

# **OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT**

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## *Draft Environmental Impact Report*

*October 31, 1997*

*ER No. 97-18*

*State Clearinghouse No. 97062089*

*Prepared for:*

*City of Oakland*

*Community and Economic Development Agency*

**ESA** | Environmental  
Science  
Associates

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# SUMMARY

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## **A. PROJECT DESCRIPTION**

The project is the update of the Land Use and Transportation Element of the Oakland General Plan. The Element combines the State-mandated Land Use Element and Circulation Element into a single integrated document. It replaces the 1980 Land Use Element and the 1974 Circulation Element of the Oakland General Plan and updates the Land Use and Circulation sections of the Oakland Policy Plan. In addition to updating the City's Land Use and Transportation Diagram, the Element introduces new strategies, policies, and priorities for Oakland's development and enhancement during the next two decades.

## **B. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Potential environmental impacts of the project are summarized in Table S-1 at the end of this chapter. This table lists impacts and mitigation measures in three major categories: significant impacts that would remain significant even with mitigation; significant impacts that can be mitigated to a level of less-than-significant; and impacts that would not be significant. For each significant impact, the table includes a summary of mitigation measure(s), followed by a column that indicates whether the impact would be mitigated to a less-than-significant level. Please refer to Chapter III for a complete discussion of each impact and associated mitigation.

As stated in Table S-1 and in Chapter III, the Land Use and Transportation Element would result in significant, unavoidable impacts in regard to transportation, public services, air quality, noise, wind, and consistency with adopted plans and policies.

## **C. ALTERNATIVES**

Chapter IV of this EIR analyzes three separate alternatives to the Land Use and Transportation Element: the "No Project" alternative, which would leave the existing 1980 General Plan in place; the "Alternative Designations" alternative, which considers the choices that were presented but not selected for the various sites analyzed during the Element update; and the "Environmentally Superior" alternative, which identifies lower levels of development in those areas with environmental constraints, including the hills, and requires mitigation of the adverse impacts identified in this EIR to the point where they would be less than significant.

**TABLE S-1**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>A. SIGNIFICANT UNAVOIDABLE IMPACTS</b>		
<b>B. <u>Transportation</u></b>		
<b>B.1:</b> Development pursuant to the updated Land Use and Transportation Element would result in the degