HRA found that West Oakland is exposed to DPM concentrations almost

⁴ *Toxic Air Contaminant Control Program, Annual Report 2003 Volume I*, BAAQMD, August 2007.

⁵ *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community*, CARB (December, 2008).

three times higher than the Bay Area average background concentration. Consequently, the estimated additional cancer risk for residents of West Oakland from a lifetime (i.e., 70 year) exposure to DPM from the Port, UP rail operations and related non-Port/non-UP marine and land-based diesel sources is about 1,200 chances per million at year 2005 DPM emission levels. Much of downtown Oakland is exposed to elevated DPM levels from the same sources such that the estimated additional cancer risk for residents is about 500 per million (see also the “Air Quality Background” section, above). This information is added for disclosure purposes only; readers are referred to the CARB Health Risk Assessment for more details.

Figure 3.3-1 Estimated West Oakland Community Potential Cancer Risk from All Diesel PM Emissions Sources



Source: Draft Diesel Particulate Matter Health Risk Assessment for the West Oakland Community, State of California Air Resources Board, March 19, 2008.

Note: The risk levels are based on the 80th Percentile Breathing Rate. Total Modeled Emissions = 845 tons/year in 2005. Modeling Domain = 10 km x 10 km. Resolution = 250 m x 250 m. The dashed line represents the boundary for the West Oakland community.

Existing Land Uses

Land uses such as schools, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are also considered sensitive because people in residential areas are often at home, and therefore exposed to pollutants, for extended periods of time. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

The City contains a wide range of residential, commercial, industrial, public, and open space land uses. This includes sensitive receptors such as residential, hospital, schools, and recreational areas. The City has also identified potential locations where housing units under the *2007-2014 Housing Element* may be developed, identified as Housing Sites in Figure 2-2, Section 2, Project Description, which are locations where housing has either been approved, planned, or are available for future housing development. Collectively, the sites where 13,501 units of housing could be built are referred to in the EIR as “Housing Sites” and are analyzed below.

Applicable Plans and Regulations

Air quality within the Bay Area is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Bay Area are discussed below.

Federal

The EPA is responsible for setting and enforcing the National Ambient Air Quality Standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives.

As part of its enforcement responsibilities, EPA requires each State with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

Title III of the federal Clean Air Act Amendments required the EPA to promulgate national emissions standards for certain TACs. At first, the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable, generally referred to as Maximum Achievable Control Technology (MACT) standards. Then the EPA developed health risk-based emissions standards necessary to address risks remaining after implementation of MACT. Consequently, performance criteria were established to limit mobile-source emissions of certain TACs, including benzene, formaldehyde, and 1,3-butadiene.

State

CARB, a part of the California EPA, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, CARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

The California Energy Commission (CEC) established in 1978 the Energy Efficient Standards for Residential and Nonresidential Buildings, or Title 24, in response to a legislative mandate to reduce California's energy consumption. The State's Title 24 energy-efficiency standards require the design of new buildings to be energy conserving. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficiency technologies and methods. Since air pollutant emissions are closely linked to the combustion of fuel for energy production, mandated increases in energy efficiency will have air quality benefits.

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588). AB 1807 sets procedures for the designation of TACs and control measures for sources that emit particular TACs. If there is a safe emission threshold for a substance, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must require all feasible control measures to minimize emissions. To date, none of the TACs identified under AB 1807 has a safe threshold. AB 2588 requires all facilities emitting TACs above specified levels to prepare emission inventories and risk assessments (the latter, if TAC emissions are found to be significant), and then to notify the public of the any significant risk and implement necessary reduction measures.

CARB has adopted TAC control measures and more stringent emission standards for various on-road vehicles and off-road diesel equipment. Over time, the replacement of older vehicles is expected to result in a vehicle fleet that emits substantially less of the associated TACs (i.e., DPM, benzene, 1,3-butadiene). With implementation of these measures, it is expected that DPM concentrations will be reduced by 85 percent in 2020 relative to year 2000 levels. Adopted regulations are also expected to reduce formaldehyde emissions from cars and light-duty trucks.

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations for the siting of new sensitive land uses (i.e., residences, schools, daycare centers, playgrounds, and medical facilities) near certain recognized major sources of TACs, including freeways, large warehouses/distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners and large gasoline dispensing facilities. Where possible, the minimum separations between new sensitive land uses and major TAC sources listed in Table 3.3-4 are recommended. The BAAQMD Guidelines also suggest separation distances that are more conservation, as discussed below.

Table 3.3-4
CARB Recommendations for Siting New Sensitive Land Uses Near Major TAC Sources

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week. Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of any analyses of health risks for such Ports.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

Source: California Air Resources Board. Air Quality and Land Use Handbook: A Community Health Perspective (2005).

Regional

BAAQMD is the primary agency responsible for comprehensive air pollution control in the San Francisco Bay Area Air Basin, including Alameda County. To that end, BAAQMD, a regional agency, works directly with the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and local governments and cooperates actively with all federal and State government agencies. BAAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

BAAQMD is directly responsible for reducing emissions from stationary sources and for assuring that State controls on mobile sources are effectively implemented. It has responded to this requirement by preparing a sequence of Ozone Attainment Plans and Clean Air Plans that comply with the federal Clean Air Act and the California Clean Air Act to accommodate growth, reduce the pollutant levels in the Bay Area, meet federal and State ambient air quality standards, and minimize the fiscal impact that pollution

control measures have on the local economy. The Ozone Attainment Plans are prepared to address the federal ozone standard and the Clean Air Plans are prepared to address the State ozone standard. The most recent *Ozone Attainment Plan* was adopted by the BAAQMD Board of Directors on October 2001 and demonstrates attainment of the federal ozone standard in the Bay Area by 2006. The current regional *Clean Air Plan* was adopted by the Board of Directors on December 20, 2000, and a draft of a new 2010 *Clean Air Plan* was released by BAAQMD in March, 2010. The 2010 draft Plan identifies the emissions control measures that would be adopted and/or implemented through 2012 to reduce major sources of pollutants. The 2010 draft plan includes 55 control measures to reduce air pollution in the Bay Area, called: “Land Use and Local Impact” measures, and “Energy and Climate” measures. These planning efforts have substantially decreased the population’s exposure to unhealthful ozone levels, even while substantial population growth has occurred within the Bay Area. The *Clean Air Plan* predicts that regional ozone concentrations will decrease by 1.2 percent per year or 9.0 percent over the twelve years after it was adopted. In January 2006, BAAQMD adopted the *2005 Ozone Strategy* to identify additional steps needed to continue reducing ozone levels.

In 2003, the California Legislature passed Senate Bill 656 (SB 656) to reduce public exposure to PM₁₀ and PM_{2.5}. SB 656 required CARB, in consultation with local air districts, to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures to reduce PM₁₀ and PM_{2.5}. In November 2005, BAAQMD adopted a *Particulate Matter Implementation Strategy* focusing on those measures most applicable and cost effective for the Bay Area.

Although BAAQMD is responsible for regional air quality planning efforts, it does not have direct authority over plans formulated by other local agencies or governments, or over new development projects within the Bay Area. Instead, BAAQMD uses its expertise to advise on the air quality implications of such plans and projects through the BAAQMD CEQA Thresholds of Significance (BAAQMD Thresholds), which were adopted on June 2, 2010. Attendant with the BAAQMD Thresholds were the BAAQMD Guidelines (BAAQMD Guidelines), which were released in June 2010. The BAAQMD Thresholds and the Guidelines, together, provide guidance on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. By providing this guidance, BAAQMD ensures that the air quality impacts of plans and development proposals will be analyzed accurately and consistently, and that adverse impacts will be minimized.

The BAAQMD Thresholds recommend that any proposed General Plan or other area plans include recommendations for special overlay zones to be established around existing and proposed TAC sources to protect sensitive populations;⁶ further, the BAAQMD Guidelines recommend that a Plan identify goals, policies, and objectives to minimize potential TAC impacts.⁷ For plan-level review, like the *Housing Element*, the BAAQMD Thresholds refer Lead Agencies to the CARB’s *Land Use Handbook* for recommendations on adequate buffer distances between TAC sources and sensitive receptors, but recommend 500 feet from freeways and high-volume roadways (which are defined as having over

⁶ Bay Area Air Quality Management District, “CEQA Thresholds of Significance” June 17, 2010, page 9.6.

⁷ Bay Area Air Quality Management District, “CEQA Air Quality Guidelines.” June, 2010, page 9-7.

100,000 vehicles per day).⁸ However, the most conservative project-level threshold for siting a new receptor, including residential units, is to create a ‘Zone of Influence’ which is 1,000 feet from a source or receptor.⁹

For possible odor impacts, the BAAQMD Thresholds indicate that at the plan-level environmental review, a Lead Agency is to identify the location of existing and planned sources of odors.¹⁰ Further, the BAAQMD Guidelines also recommend that any proposed General Plan or other area plans include policies to reduce potential odor impacts in the plan area.¹¹ The BAAQMD Guidelines specifically refer Lead Agencies to the screening distances for sensitive receptors near specified types of utilities and industrial facilities. Screening distances for the most applicable land use/operation types in the City of Oakland are included in Table 3.3-5.

Table 3.3-5 BAAQMD Odor Screening Distances	
Land Use/Type of Operation	Recommended Screening Distance
Wastewater Treatment Plant	2 miles
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Painting/Coating Operations	1 mile
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Green Waste and Recycling Operations	1 mile

Source: Bay Area Air Quality Management District, “CEQA Proposed Thresholds of Significance” May 3, 2010, page 55.

Local

Local jurisdictions, such as the City of Oakland, have the authority and responsibility to reduce air pollution through their police power and decision-making authority. Specifically, the City is responsible for assessing the potential for and mitigating air quality problems that result from its land use decisions. The City’s *General Plan* and Standard Conditions of Approval (SCA) include policies related to air quality.

⁸ Bay Area Air Quality Management District, “CEQA Proposed Thresholds of Significance” June 17, 2010, page 3.2.4.

⁹ Bay Area Air Quality Management District, “CEQA Proposed Thresholds of Significance” June 17, 2010, page 2-2.

¹⁰ Bay Area Air Quality Management District, “CEQA Proposed Thresholds of Significance” June 17, 2010, page 2-3.

¹¹ Bay Area Air Quality Management District, “CEQA Air Quality Guidelines.” June 17, 2010, page 9-7.

City of Oakland General Plan. The Open Space Conservation and Recreation element of the City of Oakland's General Plan includes the following policies related to air quality:

- Promote land use patterns and densities which help improve regional air quality conditions. The City supports efforts of the responsible public agencies to reduce air pollution. (Policy CO-12.1)
- Require that development projects be designed in a manner which reduces potential adverse air quality impacts. (Policy CO-12.4)
- Control of Dust Emissions. Require construction, demolition, and grading practices which minimize dust emissions. These practices are currently required by the City and include the following: (Policy CO-12.6)
 - Avoiding earth moving and other major dust generating activities on windy days.
 - Sprinkling unpaved construction areas with water during excavation, using reclaimed water where feasible. (Watering can reduce construction-related dust by 50 percent.)
 - Covering stockpiled sand, soil, and other particulates with a tarp to avoid blowing dust.
 - Covering trucks hauling dirt and debris to reduce spills. If spills do occur, they should be swept up promptly before materials become airborne.
 - Preparing a comprehensive dust control program for major construction in populated areas or adjacent to sensitive uses like hospitals and schools.
 - Operating construction and earth-moving equipment, including trucks, to minimize exhaust emissions.

City of Oakland Standard Conditions of Approval

The City's SCAs relevant to air quality are listed below for reference. SCA-25 is also discussed in Section 3.2, Transportation. The SCAs will be adopted as requirements of each development project within the City, including projects developed under the proposed *Housing Element*, if the projects are approved by the City. These measures are required to ensure that no significant impacts would occur with development and so are not listed as mitigation measures in this document. Note, these SCAs have been revised from those listed in the Initial Study, to reflect the June 2010 BAAQMD Guidelines.

SCA-26, listed below (which revises and combines former SCAs-26 and 27), applies to construction projects.

SCA-26 Construction-Related Air Pollution Controls (Dust and Equipment Emissions)

Ongoing throughout demolition, grading, and/or construction. During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD):

- a) Water all exposed surfaces of active construction areas at least twice daily (using reclaimed water if possible). Watering should be sufficient to prevent airborne dust from

leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.

- b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- d) Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- e) Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).
- f) Limit vehicle speeds on unpaved roads to 15 miles per hour.
- g) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations. Clear signage to this effect shall be provided for construction workers at all access points.
- h) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- i) Post a publicly visible sign that includes the contractor's name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective action within 48 hours. The telephone numbers of contacts at the City and BAAQMD shall also be visible. This information may be posted on other required on-site signage.

The enhanced measures below apply to construction projects involving 1) land uses that exceed the BAAQMD construction screening criteria (e.g., 240 or more multi-family residential units); 2) a demolition permit; 3) simultaneous occurrence of more than two construction phases (e.g., grading and building construction occurring simultaneously); 4) extension site preparation (i.e., over four acres in size); or 5) extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).

- a) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

- b) All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.
- c) Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- d) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).
- e) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.
- f) Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.
- g) Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- h) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- i) All trucks and equipment, including tires, shall be washed off prior to leaving the site.
- j) Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- k) Minimize the idling time of diesel-powered construction equipment to two minutes.
- l) The project applicant shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.
- m) Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).
- n) All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.

- o) Off-road heavy diesel engines shall meet the CARB's most recent certification standard.

SCA-41, listed below, applies to projects involving asbestos in buildings.

SCA-41 Asbestos Removal in Structures

Prior to issuance of a demolition permit. If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolition and disposal, The project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and BAAQMD Regulation 11, Rule 2, as may be amended.

SCA-94, listed below, applies to residential projects located within 1,000 feet of a source of diesel particulate matter that exceeds the BAAQMD health screening criteria. In order to achieve an acceptable interior air quality level for sensitive receptors, appropriate measures shall be incorporated into project building design.

SCA-94 Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)

During Project Review

- a) *Indoor Air Quality:* In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel particulate matter to achieve an acceptable interior air quality level for sensitive receptors. The appropriate measures shall include one of the following methods:
 - 1) The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.
 - 2) The applicant shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Planning and Zoning Division and the Building Services Division for review and approval

prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project.

- a. Redesign the site layout to locate sensitive receptors as far as possible from any freeways, major roadways, or other sources of air pollution (e.g., loading docks, parking lots).
 - b. Do not locate sensitive receptors near distribution center's entry and exit points.
 - c. Incorporate tiered plantings of trees (redwood, deodar cedar, live oak, and/or oleander) to the maximum extent feasible between the sources of pollution and the sensitive receptors.
 - d. Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.
 - e. Retain a qualified HV consultant or HERS rater during the design phase of the project to locate the HV system based on exposure modeling from the pollutant sources.
 - f. Install indoor air quality monitoring units in buildings.
 - g. Project applicant shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HV system and the filters.
- b) *Exterior Air Quality:* To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

SCA-95, listed below, applies to residential projects located within 1,000 feet of a source of gaseous toxic air contaminants TACs) that exceed the BAAQMD health screening criteria.

SCA-95 Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions)*During Project Review*

- a) Indoor Air Quality: In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential risk due to exposure to toxic air contaminants to achieve an acceptable interior air quality level for sensitive receptors. The project applicant shall implement the recommendations of a health risk assessment (HRA) prepared in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements. The HRA shall be submitted to the Planning and Zoning Division for review and approval. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.
- b) Exterior Air Quality: To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

In addition to the SCAs listed above for air quality, SCA-25, listed below, applies to all projects involving 50 or more new residential units or 50,000 square feet of non-residential space to reduce vehicle trips.

SCA-25 Parking and Transportation Demand Management

Prior to issuance of a final inspection of the building permit, the applicant shall submit for review and approval by the Planning and Zoning Division a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The applicant shall implement the approved TDM plan. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four modes of travel shall be considered. Strategies to consider include the following:

- a) Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement.
- b) Construction of bike lanes per the Bicycle Master Plan; Priority Bikeway Projects.
- c) Signage and striping onsite to encourage bike safety.
- d) Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, countdown signals, bulb outs, etc.) to encourage convenient crossing at arterials.
- e) Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.

- f) Direct transit sales or subsidized transit passes.
- g) Guaranteed ride home program.
- h) Pre-tax commuter benefits (checks).
- i) On-site car-sharing program (such as City Car Share, Zip Car, etc.).
- j) On-site carpooling program.
- k) Distribution of information concerning alternative transportation options.
- l) Parking spaces sold/leased separately.
- m) Parking management strategies, including valet parking and shared parking spaces.

Impacts and Mitigation Measures

This section evaluates the potential adverse air quality impacts related to development under the *2007-2014 Housing Element*. Potential air quality impacts are grouped into four categories: criteria air pollutants and precursors, greenhouse gases (GHGs), local community risks and hazards, and odors. Greenhouse gases are discussed in Section 3.5, Climate Change. Plan-level impacts for criteria air pollutants and precursors are determined based on consistency with the current Clean Air Plan (also called the Air Quality Plan). Impacts of local community risks and hazards to future residents of housing developed under the *2007-2014 Housing Element* are evaluated based on land use diagrams and the development of overlay zones around existing and planned sources of TACs. Odor impacts are also determined by land use diagrams and development of buffers around existing and planned odor sources.

Thresholds of Significance

Given that the *2007-2014 Housing Element* is a planning document, only significance thresholds 1 through 3 below are applicable. CEQA does not require analysis of project-related impacts for the *Housing Element*, however, evaluation of impacts under BAAQMD project-level significance standards for exposure to TACs and for operational emissions of carbon monoxide (CO) associated with increased vehicle trips are included in order to provide more information about potential air quality-related impacts and to provide CEQA clearance for future housing development projects, pursuant to State CEQA Guidelines sections 15183,¹² 15162 through 15164,¹³ and 15168.¹⁴

¹² Section 15183 allows a streamlining of environmental review for projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts particular to the project, or the project site.

¹³ Sections 15162-15164 allows for the preparation of a Subsequent EIR and/or Negative Declaration, a Supplemental EIR, and/or and Addendum to an EIR that has already been certified when certain conditions are met.

¹⁴ Section 15168 allows for the streamlining of environmental review for projects that are determined, pursuant to Section 15162, not to have additional environmental impacts or require additional information, beyond the

As previously stated, BAAQMD has adopted new CEQA Thresholds for determining the significance of a project's air quality impacts. The analysis herein uses the plan-level and some project-level BAAQMD CEQA Thresholds to determine the project's significance with respect to air quality impacts.

A project would have a significant impact on the environment if it would have the following effects in relation to air quality:

Plan-Level Impacts:

A proposed plan would have significant adverse air quality impacts if it:

1. Fundamentally conflicts with the currently adopted Bay Area Clean Air Plan (CAP) (herein referred to as the Air Quality Plan (AQP) per the BAAQMD Guidelines), in any of the following ways:
 - The plan does not demonstrate reasonable efforts to implement applicable control measures included in the AQP;
 - The rate of increase in vehicle miles traveled (VMT) or vehicle trips in the plan area exceeds the rate of increase in population in the plan area;
2. Does not identify special overlay zones around existing and planned sources of TACs and PM (including risk reduction plan areas); and does not contain special overlay zones measured 500 feet from freeways and high-volume roadways containing 100,000 or more average daily vehicle trips; or does not identify goals, policies, and objectives to minimize potential impacts and create overlay zones around sources of TACs, PM, and hazards; or
3. Does not identify the location, and include policies to reduce impacts of existing and planned sources of odors.¹⁵

Project-Level Impacts:¹⁶

A proposed project would have significant adverse air quality impacts if it:

1. Exposes persons by siting, within a 1000 foot radius of a fence line, a new source or a new receptor to substantial levels of TACs resulting in: (a) a cancer risk level greater than 10 in one million (or 100 in a million on a cumulative basis); or (b) a non-cancer (chronic or acute) hazard index greater than 1.0 (or 10.0 on a cumulative basis); or (c) an increase of greater than 0.3 micrograms (or 0.8 micrograms on a cumulative basis) per cubic meter of annual average PM_{2.5};

recommendations and analysis contained in the Program EIR. Such projects would not require the preparation of an environmental document.

¹⁵ Bay Area Air Quality Management District, "CEQA Proposed Thresholds of Significance" June 17, 2010, page 9-7.

¹⁶ Although not legally required to analyze project-related impact for the *Housing Element*, the City nevertheless analyzed certain air quality-related impacts in order to provide more information about potential air quality-related impacts and to provide CEQA clearance for future housing projects that are consistent with the adopted Housing Element and this EIR, pursuant to CEQA Guidelines sections 15183, 15162-15164, and 15168.

2. Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people; or
3. Contributes to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of nine parts per million (ppm), averaged over eight hours and 20 ppm for one hour. (NOTE: Pursuant to BAAQMD Guidelines, localized CO concentrations should be estimated for projects in which (1) project-generated traffic would conflict with an applicable congestion management program established by the county congestion management agency or (2) project-generated traffic would increase traffic volumes at affected intersections by more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways).

Methodology for Analysis

The methodology discussed below is consistent with the recommendations by BAAQMD in the BAAQMD Guidelines.

Plan-Level

The threshold of significance for operational impacts of a plan is consistency with the most recently adopted CAP. To determine consistency with the CAP, the proposed project must incorporate current air quality plan control measures as appropriate to the plan area, and the rate of increase in vehicle miles travelled (VMTs) or vehicle trips within the plan area must be less than the rate of increase in population within the plan area. For the purposes of this analysis, the control measures from the BAAQMD 2005 Ozone Strategy were used and the population increase was determined relative to the Association of Bay Area Governments (ABAG) Projections 2007. A customized VMT was developed for the City of Oakland using the average Bay Area trip length,¹⁷ as discussed in Section 3.2, Transportation, and Section 3.5, Climate Change.

The BAAQMD Thresholds recommend that any proposed General Plan or other area plans include recommendations for special overlay zones to be established around existing and proposed TAC sources to protect sensitive populations;¹⁸ further, the BAAQMD Guidelines recommend that a Plan identify goals, policies, and objectives to minimize potential TAC impacts.¹⁹ For plan-level review, like the Housing Element, the BAAQMD Thresholds refer Lead Agencies to CARB's *Land Use Handbook* for recommendations on adequate buffer distances between TAC sources and sensitive receptors, but recommend 500 feet from freeways and high-volume roadways (which are defined as having over 100,000 vehicles per day).²⁰ However, the most conservative project-level threshold for siting a new

¹⁷ Average Bay Area Trip Length is 3.5 miles, on weekdays. Metropolitan Transportation Commission, *Transportation Vision Plan 2035*.

¹⁸ Bay Area Air Quality Management District, "CEQA Proposed Thresholds of Significance" June 17, 2010, page 2-8.

¹⁹ Bay Area Air Quality Management District, "CEQA Air Quality Guidelines." June 17, 2010, page 9-7.

²⁰ Bay Area Air Quality Management District, "CEQA Proposed Thresholds of Significance" June 17, 2010, page 9-7.

receptor, including residential units, is to create a ‘Zone of Influence’ which is 1,000 feet from a source or receptor.²¹

Project-Level

As noted above in “Project-Level impacts,” BAAQMD has thresholds to determine if exposure of new receptors to TACs and odors should be considered significant and if significant localized carbon monoxide (CO) impacts would occur from new development. The Environmental Analysis section, below, uses these thresholds to determine if new residential development may result in significant project-level impacts in order to provide more information about potential air quality-related impacts and to provide CEQA clearance for future housing projects that are consistent with the adopted *Housing Element* and this EIR, pursuant to CEQA Guidelines sections 15183, 15162 through 15164, and 15168.

Environmental Analysis

For each potential impact associated with the proposed project, a level of significance is determined and is reported in the impact statement. Conclusions of significance are defined as follows: significant impact (S), potentially significant impact (PS), less than significant (LTS), or no impact (NI). For each impact identified as being significant (S) or potentially significant (PS), the EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to less-than-significant (LTS) level successfully, this is stated in the EIR. If the mitigation measures would not diminish significant or potentially significant impacts to a less-than-significant level, the impacts are classified as “significant unavoidable impacts (SU).” For this section, AQ refers to air quality.

Plan-Level Impacts:

AQ-1. The proposed project would create new area and mobile sources of air pollutants that would generate emissions of criteria air pollutants. However, the population growth for the plan area does not exceed values in the current AQP. The Housing Element would be consistent with the control measures included in the current AQP, and the rate of increase in vehicle miles traveled or vehicle trips associated with the proposed project would be less than the rate of increase in population. As such, impacts on criteria air pollutants would be less than significant. (LTS)

The proposed *Housing Element* identifies where 13,501 housing units could be developed at Opportunity Sites within the City. Construction of the housing units proposed under the *Housing Element* would generate new sources of mobile and area source emissions. BAAQMD does not require a quantitative estimate of area and mobile source emissions that would result from development under a plan, such as the proposed *Housing Element*.

BAAQMD recommends that proposed plans be evaluated to determine if growth under the plan would exceed growth anticipated in the AQP. The proposed plan should also be evaluated with respect to its inclusion of control measures in the most current AQP and the rate of increase in

²¹ Bay Area Air Quality Management District, “CEQA Proposed Thresholds of Significance” June 17, 2010, page 2-2.

vehicle miles travelled or vehicle trips within the plan area should be compared to rate of increase in population within the plan area.

The most recent BAAQMD AQP is the Bay Area 2005 Ozone Strategy, which was adopted on January 4, 2006. The 2005 Ozone Strategy is the fourth triennial update of BAAQMD's original 1991 Clean Air Plan. The 2005 Ozone Strategy demonstrates how the San Francisco Bay Area will achieve compliance with the State ozone standard and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The 2005 Ozone Strategy includes stationary source control measures, mobile source control measures and transportation control measures. The project is consistent with 2005 Ozone Strategy Transportation Control Measure (TCM) #15, Local Land Use Planning and Development Strategies, because most of the Housing Sites are located near major transit routes and facilities.

The 2005 Ozone Strategy projections are based on analysis and forecasts of air pollutant emissions throughout the entire region. The forecasts rely on projections of population and employment made by ABAG, which are based on land use projections made by local jurisdictions (e.g., through the General Plan process). While the Housing Element identifies the housing units that would need to be developed in the 2007-2014 planning horizon, the Housing Element does not change the General Plan designations within the City. Therefore, the population and employment increase that would result from the proposed project would be consistent with projections used in the development of the 2005 Ozone Strategy.

The Opportunity Sites that have been identified for potential development under the Housing Element are mostly located along or near major transit corridors. These corridors also include pedestrian and bicycle routes. Because these Opportunity Sites would have better proximity to transit, pedestrian and bicycle routes than the average Oakland residential site, and because the proposed project would promote mostly multi-family residential urban infill, the rate of increase in vehicle miles travelled and vehicle trips would be less than the rate of increase of population within the City and impacts from operational criteria air pollutant emissions would thus be deemed less than significant.

In addition, the City's SCA-25 would apply for any project with greater than 50 residential units, and, as such, a parking and transportation demand management program would need to be implemented for these projects, which would further reduce air quality impacts from these larger projects.

Mitigation: None required.

AQ-2a. Residential development proposed under the Housing Element could expose occupants at certain sites to substantial health risks from diesel particulate matter (DPM) from mobile and stationary sources. However, compliance with the City's Standard Conditions of Approval would reduce impacts to a less-than-significant level. (LTS)

The BAAQMD Thresholds recommend special overlay zones to minimize potential TAC impacts in areas located within 1,000 feet of existing and planned sources of TACs, and within 500 feet of

freeways and high-volume roadways containing 100,000 or more average daily vehicle trips. There are several facilities in major DPM source categories in or near the plan area. The I-880 and I-580 freeways and SR 24 each carry more than 100,000 vehicles/day through the plan area. There are several active rail lines and two rail yards in Oakland. Several truck distribution/maintenance centers in the area are listed in BAAQMD's stationary source *Toxic Inventory 2004* (see Appendix F for a full list), including the AC Transit Central Maintenance facility (10626 International Boulevard), the City of Oakland Public Works facility (7101 Edgewater Drive), and the US Postal Service Vehicle Maintenance facility (1675 7th Street). Finally, the Port of Oakland with all its associated DPM emitters, including the ocean-going ships and all the diesel-fueled trains and trucks hauling cargo to/from the Port, is adjacent to the West Oakland community and parts of Downtown Oakland, which are part of the plan area and contain a number of the identified Housing Sites. DPM emissions from Port-related activities and sources have been inventoried and their chronic and acute health impacts in the surrounding communities were estimated by CARB in the *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community*.

Figure 3.3-2 shows the zones of elevated DPM concentrations alongside the City's freeways and around the Port of Oakland, together with all the individual Housing Sites. For clarity, Figure 3.3-3 shows the same TAC sources with sites in pre-development and approved projects and Figure 3.3-4 shows just the Opportunity Sites. Many of the Housing Sites, including a majority of those in West Oakland, Downtown Oakland, and close to area freeways, are within areas of concern for their elevated DPM levels. However, the City's SCA-94 will apply to housing development located within 1,000 feet of freeways, high-volume roadways, the Port of Oakland,²² and stationary sources of DPM. Compliance with the SCA would require reducing each sites' exposure to DPM through the installation of air filtration systems (with 85 percent filtration efficiency) or other equivalent measures to reduce indoor DPM to acceptable levels. Since all development within the City is required to comply with the City's SCAs, the proposed project would result in less-than-significant DPM air quality impacts.

Mitigation: None required.

AQ-2b. Residential development proposed under the Housing Element could expose occupants at certain sites to substantial health risk from gaseous TACs emitted locally from stationary sources. Although compliance with the City's Standard Conditions of Approval would provide that site-specific health risk assessments would be prepared, there is no assurance that such exposures could be reduced to a less-than-significant level at every site. (SU)

BAAQMD's *Toxic Inventory 2004* (Appendix F) lists over 200 stationary sources of TACs in the City of Oakland. Of all such sources, autobody shops (66 facilities) are the largest source

²² The 1,000-foot buffer for the Port of Oakland is based on the "Zone of Influence" (i.e., a 1,000-foot radius from fence line of a source to a receptor) for all toxic air pollutants (TACs) as defined for "Project-Level" CEQA studies by the BAAQMD's *Air Quality CEQA Thresholds of Significance* (adopted June 2, 2010). However, given the size of the Port of Oakland and the amount of DPM-generating activity associated with Port operations, 1,000 feet may not be adequate according to findings in the CARB's *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community* (March 19th 2008).

category, followed by dry cleaners (30 facilities). Table 3.3-6 lists other common types of TAC-emitting facilities with their TACs of concern. Figures 3.3-5, 3.3-6, and 3.3-7 show the locations of all the BAAQMD-listed stationary TAC sources in the City of Oakland, with a 1,000 foot buffer zone, together with all the individual Housing Sites where residential development could occur. For clarity, these figures show the City in three areas: West and North Oakland (Figure 3.3-5), Central Oakland (Figure 3.3-6), and East Oakland (Figure 3.3-7).

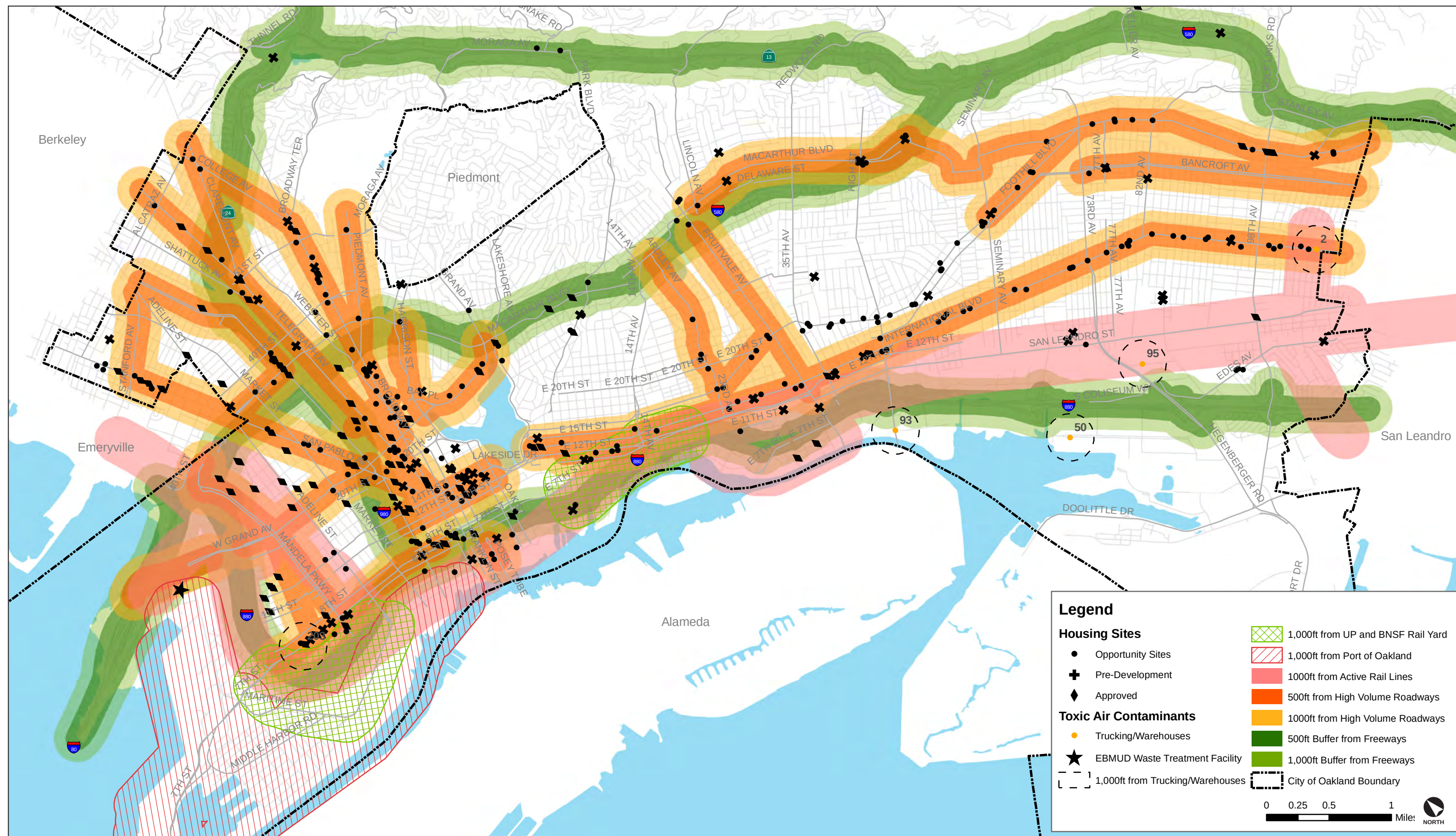


FIGURE 3.3-2
Sources of Particulate Emissions - All Housing Sites

Source: City of Oakland, 2010; PBS&J, 2010.

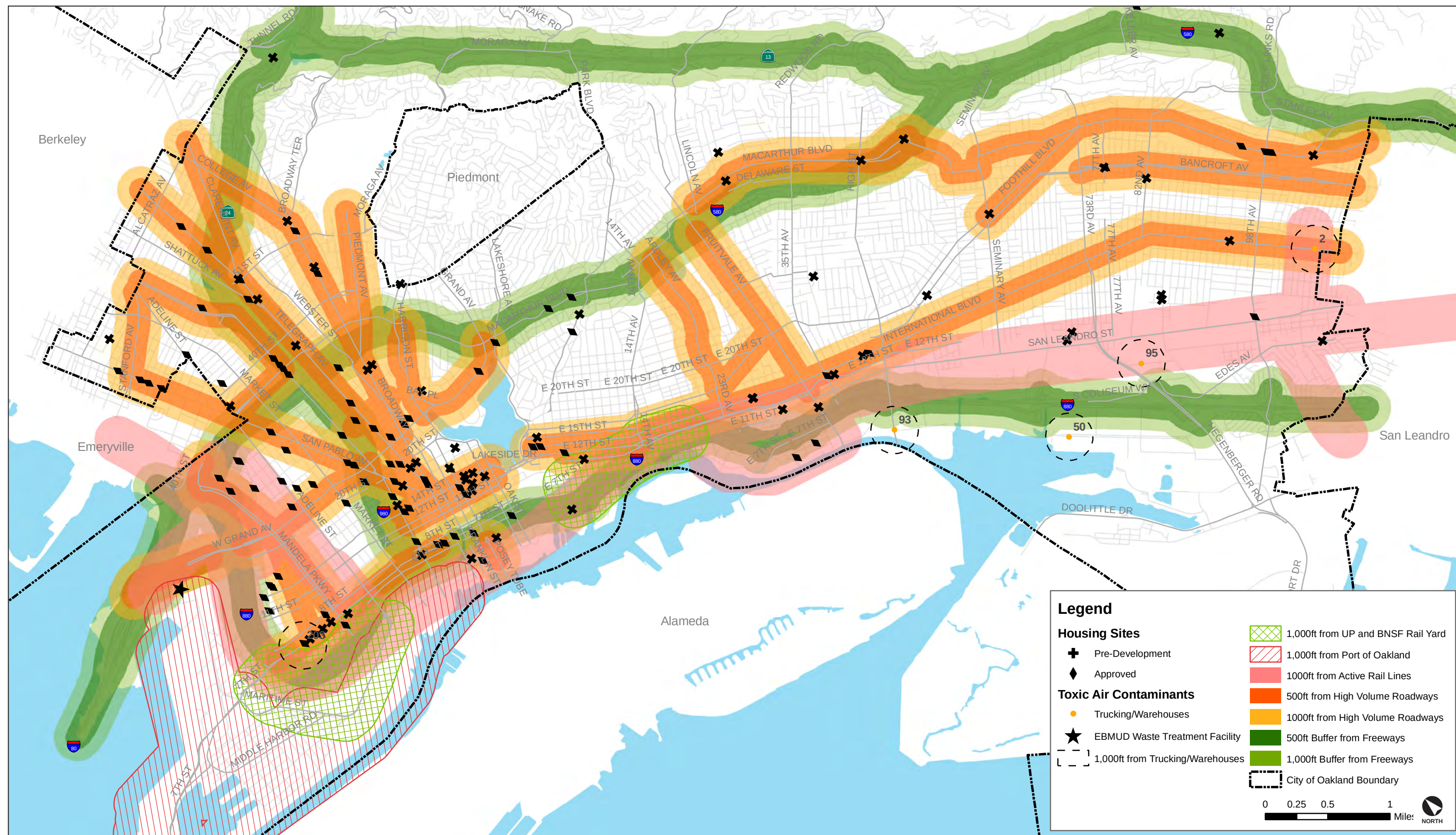


FIGURE 3.3-3
Sources of Particulate Emissions - Pre-Development and Approved Sites

Source: City of Oakland, 2010; PBS&J, 2010.

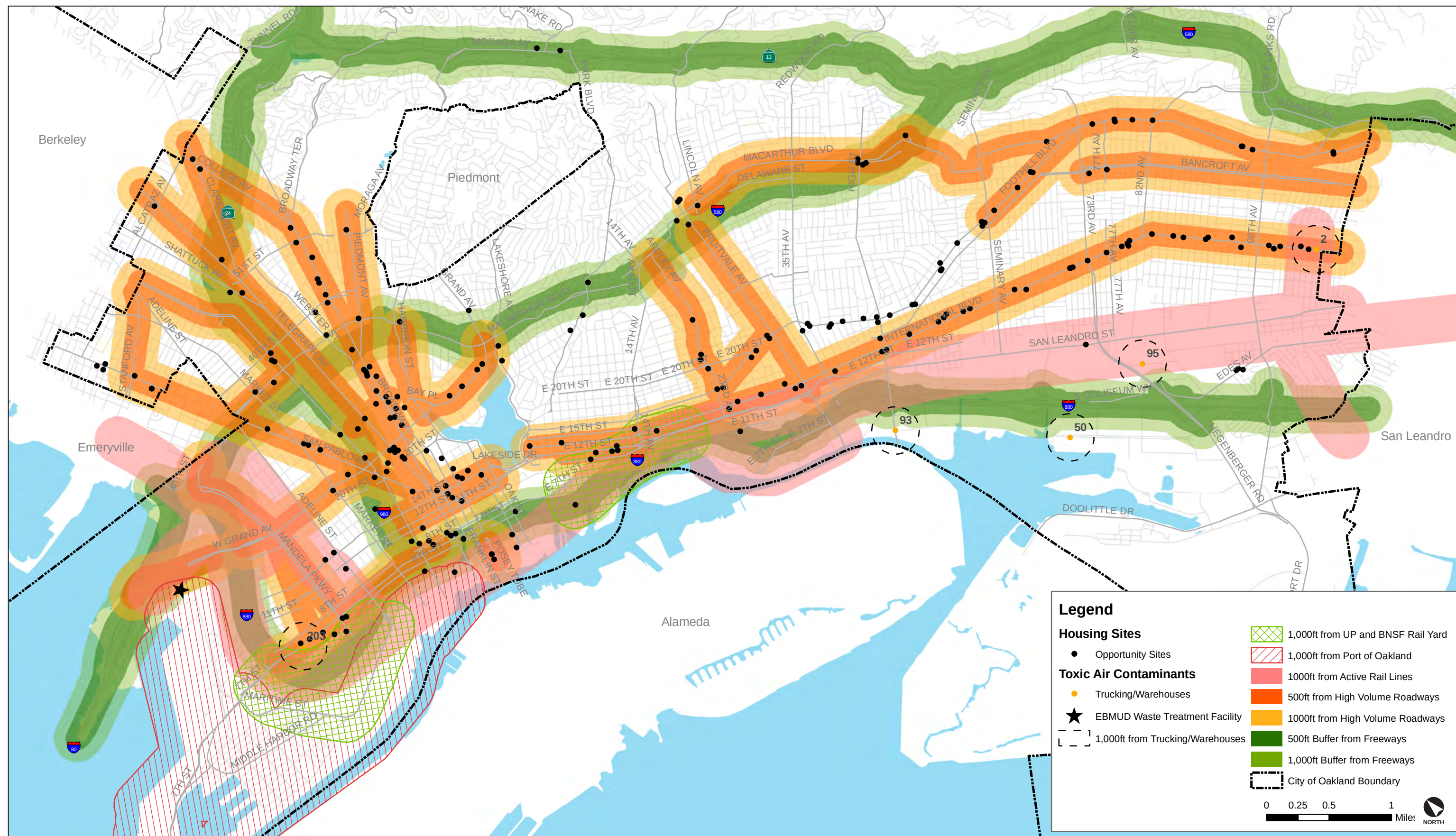


FIGURE 3.3-4
Sources of Particulate Emissions - Opportunity Sites

Source: City of Oakland, 2010; PBS&J, 2010.

Table 3.3-6
Major Stationary Sources of Toxic Air Contaminants with Gaseous Emissions of Concern

Source Category	Facility Type	TACs of Concern
Commercial	Autobody Shops	Solvents, Metals
	Furniture Refinish/Repair	Solvents (esp. Methylene Chloride)
	Dry Cleaning Facilities	Perchloroethylene
	Film Processing Services	Solvents
	Printing Shops	Solvents
Industrial	Construction Sites	Particulate Matter, Asbestos
	Manufacturers	Solvents, Metals
	Metal Plating/Welding	Metals (esp. Hexavalent Chromium, Nickel)
	Chemical Producers	Solvents, Metals
	Furniture Manufacture	Solvents
	Shipbuilding & Repair	Metals (esp. Hexavalent Chromium), Solvents
	Quarries & Cement Manufacturers	Particulate Matter, Asbestos
	Hazardous Waste Incinerators	Dioxin, Solvents, Metals
	Power Plants	Benzene, Formaldehyde, Particulate Matter
	Research and Development	Solvents, Metals
Public	Landfills	Benzene, Vinyl Chloride, Diesel Particulate Matter
	Waste Water Treatment Plants	Hydrogen Sulfide
	Municipal & Medical Waste Incinerators	Dioxin, Benzene, PAH, PCBs, 1,3-Butadiene
	Recycling Centers & Solid Waste Transfer Stations	Diesel Particulate Matter

Source: California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective (April 2005).

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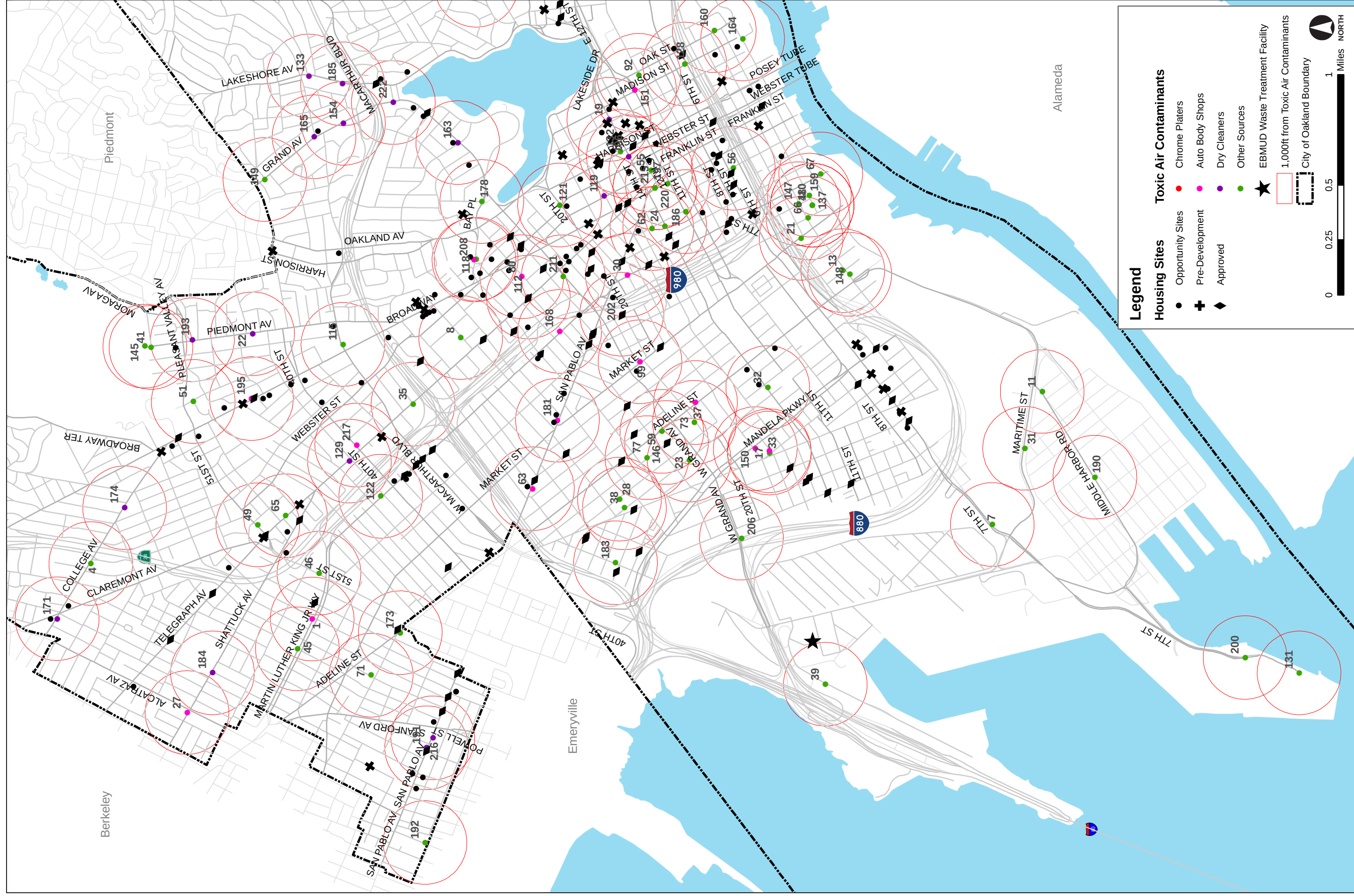


**FIGURE 3.3-5
Sources of Gaseous Emissions - West and North Oakland**

Source: PBS&J, 2010

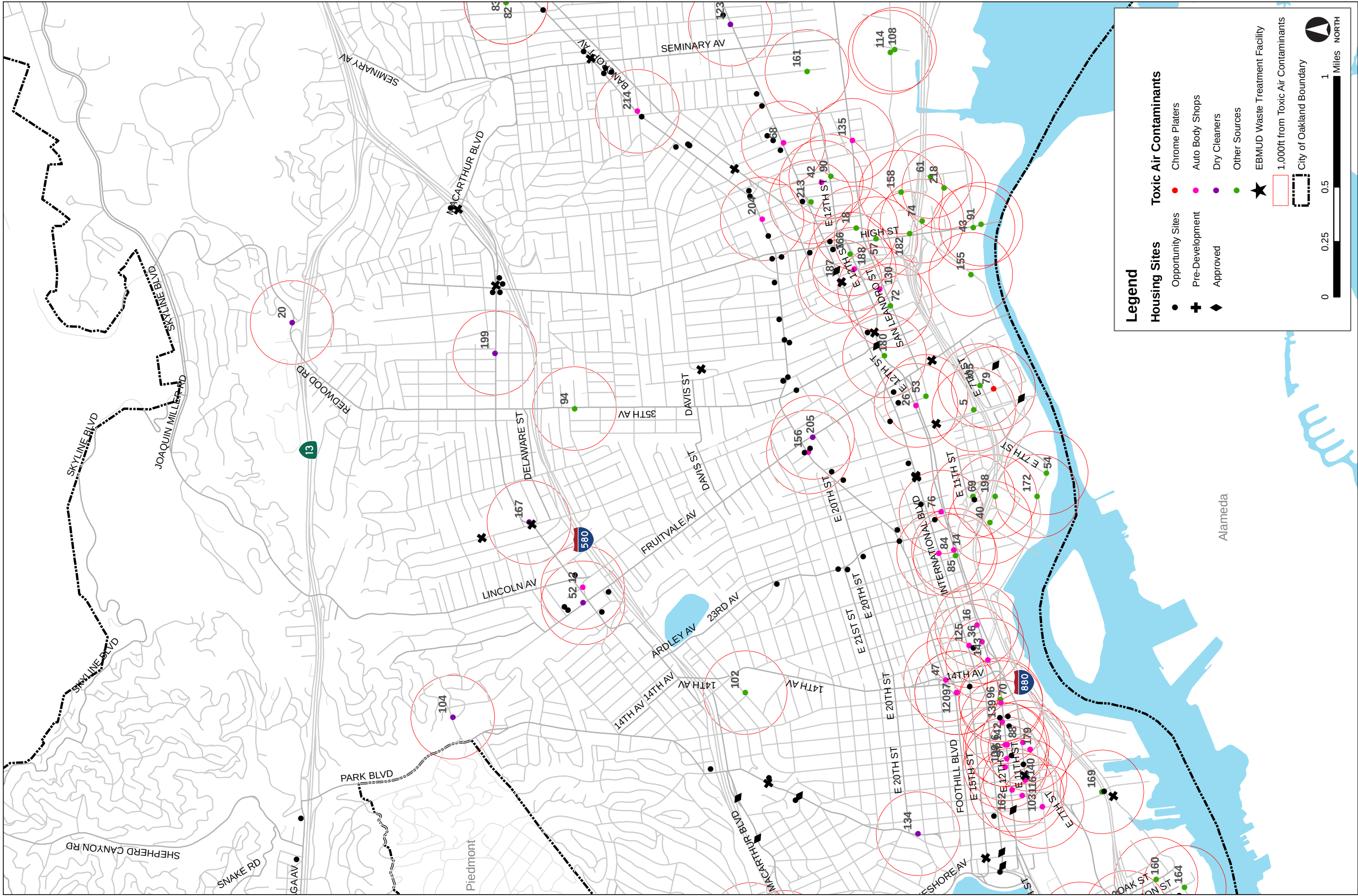


FIGURE 3.3-6
Sources of Gaseous Emissions - Central Oakland

Source: PBS&J, 2010

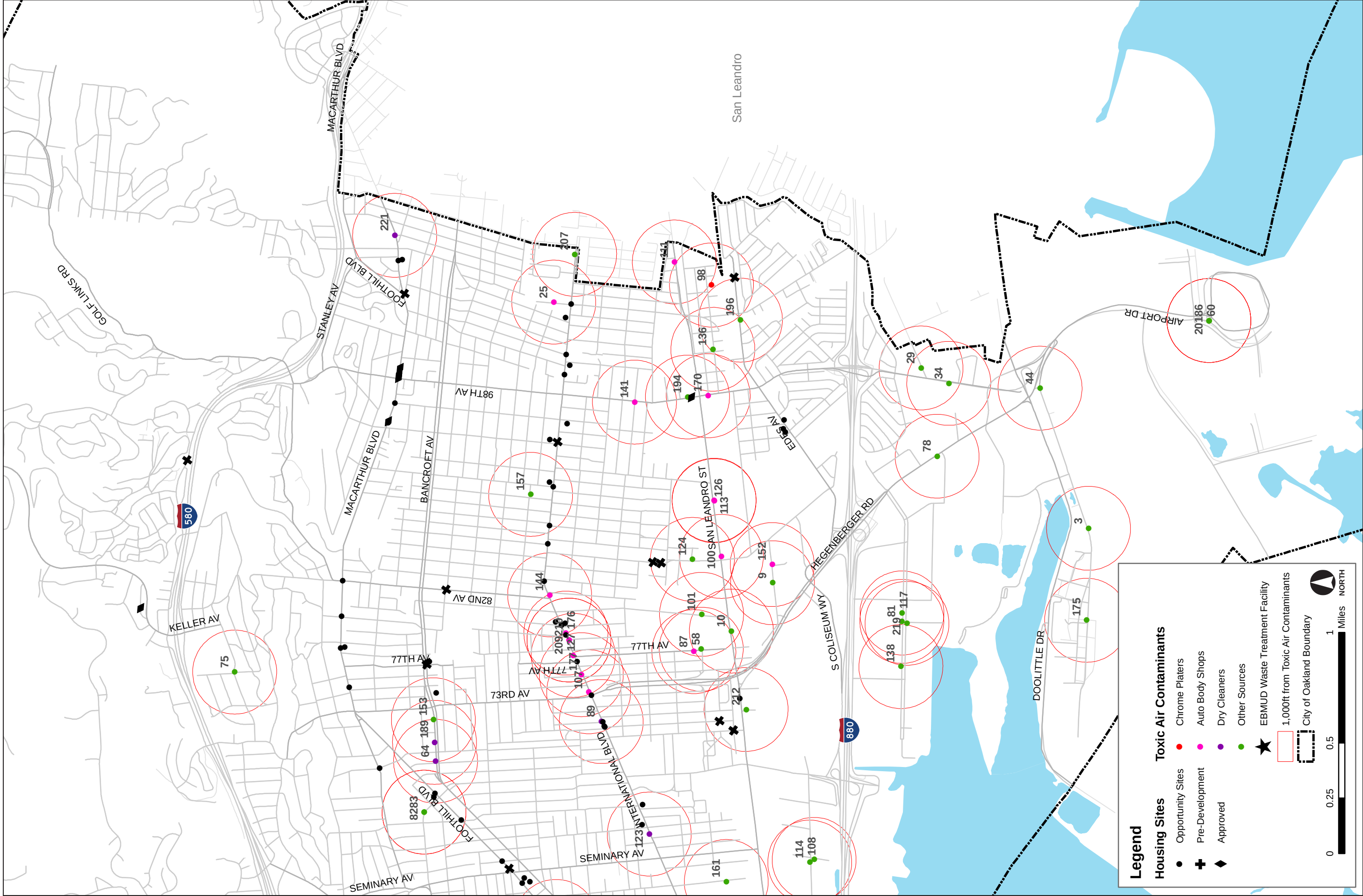


FIGURE 3.3-7
Sources of Gaseous Emissions - East Oakland

Source: PBS&J, 2010

In some cases, CARB makes recommendations for specific buffer zones around certain types of TAC emitters of particular concern, as is the case for dry cleaners (500 feet) and chrome platers (1,000 feet). The BAAQMD Guidelines recommend special overlay zones containing goals, policies, and objectives to minimize potential TAC impacts in areas located within 1,000 feet of existing and planned TAC sources. Many of the Housing Sites are within areas of concern from the TAC emissions from one or more of the stationary TAC sources. Of particular note are the clustering of many auto body shops and Housing Sites along San Pablo Avenue and International Boulevard. Also, several Housing Sites are within the zone of concern of a chrome plating shop in Downtown Oakland (as of the 2004 data).

The City's SCA-95 will apply to housing development located within 1,000 feet of stationary sources of gaseous TACs. In accordance with the BAAQMD Guidelines, when a residential development project is proposed within 1,000 feet of a stationary TAC source, the potential health risk to the project residents would be evaluated using BAAQMD's recommended screening criteria. If the project exceeds the screening criteria a project-specific health risk assessment (HRA) would be prepared to quantify the project-specific health risk. The project would be required to implement any project-specific recommendations to reduce the potential health risk. Because of the variety of exposure conditions local to each source and because exposure to gaseous TACs cannot be reduced through the use of filters (unlike exposure to particulate TACs), compliance with SCA-95 and preparation of the HRA would not necessarily assure that local TAC exposures could be reduced to acceptable levels. Consequently, the proposed project could have significant unavoidable impacts with respect to exposure to gaseous TACs on certain Housing Sites developed near certain stationary TAC sources in the City.

Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant and unavoidable impact is identified, no measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors. This DEIR does study an Alternative which prohibits housing development within 1,000 feet of gaseous TAC sources (see Section 5).

Significance after Mitigation: Significant and unavoidable.

- AQ-3. *Residential development proposed under the Housing Element could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources. (SU)*

The BAAQMD Thresholds identify wastewater treatment plants, oil refineries, asphalt plants, chemical manufacturing, painting/coating operations, coffee roasters, food processing facilities, recycling operations and metal smelters as odor sources of particular concern, and recommends buffer zones of one to two miles around them to avoid potential odor conflicts.²³ All of these odor sources are present within the City of Oakland. However, odor is a subjective impact, as discussed in the Air Quality Background section of this chapter, and perception of odor can vary depending on receptor sensitivity, climate, wind patterns, topography, etc.

²³ Bay Area Air Quality Management District, "CEQA Proposed Thresholds of Significance" June 17, 2010, page 3-4.

As an example of how broad the proposed BAAQMD Thresholds for odor are, the 2 mile recommended buffer from the EBMUD main wastewater treatment plant located near the approach to the Bay Bridge would include all of the Housing Sites in West and Downtown Oakland, and the completed and partially completed residential development known as “Wood Street.” Also, many Housing Sites along San Pablo Avenue and International Boulevard are well within the recommended mile buffer of several autobody shops where painting, and the associated odors, are common.

In accordance with the recommendations in the BAAQMD Guidelines, the City of Oakland created a map of known odor sources including: food processing facilities; coffee roasters; chemical manufacturers; asphalt batch plants; and the EBMUD wastewater treatment facility. This map is included as Figure 3.3-8. This map presents a reasonable estimation of all the odor sources within the City of Oakland, based upon City’s business tax records of the industry categories identified by BAAQMD. In addition, buffer zones were drawn around the identified sites, based on the aforementioned BAAQMD criteria, which encompass nearly the entire City of Oakland, and include all of the Housing Sites.

Given that there is virtually no location within the City of Oakland that is outside of an odor-buffer area, the land use diagram for the *Housing Element* cannot site residential development outside the recommended odor buffer zones. However, the odor buffers are considered a maximum screening distance for odor impacts from a particular source. All odor impacts from the source would be expected to occur within these buffers, but the actual area of impact within the buffer is dependent on certain factors. The factors include:

- Nature of the odor source (e.g. wastewater treatment plant, food processing plant);
- Frequency of the odor generation (e.g. daily, seasonal, activity-specific);
- Intensity of the odor (e.g. concentration);
- Distance of the odor source to sensitive receptors (e.g. miles);
- Wind direction (eg. upwind or downwind); and
- Sensitivity of the receptor.²⁴

BAAQMD advises that there are no feasible mitigation measures to reduce the impact of siting receptors near odor sources, except for increasing the distance between the receptor and the source.²⁵ All of the Housing Sites are located within the BAAQMD-recommended odor buffer distances. Consequently, a proposed housing development could potentially expose occupants to substantial/frequent odor. Therefore, the City conservatively assumes that this may result in a significant and unavoidable impact.

²⁴ Bay Area Air Quality Management District, “California Environmental Quality Act Air Quality Guidelines.” June, 2010.

²⁵ Greg Tholen, BAAQMD, personal communication with City of Oakland staff. March 19, 2010.

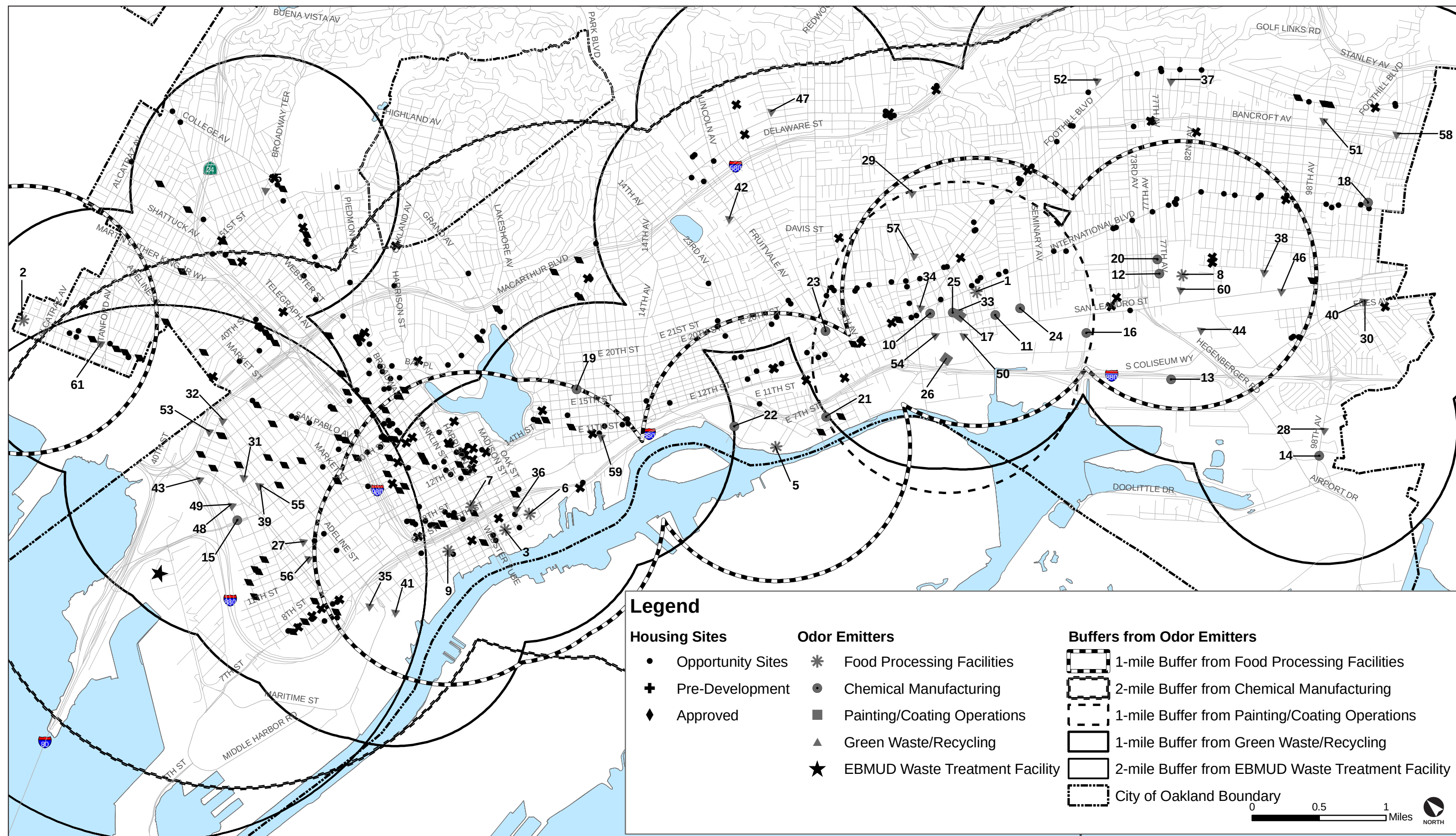


FIGURE 3.3-8
Odor Emitters

Source: City of Oakland, 2010; PBS&J, 2010.

Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant/unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors. This DEIR did consider an Alternative that prohibits housing development near odor sources, but it was rejected as infeasible (see Section 5).

Significance after Mitigation: Significant and unavoidable.

Project-Level Impacts:

The project-level analysis, although not legally required, was conducted so that future development projects under the *Housing Element* could tier from this EIR, and thus would not be required to undergo project-specific TAC, odor, or CO CEQA-related analysis.

AQ-4a. Residential development at specific project sites proposed under the Housing Element could expose occupants to diesel particulate matter from stationary and mobile sources. However, compliance with the City's Standard Conditions of Approval would reduce impacts to a less-than-significant level. (LTS)

As described in AQ-2a, and shown in Figures 3.3-2, 3.3-3, and 3.3-4, some Housing Sites are located near sources of diesel particulate matter (DPM), from high volume roadways, such as the freeways, or from the Port of Oakland, or other sources. Were these sites to be developed as proposed by the *Housing Element*, there could be impacts on sensitive receptors from DPM exposure. However, the City's SCA-94 will apply to housing development located within 1,000 feet of freeways, high-volume roadways, the Port of Oakland,²⁶ and stationary sources of DPM. Compliance with the SCA would require reducing each sites' exposure to DPM through the installation of air filtration systems (with 85 percent filtration efficiency) or other equivalent measures to reduce indoor DPM to acceptable levels. Since all development within the City is required to comply with the City's SCAs, the proposed project would result in less-than-significant DPM air quality impacts.

Mitigation: None required.

AQ-4b. Residential development proposed under the Housing Element could expose occupants at certain sites to substantial health risk from gaseous TACs emitted locally from stationary sources. Although compliance with the City's Standard Conditions of Approval would provide that site-specific health risk assessments would be prepared, there is no assurance that such exposures could be reduced to a safe level at every site. (SU)

²⁶ The 1,000-foot buffer for the Port of Oakland is based on the "Zone of Influence" (i.e., a 1,000-foot radius from fence line of a source to a receptor) for all toxic air pollutants (TACs) as defined for "Project-Level" CEQA studies by the BAAQMD's *Air Quality CEQA Thresholds of Significance* (adopted June 2, 2010). However, given the size of the Port of Oakland and the amount of DPM-generating activity associated with Port operations, 1,000 feet may not be adequate according to findings in the CARB's *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community* (March 19th 2008).

As discussed previously under Impact AQ-2b, and shown in Figures 3.3-5, 3.3-6, and 3.3-7, there are a number of existing sources of TACs in the City of Oakland. The BAAQMD Thresholds recommend that the potential health risk to new residents be evaluated when siting residential development within 1,000 feet of existing and planned TAC sources. Many of the Housing Sites are located within 1,000 feet of one or more of the stationary TAC sources. The City's SCA-95 will apply to housing development located within 1,000 feet of stationary sources of gaseous TACs. Because of the variety of TACs emitted (many of which are gaseous and not as easily filtered as particulate TACs are) and the large variation in exposure conditions local to each source, compliance with the City's SCA-95 and implementation of the recommendations of a project-specific HRA may not reduce local TAC exposures to acceptable levels. Consequently, the proposed project could have significant unavoidable impacts with respect to exposure to gaseous TACs on certain Housing Sites developed near certain stationary TAC sources in the City. Therefore, although certain future housing projects would undergo mandatory HRAs and must follow those recommendations from the HRAs, no further CEQA review would be required on this topic as the impacts have already been identified as significant and unavoidable. Thus, specific housing development projects that result in such significant unavoidable gaseous TAC impacts would not have to prepare an Environmental Impact Report or Mitigated Negative Declaration solely based upon gaseous TACs.

Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant unavoidable impact is identified, no measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors.

Significance after Mitigation: Significant and unavoidable.

- AQ-5. *Residential development at specific project sites proposed under the Housing Element could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources. (SU)*

As discussed in AQ-3 and shown in Figure 3.3-8, the City of Oakland has active businesses which emit odors. In accordance with the recommendations in the BAAQMD Thresholds, the City of Oakland created a map of known odor sources including: food processing facilities; chemical manufacturers; greenwaste and recyclers and the EBMUD wastewater treatment facility. This map presents a reasonable estimation of all the odor sources within the City of Oakland, based upon business tax records. In addition, buffer zones were drawn around the identified sites (based on the BAAQMD criteria) which encompass nearly the entire City of Oakland, and include all of the Housing Sites.

BAAQMD advises that there are no feasible mitigation measures to reduce the impact of siting receptors near odor sources, except for increasing the distance between the receptor and the source.²⁷ All of the individual Housing Sites for future "project-level" development are located within the BAAQMD-recommended odor buffer distances. Consequently, a specific proposed housing development on one of these sites could potentially expose occupants to

²⁷ Greg Tholen, BAAQMD, personal communication with City of Oakland staff. March 19, 2010.

substantial/frequent odor. Therefore, the City conservatively assumes that this may result in a significant and unavoidable impact.

Therefore, no further CEQA review would be required on this topic, as the impacts have already been identified as significant and unavoidable. Thus, specific housing development projects that result in such significant unavoidable odor impacts would not have to prepare an Environmental Impact Report or Mitigated Negative Declaration solely based upon the proximity of odor emitters, or by being within the BAAQMD recommended buffer from an odor emitting business or facility.

Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant and unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors.

Significance after Mitigation: Significant and unavoidable.

- AQ-6. *Traffic generated by the proposed project would increase traffic volumes at intersections in the plan area. This traffic would emit CO, but not enough to exceed ambient air quality standards. As such, project impacts on localized CO concentrations would be less than significant, and no project-specific CO analysis would be required. (LTS)*

Because project-related traffic would affect intersections that would be operating at Level of Service (LOS) D or worse under future conditions, project traffic has the potential to generate emissions of CO that could adversely affect localized air quality. However, as discussed in Section 3.2, Transportation, development of the proposed project would be consistent with the County's Congestion Management Program. Also, the volume of traffic at intersections within the City would not exceed the 44,000 vehicles per hour screening criterion established by the BAAQMD Guidelines, with or without the development under the *Housing Element*.²⁸ The 44,000 vehicles per hour screening threshold is a very high threshold, which indicates that violations of CO standards are virtually non-existent in the Bay Area. The Bay Bridge carries about 10,000 vehicles per hour during the morning peak commute hour. The only local 'intersection' that potentially exceeds the 44,000 vehicles per hour screening threshold is the MacArthur Maze. Therefore, the proposed project would not exceed the national and State 1-hour and 8-hour ambient air quality standards for CO, and impacts associated with localized CO would be considered less than significant for all development under the *Housing Element*, and no project-specific CO analysis would be required.

Mitigation: None required.

Cumulative Impacts

Past, present and reasonably foreseeable future development projects contribute to the region's adverse air quality impacts on a cumulative basis. As noted by the BAAQMD in its CEQA Guidelines, the San

²⁸ Bay Area Air Quality Management District, "California Environmental Quality Act Air Quality Guidelines." June, 2010, page 3-4.

Francisco Bay Area Air Basin is a nonattainment area for ozone standards and particulate matter standards. Air pollution is cumulative, and no single project under the *Housing Element* can affect an air basin's attainment status, with respect to the ozone and particulate air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Thus, if there is a project air quality impact, it is considered a cumulative impact, as well.

The geographic context for a discussion of cumulative impacts to regional air quality is the San Francisco Bay Area Air Basin. The BAAQMD Guidelines cumulative significance criteria are applied to the cumulative analysis of impacts to regional air quality, as discussed below. The geographic context for a discussion of cumulative impacts to localized air quality, such as carbon monoxide (CO) is the local area around each Housing Site in the City of Oakland.

What constitutes a cumulative Air Quality impact is described in the BAAQMD Guidelines:

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The analysis to assess project-level air quality impacts should be as comprehensive and rigorous as possible.²⁹

AQ-7. *Construction and operational emissions from the proposed project would not have cumulative impacts. (LTS)*

The BAAQMD Guidelines recommend that lead agencies conclude that a significant cumulative air quality impact would result if the proposed project would individually have a significant operational air quality impact. All projects in the plan area would implement construction best management practices and that development in the plan area would include control measures included in the current air quality plan, and the rate of increase in vehicle miles travelled would be less than the rate of population increase. Therefore, this EIR concludes that these cumulative impacts of the proposed project on air quality would be less than significant.

Mitigation: None required.

AQ-8. *Cumulative traffic volumes would not result in cumulative impacts. (LTS)*

As discussed above, proposed development in the plan area would be consistent with the County's congestion management program because of the City's implementation of SCA-25 for all development projects in its jurisdiction and, as shown by the project transportation study, cumulative traffic volumes would not be greater than the BAAQMD screening threshold. Therefore, cumulative traffic CO impacts would be less than significant.

²⁹ Bay Area Air Quality Management District, "California Environmental Quality Act Air Quality Guidelines," June, 2010, pg 2-1.

Mitigation: None required.

AQ-9. *Individual TAC impacts would make a considerable contribution to the affected residents' exposures to TACs. Impacts related to gaseous TACs cannot be mitigated and would be cumulatively significant and unavoidable. (SU)*

The majority of the Housing Sites would lie within an impact zone for TACs, as shown in Figures 3.3-5, 3.3-6, and 3.3-7. As indicated in Impact AQ-2a, impacts to sensitive receptors located adjacent to stationary and mobile sources of particulate TACs (e.g., DPM) would be less than significant with the required implementation of City SCA-94. Cumulatively, *particulate* TACs would have a less-than-significant impact on the 13,501 housing units to be built under the *Housing Element*, because each individual unit would be required to comply with SCA-94, which would effectively minimize the impact of multiple, cumulative sources of TACs on sensitive receptors by requiring either a Health Risk Assessment or installation of air filters. However, typical major stationary sources of *gaseous* TACs (e.g., industrial facilities such as refineries, chemical plants, and chrome platers, as well as commercial facilities, such as dry cleaners and gasoline stations), are common in the City and many of the Housing Sites lie with their impact zones, as defined by CARB in *Air Quality and Land Use Handbook: A Community Health Perspective* and in the BAAQMD Guidelines. Impacts related to gaseous TACs cannot be mitigated by SCA-95 as indicated in Impact AQ-2b. These individual significant TAC impacts would make a considerable contribution to the affected residents' exposures to regional TAC concentrations. Therefore, cumulative TAC impacts would be significant and unavoidable.

Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant unavoidable impact is identified, no measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors.

Significance after Mitigation: Significant and unavoidable.

AQ-10. *Odor impacts are unmitigable and could make a considerable contribution to the affected residents' exposures to odor sources. (SU)*

According to BAAQMD Guidelines, objectionable odors are typically emitted by industrial and commercial operations such as wastewater treatment plants, sanitary landfills, petroleum refineries, chemical factories, and paint and coating operations. As indicated in Impact AQ-3, such facilities are common in the City and many of the Housing Sites lie with their impact zones, as defined in the BAAQMD Guidelines. As such, odor impacts could make a considerable contribution to the affected residents' exposures to odor sources in the city. Therefore, cumulative odor impacts would conservatively be significant and unavoidable.

Mitigation: None available. While CEQA regulations require a mitigation measure(s) when a significant and unavoidable impact is identified, no measures or techniques are feasible to reduce the impact of odors on sensitive receptors.

Significance after Mitigation: Significant and unavoidable.

Conclusion

Compliance with *General Plan* policies CO-12.1, CO-12.4, and CO-12.6 in the *OSCAR Element*, along with SCA-25 through -27, -41, -94, and -95, would ensure that development under the *2007-2014 Housing Element* would comply with federal, State, and local laws regarding air quality. The *General Plan* policies have been crafted to ensure that future development would comply with federal and State air laws. However, the preparation of project-specific HRAs as required by SCA-95 to assess each Housing Sites' exposure to gaseous TACs may not result in equivalent measures to reduce local gaseous TAC exposures to acceptable levels. Furthermore, development of the Housing Sites could expose residents to objectionable odors associated with existing activities in the city. Consequently, the proposed project could have significant unavoidable impacts with respect to exposure to gaseous TACs on certain Housing Sites and with respect to exposure to odors. Nonetheless, by adhering to the *OSCAR Element* of the *General Plan* and the SCAs, all other air quality impacts related to the proposed project would be less than significant.

Compliance with *General Plan* policies and SCAs would also reduce the cumulative impacts of construction, operational, and traffic emissions to a less-than-significant level. However, even with implementation of federal, State, and local policies and regulations, cumulative TAC and odor impacts would be significant and unavoidable.

With respect to project-level impacts, future residential development projects would result in less-than-significant CO and DPM TAC impacts and would not be required to undergo such project-specific CO analysis under CEQA. For gaseous TAC impacts, although certain future housing projects would undergo mandatory HRAs, and must follow those recommendations from the HRAs, no further CEQA review would be required, as the impacts have already been identified as significant and unavoidable. Thus, specific housing development projects that result in such significant unavoidable gaseous TAC impacts would not have to prepare an Environmental Impact Report solely based upon gaseous TACs. Similarly, no further CEQA review would be required for project-specific odor impacts because such have already been identified as significant unavoidable as there are no feasible mitigation measures. Thus, even if there are potentially significant and unavoidable odor impacts on individual (or "project-level") Housing Sites, that project would not have to prepare an Environmental Impact Report solely based upon the presence of nearby odor emitting companies or facilities.

3.4 NOISE

Introduction

This section of the EIR evaluates the potential for noise and ground-borne vibration impacts to result from development under the *2007-2014 Housing Element's* 13,501 housing units. This includes the potential for the project to cause a substantial temporary and/or permanent increase in ambient noise levels in the vicinity of the project site; exposure of residents or businesses to excessive noise levels or ground-borne vibration; and whether this exposure would be in excess of standards established in the City of Oakland *General Plan* and Noise Ordinance, or any other applicable standards.

This section is accompanied by Appendix G which includes the noise model calculation tables. All Appendices are on a separate CD at the back cover of this EIR.

Setting

Characteristics of Sound, Noise, and Vibration

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The main characteristics of these air pressure waves are amplitude, which we experience as a sound's loudness, and frequency, which we experience as a sound's pitch. The standard unit of sound amplitude is the decibel (dB); it is a measure of the physical magnitude of the pressure variations relative to the human threshold of perception. The human ear's sensitivity to sound amplitude is frequency-dependent; it is more sensitive to sound with a frequency at or near 1,000 cycles per second than to sound with much lower or higher frequencies.

Most "real world" sounds (e.g., a dog barking, a car passing, etc.) are complex mixtures of many different frequency components. When the average amplitude of such sound is measured with a sound level meter, it is common for the instrument to apply different adjustment factors to each of the measured sound's frequency components. These factors account for the differences in perceived loudness of each of the sound's frequency components relative to those that the human ear is most sensitive to (i.e., those at or near 1,000 cycles per second). This practice is called "A-weighting." The unit of A-weighted sound amplitude is also the decibel. In reporting measurements to which A-weighting has been applied, an "A" is appended to dB (i.e., dBA) to make this clear. Table 3.4-1 lists representative environmental sound levels.

Noise is the term generally given to the "unwanted" aspects of intrusive sound. Many factors influence how a sound is perceived and whether or not it is considered annoying to a listener. These include the physical characteristics of a sound (e.g., amplitude, frequency, duration, etc.), but also non-acoustic factors (e.g., the acuity of a listener's hearing ability, the activity of the listener during exposure, etc.) that can influence the judgment of listeners regarding the degree of "unwantedness" of a sound. Excessive noise can negatively affect the physiological or psychological well-being of individuals or communities.

Table 3.4-1
Representative Environmental Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
Diesel Truck going 50 mph at 50 feet		Food Blender at 3 feet
Noisy Urban Area during Daytime	—80—	Garbage Disposal at 3 feet
Gas Lawnmower at 100 feet		
Commercial Area	—70—	Vacuum Cleaner at 10 feet
Heavy Traffic at 300 feet		Normal Speech at 3 feet
	—60—	
Quiet Urban Area during Daytime	—50—	Large Business Office
		Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
	—10—	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

Source: California Department of Transportation, *Technical Noise Supplement*, October 1998.

All quantitative descriptors used to measure environmental noise exposure recognize the strong correlation between the high acoustical energy content of a sound (i.e., its loudness and duration) and the disruptive effect it is likely to have as noise. Because environmental noise fluctuates over time, most such descriptors average the sound level over the time of exposure, and some add “penalties” during the times of day when intrusive sounds would be more disruptive to listeners. Table 3.4-2 contains a list of typical acoustical terms and definitions.

Table 3.4-2
Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L01, L10, L50, L90	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max} , L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, 1991.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Interference with activities such as speech, sleep, learning; and
- Physiological effects, such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide

variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels that one has adapted, which is referred to as the "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference when the change in noise is perceived, but does not cause a human response;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. A ruler is a *linear* scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to one. A *logarithmic* scale is different in that the ratio of successive intervals is not equal to one. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 10, 100, 1,000, 10,000, etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Point sources of noise, including stationary mobile sources such as idling vehicles or onsite construction equipment, attenuate (lessen) at a rate of 6.0 to 7.5 dBA per doubling of distance from the source, depending on the type of ground surface. Widely distributed noises such as a large industrial facility spread over many acres or a street with moving vehicles (a "line" source) would typically attenuate at a lower rate of approximately 3.0 to 4.5 dBA per doubling distance from the source also dependent upon the type of ground surface.¹

Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous

¹ California Department of Transportation (Caltrans), *Technical Noise Supplement*, 1998.

peak of the vibration signal. The PPV is frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. RMS is commonly measured in vibration decibel notation (VdB). The decibel notation acts to compress the range of numbers required to describe vibration.²

Vibrating objects in contact with the ground radiate energy through that medium, but the vibration attenuates rapidly with distance from the source of the vibration. However, if a vibrating object is massive enough and/or close enough to the observer, its vibrations are perceptible. The vibration threshold of perception for humans is approximately 65 VdB; at 75 VdB, vibrations become distinctly perceptible to many people; at 100 VdB, minor damage can occur in fragile buildings.

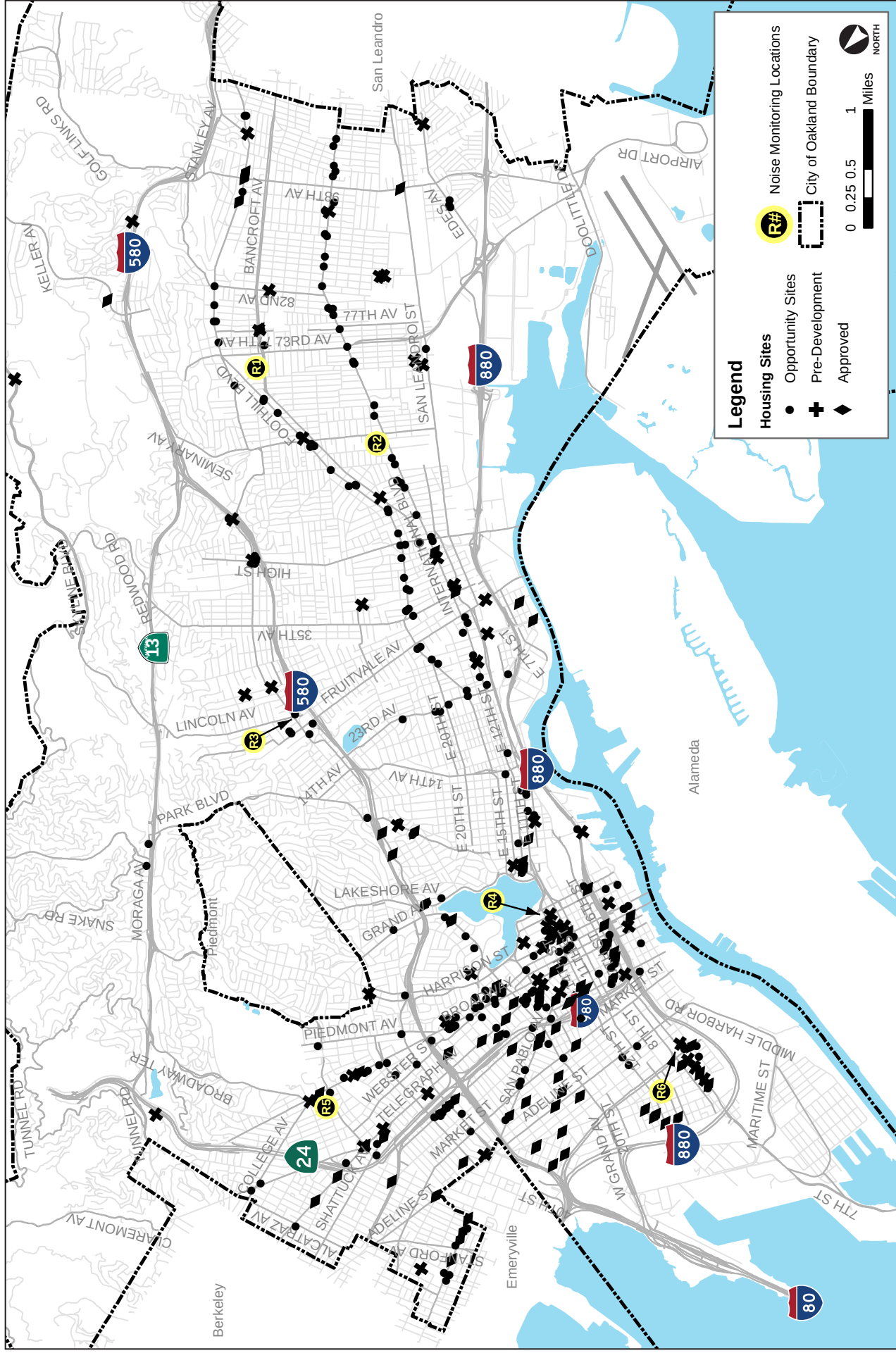
Existing Noise Environment

The City contains a wide range of residential, commercial, industrial, public, and open space land uses. Of these uses, residential, hospital, schools, churches, public libraries and, to some degree, recreational areas are considered noise-sensitive. The City has also identified locations where additional housing units could be constructed under the *2007-2014 Housing Element*, identified as Housing Sites in Figure 2-2, Section 2, Project Description. For the majority of the Housing Sites, traffic noise from trucks and automobiles along surrounding roadways is the predominant influence. However, a number of Housing Sites in west Oakland and near the Oakland waterfront would be also be subject to noise and vibration from the existing active railway lines. The few Housing Sites near the Oakland Airport could be subject to aircraft noise, from aircraft flyover.

Noise Measurements. The noise measurements done for the *Noise Element* of the City of Oakland *General Plan* were conducted in all areas of Oakland and were intended to provide representative sampling of the important noise sources and receptors in the City. These measurements were taken in mid 2004, and are considered adequate to characterize current noise levels in the vicinity of the measurement locations. However, an additional series of short-term noise measurements were conducted at selected locations near both the *General Plan* measurement sites and the Housing Sites to verify of the applicability of the *General Plan* noise data. These short-term noise measurements were taken on July 16, 2009, between the hours of 3:00 p.m. and 7:00 p.m., at selected locations, as shown in Figure 3.4-1. Noise measurement locations were selected based their proximity to the Housing Sites shown in Figure 2-2, Section 2, Project Description.³ Results of these noise measurements are provided in Table 3.4-3. In general, the noise levels measured for the *Housing Element* EIR are compatible with values measured for the *Noise Element* at similar locations and exposure circumstances.

² Federal Transit Administration (FTA), *Transit Noise and Vibration Assessment (FTA-VA-90-1003-06)*, May 2006.

³ Measurements were taken using a Larson-Davis Laboratories Model 820 precision sound level meter that satisfies the American National Standards Institute for general environmental noise measurement instrumentation.



Source: City of Oakland, PBS&J, 2010.

FIGURE 3.4-1
Noise Measurement Locations

Table 3.4-3
Ambient Noise Measurements^a dBA

Noise Receptor	Roadway ^b	Duration (minutes)	Noise Level			Primary Noise Source
			L _{eq} ^c	L _{min} ^d	L _{max} ^e	
R1	Bancroft Avenue north of Church Street	10	67.2	51.2	87.5	Traffic along Bancroft Avenue
R2	International Boulevard north of 56 th Street	10	69.8	55.6	79.7	Traffic along International Boulevard
R3	MacArthur Boulevard at Diamond Street	10	67.1	56.1	89.1	Traffic along MacArthur Boulevard
R4	14 th Street west of Oak Street	10	63.4	54.1	74.7	Traffic along 14 th Street
R5	Broadway north of 51 st Street	10	69.2	57.9	79.2	Traffic along Broadway
R6	7 th Street West of Mandela Parkway	10	68.0	56.2	83.8	Traffic along 7 th Street, BART train pass-bys

Source: PBS&J, 2009.

Notes:

- a. Noise measurements taken on July 16, 2009, between the hours of 3:00 p.m. and 4:00 p.m.
- b. Refer to Figure 3.4-1 for noise measurement locations.
- c. L_{eq} represents the average of the sound energy occurring over the 20-minute time period.
- d. L_{min} is the lowest instantaneous sound level measured during the 20-minute time period.
- e. L_{max} is the highest instantaneous sound level measured during the 20-minute time period.

Applicable Plans and Regulations

Federal

The federal Noise Control Act (1972) addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA 1974). Table 3.4-4 summarizes EPA recommendations for residential and other noise-sensitive land uses (i.e., the yearly average L_{eq} not exceeding 70 dBA or less to prevent measurable hearing loss over a lifetime; L_{dn} not exceeding 55 dBA outdoors and 45 dBA indoors to prevent activity interference and annoyance). The EPA does not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no reason to suspect that there would be risk from any of the identified health or welfare effects of noise.

Table 3.4-4
Summary of Noise Levels Identified as Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety

Effect	Level	Area
Hearing	$L_{eq} (24 \text{ hr.}) < 70 \text{ dBA}^a$	All areas
Outdoor activity interference and annoyance	$L_{dn} < 55 \text{ dBA}$	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
Outdoor activity interference and annoyance	$L_{eq} (24 \text{ hr}) < 55 \text{ dBA}$	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	$L_{dn} < 45 \text{ dBA}$	Indoor residential areas
Indoor activity interference and annoyance	$L_{eq} (24 \text{ hr}) < 45 \text{ dBA}$	Other indoor areas with human activities such as schools, etc.

Source: Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974.

Note:

- a. Noise exposure at the identified level would have to continue over a period of forty years before any hearing loss would result.

The Federal Transit Administration (FTA) has developed extensive methodologies and significance criteria for the evaluation of vibration impacts from surface transportation modes. Since the FTA has explained the rationale behind its methodologies and significance criteria, they have applicability to the general assessment of vibration from transportation sources and not just to those over which the FTA has approval and review authority. The FTA criteria for judging the significance of vibration to sensitive receptors and structures are shown in Table 3.4-5 and Table 3.4-6.

Table 3.4-5
Ground-Borne Vibration (GBV) Impact Criteria for General Assessment

Land Use Category	GBV Impact Levels (VdB re 1 micro-inch/second)		
	Frequent Events ^a	Occasional Events ^b	Infrequent Events ^c
Category 1: Buildings where vibration would interfere with interior operations	65 ^d	65 ^d	65 ^d
Category 2: Residential units and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

Source: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, May 2006.

Notes:

- "Frequent Events" is defined as more than 70 vibration events of the same source per day.
- "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
- "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.
- This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

Table 3.4-6
Construction Vibration Damage Criteria

Building Category	PPV^a (in/sec)	Approximate VdB
I. Reinforced-concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry building	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment*, May 2006.

Note:

a. PPV refers to peak particle velocity, the international standard for measuring vibration.

State

The California *General Plan Guidelines 2003* promotes the use of the L_{dn} or CNEL descriptors for evaluating land use—noise compatibility. Denotation of a land use as “normally acceptable” implies that the highest noise level in that band is the maximum desirable for existing or conventional construction that does not incorporate any special acoustic treatment. The guidelines also provide an interpretation as to the suitability of various types of land uses with respect to the range of outdoor noise exposure. The objective of the guidelines is to provide the local community with a means of judging the noise environment it deems to be generally acceptable while recognizing the variability in perceptions of environmental noise that exist between communities and within a given community. The influence of the information presented by the EPA is evident in the State Guidelines, specifically the choice of noise exposure descriptors (i.e., L_{dn} or CNEL) and of upper limits for the “normally acceptable” exposure of noise-sensitive uses (i.e., 55 dBA L_{dn} for low-density residential, but no more than 5 dBA higher for the other noise-sensitive land use categories).

Title 25 of the California Code of Regulations codifies requirements for uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 25 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings. Dwellings are to be designed so that interior noise levels would meet this standard for at least ten years from the time of building permit application. Interior noise levels can be reduced using noise-insulating windows and by using sound-isolation materials when constructing walls and ceilings.

Local

The Oakland *General Plan* and Standard Conditions of Approval (SCA) include policies related to noise.

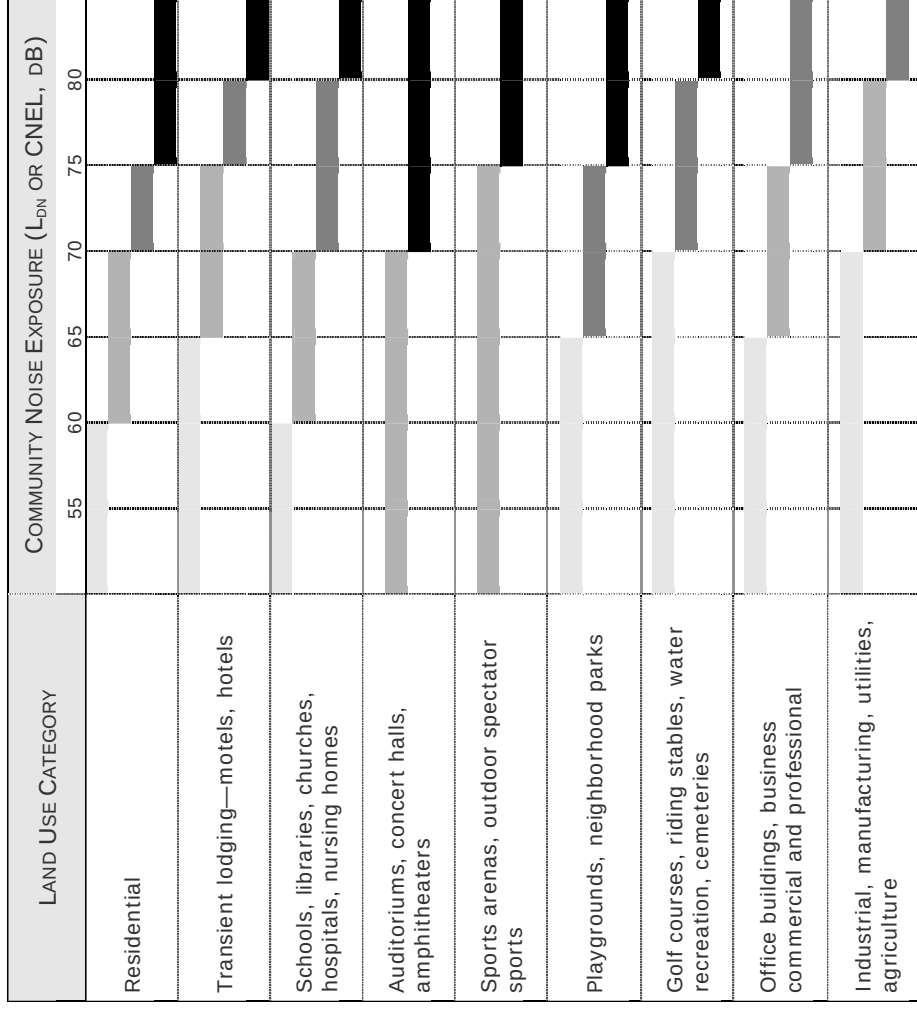
City of Oakland General Plan. The Oakland *General Plan* guides the physical development and character of the City. The *General Plan* sets forth City policies regarding the types and locations for future land uses and activities and is used by the City Council and Planning Commission in considering planning and land use decisions. While the *Noise Element* is the primary document guiding policy for noise-related impacts, the *Land Use and Transportation Element* (LUTE) also has policies which regulate noise.

Noise Element. The *Noise Element* of the *General Plan* (2005) analyzes and quantifies, to the extent practicable, current and projected noise levels from major noise sources throughout the City. Noise levels for these sources are shown on noise contour maps, which establish the locational relationship between existing and projected land uses and noise sources. The *Noise Element* also includes land use decisions to reduce noise impacts, especially to sensitive receptors, and implementation measures that address existing and foreseeable noise issues. *General Plan* noise policies that apply to the *2007-2014 Housing Element* are listed below.

- Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment. (Policy 1)
 - Use the noise-land use compatibility matrix (Figure 3.4-2) in conjunction with the noise contour maps (especially for roadway traffic) to evaluate the acceptability of residential and other proposed land uses and also the need for any mitigation or abatement measures to achieve the desired degree of acceptability. (Action 1.1)
 - Continue using the City's zoning regulations and permit processes to limit the hours of operation of noise-producing activities which create conflicts with residential uses and to attach noise-abatement requirements to such activities. (Action 1.2)
- Protect the noise environment by controlling the generation of noise by both stationary and mobile noise sources. (Policy 2)
- Reduce the community's exposure to noise by minimizing the noise levels that are *received* by Oakland residents and others in the City (This policy addresses the *reception* of noise whereas Policy 2 addresses the *generation* of noise.). (Policy 3)
 - Continue to use the building-permit application process to enforce the California Noise Insulation Standards regulating the maximum allowable interior noise level in new multi-unit buildings. (Action 3.1)

Land Use and Transportation Element (LUTE). The *LUTE* is the "constitution" which guides development patterns in Oakland. The *LUTE* contains policies which are intended protect residents from unwanted noise:

- Orienting Residential Development. Residential developments should be encouraged to face the street and to orient their units to desirable sunlight and views , while avoiding unreasonably blocking sunlight and views for neighboring buildings, respecting the privacy needs of residents of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure. (Policy N3.9)
- Buffering Residential Areas. Residential areas should be buffered and reinforced from conflicting uses through the establishment of performance-based regulations, the removal of non-conforming uses, and other tools. (Policy N5.2)



Adapted from State of California—General Plan Guidelines, 2003 (Appendix C); Governor's Office of Planning and Research

INTERPRETATION

- NORMALLY ACCEPTABLE:** Development may occur without an analysis of potential noise impacts *to the proposed development* (though it might still be necessary to analyze noise impacts that the project might have *on its surroundings*).
- CONDITIONALLY ACCEPTABLE:** Development should be undertaken only after an analysis of noise-reduction requirements is conducted, and if necessary noise-mitigating features are included in the design. Conventional construction will usually suffice as long as it incorporates air conditioning or forced fresh-air-supply systems, though it will likely require that project occupants maintain their windows closed.
- NORMALLY UNACCEPTABLE:** Development should generally be discouraged; it may be undertaken only if a detailed analysis of the noise-reduction requirements is conducted, and if highly effective noise insulation, mitigation or abatement features are included in the design.
- CLEARLY UNACCEPTABLE:** Development should not be undertaken.

Source: City of Oakland General Plan, Noise Element, 2005.

**FIGURE 3.4-2
Noise/Land Use Compatibility Matrix**

- **Alleviating Public Nuisances.** The City should strive to alleviate public nuisances and unsafe and illegal activities. Code Enforcement efforts should be given as high a priority as facilitating the development process. Public nuisance regulations should be designed to allow community members to use City codes to facilitate nuisance abatement in their neighborhood. (Policy N11.4)

City of Oakland Municipal Code. The City's Municipal Code provides additional provisions for restrictions and regulations for noise within the City of Oakland. The noise performance standard of section 17.120.050 establishes a maximum allowable receiving noise level standard for residential and civic land uses, as shown in Table 3.4-7. The standard sets a maximum allowable receiving noise level of 60 dBA for a cumulative 20 minute period during any daytime (7:00 a.m. to 10:00 p.m.) one-hour time period. However, the code further states that in the event that the measured ambient noise level exceeds the applicable noise level standard, the stated applicable noise level shall be adjusted so as to equal the ambient noise level. The Municipal Code also regulates the maximum allowable daytime average receiving noise level for construction activity, as shown in Table 3.4-8.

City of Oakland Standard Conditions of Approval

The City has established City's Standard Conditions of Approval (SCAs) that apply to all projects within the City. The City's SCAs relevant to noise and vibration, SCA-28 through -32, -38, -39, -57, and -95, are listed below. The SCAs will be adopted as requirements of each development project within the City, including projects developed under the proposed *Housing Element*, if the projects are approved by the City. These measures help ensure no significant impacts would occur with development; as such, they are not listed as mitigation measures in this document.

SCA-28 Days/Hours of Construction Operation

Ongoing throughout demolition, grading, and/or construction. The project applicant shall require construction contractors to limit standard construction activities as follows:

- a) Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pile driving and/or other extreme noise-generating activities greater than 90 dBA shall be limited to between 8:00 a.m. or 4:00 p.m. Monday through Friday.
- b) Any construction activity proposed to occur outside of the standard hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for special activities (such as concrete pouring, which may require more continuous amounts of time) shall be evaluated on a case-by-case basis, with criteria including the proximity of residential uses and a consideration of the resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened, and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

Table 3.4-7
City of Oakland Operational Noise Standards at Receiving Property Line, dBA^a

Receiving Land Use	Cumulative No. of Minutes in a 1-Hr Period ^b	Maximum Allowable Noise Level (dBA)	
		Daytime 7 a.m.-10 p.m.	Nighttime 10 p.m.-7 a.m.
Residential and Civic ^c	20 (L ₃₃)	60	45
	10 (L _{16.7})	65	50
	5 (L _{8.3})	70	55
	1 (L _{1.7})	75	60
	0 (L _{max})	80	65
Anytime			
Commercial	20 (L ₃₃)	65	
	10 (L _{16.7})	70	
	5 (L _{8.3})	75	
	1 (L _{1.7})	80	
	0 (L _{max})	85	
Manufacturing, Mining, and Quarrying	20 (L ₃₃)	70	
	10 (L _{16.7})	75	
	5 (L _{8.3})	80	
	1 (L _{1.7})	85	
	0 (L _{max})	90	

Source: City of Oakland Municipal Code.

Notes:

- These standards are reduced 5 dBA for simple tone noise, noise consisting primarily of speech or music, or recurring impact noise. If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.
- L_x represents the noise level that is exceeded X percent of a given period. L_{max} is the maximum instantaneous noise level.
- Legal residences, schools and childcare facilities, health care or nursing home, public open space, or similarly sensitive land uses.

Table 3.4-8
City of Oakland Construction Noise Standards
at Receiving Property Line, dBA^a

Receiving Land Use	Maximum Allowable Noise Level (dBA)	
	Weekdays 7 a.m.-7 p.m.	Weekends 9 a.m.-8 p.m.
Less than 10 days		
Residential	80	65
Commercial, Industrial	85	70
More than 10 Days		
Residential	65	55
Commercial, Industrial	70	60

Source: City of Oakland Municipal Code.

Notes:

- If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

- c) Construction activity shall occur on Saturdays, with the following possible exceptions:
 - i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring, which may require more continuous amounts of time), shall be evaluated on a case-by-case basis, with criteria including the proximity of residential uses and a consideration of the resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.
 - ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.
- d) No extreme noise-generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.
- e) No construction activity shall take place on Sundays or federal holidays.
- f) Construction activities include, but are not limited to: truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on site in a non-enclosed area.
- g) Applicant shall use temporary power poles instead of generators where feasible.

SCA-29 Noise Control

Ongoing throughout demolition, grading, and/or construction. To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise-reduction program, subject to Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

- a) Equipment and trucks used for project construction shall utilize the best available noise-control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible).
- b) Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact

equipment, whenever such procedures are available and consistent with construction procedures.

- c) Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.
- d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

SCA-30 Noise Complaint Procedures

Ongoing throughout demolition, grading, and/or construction. Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the City Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

- a) A procedure and phone numbers for notifying the City Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours);
- b) A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);
- c) The designation of an on-site construction complaint and enforcement manager for the project;
- d) Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and
- e) A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

SCA-31 Interior Noise

Prior to issuance of a building permit. If necessary to comply with the interior noise requirements of the City of Oakland's *General Plan Noise Element* and achieve an acceptable interior noise level, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls) shall be incorporated into project building design, based upon recommendations of a qualified acoustical engineer and submitted to the Building Services Division for review and approval prior to issuance of building permit. Final recommendations for sound-rated assemblies, and/or other appropriate features/measures, will depend on the specific building designs and layout of buildings on the site and shall be determined during the design phases. Written confirmation by the acoustical consultant, HVAC or HERS specialist, shall be submitted for City review and approval, prior to Certificate of Occupancy (or equivalent) that:

- a) Quality Control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and
- b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.
- c) Inclusion of a Statement of Disclosure Notice in the CC&R's on the lease or title to all new tenants or owners of the units acknowledging the noise generating activity and the single event noise occurrences. Potential features/measures to reduce interior noise could include, but are not limited to, the following:
 - i. Installation of an alternative format of ventilation in all units identified in the acoustical analysis as not being able to meet the interior noise requirements due to adjacency to a noise generating activity, filtration of ambient make-up air in each unit and analysis of ventilation noise if ventilation is included in the recommendations by the acoustical analysis.
 - ii. Prohibition of Z-duct construction.

SCA-32 Operational Noise-General

Ongoing. Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

SCA-38 Vibration

Prior to issuance of a building permit. A qualified acoustical consultant shall be retained by the project applicant during the design phase of the project to comment on structural design

as it relates to reducing groundborne vibration at the project site. If required in order to reduce groundborne vibration to acceptable levels, as defined by the FTA vibration standards, the project applicant shall incorporate special building methods to reduce groundborne vibration being transmitted into project structures. The City shall review and approve the recommendations of the acoustical consultant and the plans implementing such recommendations. Applicant shall implement the approved plans. Potential methods include:

- a) Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a “spring isolation” system that consist of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of groundborne vibration to the residences above.
- b) Trenching, which involves excavating soil between the railway/freeway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they can enter the project’s structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets (i.e. Styrofoam) or low-density polyethylene).

SCA-39 Pile Driving and Other Extreme Noise Generators

Ongoing throughout demolition, grading, and/or construction. To further reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90 dBA, a set of site specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the City to ensure that maximum feasible noise attenuation will be achieved. This plan shall be based on the final design of the project. A third-party peer review, paid for by the project applicant, may be required to assist the City in evaluating the feasibility and effectiveness of the noise reduction plan submitted by the project applicant. The criterion for approving the plan shall be a determination that maximum feasible noise attenuation will be achieved. A special inspection deposit is required to ensure compliance with the noise reduction plan. The amount of the deposit shall be determined by the Building Official, and the deposit shall be submitted by the project applicant concurrent with submittal of the noise reduction plan. The noise reduction plan shall include, but not be limited to, an evaluation of implementing the following measures. These attenuation measures shall include as many of the following control strategies as applicable to the site and construction activity:

- a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;

- b) Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- c) Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;
- d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example, and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and
- e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

SCA-57 Vibrations Adjacent Historic Structures

Prior to issuance of a demolition, grading or building permit. The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage buildings adjacent to the project site and design means and methods of construction that shall be utilized to not exceed the thresholds.

SCA-95 Buffering for Private Open Space

To the maximum extent practicable, private (individual and common) exterior open space, including playgrounds, patios, and decks, shall either be shielded from the stationary source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.⁴

Impacts and Mitigation Measures

This section evaluates the potential adverse noise and vibration impacts related to development under the *2007-2014 Housing Element*. Potential noise and vibration impacts are grouped into two categories: temporary impacts associated with construction of the housing units, and permanent impacts associated with the occupation of the housing units. In the City of Oakland, vehicular traffic is the main source of noise, and active rail lines are the main source of vibration.

Thresholds of Significance

Noise is considered significant if the proposed project would:

- Expose persons to or generate noise levels in excess of standards established in the Oakland *General Plan* or applicable standards of other agencies (e.g., Occupational Safety and Health Administration (OSHA));

⁴ While this SCA applies to air pollution, because air pollution is generated by vehicular traffic, and noise from vehicles is a primary contributor to ambient noise, and thus can have an effect on new residents, it is appropriate for the City to use this condition to protect residents from noise impacts of traffic, as well as air pollution.

- Violate the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding operational noise (see Table 3.4-6);
- Violate the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding construction noise, except if an acoustical analysis is performed (see Table 3.4-7);⁵
- Violate the City of Oakland Noise Ordinance (Oakland Municipal Code Section 8.18.020) regarding nuisance of persistent construction-related noise;
- Create a vibration not associated with motor vehicles, trains, and temporary construction or demolition work which is perceptible without instruments by the average person at or beyond any lot line containing the vibration-causing activity, except vibration-causing activities located within the (a) M-40 zone or (b) M-30 zone more than 400 feet from any legally occupied residential property (Oakland Planning Code Section 17.120.060);
- Expose persons to or generate rail-related groundborne vibration in excess of standards established by the Federal Transit Administration (FTA) (see Table 3.4-4);
- Generate interior L_{dn} or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities (and may be extended by local legislative action to include single family dwellings) per California Noise Insulation Standards (CCR Part 2, Title 24);
- Result in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project. If the cumulative increase in noise results in a 5 dBA permanent increase in ambient noise levels in the project vicinity above existing levels without the project (i.e. cumulative conditions including the proposed project compared to existing conditions), the project's contribution to the cumulative increase would be cumulatively considerable, and significant if it results in a 3 dBA permanent increase attributable to the project (i.e. cumulative conditions including the proposed project compared to cumulative conditions without the proposed project);⁶
- Conflict with City land use compatibility guidelines for all specified land uses for determination of acceptability of noise (see Figure 3.4-2) after incorporation of all applicable Standard Conditions of Approval;⁷
- Locate sensitive uses within an airport land use plan and expose people residing or working therein to excessive noise levels; or

⁵ As shown in Table 3.4-7, during the hours of 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 9 a.m. on weekends and federal holidays, noise levels received by any land use from construction or demolition shall not exceed the applicable nighttime operational noise level standard.

⁶ Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference; therefore, 3 dBA is considered an appropriate additional screening criterion to determine if project-related noise increases are cumulatively considerable.

⁷ The evaluation of land use compatibility should consider the following factors: type of noise source; the sensitivity of the noise receptor; the noise reduction likely to be provided by structures; the degree to which the noise source may interfere with speech, sleep, or other activities characteristic of land use; seasonal variations in noise source levels; existing outdoor ambient levels; and general societal attitudes towards the noise source. To the extent that any of these factors can be evaluated the measured or computed noise exposure values may be adjusted in order to more accurately assess local sentiments toward acceptable noise exposure. (Oakland General Plan, Noise Element, 2005.)

- Locate sensitive uses within the vicinity of a private airstrip and expose people residing or working therein to excessive noise levels.

Methodology for Analysis

The analysis of the existing and future noise environments is based on noise level monitoring, computer modeling, and empirical observations of receptor noise exposure characteristics.

Construction noise and vibration levels were quantified using equipment noise reference levels and modeling techniques developed by the EPA, summarized in Table 3.4-9, and the FTA, as summarized in Table 3.4-10.

Traffic noise modeling procedures involved the calculation of existing and future vehicular noise levels at selected roadways in the project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) highway traffic noise prediction model, FHWA RD-77-108. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the model includes FHWA measurements of average vehicle noise rates for all vehicle classes. Traffic volumes utilized as data inputs in the noise prediction model were provided through the traffic analysis prepared for this EIR. Traffic noise modeling did not rely on the noise measurement data gathered for this EIR, presented in Table 3.4-3. FHWA RD-77-108 is capable of accurately estimating traffic noise levels if it is initialized with accurate traffic data and characteristic receptor setbacks from the roadway of interest, both of which were provided for use in this analysis.

Table 3.4-9
Typical Outdoor Construction Noise Levels

Construction Phase	Noise Level at 25 Feet (dBA L_{eq})	Noise Level at 50 Feet (dBA L_{eq})	Noise Level at 100 Feet (dBA L_{eq})	Noise Level at 200 Feet (dBA L_{eq})	Noise Level at 500 Feet (dBA L_{eq})
Ground Clearing	88	82	76	70	64
Excavation/Grading	92	86	80	74	68
Foundations	83	77	71	65	59
Structural	89	83	77	71	65
External Finishing	92	86	80	74	68

Source: US Environmental Protection Agency, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, December, 1971.

Table 3.4-10
Vibration Source Levels for Construction Equipment

Construction Equipment	At 25 feet		At 100 feet	
	Approximate VdB	Peak Particle Velocity (in/sec)	Approximate VdB	Peak Particle Velocity (in/sec)
Large Bulldozer	87	0.089	69	0.011
Truck	86	0.076	68	0.010
Jackhammer	79	0.035	61	0.004
Small Bulldozer	58	0.003	40	<0.001
Caisson Drilling	87	0.089	69	0.011
Pile Driver (impact, upper range)	112	1.518	94	0.190
Pile Driver (sonic, upper range)	105	0.734	87	0.092

Source: *Transit Noise and Vibration Impact Assessment*, Chapter 12 Noise and Vibration During Construction, May 2006; PBS&J, 2008.

Environmental Analysis

For each potential impact associated with the proposed project, a level of significance is determined and reported in the impact statement. Conclusions of significance are defined as follows: significant impact (S), potentially significant impact (PS), less than significant (LTS), or no impact (NI). For each impact identified as being significant (S) or potentially significant (PS), the EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to less-than-significant (LTS) level successfully, this is stated in the EIR. If the mitigation measures would not diminish significant or potentially significant impacts to a less-than-significant level, the impacts are classified as “significant unavoidable impacts (SU).” For this section, NO refers to noise.

- NO-1. The construction of housing units under the Housing Element would potentially increase construction noise levels at sensitive receptors located near construction sites. Compliance with the City's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)*

Construction activities for units developed under the proposed *Housing Element* would likely include off- and on-site improvements, such as roadways, storm drainage, and utilities, and demolition, site preparation, paving, and building construction. The construction activities associated with each phase of development would involve the use of construction equipment and small power tools, generators, and other equipment that are sources of noise. During each phase of construction there would be a different mix of equipment operating, and noise levels would vary based on the amount of equipment in operation and the location of the activity.

Table 3.4-11, below, presents the maximum noise levels generated by typical types of construction equipment. In addition, the EPA has compiled data regarding the noise-generating characteristics of typical construction activities. These data are presented in Table 3.4-9. These noise levels would diminish rapidly with distance from the construction activity at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source would decrease to 80 dBA at 100 feet and to 74 dBA at 200 feet. As indicated in Table 3.4-9, noise levels at 500 feet from a project site would be at 68 dBA or below. Noise from construction equipment would potentially be excessive at nearby sensitive receptors, depending on their distance from the construction area. Compliance with the City's SCA-28 through -30, and -39, would restrict noise-generating activities to the daytime hours, reduce noise levels from construction activities, and provide nearby residents notification of construction activities and complaint procedures. Compliance with these measures would reduce construction noise impacts from development under the proposed *Housing Element* to a less-than-significant level.

Mitigation: None required.

- NO-2. Construction activities could generate excessive ground-borne vibration during the construction period. Compliance with the City's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)*

While the City does not have a CEQA threshold for construction-related vibration impacts, it was studied nonetheless because construction activities can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibrations from construction activities (other than pile driving) rarely reach the levels that can damage structures, but they can be perceptible in buildings very close to a construction site.

Table 3.4-11
Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Range of Maximum Sound Levels (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 Feet)
Pile Drivers	81-96	93
Rock Drills	83-99	96
Jackhammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	68-80	77
Scrapers	83-91	87
Haul Trucks	83-94	88
Electric Saws	66-72	70
Portable Generators	71-87	80
Rollers	75-82	80
Dozers	85-90	88
Tractors	77-82	80
Front-End Loaders	86-90	88
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	85
Air Compressors	76-89	85
Trucks	81-87	85

Source: Bolt, Beranek & Newman, *Noise Control for Buildings and Manufacturing Plants*, 1987.

Ground-borne vibration related to human annoyance is generally related to velocity levels expressed in vibration decibels (VdB). The vibration velocity levels for the typical construction equipment are shown below in Table 3.4-10. As shown in Table 3.4-6, above, the human response to vibration levels of 85 VdB are typically acceptable if vibration occurs infrequently.

Construction vibration has the potential to cause structural damage. The damage thresholds, in terms of peak particle velocity (PPV), shown in Table 3.4-7 indicate that for buildings not extremely sensitive to vibration, a damage threshold of between 0.2 in/sec to 0.5 in/sec would apply depending on the type of building. As shown in Table 3.4-10, vibration levels from construction would diminish quickly with distance and would be below 0.2 in/sec at a distance of 100 feet, including pile driving. Therefore, most buildings in the project vicinity would be exposed to vibration below the damage criteria. However, if fragile historic buildings are nearby, there is the potential for damage, especially during pile driving. Compliance with the City's SCA-57 would protect fragile historic buildings during construction and would reduce the potential for damage to a less-than-significant level.

Mitigation: None required.

- NO-3. If residential uses are located near an existing railway line, residents could be exposed to excessive interior noise and ground-borne vibration. Compliance with the City's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)*

Within the City of Oakland, existing freight and commuter railways (e.g., Union Pacific, Amtrak, BART, etc.), shown in Figure 3.2-5 in the Transportation Section, are substantial sources of noise and groundborne vibration that could affect certain Housing Sites in close proximity to the tracks. The FTA recommends a minimum separation of 750 feet between a rail line and a residential site to avoid potential railroad noise impacts, and 300 feet between a rail line and a residential site to avoid potential railroad vibration impacts.⁸ In cases where a residential use is proposed at a Housing Site within 750 feet or 300 feet of a rail line, it would be required to comply with the City's SCA-31 and/or SCA-38, respectively, which would include project design measures to reduce noise and groundborne vibration to acceptable levels within the buildings. Thus, compliance with this measure would reduce such impacts to a less-than-significant level.

Mitigation: None required.

- NO-4. Sensitive receptors at the Housing Sites could be exposed to noise above Normally Acceptable levels for multi-family residential units. Compliance with the City's Standard Conditions of Approval would reduce these impacts to less than significant. (LTS)*

Traffic noise is of most concern in areas where sensitive noise receptors, such as residential units, are adjacent to high-traffic roadways. For this analysis, the roadway segments of most concern are listed in Table 3.4-12. Based on the traffic analysis prepared for this project (see Section 3.2, Transportation), existing and future noise levels were modeled using the FHWA traffic noise model. In almost all cases, existing traffic noise at average building setbacks from the streets modeled exceeds the City of Oakland's 65 dBA Ldn "Normally Acceptable" level for multi-family residential. The traffic noise levels will increase over time, but will remain below the City's 75 dBA Ldn "Clearly Unacceptable" level for multi-family residential in all cases. In all cases, including where a proposed Housing Site is adjacent to a high-volume roadway, it would be required to comply with the City's SCA-31, which would include project design measures to reduce interior noise to acceptable levels within the buildings. Thus, compliance with this measure would reduce such impacts to a less-than-significant level.

Mitigation: None required.

⁸ *Transit Noise and Vibration Impact Assessment*, Table 9-3 (FTA, May 2006). By increasing the recommended 200-foot buffer zone to 300 feet, vibration impacts can be avoided even in situations where ground conditions promote "efficient" propagation of vibration from rail operations.

Table 3.4-12
Modeled Traffic Noise Levels along Major Plan Area Roads (units in dBA L_{dn})

Roadway	Land Use	Existing Noise Level	Existing With Project	Project-Related Increase^a (Existing)^a	2015 Without Project	2015 With Project	Project-Related Increase (2015)^a	2035 Without Project	2035 With Project	Project-Related Increase^a	Allowable Increase	Significant Impact For Any Scenario?
7 th Street east of Mandela Parkway	Residential	67.6	68.4	0.9	67.5	68.3	0.9	70.9	71.4	0.4	5	No
7 th Street west of Peralta Street	Residential	67.4	69.1	1.7	67.4	69.1	1.7	70.5	71.4	0.9	5	No
Claremont Avenue south of College Avenue	Residential	69.8	69.1	0.1	73.2	73.2	0.1	74.5	74.6	0.1	5	No
Fruitvale Avenue south of I-580	Residential	68.7	69.1	0.5	69.1	69.5	0.4	69.1	69.6	0.4	5	No
West Grand Avenue west of Martin Luther King Jr. Way	Residential	71.1	71.7	0.6	71.8	72.3	0.5	74.2	74.5	0.3	5	No
MacArthur Boulevard west of Martin Luther King Jr. Way	Residential	69.2	69.8	0.6	70.4	70.8	0.5	72.6	72.9	0.3	5	No
Mandela Parkway north of 7 th Street	Residential	63.4	64.4	1.0	63.4	64.4	1.0	63.4	64.4	1.0	5	No
Martin Luther King Jr. Way north of MacArthur Boulevard	Residential	65.7	66.8	1.1	65.7	66.8	1.1	64.2	65.7	1.5	5	No
Mountain Boulevard south of Snake Road	Residential	69.1	69.2	0.1	70.4	70.4	0.1	71.2	71.3	0.1	5	No
Peralta Street north of 7 th Street	Residential	61.9	64.1	2.2	58.7	62.4	3.7	61.8	64.0	2.2	5	No
Piedmont Avenue north of MacArthur Boulevard	Residential	63.6	64.1	0.5	64.2	64.7	0.5	65.0	65.4	0.4	5	No
San Pablo Avenue south of Stanford Avenue	Residential	71.7	72.1	0.3	72.3	72.6	0.3	73.4	73.6	0.2	5	No
Stanford Avenue east of San Pablo Avenue	Residential	67.8	68.0	0.2	69.2	69.3	0.1	70.5	70.6	0.1	5	No
Telegraph Avenue south of 51 st Street	Residential	66.3	67.0	0.7	67.5	68.1	0.6	68.1	68.6	0.5	5	No

Source: PBS&J, 2009. See Appendix G for noise model calculation tables.

Note:

a. Differences may not sum to totals due to rounding.

- NO-5. The proposed project would result in a less-than-significant increase in noise levels as provided by the City of Oakland threshold of 5 dBA. (LTS)*

Traffic noise is of most concern in areas where sensitive noise receptors, such as residential units, are adjacent to high traffic roadways. For this analysis, the roadway segments of most concern are listed in Table 3.4-12. Based on the traffic analysis prepared for this project (see Section 3.2, Transportation), traffic volumes would increase along these road segments in year 2035, as a result of the proposed project. These traffic increases would cause a corresponding increase in traffic noise. Noise levels were modeled using the FHWA traffic noise model as shown in Table 3.4-12. All project-related traffic noise increases are less than 5 dBA.

Mitigation: None required.

- NO-6. Noise generated by stationary sources, such as mechanical ventilation equipment, could increase noise levels in the vicinity of new residential developments. Compliance with the City's Municipal Code would reduce impacts to a less-than-significant level. (LTS)*

Stationary noise sources that may be associated with the project include mechanical ventilation systems, which are often placed atop the buildings. Noise from large roof-mounted equipment typically generates noise levels from 60 to 75 dBA at 50 feet. Rooftop mechanical heating, ventilation, and cooling (HVAC) equipment could annoy residents if there is a direct line-of-sight between the residential units and the equipment, especially if the equipment is not enclosed, properly installed, or operating within the manufacturer's specifications. Assuming the noise levels attenuate at 6 dBA per doubling of distance between the noise source and receptors (the rule of thumb for stationary noise sources), maximum sound levels of about 69 dBA could be experienced at a distance of up to 100 feet from residential land uses. Stationary noise is regulated under Chapter 17 of the City of Oakland Municipal Code. Compliance with the Municipal Code would reduce noise levels at residential uses. Therefore, noise from project-related stationary noise sources would have less-than-significant impacts on noise-sensitive land uses in their vicinity.

Mitigation: None required.

- NO-7. Noise generated by commercial aircraft using Oakland International Airport would not produced unacceptable noise levels at any of the Housing Sites. (LTS)*

Oakland International Airport is located on a Bay-front site in the southernmost part of the City. Commercial aircraft associated with Airport operations regularly fly-over the City. However, all areas of the City in which Housing Sites would be located are approximately two miles east and well outside the Airport's 65 dBA L_{dn} /CNEL noise contour, which the Federal Aviation Administration regards as an impact threshold for noise-sensitive land uses (i.e., residential). Therefore, noise from commercial aircraft operations at the Oakland International Airport would have less-than-significant impacts on the residential land uses proposed on the Housing Sites.

Mitigation: None required.

Cumulative Impacts

The geographic context for cumulative impacts from localized construction and stationary source noise includes areas immediately surrounding the development sites. For cumulative vehicular noise impacts, the cumulative context is based on the cumulative context for the traffic analysis, which includes past, present and reasonably foreseeable future developments in Oakland and all surrounding cities' General Plans, as well as growth outside of Alameda County as forecast by the Association of Bay Area Governments (ABAG).

NO-8. Construction activity from the proposed project in combination with other foreseen development projects would not have cumulative noise effects. (LTS)

Noise impacts from construction sources are localized in nature because noise intensity decreases substantially with distance (i.e., by 6 dBA with each doubling of source-receptor distance); construction vibration levels decrease even faster. Construction activities at other development sites in the area may occur simultaneously with construction of the proposed project. However, substantial construction-related noise and vibration would affect only areas in close proximity to each of the individual construction sites. It is unlikely that construction noise or vibration from these other construction sites would jointly affect the same sensitive receptors. Further, all development within the City is required to comply with the City's SCAs. Thus, the contribution of the proposed project to potential cumulative construction noise impacts at sensitive uses near the project construction site and near other construction sites would be reduced to a less-than-significant level.

Mitigation: None required.

NO-9. Implementation of the proposed project and related projects would result in a less-than-significant increase in noise levels as provided by the City of Oakland threshold of 5 dBA. (LTS)

Using the traffic noise model, cumulative traffic noise levels were calculated for roadways in year 2035. Traffic noise levels include traffic from proposed project, plus traffic from all other foreseeable growth within the City, as discussed in Section 3.2, Transportation/Circulation. Traffic noise is of most concern in areas where noise receptors such as residential units are adjacent to impacted roads. As shown in Table 3.4-12, the anticipated increase under cumulative conditions in the year 2035 would be a maximum increase of 4.8 dBA along Claremont Avenue south of College Avenue, which is below the 5.0 dBA initial screening threshold. Since noise levels with implementation of the proposed project and related projects would not exceed 5 dBA, the cumulative traffic noise impacts would be less than significant.

Mitigation: None required.

NO-10. Cumulative development could increase stationary source noise levels in the plan area; however, the proposed project's stationary source contributions would not be considerable and their cumulative impacts would be less than significant. (LTS)

The proposed project would introduce stationary equipment at each Housing Site in the plan area. Based on the project-level stationary noise analysis, such impacts would be less than significant. Additionally, based on the fact that noise dissipates rapidly with distance from its source, noise impacts from each stationary source would be limited to the immediate vicinity of each site. As such, both exterior and interior cumulative impacts from stationary source noise would be less than significant.

Mitigation: None required.

Conclusion

No significant impacts have been identified, and no mitigation is required. Compliance with policies 1, 2, and 3 of the Noise Element and policies N3.9, N5.2, and N11.4 of the LUTE of the City's General Plan, along with Chapter 17 of the Municipal Code, and SCA-28 through -32, -38, -39, -57, and -95, would ensure that development under the *2007-2014 Housing Element* would comply with federal, State, and local laws regarding noise. The General Plan policies have been crafted to ensure that future development would comply with federal and State noise laws, and the City's Municipal Code would require that noise generated from stationary sources is properly regulated. As such, by adhering to the Noise Element and LUTE of the General Plan, the Municipal Code, and the SCAs, noise impacts related to the proposed project and cumulative development would be less than significant.

3.5 CLIMATE CHANGE

Introduction

This section of the EIR describes the existing scientific theory relevant to climate change and evaluates the potential for development under the *2007-2014 Housing Element* to produce greenhouse gases (GHG) which are associated with global climate change. In order to analyze potential impacts, greenhouse gas emissions are quantified and compared with the numeric thresholds promulgated by the Bay Area Air Quality Management District (BAAQMD) in their CEQA Thresholds of Significance (BAAQMD Thresholds), adopted on June 2, 2010.

As discussed in Section 3.3 Air Quality, BAAQMD also updated their CEQA Air Quality Guidelines (BAAQMD Guidelines) in June 2010 which advise lead agencies on how to evaluate potential air quality and GHG impacts with the new thresholds of significance. The BAAQMD Guidelines include suggested mitigation measures or policies for *Housing Elements* to reduce the greenhouse gases and criteria air pollutant emissions associated with construction and operation of residential development. These mitigation measures/policies are geared toward affordable housing, and include: provision of housing that is affordable to low and very low income households; targeting local funds to assist affordable housing developers in incorporating energy efficient designs and features; encouraging high density and mixed-use development in transit rich areas; encouraging transit and pedestrian-oriented design principles for low income residential developments; and offering incentives for projects that provide for infill, mixed-use, and higher density residential development.

The policies in the *Housing Element* which encourage a mix of affordability levels, transit and pedestrian-oriented development, energy efficient design, and mixed-use and higher density development are generally consistent with the BAAQMD promulgated mitigation measures. Development on the Housing Sites identified in the *Housing Element* would constitute urban infill, in largely transit-rich areas. Further, as discussed in Section 3.2, Transportation, Oakland has one of the highest rates of pedestrian trips in the region.

This chapter is accompanied by Appendix H, consisting of sub-appendices H-1, H-2, and H-3, which include the following data (all Appendices are on a separate CD at the back cover of this EIR):

- H-1 - URBEMIS model output, for the *Housing Element* DEIR
- H-2 - Greenhouse Gas Emission (GHG) Worksheets
- H-3 - Explanation of GHG Calculations

Setting

Climate Change Background

The study area for the *2007-2014 Housing Element* is the City of Oakland. However, scientific theory purports that the impacts of greenhouse gases generated by development such as would occur with the

2007-2014 Housing Element would add to cumulative global climate change. There is a general scientific consensus that global climate change is occurring, caused, in whole or in part, by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere, in much the same way as glass in a greenhouse. While many studies show evidence of warming over the last century, and predict future global warming, the causes of such warming and its potential effects are far less certain. The greenhouse effect is responsible for maintaining a habitable climate on Earth; however, human activity has caused increased concentrations of these gases in the atmosphere, contributing to an increase in global temperatures and alteration of climatic conditions.

The US Environmental Protection Agency (EPA) has recently concluded that scientists have a good understanding of the following relationships and data supporting that:

- “Human activities are changing the composition of Earth’s atmosphere. Increasing levels of greenhouse gases like CO₂ in the atmosphere since pre-industrial times are well-documented and understood.
- The atmospheric buildup of CO₂ and other greenhouse gases is largely the result of human activities such as the burning of fossil fuels.
- A warming trend of approximately 0.7 to 1.5°F occurred during the 20th century. Warming occurred in both the northern and southern hemispheres, and over the oceans.
- The major greenhouse gases emitted by human activities remain in the atmosphere for periods ranging from decades to centuries. It is therefore virtually certain that atmospheric concentrations of greenhouse gases will continue to rise over the next few decades.
- Increasing greenhouse gas concentrations tend to warm the planet.”¹

At the same time, there is much uncertainty concerning the magnitude and rate of the warming. Specifically, the US EPA notes that “important scientific questions remain about how much warming will occur; how fast it will occur; and how the warming will affect the rest of the climate system, including precipitation patterns and storms. Answering these questions will require advances in scientific knowledge in a number of areas:

- Improving understanding of natural climatic variations, changes in the sun’s energy, land-use changes, the warming or cooling effects of pollutant aerosols, and the impacts of changing humidity and cloud cover.
- Determining the relative contribution to climate change of human activities and natural causes.
- Projecting future greenhouse emissions and how the climate system will respond within a narrow range.
- Improving understanding of the potential for rapid or abrupt climate change.”²

Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are the principal GHGs, and when concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may

¹ US EPA, 2000, op. cit.

² US EPA, 2000, op. cit.

be enhanced. CO₂, CH₄, and N₂O occur naturally, but are also generated through human activity. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Other human generated GHGs, which have much higher heat-absorption potential than CO₂, include fluorinated gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆) which are byproducts of certain industrial processes.³

Potential Effects of Human Activity on GHG Emissions. Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO₂ emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO₂ concentrations were found to have increased by nearly 30 percent above pre-industrial (c.1860) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO₂.⁴ Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂ equivalents (CO₂e), and are often expressed in millions of metric tons of CO₂ equivalents (MMT CO₂e).

1. *Global Emissions.* Worldwide emissions of GHGs in 2004 were 30 billion tons of CO₂e per year (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes).⁵
2. *U.S. Emissions.* In 2004, the United States emitted about 8 billion tons of CO₂e or about 25 tons/year/person. Of the four major sectors nationwide — residential, commercial, industrial and transportation — transportation accounts for the highest fraction of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion.⁶
3. *State of California Emissions.* In 2004, California emitted approximately 550 million tons of CO₂e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise.⁷ Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states.

³ CalEPA, 2006b. *Final 2006 Climate Action Team Report to the Governor and Legislature*. Sacramento, CA. April 3.

⁴ The potential of a gas or aerosol to trap heat in the atmosphere.

⁵ United Nations Framework Convention on Climate Change (UNFCCC), *Sum of Annex I and Non-Annex I Countries Without Counting Land-Use, Land-Use Change and Forestry (LULUCF)*. *Predefined Queries: GHG total without LULUCF* (Annex I Parties). Bonn, Germany, http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php, accessed May 2, 2007.

⁶ US EPA, 2000, op. cit.

4. The California EPA Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO₂ equivalence) were as follows:
 - Carbon dioxide (CO₂) accounted for 83.3 percent;
 - Methane (CH₄) accounted for 6.4 percent;
 - Nitrous oxide (N₂O) accounted for 6.8 percent; and
 - Fluorinated gases (HFCs, PFC, and SF₆) accounted for 3.5 percent.⁸
5. The California Energy Commission found that transportation is the source of approximately 41 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as "other," which includes residential and commercial activities.⁹
6. *Bay Area Emissions.* In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for just over half of the Bay Area's 85 million tons of GHG emissions in 2002. Industrial and commercial sources were the second largest contributors of GHG emissions with about 25 percent of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 11 percent of the Bay Area's GHG emissions, followed by power plants at 7 percent. Oil refining currently accounts for approximately 6 percent of the total Bay Area GHG emissions.¹⁰
7. *Oakland Emissions.* The City of Oakland, in partnership with ICLEI – Local Governments for Sustainability (ICLEI), has developed a greenhouse gas emissions inventory estimating citywide GHG emissions for the year 2005 at approximately 3 MMT CO₂e. This citywide GHG emissions inventory reflects all the energy used and waste produced within the Oakland city limits. When emissions from highway transportation are considered in this total, approximately 58 percent of Oakland's annual GHG emissions are associated with the transportation sector. Natural gas consumption represents approximately 18 percent of Oakland's GHG emissions, while electricity use and waste decomposition represent 13 percent and four percent of Oakland's total GHG emissions, respectively. Table 3.5-1, summarizes the breakdown by sector of the City's approximately 3 MMT CO₂e Inventory for 2005, more than half of which were from transportation.

⁷ California Energy Commission (CEC), *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report*, publication # CEC-600-2006-013-SF, Sacramento, CA, December 22, 2006; and January 23, 2007 update to that report.

⁸ CalEPA, 2006b, op. cit.

⁹ California Energy Commission (CEC), 2007, op. cit.

¹⁰ BAAQMD, 2006. *Source Inventory of Bay Area Greenhouse Gas Emissions*. November 2006.

**Table 3.5-1
Oakland Estimated Community-wide GHG Emissions, 2005**

GHG Emissions Source	Metric Tons of Carbon Dioxide Equivalent (MT CO₂e)	Percent of Total
Building Energy Use		
Commercial/Industrial Electricity	320,212	9%
Commercial/Industrial Natural Gas	285,365	8%
Residential Electricity	150,105	4%
Residential Natural Gas	346,339	10%
Other Stationary Sources	226,900	7%
Transportation		
Local Roads (Non-Highway) Transportation	759,883	22%
Highway Transportation	1,006,911	29%
Mobile sources at Port of Oakland	211,910	6%
Waste		
Landfill Methane from Solid Waste	126,361	4%
Total	3,433,986	100%^a

Source: City of Oakland, Garrett Fitzgerald, Sustainability Coordinator.

Note:

a. Individual percentages do not sum to total due to rounding.

Various aspects of constructing, operating, and eventually discontinuing the use of new residential development can result in GHG emissions. Operational phase GHG emissions result from energy use associated with heating, lighting and powering buildings (typically through natural gas and electricity consumption), pumping and processing water (which consumes electricity), as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases in connection with the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, and other activities.

However, it is noted that new development does not necessarily create entirely new GHG emissions. Occupants of new buildings are often relocating and shifting their operational phase emissions from other locations. Net GHG impacts require a more comprehensive analysis. Development in Oakland will also often have a comparatively lower carbon footprint than other alternative development options might have offered due to comparatively rich transit access, density, access to neighborhood-scale resources and services, and local climate factors.

Potential Effects of Global Climate Change. Global consequences of climate change include the potential degradation of human health and environmental resources, and the built environment, through anticipated, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th Century. A warming

of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial loss of ice in the Arctic.¹¹ As discussed in detail in numerous publications by the International Panel on Climate Change (IPCC), namely “Climate Change 2001, The Scientific Basis” (2001).¹²

The understanding of GHG emissions, particulate matter, and aerosols on global climate trends remains uncertain. In addition to uncertainties about the extent to which human activity rather than solar or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects.

The IPCC, acknowledging uncertainties regarding the rate at which anthropogenic (human-caused) greenhouse gas emissions would continue to increase (based upon various factors under human control, such as: future population growth and the locations of that growth; the amount, type, and locations of economic development; the amount, type, and locations of technological advancement; adoption of alternative energy sources; legislative and public initiatives to curb emissions; and public awareness and acceptance of methods for reducing emissions), and the impact of such emissions on climate change, devised a set of six “emission scenarios” which use various assumptions about the rates of economic development, population growth, and technological advancement over the course of the next century.¹³ Those emission scenarios are paired with various climate sensitivity models to attempt to account for the range of uncertainties which affect climate change projections. The wide range of temperature, precipitation, and similar projections yielded by these scenarios and models reveal the magnitude of uncertainty presently limiting climate scientists’ ability to project long-range climate change.

However, the projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the IPCC:¹⁴

- Snow cover is projected to contract, with permafrost areas sustaining thawing;
- Sea ice is projected to shrink in both the Arctic and Antarctic;
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency;
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense;
- Non-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions; and
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic Ocean.

¹¹ International Panel on Climate Change (IPCC) *Special Report on Emissions Scenarios*, 2000, www.grida.no/climate/ipcc/emission/002.htm, accessed July 24, 2007.

¹² The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess scientific, technical, and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

¹³ IPCC, 2000, op. cit.

¹⁴ Ibid.

Potential secondary effects from global warming include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Potential Effects of Climate Change in California. According to the California Air Resources Board (CARB), some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.¹⁵ Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climate impacts, but far less information is available on regional and local impacts. In addition, projecting regional impacts of climate change and variability relies on large-scale scenarios of changing climate parameters, using information that is typically at too general a scale to make accurate regional assessments.¹⁶

Below is a summary reported in an array of studies of some of the potential effects that could be experienced in California as a result of global warming and climate change:

- **Air Quality.** Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.¹⁷ If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter weather, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State.¹⁸
- **Water Supply.** Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions (i.e., parallel climate model (PCM)) suggest decreased reservoir inflows and storage and decreased river flows relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows.¹⁹ A July

¹⁵ California Air Resources Board (CARB), 2006c. *Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions*, Sacramento, CA. December 1.

¹⁶ Kiparsky, M. and P.H. Gleick, 2003. *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Oakland, CA: Pacific Institute for Studies in Development. July.

¹⁷ US EPA, 2007, op. cit.

¹⁸ California Climate Change Center (CCCC), 2006. *Our Changing Climate: Assessing the Risks to California*, CEC-500-2006-077, Sacramento, CA. July.

¹⁹ Brekke, L.D., et al, 2004. "Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California." *Journal of the American Water Resources Association*. 40(2): 149–164. Malden, MA, Blackwell Synergy for AWRA.

2006 technical report prepared by the California Department of Water Resources (DWR) addresses the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta. Although the report projects that “[c]limate change will likely have a significant effect on California’s future water resources . . . [and] future water demand,” it also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood.”²⁰ DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.”²¹ Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.²² Water purveyors, such as the East Bay Municipal Utilities District (EBMUD), are required by state law to prepare Urban Water Management Plans (UWMPs, discussed below, under Regulatory Context for Greenhouse Gas Emissions and Climate Change) that consider climatic variations and corresponding impacts on long-term water supplies.²³ The DWR 2005 SWP Delivery Reliability Report presents information from computer simulations of the SWP operations based on historical data over a 73-year period (1922–1994). The DWR notes that the results of those model studies “represent the best available assessment of the delivery capability of the SWP.” In addition, the DWR is continuing to update its studies and analysis of water supplies. EBMUD would incorporate this information from DWR in its update of its current UWMP 2005 (required every five years per the California Water Code), and information from the UWMP can be incorporated into Water Supply Assessments (WSAs) and Water Verifications prepared for certain development projects in accordance with Water Code Section 10910, et. seq. and Government Code Section 66473.7, et. seq. Section XVI. Utilities and Service Systems of the Initial Study in Appendix A discusses the UWMP, WSAs, and applicable sections of the Water Code.

- *Hydrology.* As discussed above, climate change could potentially affect the following: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes -- expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California’s water supply. In particular, saltwater intrusion would threaten the quality and reliability of the state’s major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm

²⁰ California Department of Water Resources (DWR), 2006. *Progress on Incorporating Climate Change into Management of California Water Resources*, Sacramento, CA. July.

²¹ Ibid.

²² Kiparsky 2003, op. cit.; DWR, 2005, op. cit.; Cayan, D., et al, 2006. *Scenarios of Climate Change in California: An Overview* (White Paper, CEC-500-2005-203-SF), Sacramento, CA. February.

events. Some of the existing sites designated for residential development and some of the Housing Sites identified in the *2007-2014 Housing Element* are located in areas that may be at risk of flooding, erosion, or wetland shifts by the end of this century, based on a projected 1.4 meter sea-level rise. However, the 1.4 meter rise in sea-level is considered a worst-case prediction that assumes that no reduction in GHG emissions would occur before the end of the century. Given all of the local, national, and international movements to intercede and reduce impacts from greenhouse gases, the extent of eventual sea-level rise is considered highly speculative at this time. Thus, the potential effects of flooding from sea level rise are not discussed in this EIR.

- *Agriculture.* California has a \$30 billion agricultural industry that produces half the country's fruits and vegetables. The California Climate Change Center (CCCC) notes that higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.²⁴
- *Ecosystems and Wildlife.* Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate change on ecosystems and wildlife.²⁵ The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

Applicable Plans and Regulations

Global climate change is addressed through the efforts of various federal, State, regional, and local government agencies as well as national and international scientific and governmental conventions and programs. These agencies work jointly, as well as individually, to understand and regulate the effects of greenhouse gas emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies, conventions, and programs focused on global climate change are discussed below.

International and Federal

Kyoto Protocol. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that

²³ California Water Code, Section 10631(c).

²⁴ California Climate Change Center (CCCC), 2006, op. cit.

²⁵ Parmesan, C. and H. Galbraith, *Observed Impacts of Global Climate Change in the U.S.*, Arlington, VA: Pew Center on Global Climate Change, November 2004.

if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments.

In anticipation of providing an updated international treaty for the reduction of GHG emissions, representatives from 170 countries met in Copenhagen in December 2009 to ratify an updated United Nations' Framework Convention on Climate Change agreement (Copenhagen Accord). The Copenhagen Accord, a voluntary agreement among the United States, China, India, and Brazil, recognizes the need to keep global temperature rise to below 2°C and obliges signatories to establish measures to reduce greenhouse gas emissions and to help prepare to provide help to poorer countries in adapting to Climate Change. It is anticipated that the Copenhagen Accord will be finalized and signed by representatives of the participating governments by the end of 2010.

Climate Change Technology Program. The United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (which is led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative.²⁶

US Environmental Protection Agency (EPA). The US EPA is responsible for implementing federal policy to address global climate change. The Federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, methane, and other non-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The US EPA implements several voluntary programs that substantially contribute to the reduction of GHG emissions.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), decided April 2, 2007, the Supreme Court held that the US EPA has authority to regulate greenhouse gases, and the US EPA's reasons for not regulating this area did not meet the statutory requirements. The Supreme Court ruled that the US EPA should be required to regulate CO₂ and other greenhouse gases as pollutants under Section 202(a)(1) of the federal Clean Air Act (CAA). The US EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The Final Rule was effective December 29, 2009, with data collection to begin on January 2010 and the first annual report due in March 2011. This rule does not regulate the emission of GHGs; it only requires the monitoring and reporting of greenhouse gas emissions for those sources above certain thresholds.²⁷ The US EPA adopted a Final Endangerment Finding for the six defined GHGs on December 7, 2009. The Endangerment Finding is required before

²⁶ Climate Change Technology Program (CCTP), About the U.S. Climate Change Technology Program (web page), Washington, D.C., last updated April 2006, <http://www.climatechange.gov/about/index.htm>, accessed July 24, 2007.

²⁷ US EPA, October 30, 2009. 40 CFR Parts 86,87,89 et al. Mandatory Reporting of Greenhouse Gases; Final Rule.

US EPA can regulate GHG emissions under Section 202(a)(1) of the CAA in fulfillment of the United States Supreme Court decision.

State of California

Assembly Bill 1493 (AB 1493). AB 1493, effective in 2002, requires CARB to “adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” The regulations were to be adopted by January 1, 2005, and apply to 2009 and later model-year vehicles. In September 2004, CARB responded by adopting “CO₂-equivalent fleet average emission” standards. The standards will be phased in from 2009 to 2016, reducing emissions by 22 percent in the “near term” (2009–2012) and 30 percent in the “mid term” (2013–2016), as compared to 2002 fleets.

Executive Order S-3-05 (EO S-3-05). On June 1, 2005, Governor Arnold Schwarzenegger signed EO S-3-05, establishing statewide GHG emission reduction targets. This EO provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels. The Secretary of the California Environmental Protection Agency (CalEPA) is charged with coordinating oversight of efforts to meet these targets and formed the Climate Action Team (CAT) to carry out the EO. Several of the programs developed by the CAT to meet the emission targets are relevant to residential construction and are outlined in a March 2006 report.²⁸ These include prohibition of idling of certain classes of construction vehicles, provision of recycling facilities within residential buildings and communities, compliance with the Energy Commission’s building and appliance energy efficiency standards, compliance with California’s Green Buildings and Solar initiatives, and implementation of water-saving technologies and features.

California Assembly Bill 32 (AB 32). Assembly Bill 32 (AB 32) (effective September 2008), commits California to reduce GHG emissions to 1990 levels by 2020 and establishes a multi-year regulatory process under the jurisdiction of CARB to establish regulations to achieve these goals. The regulations require monitoring and annual reporting of GHG emissions from selected sectors or categories of emitters of GHGs. By January 1, 2008, CARB was required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is required to adopt rules and regulations, which shall become operative on January 1, 2012, to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

On April 20, 2007, CARB published *Proposed Early Actions to Mitigate Climate Change in California*.²⁹ There are no early action measures specific to residential development included in the list of 36 measures identified for CARB to pursue during calendar years 2007, 2008, and 2009. Also, this publication indicated that the issue of GHG emissions in CEQA and General Plans was being deferred for later action, so the publication did not discuss any early action measures generally related to CEQA or to land use decisions. As noted in that report, “AB 32 requires that all GHG reduction measures adopted and

²⁸ California Environmental Protection Agency (CalEPA), 2006a. Climate Action Team, *Executive Summary. Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. Sacramento, CA, March.

²⁹ CalEPA, Air Resources Board (CARB), *Proposed Early Actions to Mitigate Climate Change in California*. Sacramento, CA, April 20, 2007.

implemented by the Air Resources Board be technologically feasible and cost effective.”³⁰ The law permits the use of market-based compliance mechanisms to achieve those reductions and also requires that GHG measures have neither negative impacts on conventional pollutant controls nor any disproportionate socioeconomic effects (among other criteria).

On December 11, 2008, CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of CARB’s plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO₂e emissions by 174 MMT, or approximately 30 percent, from the State’s projected 2020 emissions level of 596 MMT CO₂e under a “business-as-usual” scenario. The Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the State’s GHG inventory. While CARB has identified a GHG reduction target of 15 percent for local governments themselves, it has not yet determined what amount of GHG emissions reductions it recommends from local government land use decisions. However, the Scoping Plan does state that successful implementation of the plan relies on local governments’ land use planning and urban growth decisions, because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. CARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The measures approved by CARB will be developed over the next two years and be in place by 2012.

The Scoping Plan also includes recommended measures that were developed to reduce GHG emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures, shown below in Table 3.5-2 by sector, also put the State on a path to meet the long-term goal of reducing California’s GHG emissions by 2050 to 80 percent below 1990 levels.

**Table 3.5-2
GHG Reduction Recommended Actions**

Measure No.	Measure Description	GHG Reductions (Annual MMT CO₂e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3 ^a	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. Ship Electrification at Ports System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure –	0.93

³⁰ Ibid.

**Table 3.5-2
GHG Reduction Recommended Actions**

Measure No.	Measure Description	GHG Reductions (Annual MMT CO₂e)
	Aerodynamic Efficiency (Discrete Early Action)	
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) Increased Utility Energy Efficiency Programs More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) Target of 3000 MW Total Installation by 2020	2.1
Commercial and Residential		
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) Utility Energy Efficiency Programs Building and Appliance Standards Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4 ^b
W-2	Water Recycling	0.3 ^b
W-3	Water System Energy Efficiency	2.0 ^b
W-4	Reuse Urban Runoff	0.2 ^b
W-5	Increase Renewable Energy Production	0.9 ^b
W-6	Public Goods Charge (Water)	TBD ^b
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

Source: CARB, Climate Change Scoping Plan, 2008.

Notes:

- This is not the SB 375 regional target. CARB will establish regional targets for each MPO region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375.
- GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target.

California Senate Bill 1368 (SB 1368). SB 1368 effective 2006 requires the California Public Utilities Commission (CPUC) to develop and adopt a “greenhouse gases emission performance standard” by February 1, 2007, for the private electric utilities under its regulation. The CPUC adopted an interim standard on January 25, 2007, but formally requested a delay until September 30, 2007, for the local publicly-owned electric utilities under its regulation. These standards apply to all long-term financial commitments entered into by electric utilities. The California Energy Commission (CEC) was required to adopt a consistent standard by June 30, 2007. However, this date was missed, and CEC will address the concerns of the Office of Administrative Law (OAL) and resubmit the rulemaking as soon as possible. The rulemaking then must be approved by the OAL before it can take effect.³¹

California Senate Bill 97 (SB 97). SB 97 effective 2007 provides partial guidance on how GHGs should be addressed in certain CEQA documents. SB 97 requires the Office of Planning and Research (OPR) to prepare CEQA Guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency was directed to certify and adopt the guidelines by January 1, 2010. OPR and the Resources Agency are required to periodically review the guidelines to incorporate new information or criteria adopted by CARB pursuant to the Global Warming Solutions Act, scheduled for 2012.

On June 19, 2008, OPR published a technical advisory on CEQA and climate change. The advisory provides OPR’s perspective on the emerging role of CEQA in addressing climate change and GHG emissions, while recognizing that approaches and methodologies for calculating GHG emissions and addressing environmental impacts through CEQA review are rapidly evolving. The advisory recognizes that OPR will develop, and the Resources Agency will adopt, amendments to the CEQA Guidelines pursuant to SB 97. In the interim, the technical advisory “offers informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents.”

The technical advisory points out that neither CEQA nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. The advisory states, “This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.” OPR recommends that “the global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions.” Until such a standard is established, OPR advises that each lead agency should develop its own approach to performing an analysis for projects that generate greenhouse gas emissions.

OPR sets out the following process for evaluating GHG emissions. First, agencies should determine whether GHG emissions may be generated by a proposed project, and if so, quantify or estimate the emissions by type or source. Calculation, modeling, or estimation of GHG emissions should include the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities.

Lead agencies should then assess whether the emissions are “cumulatively considerable” even though a project’s GHG emissions may be individually limited. OPR states, “Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found

³¹ Collard, Gary, California Energy Commission, email correspondence to Robert Vranka, Ph.D, ESA, July 12, 2007.

to contribute to a significant cumulative impact on the environment.” Individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.

Finally, if the lead agency determines emissions are a cumulatively considerable contribution to a significant cumulative impact, the lead agency must investigate and implement ways to mitigate the emissions. OPR states, “Mitigation measures will vary with the type of project being contemplated, but may include alternative project designs or locations that conserve energy and water, measures that reduce vehicle miles traveled (VMT) by fossil-fueled vehicles, measures that contribute to established regional or programmatic mitigation strategies, and measures that sequester carbon to offset the emissions from the project.” OPR concludes that, “A lead agency is not responsible for wholly eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is “less than significant.” The technical advisory includes a list of mitigation measures that can be applied on a project-by-project basis.

In January 2009, OPR released preliminary proposed amendments to the CEQA Guidelines regarding GHG emissions. No significance threshold is included in the draft and the guidelines afford the customary deference provided to lead agencies in their analysis and methodologies. The introductory preface to the amendments recommends that CARB set state-wide thresholds of significance. OPR emphasized the necessity of having a consistent threshold available to analyze projects, and the analyses should be performed based on the best available information. The revisions would include a new section specifically addressing the significance of GHG emissions that would build upon OPR’s 2008 technical advisory. Like the advisory, the proposed CEQA Guidelines section calls for quantification of GHG emissions. The proposed section states that the significance of GHG impacts should include consideration of the extent to which the project would result in the following: help or hinder compliance with AB 32 goals; increase energy use especially that generated by fossil fuel combustion; improve energy efficiency; and result in emissions that would exceed any applicable significance threshold. In April 2009, OPR forwarded the draft revisions to the California Natural Resources Agency for review and proposed adoption. On December 30, 2009, the California Natural Resources Agency certified and adopted the CEQA Guidelines. The California Office of Administrative Law codified the CEQA Guidelines on February 16, 2010 and they became effective March 18, 2010. The final GHG provisions of the CEQA Guidelines are generally similar to the draft submitted to the Resources Agency by OPR in April.

The second part of SB 97 codifies safe harbor for highways and flood control projects. It provides that the failure of a CEQA document for a project funded by Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or the Disaster Preparedness and Flood Prevention Bond Act of 2006 to adequately analyze the effects of GHG emission otherwise required to be reduced pursuant to the regulations adopted under the Global Warming Solutions Act (which are not slated for adoption until January 1, 2012), does not create a cause of action for a violation of CEQA. This portion of SB 97 had a sunset date of January 1, 2010.

The bill does not address the obligation to analyze GHGs in projects not protected by the safe harbor provision. One possible interpretation is that there is no duty until the guidelines are adopted, because CEQA Guidelines Section 15007, Subdivision (b), provides that guideline amendments apply prospectively only.

California Senate Bill 375 (SB 375). Governor Schwarzenegger signed SB 375 into law in September 2008 (Chapter 728, Statutes of 2008). The legislation aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) that will prescribe land use allocation in the MPO's regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

California Urban Water Management Act. The California Urban Water Management Planning Act requires various water purveyors throughout the State of California (such as EBMUD) to prepare UWMPs, which assess the purveyor's water supplies and demands over a 20-year horizon (California Water Code, Section 10631 *et seq.*). As required by that statute, UWMPs are updated by the purveyors every five years. As discussed above, this is relevant to global climate change which may affect future water supplies in California, as conditions may become drier or wetter, affecting reservoir inflows and storage and increased river flows.³²

State CEQA Guidelines for Greenhouse Gas Emissions and Climate Change Impacts

On March 18, 2010, the CEQA Guidelines Amendments addressing GHG emissions became effective. The CEQA Guideline Amendments addressing GHG emissions do not identify a threshold of significance for GHG emissions, nor have they prescribed assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

The adopted CEQA Guideline Amendments have added new text pertaining to GHG emissions to the existing CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations). A summary of the text revisions is provided below.

Section 15064.4. Determining the Significance of Impacts from Greenhouse Gas Emissions. This section was added to clarify a lead agency's responsibility in assessing GHG impacts. This section states: "The determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project." However, the adopted guidelines leave the model and methodology by which these emissions are quantified up to the discretion of the lead agency.

³² Brekke, 2004, *op. cit.*

The text does provide general considerations that should be weighed when determining the significance of an effect:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- The extent to which the project complies with regulations or requirements adopted to implement a qualified statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Section 15126.4 Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects. The text in this section states that lead agencies “shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions” associated with the project. As stated in the adopted guidelines, “Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency’s decision;
- Reductions in emissions resulting from a project through implementation of project features, project design, or other measures;
- Off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions;
- Measures that sequester greenhouse gases; and
- In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effects of emissions.”

Section 15130. Discussion of Cumulative Impacts. The text in this section states that the project should be considered in the context of past, current and foreseeable development to determine if a cumulatively considerable impact would result.

Proposed CEQA Checklist Questions. Appendix H of the CEQA Guidelines contains a sample checklist that may be used by lead agencies when considering environmental impacts. Two new checklist questions have been added for GHG emissions:

- Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

California Energy Code and CALGREEN (State Building Standards)

California has achieved substantial energy savings and emissions reductions through implementation of aggressive building and appliance standards and utility energy efficiency programs. CARB's Scoping Plan (see discussion of AB 32, above) reported:

These combined efforts are saving more than 40,000 GWh of electricity annually—enough to power almost six million California homes. Due in part to these successful policies, California uses less electricity per person than any other state in the nation.³³

However, in spite of these savings, the Scoping Plan notes that “[c]ollectively, energy use and related activities by buildings are the second largest contributor to California’s greenhouse gas emissions.”³⁴

Title 24, Part 6, of the California Code of Regulations (CCR), Energy Efficient Standards for Residential and Nonresidential Buildings (also referred to as the California Energy Code), was adopted in 1978 by the CEC in response to a legislative mandate to reduce California’s energy consumption. Title 24, Part 6 is updated frequently, with the most recent update occurring in 2008. Title 24, Part 6 requires to the incorporation of energy conserving features in new construction, and alterations and additions to existing buildings. Although it was not originally intended as a climate change policy, by reducing California’s energy consumption, Title 24, Part 6, has become a means of reducing California’s GHG emissions. Energy efficient buildings require less electricity, which results in fewer GHG emissions.

In 2007 Governor Schwarzenegger directed the California Building Standards Commission (BSC) to work with state agencies and adopt green building standards for residential, commercial and public building construction. On January 12, 2010, the BSC adopted CALGREEN, the nation’s first mandatory Green Building Standards Code. CALGREEN will take effect as of January 1, 2011 and will require that all new buildings be more energy efficient and environmentally responsible.

Finally, there are a number of State and local regulatory policies that would reduce the GHG emissions generated by implementation of the *2007-2014 Housing Element* below the levels reported above. The City of Oakland’s ongoing implementation of its *Sustainable Oakland Program* and other programs/policies will collectively reduce the levels of GHG emissions and contributions to local climate change attributable to activities throughout Oakland. Key policies are summarized below.

Regional

Bay Area Air Quality Management District (BAAQMD). BAAQMD is responsible for improving air quality within the San Francisco Bay Area Air Basin. BAAQMD adopted new CEQA thresholds of significance (BAAQMD Thresholds) on June 2, 2010, to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released new CEQA Guidelines (CEQA Guidelines) in June 2010 which advise lead agencies on how to evaluate potential air quality impacts with the new thresholds of significance.

³³ CARB, December, 2008, Climate Change Scoping Plan, Appendix D, p. C-90.

³⁴ CARB, December, 2008, Climate Change Scoping Plan, p. 57.

The analysis herein uses the thresholds from the BAAQMD Thresholds and the CEQA Guidelines to determine the project's significance with respect to GHG emissions. See the Environmental Analysis section, below, for a fuller discussion of methodology and results.

Local

Oakland Energy and Climate Action Plan

In July 2009, the Oakland City Council directed staff to develop a draft *Oakland Energy and Climate Action Plan* using a preliminary planning GHG reduction target equivalent to 36 percent below 2005 GHG emissions by 2020, and annual benchmarks for meeting the target.³⁵ A draft Oakland Energy and Climate Action Plan was released on April 22, 2010.

City of Oakland General Plan

Land Use and Transportation Element (LUTE). The *LUTE* (which includes the Pedestrian Master Plan and Bicycle Master Plan) of the *Oakland General Plan* contains the following policies that address issues related to GHG emissions and climate change:

- Transit-oriented development should be encouraged at existing or proposed transit nodes, defined by the convergence of two or more modes of public transit such as BART, bus, shuttle service, light rail or electric trolley, ferry, and inter-city or commuter rail. (*Policy T.2.1*)
- Transit-oriented developments should be pedestrian-oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods. (*Policy T.2.2*)
- The City should include bikeways and pedestrian ways in the planning of new, reconstructed, or realigned streets, wherever possible. (*Policy T3.5*)
- The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated "transit streets" as shown on the Transportation Plan. (*Policy T3.6*)
- Through cooperation with other agencies, the City should create incentives to encourage travelers to use alternative transportation options. (*Policy T4.2*)
- In order to facilitate the construction of needed housing units, infill development that is consistent with the *General Plan* should take place throughout the City of Oakland. (*Policy N3.2*)
- The City should prepare, adopt, and implement a Bicycle and Pedestrian Master Plan as a part of the Transportation Element of [the] *General Plan*. (*Policy T4.5*)

Open Space, Conservation and Recreation Element (OSCAR). The *OSCAR* Element includes policies that address GHG reduction and global climate change. Listed below are the following types of *OSCAR*

³⁵ City of Oakland. Resolution Approving Preliminary Planning Targets For Development Of The Draft Oakland Energy And Climate Action Plan. June 23, 2009. <http://clerkwebsvr1.oaklandnet.com/detailreport/matter.aspx?key=17204>.

policies: policies that encourage the provision of open space, which increases vegetation area (trees, grass, landscaping, etc.) to effect cooler climate, reduce excessive solar gain, and absorb CO₂; policies that encourage stormwater management, which relates to the maintenance of floodplains and infrastructure to accommodate potential increased storms and flooding; and policies that encourage energy efficiency and use of alternative energy sources, which directly address reducing GHG emissions.

- Conserve existing City and Regional Parks characterized by steep slopes, large groundwater recharge areas, native plant and animal communities, extreme fire hazards, or similar conditions. (*Policy OS-1.1*)
- Manage Oakland's urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities. (*Policy OS-2.1*)
- Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program. (*Policy CO-5.3*)
- Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single passenger autos. (*Policy CO-12.3*)
- Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions. (*Policy CO-12.5*)
- Support public information campaigns, energy audits, the use of energy-saving appliances and vehicles, and other efforts which help Oakland residents, businesses, and City operations become more energy efficient. (*Policy CO-13.2*)
- Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency. (*Policy CO-13.3*)
- Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste or industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements. (*Policy CO-13.4*)

Historic Preservation Element. A key *Historic Preservation Element* policy relevant to climate change encourages the reuse of existing building (and building materials) resources, which could reduce landfill material (a source of methane, a GHG), avoid the incineration of materials (which produces CO₂ as a by-product), avoid the need to transport materials to disposal sites (which produces GHG emissions), and eliminate the need for materials to be replaced by new product (which often requires the use of fossil fuels to obtain raw and manufacture new material).³⁶

Safety Element. *Safety Element* policies that address wildfire hazards related to climate change in that increased temperatures could increase fire risk in areas that become drier due to climate change.³⁷ Also, wildfire results in the loss of vegetation; carbon is stored in vegetation, and when the vegetation burns,

³⁶ US EPA, 2006a. General Information on the Link Between Solid Waste and Greenhouse Gas Emissions (web page), October, <http://www.epa.gov/climatechange/wycd/waste/generalinfo.html>, accessed August 10, 2007.

the carbon returns to the atmosphere.³⁸ The occurrence of wildfire also emits particulate matters into the atmosphere. *Safety Element* policies also address storm-induced flooding hazards related to the potential to accommodate potential increase in storms and flooding as a result of climate change. Pertinent *Safety Element* policies including the following:

- Prioritize the reduction of the wildfire hazard, with an emphasis on prevention. (*Policy FI-3*)
- Enforce and update local ordinances and comply with regional orders that would reduce the risk of storm-induced flooding. (*Policy FL-1*)
- Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard. (*Policy FL-2*)

Other City of Oakland Programs and Policies. The City of Oakland has supported and adopted a number of programs and policies designed to reduce GHG emissions and continue Oakland's progress toward becoming a model sustainable city. Other programs and policies of relevance to new residential development include:

- Sustainable Oakland Program – Oakland's sustainability efforts are coordinated through the Sustainable Oakland program, a product of the Oakland Sustainability Community Development Initiative (SDI) created in 1998 (Ordinance 74678 C.M.S.).³⁹
- Green Building – The City of Oakland has implemented Green Building principles in City buildings through the following programs: Civic Green Building Ordinance (Ordinance No. 12658 C.M.S., 2005), requiring, for certain large civic projects, techniques that minimize the environmental and health impacts of the built environment through energy, water and material efficiencies and improved indoor air quality, while also reducing the waste associated with construction, maintenance and remodeling over the life of the building; Green Building Guidelines (Resolution No. 79871, 2006) which provides guidelines to Alameda County residents and developers regarding construction and remodeling; and Green Building Education Incentives for private developers.
- Downtown Housing – The 10K Downtown Housing Initiative has a goal of attracting 10,000 new residents to downtown Oakland by encouraging the development of 6,000 market-rate housing units. This effort is consistent with Smart Growth principles.
- Waste Reduction and Recycling – The City of Oakland has implemented a residential recycling program increasing collection of yard trimmings and food waste. This program has increased total yard trimming collections by 46 percent compared to 2004, and recycling tonnage by 37 percent. The City also adopted *Construction and Demolition Recycling*, for which the City passed a resolution in July 2000 (Ordinance 12253. OMC Chapter 15.34), requiring certain nonresidential

³⁷ US EPA, Climate Change – Health and Environmental Effects: Health (web page), October 2006b, www.epa.gov/climatechange/effects/health.html, accessed July 24, 2007.

³⁸ National Aeronautics and Space Administration (NASA), *El Nino-Related Fires Increase Greenhouse Gas Emissions, January 5, 2005*, <http://www.nasa.gov/centers/goddard/news/topstory/2004/0102firenino.html>, accessed August 10, 2007.

³⁹ City of Oakland, Oakland Sustainable Community Development Initiative, (web page), <http://www.sustainableoakland.com/Page774.aspx>, last updated March 2007, accessed June 25, 2007.

or apartment house projects to recycle 100 percent of all Asphalt & Concrete (A/C) materials and 65 percent of all other materials.

- Polystyrene Foam Ban Ordinance - In June 2006 the Oakland City Council passed the Green Food Service Ware Ordinance (Ordinance 14727, effective as of January 1, 2007), which prohibits the use of polystyrene foam disposable food service ware and requires, when cost neutral, the use of biodegradable or compostable disposable food service ware by food vendors and City facilities.
- Zero Waste Resolution - In March 2006 the Oakland City Council adopted a Zero Waste Goal by 2020 Resolution (Resolution 79774 C.M.S.), and commissioned the creation of a Zero Waste Strategic Plan to achieve the goal.
- Stormwater Management - On October 14, 2009, the Regional Water Quality Control Board, San Francisco Bay Region, issued a municipal stormwater permit under the National Pollutant Discharge Elimination System (NPDES) permit program to the Alameda Countywide Clean Water Program (ACCWP). The purpose of the permit is to reduce the discharge of pollutants in stormwater to the maximum extent practicable and to effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses. The City of Oakland, as a member of the ACCWP, is a co-permittee under the ACCWP's permit and is, therefore, subject to the permit requirements.

Provision C.3 of the NPDES permit is the section of the permit containing stormwater pollution management requirements for new development and redevelopment projects. Among other things, Provision C.3 requires that certain new development and redevelopment projects incorporate post-construction stormwater pollution management measures, including stormwater treatment measures, stormwater site design measures, and source control measures, to reduce stormwater pollution after the construction of the project. These requirements are in addition to standard stormwater-related best management practices (BMPs) required during construction.

- Community Gardens and Farmer's Markets - Community Gardening locations include Arroyo Viejo, Bella Vista, Bushrod, Golden Gate, Lakeside Horticultural Center, Marston Campbell, Temescal, and Verdese Carter. Weekly Farmer's Markets locations include the Jack London Square, Old Oakland, Grand Lake, Mandela, and Temescal districts. Both efforts promote and facilitate the principal of growing and purchasing locally, which effects reductions in truck and vehicle use and GHG emissions.

City of Oakland Municipal Code

Chapter 15.34: Construction and Demolition Debris Waste Reduction and Recycling Requirements. Units developed under the *2007-2014 Housing Element* would be required to comply with the City's *Construction and Waste Reduction Ordinance* and submit a Construction and Demolition Waste Reduction Plan for review and approval. As a result, construction-related truck traffic, which primarily have diesel fueled engines, would be reduced, since demolition debris hauled off site would be reused on site. In addition, reuse of concrete, asphalt, and other debris would reduce the amount of material introduced to area landfills.

Impacts and Mitigation Measures

This section evaluates the potential adverse impacts related to climate change from GHG emissions associated with development under the *2007-2014 Housing Element*. This impact discussion is focused on a quantification of GHG emissions that would result from the construction and operation residential development under the *2007-2014 Housing Element*. Construction period GHG emissions from consumption of fossil fuel, removal of vegetation, demolition, construction waste, waste decomposition, and vehicular trips are quantified. Operational GHG emissions from vehicular trips, on-site use of natural gas and other fuels and electricity, water use and wastewater generation, and solid waste disposal are also quantified.

Thresholds of Significance

The project would have a significant impact on the environment if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, specifically:

Project-Level Impacts

Produce GHG emissions of more than 1,100 metric tons of CO₂e annually and⁴⁰ more than 4.6 metric tons of CO₂e per service population⁴¹ annually;

Plan-Level Impacts

Produce total GHG emissions of more than 6.6 metric tons of CO₂e per service population annually; or

2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

BAAQMD also has a recommended GHG threshold for stationary sources.⁴² That threshold is not being evaluated as part of this analysis because housing development is not considered a stationary source of GHG.

Although BAAQMD has not proposed a construction-related GHG threshold, the analysis herein quantifies and discloses such emissions, and makes a significance determination, in relation to meeting AB 32 GHG reduction goals.

The BAAQMD Thresholds state that potential GHG impacts would be considered less than significant if the lead agency has adopted a Greenhouse Gas Reduction Strategy that meets certain requirements (referred to as a “Qualified Greenhouse Gas Reduction Strategy”) and the plan or project complies with the Qualified Greenhouse Gas Reduction Strategy. To date, the City has not adopted a Qualified

⁴⁰ A project’s impact would be considered significant under the proposed BAAQMD thresholds if the emissions exceed *both* of these thresholds. Accordingly, the impact would be considered less than significant if a project’s emissions are below *either* of the proposed thresholds.

⁴¹ The per service population emissions total includes both the residents and employees of a proposed development project.

⁴² Stationary sources are projects (or components of projects) that require a BAAQMD permit to operate.

Greenhouse Gas Reduction Strategy. If and when the City adopts a Qualified Greenhouse Gas Reduction Strategy, the potential impacts of future projects would be considered less than significant if the projects comply with the Qualified Greenhouse Gas Reduction Strategy.

Methodology for Analysis

The BAAQMD Thresholds contain a threshold for project-level impacts and a threshold for plan-level impacts as reflected above. The numeric threshold for plan-level impacts (6.6 MT CO₂e per service population annually) is based on a statewide GHG reduction target for emissions from all emission sources. Accordingly, the BAAQMD methodology for assessing impacts under the plan-level threshold involves estimating communitywide emissions from all emission sources and comparing the result to the numeric threshold (6.6 MT CO₂e per service population annually). Per the BAAQMD Guidelines, the plan-level threshold and methodology apply to regional plans and general plans. The *Housing Element* is a component of the City's *General Plan*. The GHG emissions resulting from the *Housing Element* only represent emissions related to housing development. For plans other than regional plans and general plans, the BAAQMD Guidelines recommend applying the project-level threshold and methodology for assessing potential GHG impacts. Chapter 9 ("Assessing & Mitigating Plan Level Impacts") of the BAAQMD Guidelines states the following:

The Air District recommends that when assessing GHG impacts for plans other than regional plans (transportation and air quality plans) and general plans, such as specific plans and area plans, the appropriate thresholds and methodology is the same as project-level GHG impact assessments described in Chapter 4.⁴³

The numeric threshold for project-level impacts (4.6 MT CO₂e per service population annually) is based on a statewide GHG reduction target for emissions from land use development only. Because emissions from the *Housing Element* would only represent emissions from one land use source—housing—the City concludes it is more appropriate to consider the *Housing Element* within the "other plans" category of the BAAQMD Guidelines and to apply the project-level threshold and methodology from Chapter 4 of the BAAQMD Guidelines. The City believes that applying the project-level threshold and methodology is more useful in evaluating the potential GHG effect of the *Housing Element* because it would provide more information about the emissions generated by housing development, whereas the BAAQMD plan-level methodology would provide information about communitywide emissions without separately identifying the emissions and impacts of new housing. Therefore, the City used the BAAQMD project-level threshold and methodology for analyzing potential GHG impacts in this Draft EIR. In addition, in order to provide supplemental information, the City has also prepared a second analysis using the BAAQMD plan-level threshold and methodology; this additional analysis is found later in this chapter.

Project-Level Methodology. GHG emissions associated with development under the *Housing Element* were estimated using the URBEMIS 2007 model (Appendix H-1), and a GHG Modeling Worksheet (Appendix H-2) developed with input from the City of Oakland, trip generation data from the project traffic analysis (Appendix E-3), emissions factors from the California Climate Action Registry, and other sources. Refer to Appendix H-3 for detailed calculations and source information. Compliance with 2008

⁴³ BAAQMD, 2010. *CEQA Guidelines*. June 2010, Page 9-1.

Title 24 standards was assumed in the emissions model for both natural gas and electricity use, as described further, below. GHG emissions are stated in metric tons of carbon dioxide equivalents (MT CO₂e).

Construction emissions associated with vehicle trips and equipment operation were estimated in URBEMIS (Appendix H-1, pages H-4 through H-10, and summarized on page H-2). No emissions reductions were quantified for use of alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment, or use of local building materials and/or recycling of construction waste or demolition materials.

Construction emissions were based on the construction of 13,501 housing units between 2010 and 2014. Per the URBEMIS model, construction was separated into four phases: grading (2.5 months), paving (3.5 months), building (6 months), and architectural coating (4 months). These are default construction phase lengths, and were not adjusted. The default equipment was used for each phase of construction and was calculated by the URBEMIS model based on the number of units to be constructed and the average density.

The annual operational emissions associated with natural gas use, landscape emissions, and vehicle trips, were also calculated in URBEMIS. The natural gas use was calculated in URBEMIS (Appendix H-1, page H-12) based on 2005 Title 24 standards and converted in the worksheet to 2008 Title 24 Standards by taking a 15 percent reduction. Landscape emissions include the use of gasoline by lawnmowers and other landscaping equipment. These emissions are based on the number of units using URBEMIS default settings.

The emissions resulting from vehicle trips were calculated based on inputs from the project traffic analysis (Appendix E) including the percentage of units that would be mid-rise (67 percent) and high-rise (33 percent) apartments, (Appendix H-1, page H-13), and the vehicle miles traveled (VMT) associated with each (approximately 146,000 and 70,000, respectively). The VMT are customized for the City of Oakland, and take into consideration the City's mode split, the high rate of pedestrian trips, the proximity of Housing Sites to multiple forms of transit, and the availability of bicycle facilities including bike lanes and bike racks. Since the VMT are based on the current mode split it does not rely on completion of future transit or bikeway projects. The vehicle fleet mix (Appendix H-1, page H-14) is the default assigned in URBEMIS. The urban trip lengths associated with residential trips were adjusted based on the traffic study. The trip length (Appendix H-1, pages H-14 and H-15) for the City of Oakland associated with development under the *Housing Element* is 3.5 miles for all types of residential trips; home-to-work, home-to-shop, and all other home-based trips. This trip length takes into account the urban characteristics of the City of Oakland, the geographic proximity of residential uses to employment and shopping opportunities and the prevalence of mixed-use development. The percentage of trips assigned to each type; home-to-work, home-to-shop, and home-other are URBEMIS defaults and were not adjusted. The 35 mph trip speed is typical of an urban environment like the City of Oakland.

Although URBEMIS allows emissions reductions to be taken based on transit availability, proximity of employment opportunities to housing, and availability of sidewalks and bike lanes, no reductions were taken given that the customized VMT adequately incorporated Oakland's particular development

densities and transit availabilities. Additionally, no reductions were taken for the affordability level of the housing.

The CO₂ emissions calculated in URBEMIS associated with vehicles, landscaping equipment, construction vehicles and equipment, and natural gas use were inserted into the modeling worksheet (Appendix H-2, page H-19). Additional calculations were made for electricity consumption, solid waste generation, and water use (incorporating both potable water consumption and wastewater generation). Electricity consumption was based on Pacific Gas & Electric rates.⁴⁴ The solid waste generation rate of four lbs/unit/day was provided by the City of Oakland's sustainability coordinator.⁴⁵ The water usage of 301 gallons/unit/day was provided by the Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group.⁴⁶ Given that indoor water usage has a higher energy rate than outdoor use, the model assumed that 100 percent of the water usage associated with the proposed project would be indoor use. Emissions from wastewater are included in the water use calculation. The 5.511 megawatt hours per million gallons (MWh/MG) of water incorporates the energy used to treat and transport both potable water and wastewater. As a result, the emissions associated with water use are a conservative estimate.

The total emissions associated with the *Housing Element* are a sum of the operational emissions from vehicle trips, electricity, natural gas, water use, and solid waste generation. The total emissions were divided by the total estimated number of residents to provide an estimate of the proposed project's per service population emissions.⁴⁷ Although by definition service population refers to both residents and employees of a plan or project area, since the project is residential development under the *Housing Element*, service population for the purposes of this analysis refers only to residents. This number is compared to the BAAQMD Thresholds discussed above.

The analysis also provides a qualitative overview of the proposed 2007-2014 *Housing Element* goals and describes how these goals would be expected to further address the GHG emissions associated with future residential development in the City of Oakland.

The City of Oakland has promulgated recommended design features for all projects. The 'Construction' and 'Construction Waste' design features are not incorporated into the emissions calculation, as described above. The 'Energy Efficiency' design feature would be above and beyond the 2008 Title 24 standards and would result in additional emissions reductions. The design features related to 'Transit Oriented Development,' 'Urban Infill near Multiple Transit Modes,' and 'Inner Bay Location Near Transit' are incorporated into the emissions calculation via the customized VMT and trip lengths associated with the

⁴⁴ PG&E: GHG Data Requests, Fact Sheet GHG Data.pdf, Email from John Bohman, January 11, 2010.

⁴⁵ Garrett Fitzgerald, City of Oakland Sustainability Coordinator.

⁴⁶ Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #12; July 2009.

⁴⁷ The analysis assumes that all emission sources associated with the proposed project would be new sources (i.e. the sources would add to existing emissions). Because it can reasonably be assumed that future occupants of some of the housing units that would be constructed under the 2007-2014 *Housing Element* would relocate from other parts of the Bay Area or elsewhere, a certain portion of the emissions included in this estimate are pre-existing. Thus, the emissions inventory provides a conservative estimate of the proposed project's future GHGs. Moreover, the City of Oakland is expected to approve its *Energy and Climate Action Plan* within the near future. Policies in the *Energy and Climate Action Plan* would be expected to provide incentives and programs to further reduce the emissions associated with implementation of the 2007-2014 *Housing Element*.

density and patterns of development in Oakland, as described above. However, any increase in these development trends would result in further reductions in emissions.

This analysis has also identified policies and procedures to reduce GHG emissions. In addition, a screening level threshold for residential developments which result in less than 1,100 MT CO₂e/year has been identified.

Environmental Analysis

For each potential impact associated with the proposed *Housing Element*, a level of significance is determined and is reported in the impact statement. Conclusions of significance are defined as follows: significant impact (S), potentially significant impact (PS), less than significant (LTS), or no impact (NI). For each impact identified as being significant (S) or potentially significant (PS), the EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to less-than-significant (LTS) level successfully, this is stated in the EIR. If the mitigation measures would not diminish significant or potentially significant impacts to a less-than-significant level, the impacts are classified as “significant unavoidable impacts (SU).” For this section, CC refers to climate change.

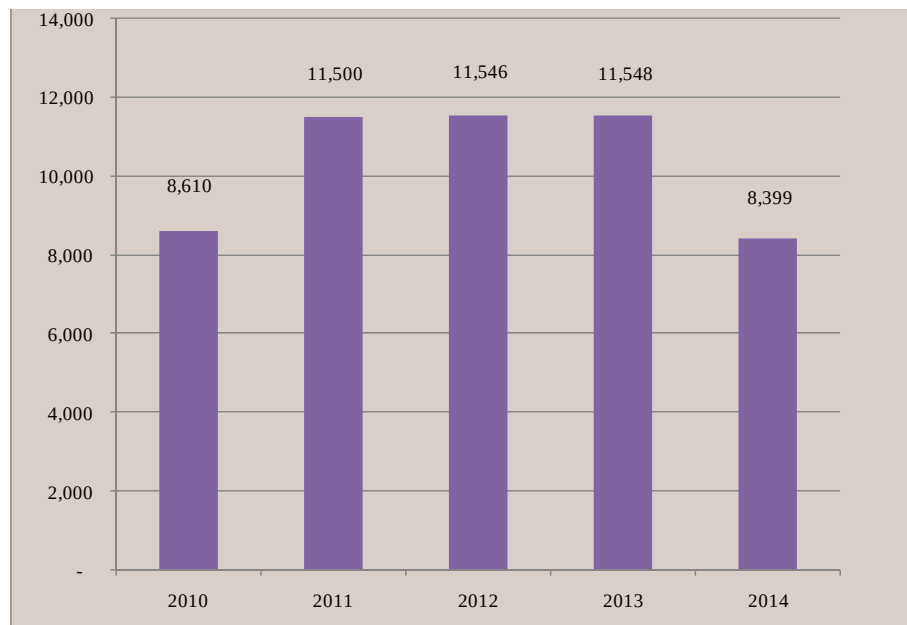
CC-1. The future development proposed under the 2007-2014 Housing Element would not emit GHGs in exceedance of BAAQMD’s project-level threshold of 1,100 MT CO₂e/yr and 4.6 MT CO₂e/sp/yr, resulting in a less-than-significant impact. (LTS)

The construction and operation of residential development proposed under the *2007-2014 Housing Element* would generate GHG emissions, but would not exceed the threshold of 4.6 MT CO₂e/SP/yr; therefore, impacts are considered less than significant. Discussed below are the project-related activities that could contribute to the generation of increased GHG emissions, during construction and operation, and project design features that would help avoid or minimize those emissions.

Construction. Construction activities can alter the carbon cycle in many different ways. Construction equipment typically utilizes fossil fuels, which generates GHGs such as carbon dioxide, methane, and nitrous oxide. Methane may also be emitted during the fueling of heavy equipment. The net removal of vegetation for construction results in a loss of carbon sequestration in plants, while a net increase in vegetation would result in additional carbon sequestration. The raw materials used to construct new buildings can sequester carbon; however, demolition of structures can result in the gradual release of the carbon stored in waste building materials into the atmosphere as those materials decompose in landfills.

Figure 3.5-1 presents the estimated annual construction emissions associated with vehicle trips and equipment operation for full buildout of the 13,501 residential units. As shown in this figure, the proposed project would generate approximately 51,600 MT CO₂e, with peak emissions occurring in 2013; however, these are estimates and do not represent actual construction of units in any given year.

Figure 3.5-1
Estimated Annual Construction Emissions, 2007-2014 Housing Element (metric tons CO₂)⁴⁸



Source: PBS&J, 2010.

For purposes of analysis, construction emissions are annualized because the proposed operational GHG emissions thresholds are analyzed in terms of metric tons “per year.” Also, because climate change is a cumulative impact and GHG remain in the atmosphere for decades, the GHG impact of construction emissions is the same whether the emissions occur at once or on an annual basis. Construction emissions are annualized over a 40-year period because 40 years is the established standard for the typical life expectancy of a building before it is demolished or remodeled with increased energy efficiency. If the total one-time construction-generated GHG emissions are annualized for 40 years, the one-time construction-related contribution is approximately 1,290 MT CO₂e emissions annually.⁴⁹

Housing units developed under the *2007-2014 Housing Element* would be required to comply with the City’s *Construction and Waste Reduction Ordinance* and submit a Construction and Demolition Waste Reduction Plan for review and approval per Chapter 15.34 of the Municipal Code: Construction and Demolition (C&D) Debris Waste Reduction and Recycling Requirements. Thus the construction-related truck traffic would be further reduced, since more demolition debris would be reused on site, rather than hauled to landfills. In addition to C&D waste, the City, as part of its Standard Conditions of Approval (SCAs), also regulates and reduces impacts from construction period emissions, such as exhaust emissions and portable equipment. For these reasons, and those stated below, the project would not impede attainment with AB 32 goals.

⁴⁸ Note: The numbers in Figure 3.5-1 are based on the URBEMIS output in Appendix H-1, page H-2. The figures have been converted from short tons (URBEMIS) to metric tons.

⁴⁹ 51,600 MT CO₂e/40 years=1,290 MT CO₂e per year

Operation. Overall, the following operational activities associated with the residential development proposed under the *2007-2014 Housing Element* could contribute to the generation of GHG emissions:

- *Vehicular Trips.* Vehicle trips generated by the proposed project would result in GHG emissions through combustion of fossil fuels resulting in anticipated emissions of 35,076 MT CO₂e annually. These emissions were calculated based on the annual VMT and trip lengths provided in the traffic report, included as Appendix E, and assumed an average vehicle trip length by future residents of 3.5 miles (see “Methodology section, above). The Housing Sites often are in close proximity to existing transit and urban amenities. Under the *2007-2014 Housing Element*, high-density housing would be constructed within four blocks of at least two modes of transit, including BART, AC Transit, Amtrak, and the Alameda Ferry, and areas developed with pedestrian facilities. The distribution of proposed residential growth would help to minimize trip lengths and contribute to lower per capita GHG emissions in comparison to communities with lower development densities.
- *On-Site Use of Natural Gas and Other Fuels.* Natural gas would be used by proposed residences for space heating, water heating, and cooking, resulting in a direct release of GHGs. Landscaping equipment and hearths would also result in on-site GHG emissions. The estimated emissions from the combustion of natural gas and other fuels from the operation of the proposed project is based on the number of dwelling units and is estimated at 21,571 MT CO₂e per year based on the URBEMIS 2007 model outputs. The default energy efficiency of buildings and resulting natural gas use assumed in the URBEMIS 2007 model uses the 2005 Title 24 building standards which over-predicts emissions. To compensate for this, the URBEMIS model was adjusted to show the proposed project exceeding the 2005 Title 24 standards by 15 percent which means that residential units developed under the *Housing Element* would comply with the 2008 Title 24 building standards, adopted in January 2010. GHG emissions associated with building envelope energy use vary based on the size of structures, the type and extent of energy efficiency measures incorporated into structural designs, and the type and size of appliances installed. Building envelope details could not be incorporated into the project inventory, as such information is not available at this time.
- *Electricity Use.* Electricity is generated by a combination of methods, which include combustion of fossil fuels. Thus, by using electricity, proposed residential development would contribute to the off-site, indirect emissions associated with production of electricity. Estimated emissions for the consumption of electricity is based on the total number of dwelling units and associated consumption rates. The estimates are based on compliance with the 2008 Title 24 building standards and result in emissions of 23,566 MT CO₂e per year.
- *Water Use and Wastewater Generation.* California’s water conveyance system is energy-intensive, with electricity used to pump and treat water. Proposed residences would contribute to indirect emissions by consuming water and generating wastewater. Estimated emissions for water use and wastewater generation are based on the number and type of dwelling units. Emissions were estimated at 1,921 MT CO₂e per year. As a conservative

estimate of water usage, it was assumed that all water would be consumed indoors and therefore would result in the generation of wastewater.

- **Solid Waste.** Disposal of organic waste in landfills can lead to the generation of methane, a potent greenhouse gas. By generating solid wastes, proposed residences would contribute to the emission of fugitive GHGs from landfills. Based on the number and type of dwelling units developed, emissions from the generation of solid waste were estimated at 2,957 MT CO₂e per year.

Table 3.5-3 presents an estimate of the operational emissions that would result from development under the *2007-2014 Housing Element*.

Table 3.5-3 Baseline Estimated CO₂e Emissions from Residential Development	
Source of Emissions	Project Emissions (MT CO₂e)
<i>Operations</i>	
Vehicular Sources	35,076
Residential Fuel Use ^a	21,571
Electricity Use ^b	23,566
Solid Waste ^c	2,957
Water Use	1,921
Total	85,091

Source: PBS&J, 2009. Calculation methods and sources are provided in Appendix H-3.

Notes:

- Includes natural gas used for cooking and heating, as well as fuel for landscaping equipment.
- Electricity consumption results in indirect emissions associated with electricity generation.
- Solid waste emissions include fugitive emissions from landfills. This calculation was based on solid waste generation totals from: City of Oakland, 2009, *Initial Study for 2007-2014 Housing Element* and Garrett Fitzgerald, Oakland Sustainability Coordinator.

As shown, occupancy of the proposed housing units would generate approximately 85,091 MT CO₂e annually. As discussed in Chapter 2, Project Description, these housing units would be expected to house approximately 35,103 residents.⁵⁰ Thus, the emissions per service population associated with the proposed project would be approximately 2.4 MT CO₂e annually. This number falls below the BAAQMD Threshold of 4.6 MT CO₂e for per service population emissions. Thus, project-level GHG impacts would be less than significant.

Operation with Construction Emissions (annualized).

⁵⁰ The average household population size from 2007 to 2014 is projected to be 2.6. The total project population was calculated by multiplying the number of units, 13,501, times the average household size.

For purposes of analysis, the annual contribution of CO₂e from *construction* of the projected housing units, as amortized over 40 years, is 1,290 MT CO₂e (see “CC-1 Construction”, above). Adding this annual figure to the estimated *Operational* CO₂e emissions in Table 3.5-3 of 85,091 MT CO₂e, would result in estimated annual emissions of 86,381 MT CO₂e. Calculating the potential emissions from this revised total results in per service population emissions of 2.46 MT CO₂e,⁵¹ which is still below the BAAQMD Threshold of 4.6 MT CO₂e, so the impacts would be less than significant.

Project Design Features. While no significant impacts have been identified, and no mitigation is required, the following design features would reduce the amount of GHG emissions generated during construction and operation. These design features and project characteristics help implement reduction strategies identified in AB 32 and the Governor’s EO S-3-05 for development projects and would be included for all housing developed under the *2007-2014 Housing Element*. These design features are discussed below:

- *Construction Waste.* The proposed project will be required to comply with the Construction and Waste Reduction Ordinance and submit a Construction and Demolition Waste Reduction Plan for review and approval. As a result, construction-related truck traffic, which primarily have diesel fueled engines, would be reduced since demolition debris hauled off site would be reused on site. In addition, reuse of concrete, asphalt, and other debris will reduce the amount of material introduced to area landfills.
- *Transit Oriented Development.* According to the Pedestrian Master Plan, the City of Oakland has the highest walking rates for all of the cities in the nine-county San Francisco Bay Region. It is noted that these high pedestrian trips are due to densely populated neighborhoods which are well served by transit, including BART, AC Transit, Amtrak, and the Alameda Ferry. Development on some of the Housing Sites would be considered “Transit Oriented Development,” since it would involve developing high-density housing in the central area of Oakland near transit stations. In this zone, the Planning Code requires less parking than any other zone in the City thereby encouraging the use of transit and pedestrian activity. As such, projects developed in the S-15 zone would reduce transportation-related GHG emissions compared to emissions from the same level of development elsewhere in the outer Bay Area. Because transit service is generally less available in most portions of the outlying areas than in the central area of Oakland, development in outlying areas would likely result in increased peak-hour vehicle trips of relatively long distances, and often in single-occupant vehicles, compared to development within the S-15 zone.
- *Energy Efficiency.* The proposed project would be required to comply with all applicable local, state, and federal regulations associated with the generation of GHG emissions and energy conservation. In particular, construction of the proposed project would also be required to meet California Energy Efficiency Standards for Residential and Nonresidential Buildings, and the requirements of pertinent City policies as identified in the City of Oakland *General Plan*, helping to reduce future energy demand as well as reduce the project’s

⁵¹ 86,381 MT CO₂e/35,103 residents = 2.46 MT CO₂e per service population.

contribution to regional GHG emissions. Policies include, but are not limited to: the exceedance of the 2005 Title 24 requirements by 15 percent; Cool Roof Coatings performance; CALGREEN; and City adopted Green Building Ordinances. As noted previously, exceedance of the 2005 Title 24 Standards by 15 percent is equivalent to compliance with the 2008 Title 24 standards adopted in January 2010.

- *Urban Infill near Multiple Transit Modes.* Development on some of the Housing Sites would include high-density housing within four blocks of at least two modes of transit such as AC Transit buses, BART trains, ferry service, and/or Amtrak trains, and within an area developed with pedestrian facilities. Therefore, development on these Housing Sites would facilitate walking and non-vehicular travel to a greater extent than would be the case for similar development in outlying areas of the region without extensive transit availability. In addition, the high-density development would include a greater number of potential residents that could potentially utilize or engage in alternative modes of travel than in a lower density development on the project site.
- *Inner Bay Location Near Transit.* Development in Oakland would reduce transportation-related GHG emissions compared to emissions from development with the same amount of population and employment growth in the outer Bay Area. Because transit service is generally less available in most areas of the outlying areas than in Oakland, development in those locations would likely result in increased peak-hour vehicle trips of relatively long distances, and often in single-occupant vehicles, compared to development within Oakland. Therefore, development on any of the Housing Sites would include a greater number of potential residents and visitors that could potentially utilize alternative modes of travel.

In addition to the 'Project Design Features' listed above, the following goals from the *2007-2014 Housing Element* would help to further reduce GHG emissions from development under the *2007-2014 Housing Element*:

- *Goal 1: Provide adequate sites suitable for housing for all income groups.* This goal would specifically target development and marketing resources in the downtown area, and along the City's major corridors, which are easily accessible to transit, jobs, shopping, and services and encouraging the re-use of industrial and commercial buildings for joint living quarters and working spaces. The proposed project incorporates and supports sustainable development goals including; development of a "village" plan that combines housing, open space, recreation, civic and retail uses into a balanced and walkable community; and development of pedestrian and bicycle facilities throughout the proposed development areas. The integration of varied uses and services onsite and nearby (e.g. bank, church, supermarket, restaurant, laundry, hair care, etc.) would reduce automobile use within the compact, pedestrian and bicycle-friendly community with access to transit.

- *Goal 4: Conserve and improve older housing and neighborhoods.* This goal supports the preservation and rehabilitation of existing housing stock. This goal would encourage the relocation of structurally sound housing units scheduled for demolition to compatible neighborhoods, when appropriate land can be found. It would also provide varieties of loan programs to assist with the rehabilitation of owner-occupied and rental housing for very low and low-income households and assist senior citizen and disabled population with housing rehabilitation so that they may remain in their homes. Therefore, the proposed project incorporates and supports sustainable development goals including the renovation and reuse of the existing on-site building. As such, the project would reduce transportation-related GHG emissions by avoiding the demolition and disposal of existing resources or energy to obtain and prepare raw resources for replacement structure.
- *Goal 7: Promote sustainable development and sustainable communities.* This goal would develop and promote programs to foster the incorporation of sustainable design principles, energy efficiency and smart growth principles into residential developments and encourage the incorporation of energy conservation design features in existing and future residential development beyond minimum standards required by State building code. Sponsors of individual housing projects would be required to work with the City to develop specific sustainable building and site design, construction, and operational methods and standards that could be incorporated with proposed structures. Applicable green building standards include GreenPoint Rated (a program of Build It Green, sponsored by a number of Bay Area public agencies and jurisdictions); Leadership in Energy and Environmental Design (LEED) Green Building Rating System™, nationally accepted standards for the design, construction, and operation of high performance green buildings; and California Green Builder program. Examples of approaches that individual housing projects would incorporate as feasible include:
 - Use of exceptionally durable and/or reused materials;
 - Use of materials that avoid toxic emissions;
 - Use of equipment and fixtures that conserve energy;
 - Maximizing efficient and natural lighting and ventilation; and
 - Maximizing water-efficient landscaping that would provide cooling and carbon sequestration benefits.

Thus, both construction and operational GHG emissions would be less than significant.

Mitigation: None required.

Discussion of Future Development Projects

The analysis below, although not legally required for a CEQA analysis of the *Housing Element* itself, was conducted so that future development projects under the *Housing Element* could tier from the GHG analysis included in this EIR, and thus would not be required to undergo project-specific GHG analysis. This analysis has also identified policies and procedures to reduce GHG emissions. A screening level threshold for residential developments which result in less than 1,100 MT CO₂e/year has been identified.

Comparison to 1,100 MT CO₂e/year Threshold.

The total emissions associated with buildout of the *2007-2014 Housing Element* would be 85,091 MT CO₂e per year. Given the 13,501 proposed residential units, it is anticipated that each new residential unit would emit 6.3 MT CO₂e annually.⁵² BAAQMD sets a project-level threshold of 1,100 MT CO₂e annually. Given a 6.3 MT CO₂e per residential unit emission rate, developments of 174 residential units or less would fall below BAAQMD's Threshold of 1,100 MT CO₂e.⁵³ Such projects would be considered to have less-than-significant impacts and would not require further environmental review with regard to climate change, assuming that 2008 Title 24 standards are met and that the project is generally in conformance with the development patterns identified in the Project Design Features.

Per Unit Emissions with Construction Emissions (annualized).

For purposes of analysis, the estimated annualized emissions of 1,290 MT CO₂e from construction of the new units (see "CC-1 Construction", above), when divided by the number of proposed residential units (13,501) would make for a per residential unit emission rate of 0.096 MT CO₂e. Adding this figure to the 6.3 MT CO₂e described in the previous paragraph results in a *revised* emissions rate of 6.4 MT CO₂e; thus, buildings with 172 residential units or less would fall below BAAQMD's Threshold of 1,100 metric tons CO₂e.⁵⁴

Proposals for housing developments containing 172 units or less would also result in less-than-significant project-level impacts and, thus, would *not* require additional project-specific GHG analysis. This compares to the BAAQMD "Precursor Screening Criteria" of 87-92 dwelling units, depending on building types—in which the project is assumed not to exceed the 1,100 MT CO₂e threshold of significance and, thus, a detailed GHG analysis is not required. For analysis purposes for this Draft EIR, two representative building types (and their number of units), which might be built under the *Housing Element* are:

- "Apartment (mid-rise)—87 dwelling units"
- "Condo/Townhouse (high-rise)—92 dwelling units"⁵⁵

While the BAAQMD makes an initial assessment that new buildings of less than 87-92 units would not have GHG impacts, the specific calculations made in the discussion above, conclusively show that under the *Housing Element*, multi-family buildings of as many as 172 units would not exceed the BAAQMD Threshold of 1,100 MT CO₂e, and thus would not require a project-specific GHG analysis.

Comparison to 4.6 MT CO₂e/sp/year Threshold.

⁵² 85,091 MT CO₂e/13,501 units = 6.3 MT CO₂e.

⁵³ 1,100 MT CO₂e/6.3 MT CO₂e per residential unit = 174 units.

⁵⁴ 1,100 MT CO₂e/6.4 MT CO₂e per residential unit = 172 units.

⁵⁵ See Table 3-1 "Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes" in BAAQMD's *CEQA Air Quality Guidelines* (June 2010).

Occupancy of the proposed housing units would generate approximately 85,091 MT CO₂e annually. As discussed in Chapter 2, Project Description, these housing units would be expected to house approximately 35,103 residents.⁵⁶ Thus, the emissions per service population associated with the proposed project would be approximately 2.42 MT CO₂e annually.⁵⁷ This number falls below the BAAQMD Threshold of 4.6 MT CO₂e for per service population emissions. Thus, project-level GHG impacts associated with future residential development projects would be less than significant.

Per Service Population Emissions with Construction Emissions (annualized).

For purposes of analysis, the annual contribution of CO₂e from *construction* of the projected housing units, as amortized over 40 years, is 1,290 MT CO₂e (see “CC-1 Construction,” above). Adding this annual figure to the estimated *Operational* CO₂e Emissions in Table 3.5-3 of 85,091 MT CO₂e, would result in estimated annual emissions of 86,381 MT CO₂e. Calculating the potential emissions from this revised total results in per service population emissions of 2.46 MT CO₂e, which is still below the BAAQMD Threshold of 4.6 MT CO₂e. Therefore, the project-level impacts would be less than significant.

As demonstrated above, the per service population emissions associated with buildout of the *2007-2014 Housing Element* would be less than 2.5 MT CO₂e annually. This number does not take into consideration emissions reductions that could result from implementation of proposed *2007-2014 Housing Element* goals and pending policies from the City’s *Energy and Climate Action Plan*. Implementation of these policies would be expected to further reduce per capita emissions. Thus, project-level GHG impacts associated with all future residential development projects under the *2007-2014 Housing Element* would be less than significant and no project-specific GHG analysis would be required.

- CC-2. *The 2007-2014 Housing Element would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in a less-than-significant impact. (LTS)*

The construction and operation of residential development proposed under the *2007-2014 Housing Element* would not conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing GHG emissions. The “Applicable Plans and Regulations” section, above, describes the plans, policies, and regulations relevant to the *Housing Element* that are related to the reduction of GHG emissions. The *Housing Element* would not conflict with these plans, policies, and regulations. Specifically, the *Housing Element* would be consistent with the GHG reduction goals of AB 32 because the GHG emissions associated with the *Housing Element* and future housing development projects would not exceed the BAAQMD Thresholds which were developed to be consistent with AB 32’s goals. The *Housing Element* would also be consistent with local plans, policies, and regulations, as discussed above in “CC-1,” in that *Housing Element*

⁵⁶ The average household population size from 2007 to 2014 is projected to be 2.6. The total project population was calculated by multiplying the number of units, 13,501, times the average household size.

⁵⁷ 85,091 MT CO₂e/35,103 residents = 2.424 MT CO₂e per service population.

would encourage transit-oriented development and future housing development would be required to comply with City regulations that reduce GHG emissions including waste reduction and recycling requirements. Furthermore, if and when the City adopts the *Oakland Energy and Climate Action Plan* as discussed above (see “Applicable Plans and Regulations”), future housing development projects would be required to comply with the applicable requirements of the *Plan*. Therefore, the impact of the *Housing Element* in terms of conflict with GHG-reducing plans, policies, and regulations would be less than significant.

Mitigation: None required.

Plan-Level GHG Impact Evaluation

CC-3. The 2007-2014 Housing Element would not emit GHGs in exceedance of BAAQMD’s plan-level threshold of 6.6 MT CO₂e/sp/yr, resulting in a less-than-significant impact. (LTS)

As noted previously in this chapter, the Draft EIR is hereby presenting a second analysis of potential GHG emissions from development under the *Housing Element*, using the methodology presented in the BAAQMD Guidelines, Chapter 9, “Assessing & Mitigating Plan Level Impacts.” Below is a description of this alternate method for evaluating the GHG impact of the *Housing Element*, following the six steps presented in Chapter 9 of the BAAQMD Guidelines.

Step 1. GHG Reduction Strategy Approach

The City has not adopted a qualified GHG Reduction Strategy as described in the CEQA Guidelines, so this option is not available at this time.

Step 2. GHG Efficiency Approach – Emissions Quantification

The City has quantified communitywide GHG emissions in the form of a GHG emissions inventory. The City used a base year of 2005 for the Oakland communitywide GHG emissions inventory to prepare Table 3.5-4, below. The inventory was developed using available data and current best practices in the development of communitywide GHG inventories. GHG emissions are expressed in metric tons of CO₂e emissions and account for municipal and communitywide emission sectors applicable in the jurisdiction including transportation, commercial, residential, water use and treatment, and solid waste.

**Table 3.5-4
Oakland Estimated Community-wide GHG Emissions, 2005**

GHG Emissions Source	Metric Tons of Carbon Dioxide Equivalent (MT CO₂e)
<u>Building Energy Use</u>	
Commercial/Industrial Electricity	320,212
Commercial/Industrial Natural Gas	285,365
Residential Electricity	150,105
Residential Natural Gas	346,339
Other Stationary Sources	226,900
<u>Transportation</u>	
Local Roads (Non-Highway) Transportation	759,883
Highway Transportation	1,006,911
Mobile sources at Port of Oakland	211,910
<u>Waste</u>	
Landfill Methane from Solid Waste	126,361
Total	3,433,986

Source: City of Oakland, Garrett Fitzgerald, Sustainability Coordinator

The following details apply to communitywide GHG emissions estimates in Table 3.5-4:

1. Direct access electricity consumption has not been included as data is not currently available.
2. Electricity used to deliver and treat water and wastewater is assumed to be included in Commercial/Industrial Electricity estimates.
3. GHG emissions associated with BART operation within Oakland are not included because a) consumption data is not currently available, and b) it is believed that BART was operating on a direct access contract supplying carbon neutral electricity in 2005.
4. GHG emissions associated with other off-road mobile sources are not included due to lack of data.
5. Pass-through highway vehicle travel is included despite lack of local policy relevance.
6. GHG emissions associated with fuel consumed by maritime and aviation vessels are included for vessels docked at port only, per Air District guidance.
7. GHG emissions associated with commercial rail activity have not been included, in part due to data limitations.
8. Emissions associated with wastewater treatment are not included due to data limitations.

Step 3. Prepare Greenhouse Gas Emissions Projections

Table 3.5-5 presents the anticipated GHG Emission reductions that could result from the scoping plan measures to implement AB 32. Measures such as the Low Carbon Fuel Standard, or a renewable energy portfolio standard adopted by the state's utilities are intended to reduce GHG emissions in the state.

The City has developed communitywide GHG emission projections of expected levels of GHG emissions for both 2020 (i.e., the AB 32 benchmark year) and 2014, the projected year of the *Housing Element* buildout, in Table 3.5-6. For the year 2014, a projection was developed reflecting an anticipated business-as-usual scenario given anticipated growth in population and jobs consistent with ABAG 2009 projections for Oakland as well as the *Housing Element*. Because data is unavailable regarding how, if at all, GHG emissions in 2014 might be further impacted by State regulations and AB 32 measures noted in the BAAQMD Guidelines, Table 3.5-5, this business-as-usual scenario is assumed to be the only relevant scenario for 2014.

Table 3.5-5
GHG Emission Reductions from AB 32 Scoping Plan Measures

Category	Affected Emission Sources	Measure	Reduction from 2020 GHG Sector Inventory (%)
Mobile	On-road passenger vehicles	AB 1493 Pavley	19.7%
		LCFS	7.2%
		Passenger Vehicle Efficiency	2.8%
	Heavy/Medium Duty Vehicles	LCFS	7.2%
		Heavy Duty Vehicle Efficiency	2.9%
Area	Natural Gas	Energy Efficiency Measures	9.5%
Indirect	Electricity	RPS	21.0%
		Energy Efficiency Measures	15.7%

Source: Bay Area Air Quality Management District. California Environmental Quality Act Guidelines, June 2010, Table D-4, pg.D-18.

Notes: AB = Assembly Bill; LCFS = Low Carbon Fuel Standard; RPS = Renewable Portfolio Standard

**Table 3.5-6
Oakland Estimated Community-wide GHG Emissions, 2005-2020**

Emissions Source	GHG Emissions (metric tons CO ₂ e)			
	2005 Inventory	2014 BAU Forecast	2020 BAU Forecast	2020 Adjusted (using BAAQMD guidance)
Building Energy Use				
Residential Electricity	150,105	161,198	172,150	106,388
Residential Natural Gas	346,339	371,932	397,201	359,467
Commercial & Industrial Electricity	320,212	324,076	363,129	199,992
Commercial & Industrial Natural Gas	285,365	288,809	323,611	292,868
Other Stationary Sources	226,900	229,638	257,311	257,311
<i>Subtotal</i>	<i>1,328,921</i>	<i>1,375,653</i>	<i>1,513,403</i>	<i>1,216,027</i>
Transportation				
Local Roads Transportation	759,883	872,161	956,085	672,128
Highway Transportation	1,006,911	1,155,688	1,266,894	890,627
Mobile Sources at Port	211,910	214,468	240,312	233,343
<i>Subtotal</i>	<i>1,978,704</i>	<i>2,242,317</i>	<i>2,463,292</i>	<i>1,796,098</i>
Waste				
Landfill Methane	126,361	127,886	143,297	143,297
<i>Subtotal</i>	<i>126,361</i>	<i>127,886</i>	<i>143,297</i>	<i>143,297</i>
Total	3,433,986	3,745,856	4,119,991	3,155,422

Source: City of Oakland, 2010.

Note: BAU = Business as Usual

For the year 2020, two projections of future GHG emissions have been developed. First, a projection was developed reflecting 2020 GHG emissions under an anticipated business-as-usual scenario given anticipated growth in population and jobs consistent with *ABAG Projections 2009* for Oakland as well as the *Housing Element*. A second 2020 GHG emissions scenario was also developed to reflect changes projected based on expected implementation of State Regulations and AB 32 Measures noted in the BAAQMD Guidelines, Table 3.5-5.

The City of Oakland is currently in the process of developing an *Energy and Climate Action Plan*, which is expected to include the adoption of additional GHG reduction targets and plans for reaching those targets on a community-wide basis. The City is also considering new policy adoption including a green building ordinance for private development, and collaborating with partners to increase local energy efficiency and other programs. These various efforts will most likely further reduce GHG emissions projected for 2014 and certainly 2020. However, no locally driven additional GHG reduction estimates are included in projections for 2014 nor 2020, as the City has not yet formally adopted a GHG reduction goal nor mitigation plan.

Step 4. Determine Planned Population and Employment Levels and Service Population

Table 3.5-7 presents the City's calculated service population numbers for both 2014 and 2020, based on ABAG-produced estimates of the number of residents and jobs anticipated in Oakland for 2014 and 2020.

Table 3.5-7 Oakland Service Population Estimates		
	2014	2020
Projected Population	440,942	470,900
Projected Jobs	205,015	229,720
Projected Service Population	645,957	700,620

Source: ABAG Projections 2009.

Step 5. Compare Service Population to 2020 GHG Projections and Thresholds of Significance

Table 3.5-8 divides projected communitywide GHG emissions in 2020 by the 2020 service population. The City finds that GHG emissions in 2020 will be 5.88 metric tons per service population per year without the implementation of State regulations and AB 32 measures noted in the BAAQMD Guidelines (Table 3.5-5), and 4.5 metric tons per service population per year with the implementation of those State-driven actions. The City finds that in both cases, projected GHG emissions per service population in 2020 are below the 6.6 metric tons per service population significance threshold for general plans.

Table 3.5-8 Estimated Metric Tons of Carbon Dioxide Equivalent (MT CO₂e)		
	Without State Actions	With State Actions
Projected 2020 Community-wide GHG Emissions	4,119,991	3,155,422
Projected 2020 Service Population	700,620	700,620
Projected 2020 GHG Emissions Per Service Population	5.88	4.50

Source: City of Oakland, 2010.

Step 6. Mitigation Measures

Mitigation: No mitigation measures are necessary because the emissions would not exceed the BAAQMD threshold.

Cumulative Analysis

CC-4. *The 2007-2014 Housing Element would not result in a cumulatively considerable contribution to a cumulative Greenhouse Gas impact from GHG emissions. (LTS)*

The geographic context considered for Greenhouse Gas Emissions is the regional air basin, and past, present, and reasonably foreseeable future development projects built under the Housing Element would contribute to the region's GHG emissions on a cumulative basis. However, as analyzed above, there is a less-than-significant impact for GHG emissions in the *Housing Element's* buildout scenarios.

At the plan-level, development under the *Housing Element* could emit 2.46 MT CO₂e per service population, which is lower than BAAQMD's project-level threshold of 4.6 MT CO₂e per service population per year (see CC-1) and BAAQMD's plan-level threshold of 6.6 MT CO₂e per service population per year (see CC-3). Future individual residential developments of 172 units or less would not exceed the BAAQMD Threshold of 1,100 MT CO₂e. Also, all future individual residential development projects under the *Housing Element* would not exceed the BAAQMD project-level Threshold of 4.6 MT CO₂e per service population. Also the *Housing Element* would be consistent with GHG-reducing plans, policies, and regulations without plan-level, or individual project-level impacts; therefore, the *Housing Element* would not result in a cumulatively considerable contribution to a cumulative Greenhouse Gas impact from GHG emissions.

Mitigation: None required.

Conclusion

No significant impacts have been identified, and no mitigation is required. The GHG emissions generated during construction and operation of development under the *2007-2014 Housing Element* would be further reduced through the Project Design Features identified above, to the extent that those features are included in individual development project, and assuming that 2008 Title 24 standards are met. In addition, development under the *2007-2014 Housing Element* would be subject to all the regulatory requirements including the City's SCA, which would also reduce GHG emissions. These include, but are not limited to, conditions to reduce demand for single-occupancy vehicle travel (SCA-25), require best management construction practices and equipment use (SCA-26), and minimize post-construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems.

The *2007-2014 Housing Element* would also be required to comply with: *LUTE* policies T2.1, T2.2, T3.5, T3.6, T4.2, N3.2, and T4.5; *OSCAR* policies OS-1.1, OS-2.1, CO-5.3, CO-12.3, CO-12.5, CO-13.2, CO-13.3, and CO-13.4; *Safety Element* policies FI-3, FL-1, and FL-2; and Municipal Code Chapter 15.34. Overall, development under the *2007-2014 Housing Element* would entail implementing reduction strategies identified in AB 32, the Governor's EO S-3-05, and other design features and strategies addressed in the *2007-2014 Housing Element* goals, and pending policies from the City's *Energy and Climate Action Plan*, to help reduce GHGs to attain AB 32 and the City's GHG reduction goals.

Furthermore, future residential development projects would result in less-than-significant GHG impacts and would not be required to undergo project-specific GHG analysis under CEQA because (a) residential development under the *Housing Element* would not exceed the BAAQMD project-level Threshold of 4.6 MT CO₂e per service population; or (b) alternatively, individual residential developments of less than 172 units would not exceed the BAAQMD project-level Threshold of 1,100 MT CO₂e (see CC-2).

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Section 4

Other CEQA Considerations

4.1 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS

Section 21100(b)(2)(A) of CEQA requires that an EIR identify any significant environmental effects that cannot be avoided if the *2007-2014 Housing Element* is adopted and implemented. Most impacts identified for the proposed project would either be less than significant or could be mitigated to less than significant. However, the proposed project would result in significant impacts that cannot be mitigated to less-than-significant levels. Significant and unavoidable impacts would include:

Transportation and Circulation

A. Roadway Segments

- #5 San Pablo Avenue (SR 123) south of Stanford Avenue in the AM peak hour in both directions and in the PM peak hour in both directions (2035)¹
- #9 West Grand Avenue west of Martin Luther King Way, westbound in the AM peak hour and eastbound in the PM peak hour (2035)
- #11 Telegraph Avenue south of 51st Street, southbound in the AM peak hour and northbound in the PM peak hour (2035)
- #18 Grand Avenue between Harrison Street and I-580, eastbound in the PM peak hour (Existing plus Project), westbound in the AM peak hour, and eastbound in the PM peak hour (2015 and 2035)
- #21 Fruitvale Avenue south of I-580, northbound in the AM peak hour, southbound in the PM peak hour (Existing plus Project), in both directions in the AM peak hour, and in both directions in the PM peak hour (2015 and 2035)
- #24 Foothill Boulevard north of Seminary Avenue, westbound in the PM peak hour (2015 and 2035)
- #25 MacArthur Boulevard west of 98th Avenue, westbound in the AM peak hour and westbound in the PM peak hour (2035)
- #26 MacArthur Boulevard east of Lincoln Avenue, westbound in the AM peak hour and eastbound in the PM peak hour (2035)
- #29 International Boulevard between 23rd Avenue and Fruitvale Avenue, eastbound in the PM peak hour (2015 and 2035)

¹ 2015 and 2035 refer to Cumulative 2015 plus Project and Cumulative 2035 plus Project conditions, respectively.

- #30 International Boulevard west of Seminary Avenue, eastbound in the PM peak hour (2015 and 2035)
- B. Previously Identified Significant/Unavoidable Impacted Intersections
 - There are 140 intersections in the City which have been identified, in previous EIRs, to have significant unavoidable impacts. The complete list of these intersections is in Section 3.2, Transportation and Circulation, in Table 3.2-4.
- C. State Highway Segments
 - #45 SR 13 north of I-580, northbound in the PM peak hour (Existing Plus Project)
 - #46 SR 24 east of I-580, eastbound in the AM peak hour and both directions in the PM peak hour (Existing Plus Project)
 - #52 I-880 north of 66th Avenue, northbound in the PM peak hour (Existing Plus Project)
- D. Residential development under the 2007-2014 *Housing Element* has the potential to introduce additional vehicle, bicycle, and pedestrian traffic to existing at-grade railroad crossings, thereby potentially contributing to safety issues along railroad corridors.

Air Quality

- A. Residential development proposed under the *Housing Element* could expose occupants at certain sites to substantial health risk from gaseous Toxic Air Contaminants (TACs) emitted locally from stationary sources.
- B. Residential development proposed under the *Housing Element* could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources.

Because of these significant unavoidable environmental effects, approval of the proposed project would require the adoption of a Statement of Overriding Considerations, indicating that the City is aware of the significant environmental consequences and believes that the benefits of approving the proposed project outweigh the impacts.

Project-Level Review

This Draft EIR is intended to reduce/eliminate the impacts associated with new residential development under the *Housing Element*. While not legally required by CEQA, the Draft EIR, in each relevant section, also addresses significant unavoidable impacts at the Project-Level; that is, impacts which might result from *specific* housing development projects, such as:

- *Transportation*: identified roadway segments impacts, previously identified impacted intersections, at-grade railroad crossings impacts, and identified State Highway impacts; and
- *Air Quality*: gaseous Toxic Air Contaminants and odor impacts.

Although certain future housing projects would be required to perform additional studies and must follow the feasible recommendations resulting from such studies, no further CEQA review would be required for above identified project-level impacts, as such impacts have already been identified as significant unavoidable. Thus, specific residential developments would not have to prepare an Environmental Impact Report and/or Mitigated Negative Declaration solely based upon such impacts/recommendations.

Further, the Draft EIR identifies project-level less-than-significant impacts which might occur at a specific housing development, but which would *not* result in a significant impact under CEQA. For example, in the Climate Change chapter, in impact CC-1 (Project-Level thresholds), the analysis states future residential development projects would result in less-than-significant GHG impacts and would not be required to undergo project-specific GHG analysis under CEQA because (a) residential development under the *Housing Element* would not exceed the BAAQMD project-level threshold of 4.6 MT CO₂e per service population; or (b) alternatively, individual residential developments of less than 172 units would not exceed the BAAQMD project-level threshold of 1,100 MT CO₂e.

4.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 21100(b)(2)(B) of CEQA requires that an EIR identify any significant effect on the environment that would be irreversible if the project were implemented. Section 15126.2(c) of the CEQA Guidelines identifies irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents.

During construction, the proposed project would involve a commitment of nonrenewable resources, including building materials and fossil fuels. It can be reasonably foreseen that post-construction commitment of nonrenewable resources would not increase significantly from current levels. Regarding construction consumption, when the consumption during the approximately seven-year construction period (from 2007 to 2014) is measured against the availability of these resources, the commitment would not be considered significant. Similarly, the commitment of resources would not be considered significant when projected resource consumption associated with the proposed project is compared to the current consumption of existing housing units within the City of Oakland.

Accidents, such as the release of hazardous materials, may trigger irreversible environmental damage. Construction of the proposed 13,501 housing units in the City of Oakland would involve use of paints, solvents, oil and grease, and petroleum hydrocarbons that are typically used during construction. Following construction completion, hazardous materials exposure from the project site would be limited to slight amounts of household hazardous materials, including paints, solvents, cleaners, metals, fuels, oils, and pesticides associated with each housing unit. In most circumstances, the potential risks posed by hazardous materials use and storage are primarily local and, therefore, limited to the immediate vicinity of such use. Moreover, the transport, use, and disposal of even household hazardous chemicals are heavily regulated. Compliance with existing federal, State, and local laws and regulations that are administered and enforced by the City would reduce risks associated with the routine use, storage, and transportation of hazardous materials in connection with construction activities to acceptable levels. After construction, the proposed project would not emit hazardous materials and/or be expected to pose an unacceptable risk of accidental release of hazardous substances. Consequently, adherence to existing federal, State, and

local regulations, the *General Plan*, the Municipal Code, and the City's SCAs would reduce potential impacts to less-than-significant levels.

The sites selected as Opportunity Sites are vacant or underutilized parcels. Some of these sites are parking lots, used car lots, or some similar use and may contain minor improvements/structures such as parking kiosks, etc. Any development under the *2007-2014 Housing Element* which includes the demolition of existing buildings containing Hazardous Building Materials such as asbestos, lead-based paint and/or PCBs could expose construction workers to harmful contaminants. Improper handling of contaminated soil and/or groundwater could result in inadvertent release into the environment, which would have an adverse impact. However, compliance with existing regulations, including, but not limited to the *General Plan*, the Municipal Code, and the City's SCAs would ensure that no significant irreversible changes from accidental releases would occur.

4.3 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines states that an EIR should discuss "...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Growth can be induced in a number of ways, including through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through precedent-setting action. CEQA requires a discussion of how a project could increase population, employment, or housing in the areas surrounding the project as well as an analysis of the infrastructure and planning changes that would be necessary to implement the project.

This section of the EIR discusses the manner in which the proposed project could affect growth in the City of Oakland, and the larger Bay Area. Population and Housing issues were scoped out of the EIR based on the conclusions made in the Initial Study for the *2007-2014 Housing Element*. The Initial Study states that the proposed project would not result in housing and population growth beyond what was projected by the Association of Bay Area Governments (ABAG). In addition, no existing housing units would be displaced, and no new employment would occur due to the proposed project.

In discussing growth inducement, it is useful to distinguish between direct and indirect growth. Direct growth occurs on a project site as a result of new facilities (buildings) being constructed, or an increase in developed space. Indirect growth occurs beyond a project site but is stimulated by the project's direct growth. Indirect growth is tied to increased direct and indirect investment and spending associated with the new direct growth. When CEQA refers to induced growth, CEQA means all growth—direct, indirect, or otherwise defined. For clarity, the discussion below distinguishes between direct growth from the construction and use of project facilities, and all secondary growth, or indirect growth.

Direct and Indirect Job Growth

The *2007-2014 Housing Element* is an amendment to the City's *General Plan*, which is required every seven years to reassess housing needs and is based on current population trends and projections of future population growth. The goal of the *2007-2014 Housing Element* is to accommodate projected population growth and resulting housing needs, based on the RHNA. Based on ABAG projections and the resulting

RHNA, 14,629 housing units would be required to accommodate population growth in the City through 2014. The *2007-2014 Housing Element* would be consistent with the RHNA. No direct employment opportunities would result from the *2007-2014 Housing Element*.

However, the Proposed Project would result in indirect growth. The direct spending associated with construction activities would stimulate production of associated products and services in the economy during the seven-year construction period. This impact would not be substantial in terms of the local or Bay Area economy, due to the size of the construction and its temporary nature.

Construction of the housing units under the *2007-2014 Housing Element* would directly, but temporarily, increase construction employment. Given the standard nature of the construction anticipated, the demand for construction employment would likely be met within the existing and future labor market in the City of Oakland, in Alameda County, or within the Bay Area. Neither a substantial quantity of specialized labor nor construction workers from outside the region would be expected to be induced to relocate temporarily or to commute long distances.

Infrastructure Capacity/Land Use Changes

The *2007-2014 Housing Element* does not call for the construction of major new roadways or utility systems in undeveloped areas that would stimulate development in those undeveloped areas. Thus, the proposed project would not induce growth by removing infrastructure barriers or by providing new infrastructure, nor would it create new transportation access to a previously inaccessible area.

Summary

In conclusion, growth and the rate of growth shape both the physical and social structure of communities. As indicated above, the *2007-2014 Housing Element* would not facilitate and contribute to direct growth in the City of Oakland. In accordance with the CEQA Guidelines, Section 15126.2, this discussion of growth inducement is not intended to characterize the *2007-2014 Housing Element* as necessarily beneficial, detrimental, or of little significance to the environment. The growth inducement section is provided for informational purposes so that the public and local decision-makers have an appreciation of the potential long-term growth implications of the proposed project.

4.4 CUMULATIVE IMPACTS

CEQA Guidelines (Section 15355) define cumulative impacts as “...two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” The combination of the *2007-2014 Housing Element* with other past, present, and reasonably foreseeable future projects in the vicinity or region impacted by the proposed project, defines the cumulative scenario. The proposed project’s potentially considerable contributions to significant cumulative impacts are addressed in Sections 3.1 through 3.4 of this EIR. These sections identify feasible mitigation measures that would reduce the proposed project’s cumulatively considerable contributions to cumulative impacts to less-than-significant levels as well as identifying those cumulative impacts which

would be significant and unavoidable even with the implementation of feasible mitigation measures. Please refer to those sections of the EIR for a discussion of cumulative impacts.

Chapter 5

Alternatives

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that the EIR compare the effects of a “reasonable range of alternatives” to the effects of the project, that is, the build out of 13,501 housing units in Oakland by the year 2014. The alternatives selected for comparison would attain most of the basic objectives of the project, and avoid or substantially lessen one of more significant effects of the project (CEQA Guidelines Section 15126.6). The “range of alternatives” is governed by the “rule of reason” which requires the EIR to set forth only those alternatives necessary to permit an informed and reasoned choice by the decision-making body and informed public participation (CEQA Guidelines Section 15126.6[f]). CEQA generally defines “feasible” to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors.

The alternatives addressed in this EIR were selected based on the following factors:

1. The extent to which the alternative would accomplish most of the basic objectives of the project;
2. The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project;
3. The feasibility of the alternative, taking into account site suitability, availability of infrastructure, property control (ownership), and consistency with applicable plans and regulatory limitations;
4. The extent to which an alternative contributes to a “reasonable range” of alternatives necessary to permit a reasoned choice, including the consideration of several alternatives that were rejected as infeasible; and
5. The requirement of the CEQA Guidelines to consider a no project alternative and to identify an environmentally superior alternative in addition to the no project alternative (CEQA Guidelines, Section 15126.6(e)).

Alternatives to the proposed *2007-2014 Housing Element* that are analyzed in this EIR include: the No-Project Alternative: No Further Build; Alternative 1: Transit-Oriented Growth; and Alternative 2: Reduced Air Quality Impacts. Where the No-Project Alternative is identified as the Environmentally Superior Alternative, as here, CEQA also requires identification of the Environmentally Superior Development Alternative, which is Alternative 2: Reduced Air Quality Impacts.

The City also considered several alternatives that were rejected as infeasible. The alternatives considered were: locating the required housing units in the Regional Housing Needs Allocation (RHNA) to sites outside Oakland; reducing the number of RHNA housing units that would be built in the planning period; excluding new housing units from areas with high concentrations of particulate matter (PM), such as freeways, highways and roadways; excluding new units from an area at some distance from odor-causing sources; and building new housing units at a distance from railroad crossings.

5.2 CRITERIA FOR SELECTING ALTERNATIVES

During preparation of the *2007-2014 Housing Element* (proposed project), the City evaluated several project alternatives. The alternatives ranged from No-Project to housing-free zones. Several of the alternatives discussed in this section are based on that preliminary analysis. The basic objectives project and identified significant environmental effects of the proposed project are discussed below.

5.2.1 Basic Project Objectives

The *Housing Element's* goals and objectives are outlined in Section 2.4 of the EIR, and summarized below. As stated above, the EIR alternatives seek to attain the basic project objectives, while avoiding or reducing its significant impacts:

- *Goal 1:* Provide adequate sites suitable for housing for all income groups.
- *Goal 2:* Promote the development of adequate housing for low- and moderate-income households.
- *Goal 3:* Remove constraints to the availability and affordability of housing for all income groups.
- *Goal 4:* Conserve and improve older housing and neighborhoods.
- *Goal 5:* Preserve affordable rental housing.
- *Goal 6:* Promote equal housing opportunity.
- *Goal 7:* Promote sustainable development and sustainable communities.
- *Goal 8:* Increase public access to information through technology.

5.2.1 Significant Project Impacts

The Initial Study for this EIR found that the *2007-2014 Housing Element* would have a less-than-significant impact on the following topics: Aesthetics, Agriculture, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems. As such, these topics were not discussed in the EIR and are not discussed further in this section. This EIR found that the following impacts would either be less than significant with mitigation or less than significant without mitigation: transit demand; non-motorized travel demand; parking; construction emissions; criteria air pollutants; localized CO concentrations; health risks related to diesel particulate matter; construction noise and vibration; existing noise and vibration sources; operation noise; proposed project stationary source noise; air craft noise; and climate change. The *2007-2014 Housing Element* would also have significant and unavoidable impacts, and the alternatives outlined in this section have been developed to reduce these significant and unavoidable impacts.

To determine alternatives that would avoid or lessen any of the identified significant environmental effects of the project, the significant impacts of the project must be considered. Impacts that are not mitigated to less-than-significant levels are considered “significant and unavoidable” (SU). The

significant and unavoidable impacts identified for the proposed project are listed below, as well as an indication of in which analysis scenario that impacts occurs (e.g. Existing plus Project, 2015, and/or 2035).¹

Significant and Unavoidable Transportation and Circulation Impacts

City Roadway Segment Level of Service

- #5 San Pablo Avenue (SR 123) south of Stanford Avenue in the AM peak hour in both directions and in the PM peak hour in both directions (2035)
- #9 West Grand Avenue west of Martin Luther King Way, westbound in the AM peak hour and eastbound in the PM peak hour (2035)
- #11 Telegraph Avenue south of 51st Street, southbound in the AM peak hour and northbound in the PM peak hour (2035)
- #18 Grand Avenue between Harrison Street and I-580, eastbound in the PM peak hour (Existing plus Project), westbound in the AM peak hour, and eastbound in the PM peak hour (2015 and 2035)
- #21 Fruitvale Avenue south of I-580, northbound in the AM peak hour, southbound in the PM peak hour (Existing plus Project), in both directions in the AM peak hour, and in both directions in the PM peak hour (2015 and 2035)
- #24 Foothill Boulevard north of Seminary Avenue, westbound in the PM peak hour (2015 and 2035)
- #25 MacArthur Boulevard west of 98th Avenue, westbound in the AM peak hour and westbound in the PM peak hour (2035)
- #26 MacArthur Boulevard east of Lincoln Avenue, westbound in the AM peak hour and eastbound in the PM peak hour (2035)
- #29 International Boulevard between 23rd Avenue and Fruitvale Avenue, eastbound in the PM peak hour (2015 and 2035)
- #30 International Boulevard west of Seminary Avenue, eastbound in the PM peak hour (2015 and 2035)

Previously Identified Significant Unavoidable Intersections

The EIR also identified 140 roadway segments which already have significant and unavoidable traffic impacts, today, without the project. For the purposes of this *Housing Element EIR*, the City also considers the segments in Table 5-1 to be significant and unavoidable impacts.

¹ 2015 and 2035 refer to Cumulative 2015 plus Project and Cumulative 2035 plus Project conditions, respectively.

Table 5-1
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Current			Horizon		
					Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
7th/8th St	&	5th Ave	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	F
7th St/12th St (SB)	&	14th Ave	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	F
16th Street	&	23rd Ave	Oak to Ninth Avenue DEIR	C	2004	B	C	2025	B	E
27th Street	&	Northgate/I-980 on-ramp	Alta Bates Summit Hospital DEIR	D	2009	C	C	2035	E	F
Adeline St	&	5th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
Atlantic Ave	&	Webster St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	E	F
Broadway	&	3rd St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	F
Broadway	&	5th St	Oak to Ninth Avenue DEIR	C	2004	C	F	2025	E	F
Broadway	&	5th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	E	F
Broadway	&	7th St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	E
Broadway	&	12th St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	E
Broadway	&	23rd St	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	C	E
Broadway	&	38th St (south)	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	E	2025	A	A
Broadway	&	51st St / Pleasant Valley Ave	5175 Broadway Project Env. Review Checklist	C	2007	D	E	2025	F	F
Broadway	&	Coronado Ave	5175 Broadway Project Env. Review Checklist	C	2007	E	F	2025	F	F
Broadway	&	Hawthorne Ave/Brook St	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	C	2025	C	E
Broadway	&	MacArthur Blvd	Alta Bates Summit Hospital DEIR	D	2009	C	C	2035	E	D
Broadway	&	MacArthur Blvd	MacArthur BART Transit Village EIR	C	2006	D	D	2030	F	F
Broadway	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	D	D	2025	D	E
Bush St	&	11th St / I-980 WB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	E	B
Castro St	&	17th St	Uptown Mixed Use Project EIR	C	2003	C	C	2025	C	E
Castro St	&	17th St / I-980 EB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	E	D
East 7th St	&	23rd Ave	Gateway Community Development Project	D	2004	B	B	2025	F	B
East 7th St	&	Kennedy St	Gateway Community Development Project	D	2004	A	C	2025	B	F
East 8th St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	B	C	2025	C	E
East 9th St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	D	E	2025	F	F

Table 5-1
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Current			Horizon		
					Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
East 9th St	&	I-880 NB Off-ramp	Gateway Community Development Project	D	2004	F	F	2025	F	F
East 12th St	&	22nd Ave	Gateway Community Development Project	D	2004	B	D	2025	C	F
East 12th St	&	23rd Ave	Gateway Community Development Project	D	2004	C	B	2025	E	D
East 12th St	&	25th Ave	Gateway Community Development Project	D	2004	F	F	2025	F	F
East 12th St	&	26th Ave	Gateway Community Development Project	D	2004	D	B	2025	F	C
East 12th St	&	29th Ave	Gateway Community Development Project	D	2004	B	B	2025	D	E
East 12th St	&	30th Ave	Gateway Community Development Project	D	2004	C	B	2025	F	C
East 12th St	&	Derby Ave	Gateway Community Development Project	D	2004	C	C	2025	F	F
East 12th St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	C	C	2025	F	F
Embarcadero	&	5th Ave	Oak to Ninth Avenue DEIR	C	2004	F	F	2025	D	F
Embarcadero	&	Broadway	Oak to Ninth Avenue DEIR	C	2004	A	A	2025	B	F
Embarcadero	&	I-880 NB Off-ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	F
Embarcadero	&	I-880 SB On-ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	E
Embarcadero	&	Webster St	Jack London Square Redevelopment DEIR	C	2003	A	B	2025	E	F
Foothill Blvd	&	14th Ave (EB)	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	F
Foothill Blvd	&	14th Ave (WB)	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	E	C
Foothill Blvd	&	Fruitvale Ave	Gateway Community Development Project	D	2004	E	E	2025	F	F
Franklin St	&	2nd St	Jack London Square Redevelopment DEIR	C	2003	F	B	2025	F	B
Franklin St	&	3rd St	Jack London Square Redevelopment DEIR	C	2003	F	B	2025	F	D
Franklin St	&	17th St	Uptown Mixed Use Project EIR	C	2003	B	B	2025	E	D
Frontage Road	&	West Grand Ave	Uptown Mixed Use Project EIR	C	2003	C	E	2025	F	F
Fruitvale Ave	&	East 9th St	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	D	E	2035	F	F
Fruitvale Ave	&	International Blvd	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	B	B	2035	F	F
Fruitvale Ave	&	San Leandro St	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	C	C	2035	F	F
Golf Links	&	I-580 On/Off-Ramp	Oak Knoll ADSEIR	D	2009	E	E			
Grand Ave	&	El Embarcadero	Kaiser Center Redevelopment Project DEIR	D	2008	C	F	2030	C	F
Grand Ave	&	MacArthur	Kaiser Center	D	2008	D	E	2030	E	F

Table 5-1
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Current			Horizon		
					Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
		Blvd (EB)/I-580 EB Off-ramp	Redevelopment Project DEIR							
Harrison St	&	7th St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	C	E
Harrison St	&	20th St/Kaiser Center Access Road	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	E	F
Harrison St	&	21st St	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	F
Harrison St	&	27th St/24th St	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	F	F
Harrison St (stop controlled)	&	29th Street	Alta Bates Summit Hospital DEIR	D	2009	A (E)	A (E)	2035	F (F)	C (F)
Harrison St	&	Grand Ave	Uptown Mixed Use Project EIR	C	2008	C	D	2030	F	F
Harrison St	&	Lakeside Drive	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	C	E
Harrison St	&	MacArthur Blvd (WB) / Santa Clara Ave	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
Harrison St	&	Stanley Pl/I-580 EB Off-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
I-880 Northbound Ramp	&	7th St	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	C	E
International Blvd	&	29th Ave	Gateway Community Development Project	D	2004	B	C	2025	C	F
International Blvd	&	34th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	A	A	2035	E	C
International Blvd	&	38th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	B	A	2035	F	D
International Blvd	&	42nd Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	D	D	2035	F	F
International Blvd	&	98th Ave	Arcadia Park DEIR	C	2004; 2005	C	D	2025	D	F
International Blvd	&	High St	Gateway Community Development Project	D	2004	C	D	2025	D	E
Jackson St	&	5th St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	B
Jackson St	&	6th St	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	F	F
Jackson St	&	6th St / I-880 NB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	F	F	2030	F	F
Kaiser Center Access Road	&	21st St	Kaiser Center Redevelopment Project DEIR	D	2008	B	B	2030	B	E
Lakeshore Ave	&	Foothill Blvd	Oak to Ninth Avenue	C	2004	C	B	2025	E	B

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Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Current			Horizon		
					Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Lakeshore Ave	&	Lake Park Ave	Oak to Ninth Avenue DEIR	C	2004	D	D	2025	D	E
Lakeshore Ave	&	MacArthur Blvd	Oak to Ninth Avenue DEIR	C	2004	C	E	2025	C	F
Lakeshore Ave	&	MacArthur Blvd (EB)/I-580 EB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	F	F
Mandela Pkwy	&	7th St	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	E	F
Manila Ave	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	C	2025	E	D
Maritime St	&	7th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
Market St	&	3rd St	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	E	F
Market St	&	5th St	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	E	F
Market St	&	7th St	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	F	F
Market St	&	40th St	MacArthur BART Transit Village EIR	C	2006	B	C	2030	E	D
Market St	&	MacArthur Blvd	MacArthur BART Transit Village EIR	C	2006	B	C	2030	F	F
Market St	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	B	C	2025	B	E
Martin Luther King Jr. Way	&	5th St	Jack London Square Redevelopment DEIR	C	2003			2025	E	F
Mountain Blvd	&	Keller Ave	Siena Hill DEIR	C	2000; 2001	C	B	2020	D	E
Northgate Ave	&	West Grand Ave	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	C	C
Oak St	&	5th St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	F
Oak St	&	5th St / I-880 SB On-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	E	F	2030	F	F
Oak St	&	7th St	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	F
Oak St	&	14th St	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	D	F
Oakland Ave	&	MacArthur Blvd (WB) / Santa Clara Ave / I-580 WB Off-ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
Oakland Ave	&	Monte Vista Ave	Kaiser Center Redevelopment Project DEIR	D	2007	B	B	2030	D	F
Oakland Ave	&	Perry Pl/I-580 EB Ramps	Kaiser Center Redevelopment Project DEIR	D	2008	B	F	2030	F	F

Table 5-1
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Current			Horizon		
					Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Oakland Avenue	&	Perry/ I-580 off-ramp	Alta Bates Summit Hospital DEIR	D	2009	B	D	2035	F	F
Piedmont Ave	&	Pleasant Valley Ave	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	B	D	2025	C	F
Piedmont Avenue	&	MacArthur Blvd	Alta Bates Summit Hospital DEIR	D	2009	C	C	2035	E	D
Powell St	&	Christie St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	C	F
Powell St	&	Hollis St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	C	F
Powell St	&	I-80 Northbound Ramps	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	C	F
San Leandro St	&	35th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	A	B	2035	F	F
San Leandro St	&	37th Ave	Fruitvale Transit Village II Transportation Impact Analysis	D	2009	A	B	2035	F	F
San Leandro St	&	85th Ave	Arcadia Park DEIR	C	2004; 2005	B	B	2025	B	E
San Leandro St	&	98th Ave	Arcadia Park DEIR	C	2004; 2005	D	D	2025	D	F
San Leandro St	&	Fruitvale Ave	Gateway Community Development Project	D	2004	C	C	2025	F	F
San Pablo Ave	&	27th St	Uptown Mixed Use Project EIR	C	2003	A	B	2025	B	E
San Pablo Ave	&	40th St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	C	F
San Pablo Ave	&	Thomas L. Berkley Way	Uptown Mixed Use Project EIR	C	2003	B	B	2025	C	F
San Pablo Ave	&	West Grand Ave	Uptown Mixed Use Project EIR	C	2003	B	B	2025	C	F
Shafter Ave	&	West MacArthur Blvd	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004; 2005	C	C	2025	E	D
Shattuck Ave	&	52nd St	MacArthur BART Transit Village EIR	C	2006	D	D	2030	F	D
Stanford Ave	&	San Pablo Ave	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	C	E
Telegraph Ave	&	19th St	Uptown Mixed Use Project EIR	C	2003	B	B	2025	F	E
Telegraph Ave	&	23rd St	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	D	F
Telegraph Ave	&	24th St	Broadway & West Grand Avenue DEIR	C	2004	B	C	2025	B	F
Telegraph Ave	&	27th St	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	C	F
Telegraph Avenue	&	27th St	Alta Bates Summit Hospital DEIR	D	2009	C	C	2035	F	F
Telegraph Ave	&	38th St	MacArthur BART Transit Village EIR	C	2006	B	C	2030	D	F
Telegraph Ave	&	40th St	MacArthur BART Transit Village EIR	C	2006	C	C	2030	F	F
Telegraph Ave	&	51st St	MacArthur BART Transit Village EIR	C	2006	D	D	2030	F	F

Table 5-1
Summary Table of Impacted Intersections – Previously Identified as Significant and Unavoidable^a

Intersection			EIR/ Project Document Name	Status of Document ^{b,c}	Current			Horizon		
					Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Telegraph Ave	&	52nd St / Claremont Ave	MacArthur BART Transit Village EIR	C	2006	B	B	2030	F	E
Telegraph Avenue	&	Grand Avenue	Alta Bates Summit Hospital DEIR	D	2009	C	C	2035	E	F
Telegraph Ave	&	MacArthur Blvd	MacArthur BART Transit Village EIR	C	2006	B	B	2030	E	F
Telegraph Avenue	&	MacArthur Blvd	Alta Bates Summit Hospital DEIR	D	2009	C	B	2035	E	F
Telegraph Ave	&	Thomas L. Berkley Way	Uptown Mixed Use Project EIR	C	2003	B	B	2025	F	F
Telegraph Ave	&	West Grand Ave	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	D	E
Telegraph Ave	&	West Grand Ave	Uptown Mixed Use Project EIR	C	2003	C	C	2025	E	E
Telegraph Ave	&	William St	Uptown Mixed Use Project EIR	C	2003	A	A	2025	E	F
Webster St	&	8th St	Oak to Ninth Avenue DEIR	C	2004	C	E	2025	D	E
West Grand Ave	&	Broadway	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	C	E
West Grand Ave	&	Brush Street (stop controlled)	Alta Bates Summit Hospital DEIR	D	2009	E (F)	F (F)	2035	F (F)	F (F)
West Grand Ave	&	Harrison St	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	F	D
West Grand Ave	&	I-880 Frontage Road	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
West Grand Ave	&	Mandela Pkwy	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	E	F
West Grand Ave	&	Maritime St	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
West Grand Ave	&	Market St	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	E
West Grand Ave	&	San Pablo Street	Alta Bates Summit Hospital DEIR	D	2009	B	B	2035	C	F
West St	&	40th St	MacArthur BART Transit Village EIR	C	2006	B	B	2030	B	E

Source: City of Oakland Transportation Services Division, 2010.

Notes:

- All intersection sin this Table in **bold** were identified as having unacceptable LOS (significant and unavoidable impacts), in current or future scenarios in previous environmental documents.
- C/D/F indicates the status of the environmental document as being Certified/Draft/Final.
- Projects that have not yet been certified are: Gateway (2007), BRT (2007), Oak Knoll, Kaiser Center (2009), and Fruitvale Transit Village II (2009).

Increased Traffic on State Highways

- #45 SR 13 north of I-580, northbound in the PM peak hour (Existing Plus Project)
- #46 SR 24 east of I-580, eastbound in the AM peak hour and both directions in the PM peak hour (Existing Plus Project)

- #52 I-880 north of 66th Avenue, northbound in the PM peak hour (Existing Plus Project)

Potential for Increased Collision Risk Traveling Across At-Grade Railroad Crossings

Residential development under the 2007-2014 *Housing Element* has the potential to introduce additional vehicle, bicycle, and pedestrian traffic to existing at-grade railroad crossings, thereby potentially contributing to safety issues along railroad corridors.

Significant Unavoidable Air Quality Impacts

AQ-2b. Residential development proposed under the Housing Element could expose occupants at certain sites to substantial health risk from gaseous Toxic Air Contaminants emitted locally from stationary sources. Also, there is a significant and unavoidable impact at the project-level for gaseous TACs [Impact AQ. 4b].

AQ-3. Residential development proposed under the Housing Element could expose occupants to substantial/frequent odor nuisance resulting from odors emitted by strong local sources. Also, there is a significant and unavoidable impact at the project-level for odors [Impact AQ. 5].

5.3 DESCRIPTION, COMPARISON AND ANALYSIS OF CEQA ALTERNATIVES

Throughout this section a description of each alternative is followed by a discussion of impacts and how those impacts compare to those of the project and the City's Thresholds.

As permitted by CEQA, the effects of the alternatives are discussed in less detail than the impact discussions of the project (CEQA Guidelines Section 15126.6[d]). However, the alternatives analysis is conducted at a sufficient level of detail to provide the public, other public agencies, and City decision-makers adequate information to fully evaluate the alternatives and for the City to approve any of the alternatives without further environmental review.

The impacts associated with the project and each alternative are discussed if they are different from the project. Impacts are stated as levels of significance after implementation of mitigations measures and/or standard conditions, as identified in Section 3. The impacts of each alternative are described as compared to those identified for the proposed project in terms of whether it: 1) avoids the project impact; 2) is the same as the project impact; 3) is similar but substantially greater than the project impact; or 4) is similar but substantially less than the project impact. The alternatives analysis is limited to only those impacts discussed in this EIR, which have not already been screened out from further review through the Initial Study process. These include transportation and circulation, air quality, noise, and climate change.

CEQA Alternatives

Considering selection criteria identified in Section 5.2, above, the following reasonable range of CEQA alternatives are discussed and analyzed in Section 5.3 below:

1. No-Project Alternative (No Further Build)

2. Transit-Oriented Growth
3. Reduced Air Quality Impacts

5.3.1 No-Project Alternative: No Further Build

Pursuant to CEQA Guidelines Section 15126.6(e)(1), one of the alternatives analyzed must be the No-Project alternative. The No-Project analysis must discuss existing conditions in the project area, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved and development continued to occur in accordance with existing plans and consistent with available infrastructure and community services (CEQA Guidelines Section 15126.6[e][2]). According to the CEQA Guidelines:

“When the project is the revision of an existing land use or regulatory plan. . . the ‘no-project’ alternative will be the continuation of the existing plan. . . into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed.” (CEQA Guidelines Section 15126.6[e][3][A])

Here, the ‘existing plan’ could either be the previous *Housing Element* (1999-2006), or the *Land Use and Transportation Element* (LUTE) of the *General Plan* (1998). The previous *Housing Element* addressed the housing needs of all residents, in all income levels for the previous planning period (1999-2006), but did not result in actual construction of housing. Similarly, the *Housing Element* for the 2007-2014 planning period addresses housing needs and identifies opportunities to improve and expand the City’s housing stock, it would not, however, result in actual new construction or revitalization of housing units in the City. The construction of new housing is largely driven by economic factors, not the implementation of a *Housing Element*; therefore, there is no direct comparison that can be made between development under the previous (1999-2006) *Housing Element* and the 2007-2014 *Housing Element*. Therefore, the ‘No-Project’ alternative is not based on a comparison of the 2007-2014 *Housing Element* and the 1999-2006 *Housing Element*.

The LUTE includes the *General Plan* land use designations for the Housing Sites analyzed in this EIR. Development on the Housing Sites would be consistent with the land use designations identified in the LUTE. The *Housing Element* has also been found to be generally consistent with the goals and policies in the LUTE. Further, the potential build-out under the *Housing Element* (13,501 units by 2014) is comparable to the projected residential development identified in the LUTE (12,000 units by 2015). Since development of housing is largely driven by economic factors, and the 2007-2014 *Housing Element* is consistent with the LUTE, and would not increase development potential via changes to policies or land use designations, it is likely that development of residential units under the *Housing Element* would not vary from development under the LUTE if the 2007-2014 *Housing Element* was not adopted. Therefore, the ‘No-Project’ alternative is not based on a comparison of development under the 2007-2014 *Housing Element* to development under the LUTE.

Rather, pursuant to CEQA Guidelines Section 15126.6(e)(1) and 15125, the ‘No-Project’ alternative is a ‘No Further Build’ alternative where no additional residential units would be built in the City. Consistent with CEQA Guidelines Section 15126.6(e)(3), all other projects under the existing plan (here the LUTE)

would move forward, but residential units would not. Thus this ‘No-Project’ alternative is identical to the existing environmental setting analysis, which establishes the environmental baseline. Therefore, the No-Project alternative analysis captures the significance of the impacts of implementation of the *2007-2014 Housing Element*.

Description

The No Further Build Alternative assumes buildout of no more than 1,128 units under the *2007-2014 Housing Element*. As of June 2008, 1,128 housing units have been developed throughout the City, which satisfies approximately eight percent of the RHNA. However, this alternative would not result in additional housing units between 2007 to 2014 beyond the 1,128 units that have already been constructed in the City. As with the proposed project, the 1,128 units constructed under No-Project Alternative include:

- 115 units of market rate and affordable housing, with a building permit that has been “finalized” by the City’s Building Services division; and
- 1,013 units of market rate or affordable housing that is under construction (with a building permit issued by the City’s Building Services division).

Impacts

Compared to Significant and Unavoidable Impacts Identified for the Proposed Project

Transportation

Alternative 5.3.1—No-Project, would avoid the significant unavoidable intersection impacts, the potential collision risk at railroad crossings, and impacts on State Highways. Under this alternative, no further housing would be built, so the impacts to roadway segments in the three scenarios studied (Existing, year 2015, and year 2035) would not increase beyond the existing conditions of the segments, which currently operate at an acceptable LOS.

With the addition of project traffic, two roadway segments (#18 and #21) drop to an unacceptable LOS, so the No-Project Alternative avoids impacts to segments #18 and #21. In the 2015 Baseline scenario, three roadway segments (#18, #21, and #24) would operate at an unacceptable LOS *without* the addition of project-generated traffic. With the addition of project traffic, two additional roadway segments (#29 and #30) drop to an unacceptable LOS. Thus, the No-Project Alternative avoids impacts to segments #29 and #30.

In the 2035 Baseline scenario, 11 roadway segments (#5, #9, #18, #21, #23, #24, #25, #26, #29, #30, and #41) would operate at an unacceptable LOS *without* the addition of project-generated traffic. Project-generated traffic would increase V/C by more than three percent on segments #5, #9, #18, #21, #24, #25, #26, #29, and #30, a significant impact. With the addition of project traffic, one additional roadway segment (#11) would drop to an unacceptable LOS, thus the No-Project Alternative avoids impacts to segment #11. The No-Project Alternative avoids impacts to all the identified roadway segments, because

no new housing would be built; consequently, there would not be new traffic flows from new housing to these segments, and LOS and V/C ratio would not increase beyond regular traffic at these intersections.

The future trend is toward more roadway segments operating at an unacceptable LOS. In some cases, project-generated traffic would reduce LOS from an acceptable to an unacceptable level or increase the V/C ratio by more than three percent on roadway segments already operating at an unacceptable LOS. Since physical improvements along these roadway segments are constrained by development on contiguous properties and/or would be in conflict with the City's policies promoting transit, including AC Transit service and bicycle facilities, it is possible that there is no mitigation that is readily available, and impacts would be significant and unavoidable with or without the project.

The No-Project Alternative would have fewer roadway segment impacts than the proposed project because less housing would be built under this alternative; however, some roadway segments could continue to operate at unacceptable levels.

Because Alternative 5.3.1, the No-Project Alternative, assumes no new construction of housing, the potential risk of conflicts from traffic queuing at railroad crossings would not occur at a greater rate than that risk occurs today. Also, this alternative would not further impact the traffic volumes on State (Caltrans) highways within and outside the City of Oakland, beyond their current traffic flows.

Air Quality

Alternative 5.3.1—No-Project would reduce exposure of sensitive receptors (future residents of the housing units) to gaseous Toxic Air Contaminant and sources of Odors. Air Quality impacts would be reduced under the No-Project Alternative, since no sensitive receptors would be located near the generators of these sources.

Compared to Less-than-Significant Impacts Identified for the Proposed Project

Transportation and Circulation

Alternative 5.3.1—No-Project, would avoid Transportation and Circulation impacts, as compared to the proposed project. No new development would occur under this alternative, so future traffic impacts could not “fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes, pedestrian safety);” similarly, without new construction, there would not be a “[substantial] increase [in] traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature.” Under this alternative, there would be no construction of new residential units; there would be no construction-related traffic to conflict with usual traffic flows. Changes to air traffic patterns are not anticipated under the proposed project, or in the No-Project alternative. Impacts to emergency access routes would be the same, since development proposals would follow Standard Conditions of Approval (SCA), policies and practices, and be reviewed by the Fire Chief on a project-by-project basis.

Air Quality

Alternative 5.3.1—No-Project, would avoid Air Quality impacts, as no new housing would be built. Without new housing, there would not be an increase in either the rate of population growth anticipated in the BAAQMD Air Quality Plan (AQP), or in the rate of increase in vehicle miles traveled or vehicle trips associated with new housing construction. Without new housing units, there would not be occupants exposed to substantial health risks from diesel particulate matter (DPM) from mobile and stationary sources at certain sites. Likewise, on a project-level basis, there would not be air quality impacts from DPM. No new traffic would be generated by new residents under this alternative, so traffic volumes at intersections in the plan area would not increase emissions of carbon monoxide.

Noise

Alternative 5.3.1, the No-Project Alternative would avoid Noise impacts, as compared to the proposed project, because there would be no new construction. Without new construction, there would not be construction-related noise or groundborne vibration from construction equipment. Likewise, under this alternative, there would not be new residents (or “sensitive receptors”), so there would not be noise impacts from locating “sensitive receptors” in new housing located near railroad lines, freeways, or other high-traffic roadways, or from increased traffic around the new housing. Without new construction, there would not be new mechanical equipment installed to service the new housing; therefore, there would not be any noise impact from that equipment. In the absence of new residential units, there would be no noise impact from commercial aircraft using the Oakland International Airport. Finally, under this alternative, there would be no individual or cumulative noise impact, because no new residential construction would occur.

Climate Change

Alternative 5.3.1—No-Project would avoid impacts from Greenhouse Gas (GHG) emissions. Under this alternative, fewer housing units would be constructed; therefore, construction-related GHG emissions would be reduced. The GHG emissions associated with the occupation of residential units, including water use and wastewater generation, energy consumption (including and electricity and natural gas), and solid waste generation would be reduced, since GHG emissions factors are calculated on a per unit basis, and fewer units would be constructed.

Approximately half of the GHG emissions calculated for the proposed project were associated with vehicular emissions. Since fewer housing units would result in reduced trip generation GHG emissions would also be reduced.

The No-Project Alternative would have fewer impacts with respect to Climate Change within Oakland compared to the proposed project, and impacts would be less than significant. However, housing units would likely be accommodated in other cities in the Bay Area that may have reduced access to transit. As a result, housing units accommodated outside the City of Oakland may have higher vehicle-related GHG emissions due to increased trip generation and trip length. Therefore, regional GHG emissions could increase.

5.3.2 Transit-Oriented Growth Alternative

Description

Alternative 5.3.2—Transit-Oriented Growth, would result in the development of a total of 14,629 housing units to fulfill 100 percent of the RHNA. As with the proposed project, Alternative 1 would include: 1,128 units that have been built as of June 2008; 5,005 units already entitled to be built between 2007-2014; 7,070 units that were planned as of June 2008 (either with a formal zoning pre-application on file with the City's Planning and Zoning Division, or, in the case of affordable housing units, with preliminary funding commitments or site acquisition assistance from the City); and 1,426 units to be accommodated at Opportunity Sites throughout the City by 2014.

As shown in Figure 5-1, there are 10 study roadway segments that would operate at an unacceptable LOS, or have a V/C ratio increase of more than 0.03 with trips contributed by the proposed project. Figure 5-1 also highlights the Housing Sites which, if developed, would likely contribute trips to impacted roadway segments. The Housing Sites which are within a mile of the impacted roadway segments are shown in the tan colored buffer, and development on these sites would generate the most traffic directly onto the deficient segments. In some cases, Housing Sites within this one mile buffer would contribute traffic to more than one impacted segment.

Although Figure 5-1 does not show the individual development potential for each site, projects with more housing units would have greater traffic impacts than smaller projects. However, residential projects that are larger than 50 units would be subject to SCA-25 which requires the incorporation of parking and transportation demand management (TDM) measures. Given that 186 Opportunity Sites have been identified for the 1,426 remaining units, the Opportunity Sites that have been shown to contribute to deficient roadway segments should not be developed, per this Transit-Oriented Growth Alternative.

Alternative 5.3.2—Transit-Oriented Growth would limit development of residential units on Housing Sites within one mile of the following roadway segments, which have significant and unavoidable traffic impacts, unless the site is within one-quarter mile of a BART station (as indicated in boldface type):

- Roadway Segment #5: San Pablo Avenue (SR 123) south of Stanford Avenue
- Roadway Segment #9: W. Grand Avenue west of Martin Luther King Way
- Roadway Segment #11: Telegraph Avenue south of 51st Street
- Roadway Segment #18: Grand Avenue between Harrison Street & I-580
- Roadway Segment #21: Fruitvale Avenue south of I-580
- Roadway Segment #24: Foothill Boulevard north of Seminary Avenue
- Roadway Segment #25: MacArthur Boulevard west of 98th Avenue
- Roadway Segment #26: MacArthur Boulevard east of Lincoln Avenue
- Roadway Segment #29: International Boulevard between 23rd Avenue & Fruitvale Avenue
- Roadway Segment #30: International Boulevard west of Seminary Avenue

Development *would* be encouraged on sites within one mile of roadway segment #9 that are also within one-quarter mile of the 12th Street or 19th Street BART stations. Given the higher cost of parking within the downtown area, the availability of transit, and the short walking distance to two BART stations, vehicle ownership and use would likely be discouraged in this area. Also, development would be allowed on sites within one mile of roadway segment #29 that are within one-quarter mile of the Fruitvale BART station. Development would be allowed on sites within one mile of roadway Segments #21, #29, and #30 if the sites are within one-quarter mile of the Fruitvale Station.

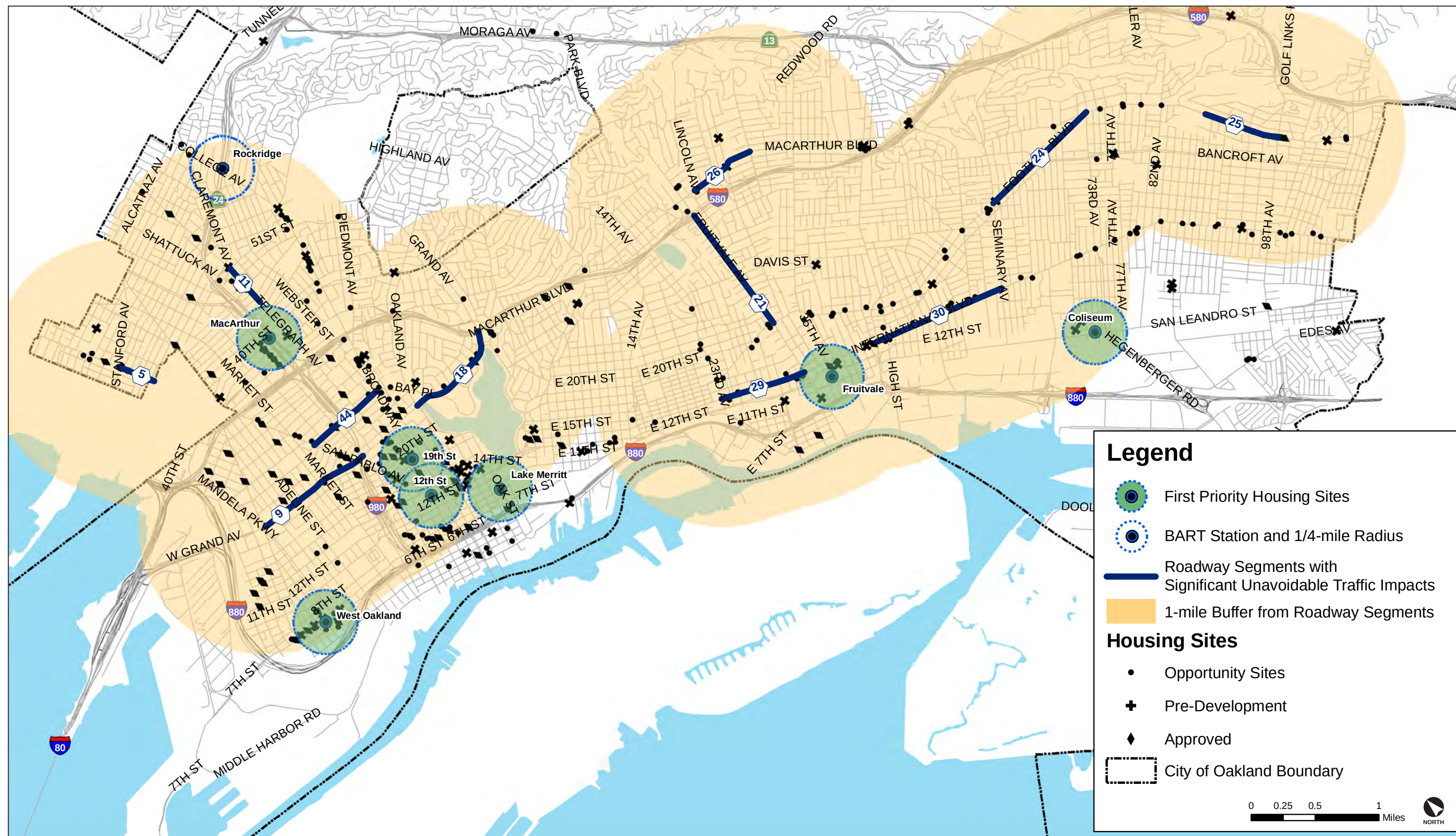


FIGURE 5-1
Alternative 1: Transit-Oriented Growth

Source: City of Oakland, 2010; PBS&J, 2010.

Under the Transit-Oriented Growth Alternative, first priority should be given to Housing Sites that are within one-quarter mile from the following BART stations:²

- 12th Street Station
- 19th Street Station
- MacArthur Station (Telegraph and 40th Street)
- West Oakland Station (7th Street near Mandela Parkway)
- Lake Merritt Station (8th Street and Madison)
- Fruitvale Station (35th Avenue and San Leandro Street)
- Coliseum Station (Hegenberger and San Leandro Street)

All of these BART stations function as transit hubs, with increased opportunities for use of alternative modes of transportation, including bicycling, walking, and/or taking AC Transit. Also, 12th Street and 19th Street stations are downtown, in a mixed-use area with access to shopping and employment opportunities, which discourages vehicle use. The Fruitvale, West Oakland, Lake Merritt, MacArthur, and Coliseum BART Stations are at the center of existing or proposed ‘Transit-Oriented Developments’ which also provide shopping and employment opportunities and encourage alternative modes of transportation.

Second priority should be given to development of Housing Sites that are outside the quarter-mile radius from the selected BART stations, but are not expected to contribute to deficiencies on identified roadway segments, as shown in Figure 5-1.

As shown in Figure 5-1, there are about 45 Housing Sites within first priority areas (0.25 miles from a BART station), and about 25 Housing Sites in second priority areas (those that are further than a mile from impacted intersections). Therefore, development would be encouraged on approximately 70 Housing Sites and discouraged on the other sites. Development under this alternative could cause certain roadway segments to fail their level-of-service thresholds, because new housing built within a mile of already congested roadway segments may conservatively add more traffic to those roadways, and possibly increase the impacts beyond the City’s thresholds for level of service and volume to capacity ratio.

Impacts

Compared to Significant and Unavoidable Impacts Identified for the Proposed Project

Transportation and Circulation

Alternative 5.3.2--Transit-Oriented Growth would reduce traffic impacts to roadway segments in the three scenarios studied: Existing, 2015, and 2035. As discussed under the ‘No-Project Alternative,’

² No Housing sites are proposed within 0.25 miles of the Rockridge BART station; therefore it has not been included on this list.

above, project-generated traffic would result in LOS on roadway segments #18 and #21 in the existing condition, #29 and #30 in 2015, and #11 in 2035 to drop from an acceptable to an unacceptable level of service. In 2035, the number of project-generated traffic would also increase the V/C ratio by more than three percent on roadway segments that would operate at an unacceptable LOS.

The Transit-Oriented Growth Alternative would not improve 2015 or 2035 Baseline conditions which were forecasted without the addition of project-generated trips. This alternative would generally reduce project-generated trips along impacted roadway segments by encouraging use of transit instead of private motor vehicle. The quantification of trip generation and potential trip reduction would be averaged on a project-by-project basis. Therefore, it is conservatively concluded, although this alternative would result in some reduction in vehicle trips, that impacts would remain significant and unavoidable.

The Transit-Oriented Growth Alternative would increase demand for bicycle and pedestrian facilities since new housing construction would be located near BART stations, and it is likely that more pedestrian and bicycle trips would be made by the new residents.

Development under this alternative could cause certain roadway segments to fail their level-of-service thresholds, because new housing built within a mile of already congested roadway segments (as identified in Figure 5-1) may conservatively add more traffic to those roadways, and possibly increase the impacts beyond the City's thresholds for level of service and volume to capacity ratio.

Air Quality

*Alternative 5.3.2—Transit-Oriented Growth would **not** reduce exposure of sensitive receptors (new residents) to Air Quality impacts such as gaseous Toxic Air Contaminants (TACs) or sources of odors.* The Transit-Oriented Growth alternative would locate new housing near BART stations, and would not restrict development on sites within the BAAQMD-recommended 1,000-foot setback area for gaseous TAC emitters, so impacts related to gaseous emissions would remain significant and unavoidable. Likewise, the new housing under this alternative would be built within proximity to sources of odor, identified by BAAQMD as waste-water treatment plants, chemical manufacturing or green-waste and recycling operations, among other businesses. While the EIR does disclose the locations of these odor sources, which at the plan-level is all the analysis required, at the individual project-level analysis, there would remain a significant and unavoidable impact for odors in this alternative, from the wide variety of odor-causing businesses in an established city such as Oakland.

Compared to Less-than-Significant Impacts Identified for the Proposed Project

Transportation and Circulation

Alternative 5.3.2—Transit-Oriented Growth, would reduce Transportation and Circulation impacts, as compared to the proposed project. The new development in this alternative would put new residential housing near BART stations. This alternative, when compared to the project, would not reduce the less-than-significant transportation impacts found in the EIR; this alternative also would not “fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes, pedestrian safety).” Also, under this alternative, there would not be a “[substantial]

increase [in] traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature.” There would be new construction of residential units, so construction-related traffic could conflict with usual traffic flows, but this impact is considered less than significant with the City’s SCA #33.

Further, the Transit-Oriented Growth alternative would have an equivalent less-than-significant impact to air-traffic patterns as to the proposed project. Likewise, less-than-significant impacts to emergency access routes would be the same between the alternative and the project, since all development proposals would follow SCAs, policies and practices, and be reviewed by the Fire Chief on a project-by-project basis.

Air Quality

*Alternative 5.3.2—Transit Oriented Growth would **not** reduce exposure of sensitive receptors (new residents) to Air Quality impacts such as Toxic Air Contaminants like Diesel Particulate Matter (DPM), or carbon monoxide from traffic at intersections; however, this impact is found to be less than significant.* This alternative anticipates the construction of over 14,000 new housing units, and would not restrict development on sites within the BAAQMD-recommended distances of over 1,000 feet from sources of gaseous toxic air contaminants, but it does not increase either the rate of population growth, or increase the number of vehicle miles traveled, which are already anticipated in the BAAQMD Air Quality Plan (AQP),³ so these impacts are found to be less than significant. The new housing under this alternative would still be built within the screening distances (typically, 500 or 1000 feet) from mobile DPM sources such as high volume roadways and highways, or to stationary sources like warehouses, but those impacts are found to be less than significant with the application of the City’s SCA-94. Emissions of carbon monoxide due an increase of vehicles at impacted intersections could also have an impact on the new residents, if they live on one of the segments identified on Figure 5-1 (and listed above, in Section 5.2.2). However, this impact is less than significant, because it is below the threshold established for carbon monoxide by BAAQMD.⁴

Noise

Alternative 5.3.2—Transit-Oriented Growth, would reduce ambient noise levels from vehicular sources, either individually or cumulatively. Transit-oriented growth would result in fewer vehicular trips, because new units would be built closer to BART stations, and, thus, it is plausible that there would be reduced noise impact from increased traffic, as compared with the impacts under the proposed project. The following noise impacts, found in the EIR to be less than significant, would not change under this alternative, and individual projects would be required to conform with the City’s SCAs: construction-related noise and groundborne vibration from construction equipment (SCA-28, -29, -30, -39, and -57); “sensitive receptors” located near railroad lines, freeways or other high-traffic roadways (SCA-31 and -38); noise from new mechanical equipment; and noise from commercial aircraft using the Oakland International Airport.

³ See Impact AQ-1.

⁴ See Impact AQ-6.

Climate Change

Alternative 5.3.2—Transit-Oriented Growth would reduce vehicle trips and associated emissions compared to the proposed project, because it locates new residential units near BART stations. Construction and occupation-related GHG emissions are calculated on a per unit basis. The number of units developed under the Transit-Oriented Growth Alternative would be the same as the proposed project; therefore, GHG emissions would be the same. Overall GHG and Climate Change emissions under this alternative would be less than the proposed project, and would be less than significant.

5.3.3 Alternative 2: Reduced Air Quality Impacts

Description

Alternative 5.3.3--Reduced Air Quality Impacts, would construct a total of 14,629 housing units in order to fulfill 100 percent of the RHNA. As with the proposed project and the Transit-Oriented Growth Alternative, this alternative includes: 1,128 units that have been built as of June 2008; 5,005 units already entitled to be built between 2007 and 2014; 7,070 units that were planned as of June 2008; and 1,426 units to be accommodated at Opportunity Sites throughout the City by 2014.

As described in Section 3.3, Air Quality, the proposed project would result in the exposure of the residents of certain Housing Sites to elevated levels of Toxic Air Contaminants (TAC). Several classes of major TAC emitters were identified, including the Port of Oakland and the major freeways in the City, as sources of particulate TACs, and a large number of major stationary sources of gaseous and particulate TACs are located throughout the City, as identified by the BAAQMD. All sources of TACs are shown in Figures 3.3-2 through 3.3-4, Section 3.3, Air Quality, together with the locations of the Housing Sites. The identification numbers on these Figures are detailed in Appendix F (all Appendices are on a separate CD at the back cover of this EIR).

The impacts from particulate TACs can be mitigated through the City's SCA-94 which requires a Health Risk Assessment (HRA) to determine potential risks to sensitive receptors (including residential developments) that could result from proximity to emitters of TACs. If the HRA were to determine that health risks were present, SCA-94 requires that design features be implemented, including the installation of high efficiency and/or carbon filters to filter particulates from the air.

However, the measures described in SCA-94 would not be effective in reducing exposure to gaseous TACs; therefore, this alternative prohibits development on Housing Sites that are within 1,000 feet of gaseous TAC emitters, as shown in Figure 5-2. For clarity, this Figure has been divided into three parts: North and West Oakland (Figure 5-3); Central Oakland (Figure 5-4); and East Oakland (Figure 5-5). Under this alternative, development would be encouraged on approximately 140 Housing Sites and discouraged on the other sites.

Impacts

Compared to Significant and Unavoidable Impacts Identified for the Proposed Project

Transportation and Circulation

Alternative 5.3.3—Reduced Air Quality Impacts would result in the same Transportation-related impacts as with the proposed project. This alternative would *not* avoid significant and unavoidable impacts to local roadway segments, and would include development of the same number of housing units as the proposed project, in locations where there might be congested roadways, or in areas where new development might cause increased congestion. Impacts under this alternative would remain significant and unavoidable.

This alternative would cause the same demand for bicycle and pedestrian facilities as the proposed project, because the number of residents would be the same, and development would not necessarily be transit-oriented (i.e. built near BART stations).

Air Quality

Alternative 5.3.3—Increased Air Quality reduces SU impacts from gaseous TACs and from odors. The sites prioritized for development under this alternative would avoid the 1,000-foot setbacks for gaseous TAC sources recommended by BAAQMD. Therefore, exposure of sensitive receptors to gaseous TACs would be reduced and would be less than significant with this alternative, as compared to their significant and unavoidable impacts under the proposed project. Odors, however, cannot be mitigated, as noted in the Air Quality chapter of the EIR.

Compared to Less-than-Significant Impacts Identified for the Proposed Project

Transportation and Circulation

Alternative 5.3.3—Reduced Air Quality Impacts, would result in the same less-than significant Transportation and Circulation impacts, as compared to the proposed project. The new development with this alternative would be residential housing built at least 1,000 feet from sources of TACs. This alternative, when compared to the project, would not reduce the less-than-significant transportation impacts found in the EIR: this alternative would not “fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes, pedestrian safety).” Also, under this alternative, there would not be a “[substantial] increase [in] traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature.” There would be new construction of residential units so construction-related traffic could conflict with usual traffic flows, but this impact is considered less than significant with the City’s SCA-33.

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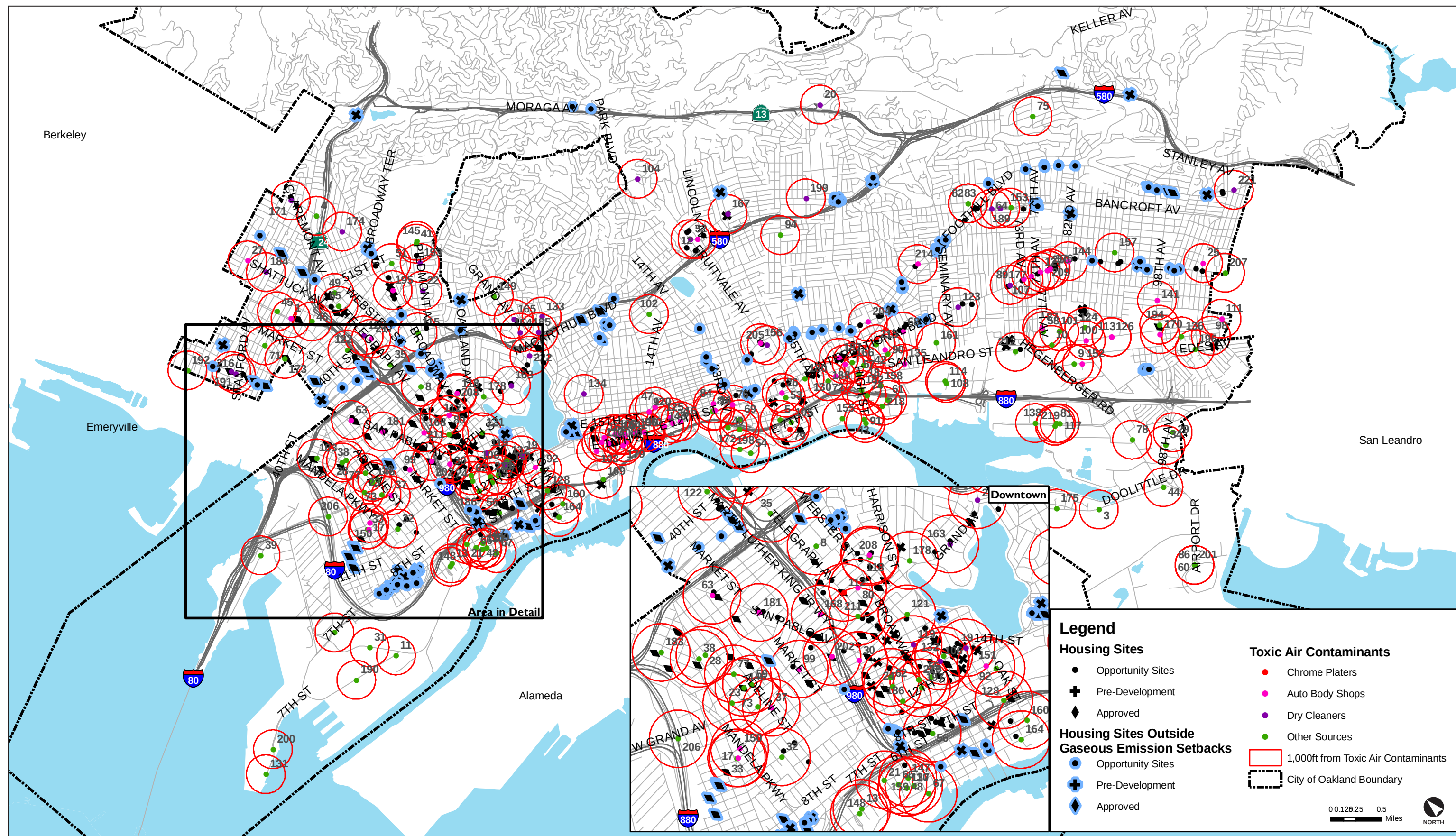


FIGURE 5-2
Reduced Air Quality Impacts (Citywide)

Source: City of Oakland, 2010; PBS&J, 2010.

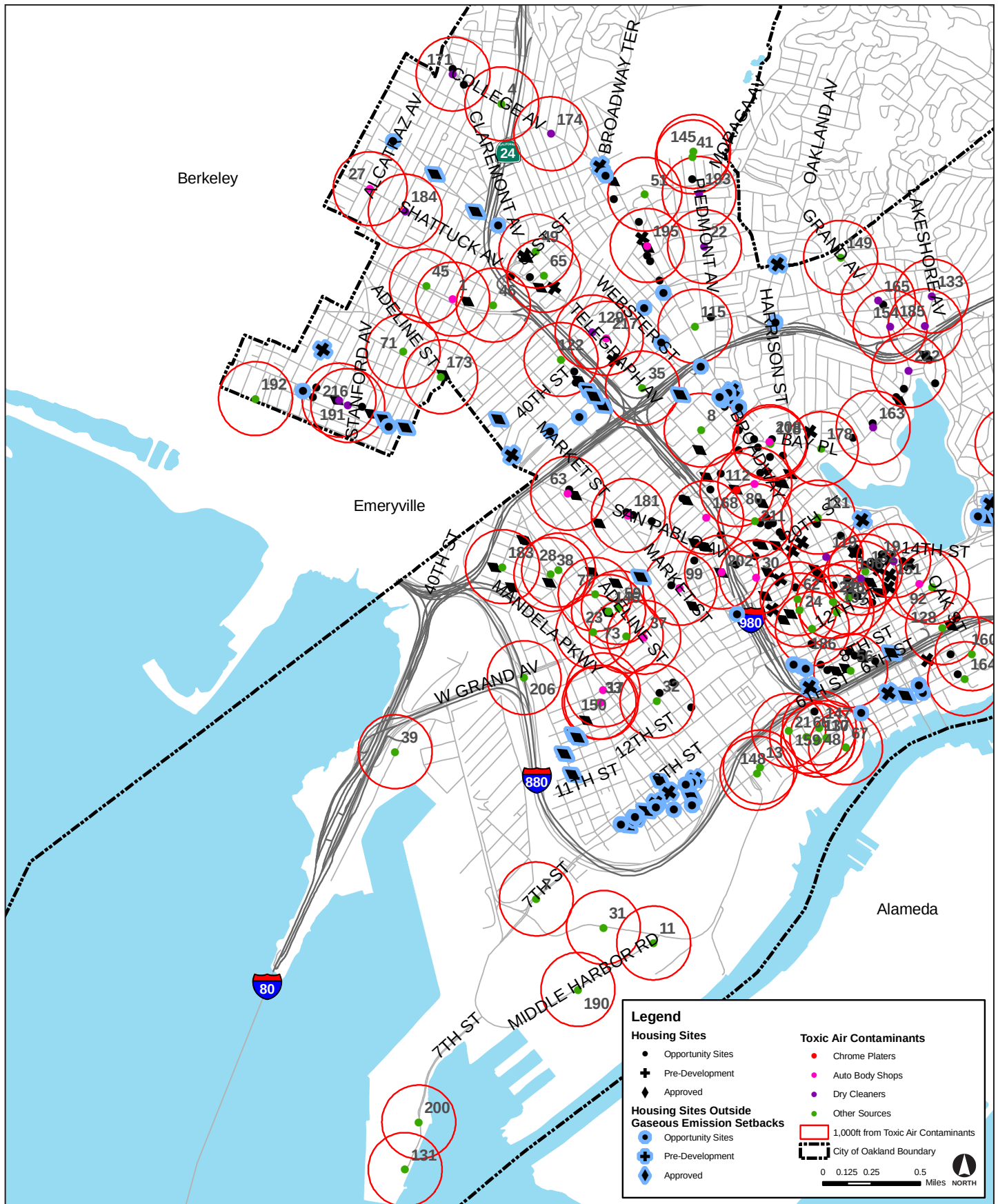


FIGURE 5-3
Alternative 2: Reduced Air Quality Impacts (North and West Oakland)

Source: City of Oakland, PBS&J, 2009.

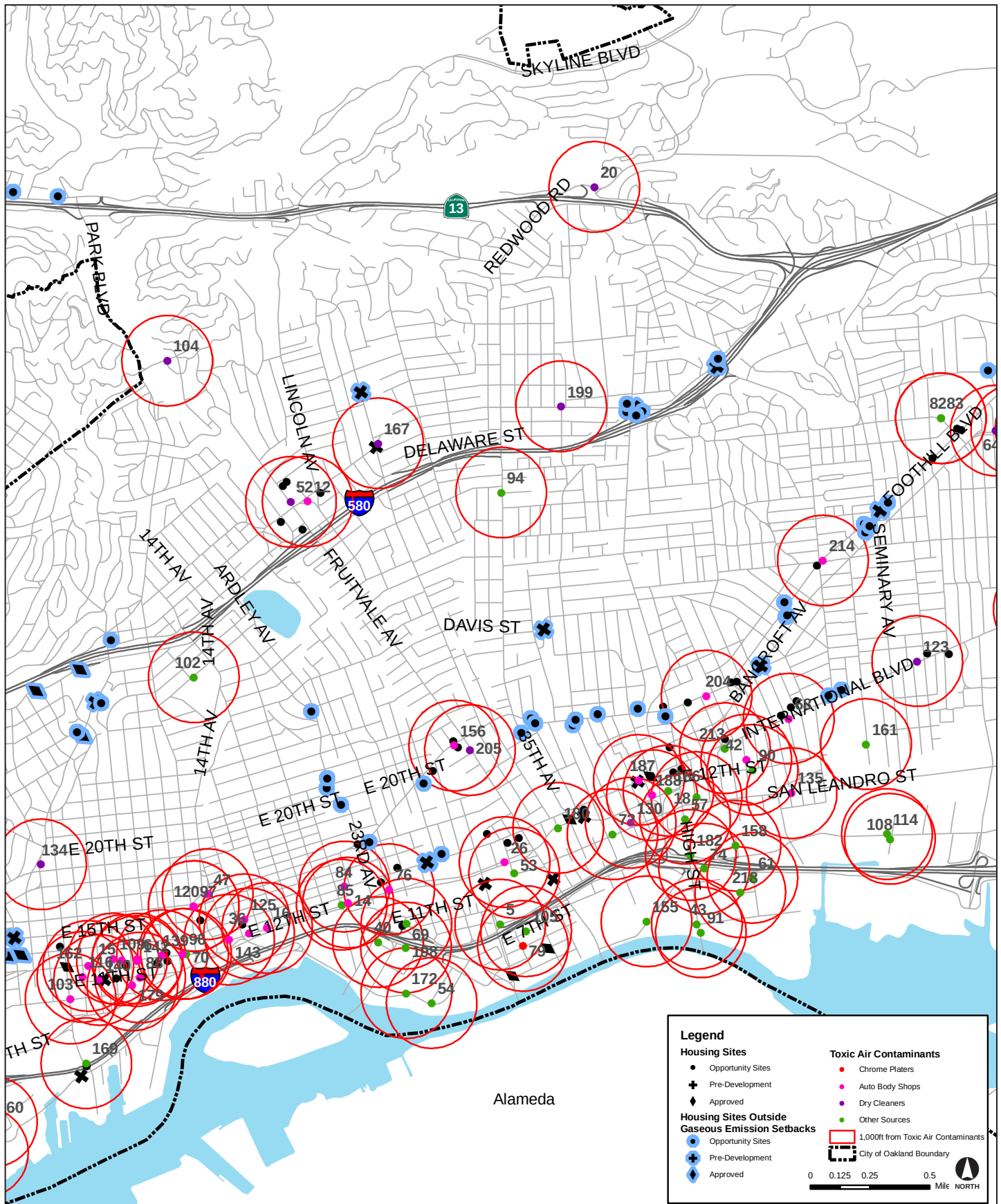


FIGURE 5-4
Alternative 2: Reduced Air Quality Impacts (Central Oakland)

Source: City of Oakland, PBS&J, 2009.

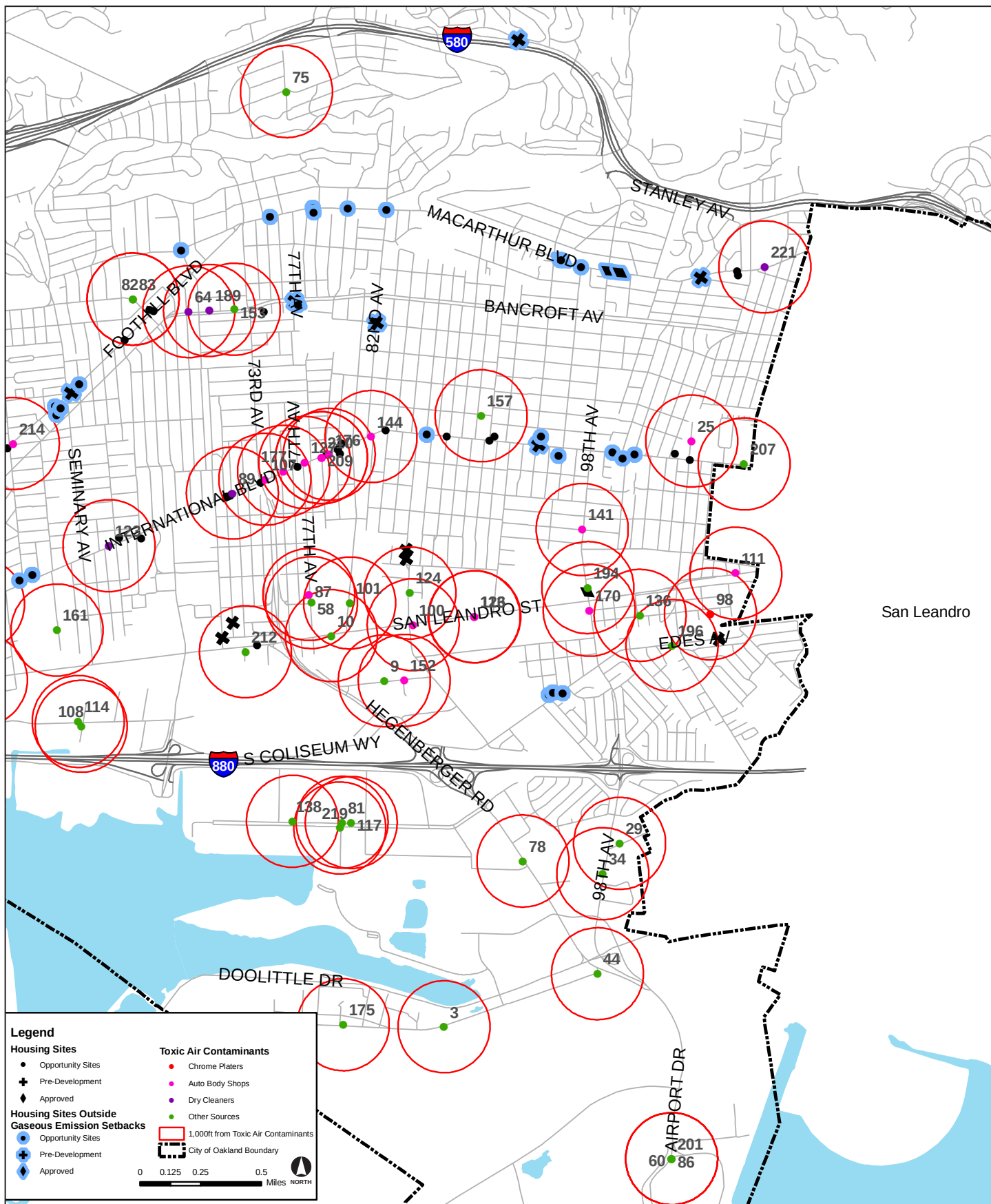


FIGURE 5-5
Alternative 2: Reduced Air Quality Impacts (East Oakland)

Source: PBS&J, 2009.

Further, the Reduced Air Quality Impacts alternative would have the same less-than-significant impact on air-traffic patterns as with the proposed project. Likewise, less-than-significant impacts to emergency access routes would be the same between the alternative and the project, since all development proposals would follow SCAs, policies and practices, and be reviewed by the Fire Chief on a project-by-project basis.

Noise

Alternative 5.3.3—Reduced Air Quality Impacts would result in the same noise impacts as compared to the proposed project. Because the number of housing units to be developed would be the same with this alternative as with the proposed project, noise-related impacts would be similar to the proposed project. The following noise impacts, found in the EIR to be less than significant, would not change under this alternative, and individual projects would be required to conform with the City’s SCAs: construction-related noise and groundborne vibration from construction equipment (SCA-28, -29, -30, -39, and -57); “sensitive receptors” located near railroad lines, freeways or other high-traffic roadways (SCA-31 and -38); noise from new mechanical equipment; and noise from commercial aircraft using the Oakland International Airport.

Air Quality

*Alternative 5.3.3—Reduced Air Quality Impacts would **not** reduce exposure of sensitive receptors (new residents) to Air Quality impacts such as TACs like Diesel Particulate Matter (DPM), or carbon monoxide from traffic at intersections; however, this impact is found to be Less Than Significant.* This alternative anticipates the construction of over 14,000 new housing units at distances of over 1,000 feet from sources of gaseous TACs, but it does not increase either the rate of population growth, or increase the number of vehicle miles traveled, which are already anticipated in the BAAQMD Air Quality Plan (AQP),⁵ so these impacts are found to be less than significant. The new housing in this alternative would still be built within the screening distances (typically, 500 or 1000 feet) from mobile DPM sources such as high volume roadways and highways, or to stationary sources like warehouses, but those impacts are found to be less than significant with the application of the City’s SCAs. Emissions of carbon monoxide, due to an increase of vehicles at impacted intersections, could also have an impact on the new residents, if they live on one of the segments identified on Figure 5-1 (and listed above, in Section 5.2.2). However, this impact is less than significant, because it is below the threshold established for carbon monoxide by BAAQMD.⁶

Climate Change

Construction and occupation-related GHG emissions and vehicular emissions would be same with Alternative 2, compared to the proposed project. Overall, impacts associated with Climate Change under Alternative 2 would be the same as under the proposed project, and would be less than significant.

⁵ See Impact AQ-1 in Section 3.3, Air Quality

⁶ See Impact AQ-6 in Section 3.3, Air Quality.

5.4 ALTERNATIVES CONSIDERED BUT REJECTED

Several alternatives were considered by the City for inclusion as an alternative under CEQA, but were rejected from further study because they would be infeasible or would not attain most of the *2007-2014 Housing Element* objectives, or would not sufficiently reduce impacts. The alternatives considered were: locating the required housing units in the RHNA to sites outside Oakland; reducing the number of RHNA housing units that would be built in the planning period; excluding new housing units from areas with high concentrations of particulate matter (PM), such as freeways, highways and roadways; excluding new units from an area at some distance from odor-causing sources.

Factors that may be considered when a Lead Agency is assessing the feasibility of an alternative include: “site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).”⁷

The rejected alternatives include:

“Off-site Alternative” – locating Housing Units outside of Oakland

The City did not consider an off-site alternative (Housing Sites in a city other than Oakland) because CEQA requires EIRs to evaluate only those alternatives necessary to permit a reasoned choice (*County of Inyo v. City of Los Angeles*, 124 Cal. App. 3d 1) using its “rule of reason.” In other words, development policies affecting future growth within the City of Oakland would be meaningless if that development occurred outside of the City. Furthermore, such an alternative would not feasibly attain the objectives of the *2007-2014 Housing Element*.

Reduced Number of Housing Units

This alternative would have considered options to reduce the number of housing units that must be shown to be capable of being built in Oakland between the years 2007-2014 under the RHNA. As with the No-Project Alternative, this alternative would include the 1,128 housing units that have been built within the City as of June 2008. In addition to the units built or under construction, this alternative would include 5,005 units already entitled to be built between 2007-2014. The *2007-2014 Housing Element* identifies that between January 2007 and August 2008, 4,442 market-rate units had planning approvals (entitlements) and 563 affordable units were funded, but neither group has started construction. These 5,005 entitled units represent 34 percent of the RHNA. Together, the 6,133 housing units under the No-Project Alternative would satisfy approximately 42 percent of the RHNA.

The Reduced Number of Housing Units Alternative would not meet the primary objective of the *2007-2014 Housing Element*. This alternative would cap the construction of new housing units within the City at 6,133 housing units (1,128 housing units that have been built as of June 2008 plus 5,005 units already entitled to be built between 2007-2014). Although this alternative would lower the significant and

⁷ CEQA Guidelines, Section 15126.6(f)(1).

unavoidable impacts of the proposed project to a level of less than significant, the main goal of the *2007-2014 Housing Element* would not be met. The major objective of the *2007-2014 Housing Element* is to provide enough new housing in the City to meet in the RHNA allocation of 14,629 new housing units. However, since this alternative would provide only 6,133 housing units, which would represent approximately 42 percent of the RHNA allocation, the goal of providing sufficient housing within the City would not be met. Since the City must plan for its RHNA allocation, it is not legally permissible to reduce this number. Thus, studying an alternative that would reduce housing units from the RHNA mandated number is not feasible and will not be further studied.

Particulate Matter (PM)-Exclusion Zone

Particulate Matter (PM) was determined in Section 3.3, Air Quality, to be a less-than-significant plan-level impact; as such, reduction of PM effects are not analyzed as part of a CEQA alternative. However, this issue is of interest to the public. Refer to Figures 3.3-2 to 3.3-4, in Section 3.3, Air Quality, which shows sources of particulate matter in the City of Oakland and includes 1,000-foot setbacks from those sources. These figures also show all sources of TACs in the City.

Avoiding Sources of Odor

Sources of odor were determined in Section 3.3, Air Quality, to have significant impacts, which cannot be mitigated to less-than-significant levels. As discussed in Section 3.3, Air Quality, (and shown in Appendix E-2), the entire City of Oakland is located within one of the recommended buffers for odor sources. Therefore, alternative locations for placing Housing Sites that reduce odors to less-than-significant levels are not possible.

Avoiding Crossings

Potential impacts from traffic and pedestrian queuing at Railroad Crossings were determined in Section 3.2, Transportation, to have a significant impact, which cannot be guaranteed to be mitigated to less-than-significant levels, even with the proposed mitigation measures (see TR-43). An alternative that prohibits new housing within 0.25 miles of railroad crossings in order to reduce the possibility of accidents with moving trains was considered. However, this alternative was rejected because it would remove approximately 60 Housing Sites that have the capacity to hold 4,300 possible units. This alternative is not viable for further, detailed CEQA analysis, because:

- The number of units not built under this scenario amounts to over 25 percent of the City's RHNA; identification of Housing Sites to satisfy the full buildout of the RHNA is legally required; therefore, the significant reduction of housing under this alternative requires its rejection by the City.
- If, as envisioned by this alternative, the Housing Sites in close proximity to railroad crossings were not developed, those sites could instead become the location for development that is more intensive than housing—i.e. commercial activities. A small retail shopping center, for example, could generate more vehicular traffic than an apartment building, causing possible conflicts at railroad crossings.

- Currently, without the *Housing Element*, there is a problem with vehicular traffic and pedestrian interactions at Oakland's rail crossings, as evidenced by the 45 incidents and 15 fatalities in the last few years, and as noted by the State PUC in their comment letter to this EIR (see Appendix C-1). On a project-by-project basis, these conflicts may be reduced through the application of various engineered mitigation measures, as listed in the impact statement TR-43. However, an alternative that prevents future housing from adding to these conflicts will not necessarily reduce the current conflicts.

As with consideration of other alternatives, in an urbanized City such as Oakland, a balance must be struck between the importance of new housing as part of the RHNA, and the reality of where sites for new housing are located near impacts from railroad crossings or congested roadways, air pollution impacts from freeways and odor sources. The City believes that the mitigation measure, TR-43, if applied at a project level, will lessen the potential impacts from conflicts at rail road crossings to the maximum feasible extent.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Sections 21002 and 21081 of CEQA require lead agencies to adopt feasible mitigation measures or feasible environmentally superior alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific social or other conditions make such mitigation measures or alternatives infeasible. As previously discussed, the No-Project Alternative is the environmentally superior alternative; however, where the environmentally superior alternative also is the No-Project alternative, CEQA Guidelines requires the EIR to identify an environmentally superior alternative from among the other alternatives (Section 15126(d)(4)). Comparison of the relative environmental impacts from each of the two development alternatives, as compared to the proposed project indicates that the City has a trade off to make, with regard to the possible alternatives for imposing the Housing Element goals and policies, and preparing for the development of 13,501 housing units: the reduction in traffic congestion at key impacted intersections as well as the reduction in GHG emissions envisioned in the Transit-Oriented Growth Alternative, versus the increased protection for sensitive receptors such as children and seniors from sources of air pollution such as gaseous TACs.

5.5.1 Impacts Analyzed between Alternatives

Transportation. Roadway segment impacts would be the same under the proposed project and the Reduced Air Quality Impacts Alternative, reduced under the Transit-Oriented Growth Alternative, and further reduced under the No-Project Alternative. Although impacts would remain significant and unavoidable under the proposed project and alternatives, the Transit-Oriented Growth Alternative is the environmentally superior alternative, with respect to all transportation impacts because it results in less transportation-related impacts.

Noise. Impacts under the proposed project and the all alternatives would be less than significant.

Air Quality. The No-Project Alternative and the Reduced Air Quality Impacts Alternative would result in less development near gaseous TAC sources and impacts would be less than significant, compared to

significant and unavoidable impacts under the proposed project and the Transit-Oriented Growth Alternative. Thus, the Reduced Air Quality Impacts Alternative is the environmentally superior alternative with respect to Air Quality.

Climate Change. Impacts under the proposed project and all the alternatives would be less than significant.

In conclusion, while the reduction in traffic congestion and GHG emissions described in the Transit-Oriented Growth alternative are beneficial enough make it the environmentally superior alternative, there will still be significant unavoidable Air Quality impacts under this alternative. This is to be expected in an older city such as Oakland (chartered in 1852), where industrial and urban development over many years has left a legacy of companies which produce goods and services at the cost of air pollution. Any new unit of housing, if built under the current building codes and SCAs of the Planning Division, as well as with the mitigation measures in this *Housing Element* EIR, would be protected from environmental impacts, as best can be accomplished under current regulations. But traffic congestion and air quality impacts are, to a degree, inevitable in an urban City such as Oakland. However, because gaseous TACs would be reduced to less-than-significant levels under Alternative 2, while congestion would still remain significant unavoidable under Alternative 1, Alternative 2 (Reduced Air Quality Impacts) is the Environmentally Superior Alternative.

Section 6

Responses to the NOP/ Initial Study and Public Hearing Comments

6.1 INTRODUCTION

A Notice of Preparation (NOP), provided as Appendix C, and Initial Study, provided as Appendix A, were published on September 21, 2009, and circulated to all interested parties and regulatory agencies for 30 days (all Appendices are on a separate CD at the back cover of this EIR). Public hearings were also held by the Oakland Planning Commission, on October 7, 2009, and Landmarks Preservation Advisory Board, on October 19, 2009, for the City to receive public testimony on the Initial Study and appropriate scope of the Draft Environmental Impact Report (Draft EIR). While the NOP, Initial Study, and public hearings generated a number of comments related to the merits of the project and other non-California Environmental Quality Act (CEQA) issues, those comments which addressed the Initial Study and scope of the Draft EIR, within CEQA criteria, are discussed below. The majority of comments address five topics: water supply, traffic, rail safety, zoning, and aesthetics.

6.2 RESPONSES TO COMMENTS

The following general responses address topics identified in written comments received on the NOP and Initial Study, and verbal comments made at the Planning Commission and Landmarks Preservation Advisory Board public hearings, which are not analyzed further in the Draft EIR. Comments regarding traffic/transportation, air quality, noise, and climate change are largely not addressed here because those areas are addressed in the Draft EIR. Additionally, these comments are not meant to respond to each and every comment received, but rather provide a general response to the issues raised in the comments. Refer to Appendix D to see actual written comments and transcripts from the Planning Commission and Landmarks Preservation Advisory Board public hearings. Changes to the Initial Study as a result of comments received are noted in this section and amend the Initial Study, which is provided in Appendix A.

Water Supply

The commentor states that the water supply analysis in the Initial Study does not reflect the most recent EBMUD Water Supply Management Program (WSMP) for the area, which was prepared in October 2009. As such, the below text has been edited to reflect the new WSMP. The strike-through text denotes text that has been deleted from the Initial Study and the underlined text denotes the text that has been added to the Initial Study. Additionally, the “water supply setting” section in the Utilities and Service Systems section, on pages 201-206 of the Initial Study, is revised as follows:

Water Supply. EBMUD is a publicly owned utility that provides potable water for the City of Oakland. It delivers water to approximately 1.3 million people in a 325-square-mile area that includes parts of Alameda and Contra Costa Counties.¹³⁹

The EBMUD water supply system collects water from the Mokelumne River, located on the western slope of the Sierra Nevada, and then transports, treats, and distributes water to customers in Alameda and Contra Costa counties. The supply system consists of a network of reservoirs, aqueducts, treatment plants, pumping stations, and distribution facilities. The reservoirs are collectively known as the “terminal reservoirs”, comprised of the Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro reservoirs. Briones, San Pablo, and Upper San Leandro supply water to EBMUD customers throughout the year, whereas, the Chabot and Lafayette reservoirs serve as emergency supply sources. The EBMUD water system serves 1.3 million people in 20 incorporated cities and 15 unincorporated communities. On an average annual basis, 90 percent of the water used by EBMUD comes from the Mokelumne River watershed. EBMUD has water rights and facilities to divert up to a daily maximum of 325 million gallons, which equates to approximately 364,000 acre-feet annually (AFA) from the Mokelumne River. The normal year water supply for 2005 was 222 mgd and is expected to increase to 232 mgd by the year 2040~~30~~, according to the EBMUD’s Water Supply Management Program 2040 (WSMP 2040) adopted in October 2009.¹⁴⁰ ~~the Urban Water Management Plan of EBMUD~~

Water Treatment. EBMUD operates six water treatment plants with a combined capacity of 430 million gallons per day (mgd). The water treatment plants are Upper San Leandro in Oakland, San Pablo in Kensington, Sobrante in El Sobrante, and plants located in and named for Orinda, Lafayette, and Walnut Creek. The water treatment plant in Orinda has the largest water output of the six plants, with a capacity of 200 mgd, and serves most of the cities of Alameda, Albany, Berkeley, El Cerrito, Emeryville, Moraga, other parts of Oakland, Orinda, Piedmont, Richmond, and San Leandro. The Orinda WTP has a nominal capacity of 175 mgd.¹⁴¹ ~~Orinda processes 119 mgd of untreated water, which accounts for approximately 63 percent of its total capacity.~~¹⁴²

Water Storage. Water storage is required to meet water demand for periods when peak hour demand exceeds maximum daily supply rates. These high demand periods usually occur for four to six hours during hot summer days and for potentially longer periods during large fire events. EBMUD’s terminal reservoirs are located throughout the local water distribution system. EBMUD has 175 smaller water storage reservoirs throughout its service area. Water storage reservoirs allow treated water supply to be delivered at a relatively constant rate over a 24-hour period, accommodate hourly fluctuations in demand, and provide the required fire flows and

¹³⁹ All About EBMUD Brochure. East Bay Municipal Utility District, Public Affairs Office. 2007. Accessed June 25, 2009. http://www.ebmud.com/about_ebmud/publications/all_about_ebmud/default.htm.

¹⁴⁰ East Bay Municipal Utilities District, Water Supply Master Plan 2040. October 2009. ~~2005 Urban Water Management Plan~~

¹⁴¹ East Bay Municipal Utilities District, Letter to City of Oakland, dated October 9, 2009. Re: Notice of Preparation of a Draft Environmental Impact Report for the City of Oakland General Plan, Housing Element Update 2007 – 2014.

¹⁴² ~~East Bay Municipal Utility District, 2005. Daily Water Supply Report. Accessed July 1, 2009. https://portal.ebmud.com/ccs/crr/WSE_DailyReport_Menu.asp~~

emergency reserves in normal years. In order to meet projected storage requirements through buildout of the EBMUD service areas, additional water storage reservoirs will be needed. The exact sizes of these reservoirs and the timing of their construction are dependent upon the water usage patterns of future development and buildout projections (see Water Demands and Water Supply Planning and Reliability, below).

Water Distribution System. The water distribution system is composed of a system of pipes sized to deliver water at sufficient volumes and pressures. Generally, water distribution mains range from 4 inches to 12 inches in diameter and convey water for municipal, industrial, and fire services. Transmission mains are 18 inches and larger and are used to transport large volumes of water from the treatment plants throughout the distribution system. New development is required to provide an average water pressure of no less than 40 pounds per square inch (psi) and no more than 125 psi water service meter. Peak-hour pressure periods must be at least 30 psi, and during fire suppression periods, pressure must be at least 20 psi.

Recycled Water Supply. EBMUD is also expanding its recycled water programs, with the assistance of local municipalities. In 2008 EBMUD recycled 12 mgd of wastewater.¹⁴³ Use of recycled water is limited to non-potable uses, such as golf courses, agricultural uses, and industrial uses. EBMUD encourages the use of recycled water through recycled water rate discounts and low-interest loans to retrofit buildings to accommodate recycled water. The City of Oakland adopted a dual plumbing ordinance in 2002, which requires new developments to install a dual plumbing system to accommodate future recycled water use. It is estimated that recycled water demand will account for be up to 10 9.3 mgd in 2030.¹⁴⁴ As part of the current WSMP 2040 process, the EBMUD Board of Directors will consider an enhanced goal of recycling 20 mgd by year 2040, continuing EBMUD's long-standing commitment to recycled water.

Water Demands. In 2009, EBMUD completed its WSMP 2040 the Update of Water Demand Projections (2000 Demand Study), which calculates future potable water demands up to the year 2040. The WSMP 2040 2000 Demand Study provided a methodology to prepare more accurate demand projections. Future water demands were projected through 2040 calculated using existing and future demands for various land use categories and future changes in land use as stated in the respective general plans of communities within the service area.¹⁴⁵ The WSMP 2000 Demand Study reflects the future land uses designated by adopted general and specific plans. The demand projections listed in WSMP were developed prior to the onset of the economic recession in December 2007.¹⁴⁶ EBMUD anticipates the economic development and associated demand could be realized at a slower rate but over time, demand would average out close to the projected 2040 value.¹⁴⁷ In addition, continuation of drought, conservation measures

¹⁴³ East Bay Municipal Utility District, 2008. *Annual Report 2008*. http://www.ebmud.com/about_ebmud/publications/annual_reports/EBMUD%2008%20Annual%20Report.pdf.

¹⁴⁴ East Bay Municipal Utility District, WSMP 2040 October 2009. Agenda for Board of Directors Workshop #6, February 13, 2008, page 20

¹⁴⁵ East Bay Municipal Utilities District, *2005 Urban Water Management Plan*, pg 4.

¹⁴⁶ East Bay Municipal Utilities District, *Water Supply Master Plan. October 2009, pg 4-2.*

¹⁴⁷ East Bay Municipal Utilities District, *Water Supply Master Plan. October 2009, pg 4-2.*

or rationing policies and the local and regional economics will have an effect on the demands with EBMUD's service area.

By applying land use information, based on residential and non-residential land use categories, EBMUD forecasts that service area demands would be about 267 mgd by 2030.¹⁴⁸ With implementation of conservation techniques and recycled water use, water demand could be reduced to approximately 232 mgd, as shown in Table 6. Therefore, EBMUD would be able to meet normal year water supply projections through 2030.¹⁴⁹

Table 6
East Bay Municipal Utility District Water Demands (mgd)

	2010	2015	2020	2025	2030
Gross System Demands	<u>251</u> 246	<u>266</u> 261	<u>280</u> 275	<u>291</u> 286	<u>304</u> 299
Baseline Conservation	<u>-25</u> 22.5	<u>-32</u> 22.5	<u>-40</u> 22.5	<u>-47</u> 22.5	<u>-55</u> 22.5
Baseline Recycled Water	<u>-10</u> 9.3	<u>-17</u> 9.3	<u>-19</u> 9.3	<u>-20</u> 9.3	<u>-20</u> 9.3
System Demands (adjusted)	<u>216</u> 214	<u>217</u> 229	<u>221</u> 243	<u>224</u> 254	<u>229</u> 267

Source: WSMP 2040, October 2009, page 4-220. ~~Agenda for EBMUD BOD Workshop #6, February 13, 2008~~

Water Supply Planning and Reliability. There are many factors that affect the reliability of water supplies. The most important factors are the occurrences of hydrologic changes, mainly droughts, and the vulnerability of the Delta aqueducts. Other factors that could affect the availability of water supply include contamination, high turbidity, power outages, fires, and/or civil disturbances.

In October ~~2009~~1993, EBMUD adopted a long-term Water Supply Management Program (WSMP) that serves as a water supply planning guide through year 2040. ~~EBMUD updated its Urban Water Management Plan in 2005 (Adopted November 22, 2005). EBMUD is currently preparing its WSMP 2040 for release in late 2009 or early 2010.~~ The WSMP 2040 is a complex planning document that EBMUD will now use to assess supplies and analyze demands over a thirty-year planning horizon. Since inception of the WSMP 2040, EBMUD ~~has~~ surveyed the jurisdictions in its service area to properly evaluate future demands, and is investigating various supply reliability sources. Throughout this planning process, public relations materials were distributed and EBMUD ~~has~~ conducted numerous public workshops in various jurisdictions. With Upon the completion of the WSMP, EBMUD ~~can then~~ compare its future supply and demand using land use base-current demand data and current and future supply information. As part of the process, EBMUD also prepared a Programmatic EIR for the WSMP 2040. The Programmatic EIR evaluated the impacts associated with implementation of the WSMP 2040; individual projects identified in the WSMP could be subject to project-specific environmental review. EBMUD adopted the WSMP 2040 Programmatic EIR on October 13, 2009.

¹⁴⁸ Assuming demand reductions through conservation and recycled water use. East Bay Municipal Utilities District, WSMP 2040 Agenda for Board of Directors Workshop #6, February 13, 2008, page 20

¹⁴⁹ Normal year, as forecasted from April through the end of September, total system storage would be 500,000 AF or greater and East Bay Municipal Utilities District would not institute any Demand Management strategies.

The main objective of the WSMP 2040 was to identify and recommend solutions to meet or overcome dry-year water demands now and through the year 2040. ~~These documents identify that, during severe droughts, EBMUD would be unable to meet water demands with Mokelumne River supplies, without imposing extreme rationing measures. EBMUD's planning objective is to not impose greater than 25 percent rationing on customers during a critical drought; however, under the current situation EBMUD would experience a supply shortfall. The WSMP recommended two principal options for EBMUD's supplemental water supply: 1) additional surface or underground storage with conjunctive use and acquiring new surface water supplies, and 2) add surface water supply by either enlarging the existing Pardee Reservoir and/or by using EBMUD's American River contract entitlement.~~^{150,151} According to EBMUD's 2005 UWMP, as much as 131 mgd of additional supply would be needed during the next 25 years. The WSMP 2040 Preferred Portfolio would provide two programs that 1) meet projected growth in customer demand through aggressive conservation and recycled water development; and 2) lowers customers rationing burdens during an extended drought through development of new supplemental supplies initiatives.

Future development in EBMUD's service area is expected to be infill projects that would increase the densities in those land use areas but would be more water efficient (high-efficiency fixtures) and conservation-oriented (recycled water). With this understanding, much of the new development could be met with existing water supplies used more efficiently.

~~EBMUD's current projects are geared towards relieving future water demand shortfalls and meeting projected demand. The WSMP 2040 2005 UWMP discusses current projects that EBMUD is currently engaged in to relieve rationing burdens currently imposed on customers during dry-years future water demand shortfalls. Two Three~~ main projects are either currently under construction, or in the planning, testing, or feasibility phases.¹⁵² These projects include:

- The Freeport Regional Water Project (FRWP) would divert water from the Sacramento River and construct a regional water treatment plant in Sacramento County in order to guarantee water for East Bay customers in dry years. EBMUD contract amount in single dry years is 112,000 AF and 165,000 AF over a three-year drought condition.^{153,154} EBMUD contract amount is 100 mgd during drought years.¹⁵⁵ It is anticipated that EBMUD would start receiving Sacramento River water by the end of 2009.¹⁵⁶
- The Bayside Groundwater Project, which is a supplemental water supply project that would store water in a deep underground aquifer during wet years and extract some of that supply

¹⁵⁰ ~~Underground storage employs a "conjunctive use" program that involves using surface water when surplus surface water is available in wet years and then extracting "stored" or "banked" water in drier years to supplement reduced surface water supplies.~~

¹⁵¹ ~~East Bay Municipal Utilities District, 2000 Urban Water Management Plan, pg. 2-14.~~

¹⁵² ~~East Bay Municipal Utilities District, 2005 Urban Water Management Plan, pg 2-13.~~

¹⁵³ Freeport Regional Water Authority website <http://www.freeportproject.org/index.php> accessed March 11, 2008.

¹⁵⁴ EBMUD, "Freeport Regional Water Project", http://www.ebmud.com/water_&_environment/water_supply/current_projects/freeport/default.htm, accessed August 25, 2008.

¹⁵⁵ EBMUD, "Freeport Regional Water Project", http://www.ebmud.com/water_&_environment/water_supply/current_projects/freeport/default.htm#Major_Project_Elements, accessed July 30, 2009.

¹⁵⁶ Freeport Regional Water Authority website <http://www.freeportproject.org/nodes/project> accessed October 24, 2008.

during times of drought. Phase 1 of the Bayside Groundwater Project, which will begin final testing in September 2009, would store an annual average of 1 mgd of water within a deep aquifer that extends beneath the City of San Lorenzo. After successfully operating Phase 1 for a period of time, EBMUD will consider a larger Phase 2 Bayside project that would have a capacity of between 2 and 10 mgd, allowing for even greater drought protection.¹⁵⁷

- ~~The proposed Bay Area Regional Desalination Project, which is a joint venture between the Contra Costa Water District, the East Bay Municipal Utility District, the San Francisco Public Utilities Commission, and the Santa Clara Valley Water District. The regional desalination project would: provide an additional source of water during emergencies; provide a supplemental water supply source during extended droughts; allow other major water facilities to be taken out of service for maintenance or repairs; and increase supply reliability by providing water supply from a regional facility. The Bay Area Regional Desalination Project would have an ultimate total capacity of up to 71 mgd.~~¹⁵⁸

In terms of reliability, these projects along with increasing conservation efforts would serve to bolster EBMUD's supply portfolio now and over a long-term planning horizon. In fact, as shown in Table , EBMUD is highly dependent upon the FRWP to overcome the 2010 and 2015 dry year deficits.

Supply and Demand Comparisons. In normal years, EBMUD currently supplies its customers with an annual average of about 222 mgd of water. In order to meet its customers' current and future water needs, EBMUD has to balance water supply and demand. At present, EBMUD's current supply is insufficient to meet customer needs in multiple year droughts despite water conservation measures and recycling programs. During the recent 1987 to 1992 drought, customers were subject to water use restrictions (rationing) each year. The 2005 UWMP states that without additional supplies, water use restrictions would occur more frequently in the future.¹⁵⁹ However, EBMUD anticipates that dry year water supply deficiencies may not ~~would~~ occur after 2010 ~~2009~~—when FRWP supplies are delivered to EBMUD. As stated above, EBMUD's Bayside ~~two other supply reliability~~ projects would further bolster local supplies.

EBMUD is currently preparing its WSMP 2040 for release in late 2009 or early 2010. The WSMP 2040 is a complex water supply planning document that EBMUD will use to assess supplies and analyze demands. Since inception of the WSMP 2040, EBMUD has surveyed the jurisdictions in its service area and conducted numerous public workshops to properly evaluate future demands and seek public support in its request to supply reliability. Upon completion of the WSMP EBMUD can then compare its future supply and demand situations using current demand data and supply information.

Table 7 represents the supply and demand conditions that EBMUD could expect under all hydrologic conditions. A single dry year (or Year 1 of "multiple dry years") is determined as a year that EBMUD would implement the Drought Management Program with the goal of

¹⁵⁷ EBMUD, "Bayside Groundwater Project", http://www.ebmud.com/water_&_environment/water_supply/current_projects/bayside_groundwater/default.htm, accessed July 30, 2009.

¹⁵⁸ ~~EBMUD, "Desalination Project", http://www.ebmud.com/water_&_environment/water_supply/current_projects/desalination_project/default.htm, accessed July 30, 2009.~~

¹⁵⁹ EBMUD, 2000 Urban Water Management Plan, pg 4-25

achieving between 0 to 15 percent reductions in customer demand. With new supplies from the FRWP supply, rationing is reduced to five percent. In 2010, full use of FRWP supplies along with conservation would limit rationing to 25 percent and all customer demands would be met.

Between 2010 and 2015, FRWP water supplies and the Bayside Groundwater Project, along with aggressive conservation, would hold rationing above ~~near~~ EBMUD's goal of 25 percent. After 2015, rationing would increase to EBMUD's 25 percent goal and FRWP supplies would be needed to limit customer deficiencies to 25 percent. In the third year of a multiple dry year, EBMUD can also achieve its 25 percent rationing goal and meeting system-wide demands with supplemental water supplies from FRWP.

Table 7
EBMUD Water Supply and Demand^a in Normal, Dry, and Multiple Dry Years

Supply and Demand	Year				
	2010	2015	2020	2025	2030
Normal Year ^b Supply	>225	>229	>243	>254	>267
Demand	216 214	217 229	221 243	224 254	229 267
<i>Difference</i>	<u>9</u> 0	<u>12</u> 0	<u>22</u> 0	<u>30</u> 0	<u>38</u> 0
Supply: Single Dry Year or Multiple Dry Year -1	214	217	230	241	253
Demand with 5% Reduction ^{c, d}	214	217	230	241	253
Difference	0	0	0	0	0
Supply: Multiple Dry Year - 2	168	172	182	191	200
Demand with 25% Reduction ^{c, d}	168	172	182	191	200
<i>Difference</i>	0	0	0	0	0
Supply: Multiple Dry Year - 3	168	172	182	191	200
Demand with 25% Reduction ^d	168	172	182	191	200
<i>Difference</i>	0	0	0	0	0

Source: East Bay Municipal Utilities District, 2005 Urban Water Management Plan, Table 4-2 page 4-6. Updated by PBS&J to reflect FRWP supplies of up to 100 mgd in drought years beginning in late 2009. Since the FRWP is well under way this analysis assumes FRWP supplies will be available in all drought years from 2010 through 2030.

Notes:

- Supplemental supplies based on EBMUDSIM model results. Amount of water based upon EBMUD's Demand Management Program, provisions of the 1998 Settlement Agreement and the off setting of additional water supply system losses created by a supplemental supply. The actual need will be dependent on antecedent conditions and the severity of the actual drought. Any supplemental supply stored during the initial years of the drought is later released, diminishing the supplemental supply needs.
- Normal year, as forecasted from April through the end of September, total system storage would be 500,000 AF or greater.
- Year 2005 through completion of FRWP, EBMUD water supply system cannot adequately supply 95% of demand and may impose rationing up to 15% during the first year of a drought, supplemental supplies would be needed. Per mitigations in FRWP EIR rationing goal is 5% for single dry year or first dry year of a multiple dry year condition.
- Projected Supply data includes dry-year deliveries via Freeport regional Water Project beginning in 2010. EBMUD's deficiency goal is 25 percent.

The first paragraph of the "Water Supplies" discussion in the Utilities and Service Systems section of the Initial Study, page 212, has been revised as follows:

As stated previously, EBMUD ~~is currently prepared and adopted preparing~~ its WSMP 2040 ~~in October for release in late 2009~~. The WSMP 2040 is a water supply planning document that EBMUD ~~can will~~ use to assess supplies and analyze demands. Since inception of the WSMP 2040, EBMUD has surveyed the jurisdictions in its service area and conducted numerous public workshops to properly evaluate future demands and seek public support in its request ~~for to~~ supply reliability. ~~Since~~ Upon completion of the WSMP EBMUD ~~can now then~~ compare its future supply and demand situations using future land use ~~current~~ demand data and projected supply information. EBMUD's demand surveys conducted throughout its service area during preparation of its WSMP 2040 accounted for the demands associated with implementation of multiple projects of differing densities at a variety of locations throughout the City of Oakland.

Over the course of 20 years it is estimated that approximately 13,000 new units would be constructed and based on Table 1 of the Population and Housing section the majority of new construction would occur in the next 10 years; therefore, it reasonable to assume that buildout of the *2007-2014 Housing Element* was accounted for in EBMUD's WSMP 2040.^{170, 171}

Traffic

Caltrans noted that mitigation for any identified impacts to State highways should include a project's fair share contribution, financing, scheduling and implementation responsibilities, and that a project's traffic mitigation fees should be identified in the environmental document. Since the Housing Element EIR is a programmatic review of development under the *2007-2014 Housing Element*, project-specific impacts to State highways were not analyzed and project-specific mitigation measures are not discussed.

Caltrans also noted their preference for land use plans to encourage use of alternative transportation modes and mass transit. The *Housing Element* policies, Standard Conditions of Approval, and other policies that encourage transit-oriented development are discussed in Section 3.2 Transportation.

The Alameda County Congestion Management Agency (ACCMA) commented that if the project would generate 100 or more P.M. peak hour trips above existing conditions, compliance with Land Use Analysis Program of the Congestion Management Program (CMP) would be required. The ACCMA subsequently determined that because the 14,000 new housing units provided under the *Housing Element* is less than the new housing units that are included in the adopted Land Use and Transportation Element of the General Plan, no ACCMA analysis is required.

Rail Safety

An analysis of potential hazards from new residential development under the *Housing Element* introducing additional vehicle, bicycle and pedestrian traffic to existing at-grade railroad crossings, thereby potentially contributing to safety issues along railroad corridors is included in Section 3.2, Transportation and Circulation, of the Draft EIR.

Central Business District Zoning and the Gold Coast Neighborhood

The commentor states that new residential development in the downtown area should be consistent with the Urban Density Residential and Central Business District density range. The commentor also states that the downtown area is designated as an area to "maintain and enhance," and that changes in use and density should be small.

As stated in the Initial Study, construction of housing units, especially within the downtown area, has the potential to be visually incompatible with existing significant structures; however, prior to issuance of approvals from the City of Oakland for an individual housing project, the project would be subject to CEQA review, and the applicable plans and policies of the City. Specifically, future development in the

¹⁷⁰ East Bay Municipal Utility District, Appendix A WSMP 2040 City of Oakland Planning Department Meeting Notes, August 2, 2007.

¹⁷¹ Jae Park, East Bay Municipal Services District, personal communication August 7, 2009 with PBS&J.

downtown area under the *2007-2014 Housing Element* would be subject to the following General Plan policies:

- Policy D1.1: *Defining Characteristics of Downtown*. The characteristics that make downtown Oakland unique should be enhanced and used to strengthen the downtown as a local and regional asset.
- Policy D2.1: *Enhancing the Downtown*. Downtown development should be visually interesting, harmonize with its surroundings, respect and enhance important views in and of the downtown, respect the character, history, and pedestrian-orientation of the downtown, and contribute to an attractive skyline.
- Policy D10.3: Downtown residential areas should generally be within the urban and Central Business District density range. The height and bulk should be reflective of existing and desired district character, the overall city skyline, and the existence of historic structures or areas.
- Policy D10.5: *Designing Housing*. Housing in the downtown should be safe and attractive, of high quality design, and respect the downtown's distinct neighborhoods and its history.
- Policy N8.2: *Making Compatible Interfaces Between Densities*. The height of development in urban residential and other higher density residential areas should step down as it nears lower density residential areas to minimize conflicts at the interface between the different types of development.

If future development in the downtown area under the *2007-2014 Housing Element* cannot prove that it would be consistent with the aforementioned policies, the City will need to prepare a "Statement of Overriding Consideration," in which City would describe how the need for the project outweighs its potential effects on aesthetics and character.

Programmatic Nature of the Initial Study/Draft EIR

A discussion of the type of CEQA review performed for the *Housing Element* is located in Section 1.2, Introduction, and elsewhere in this document.

Section 7

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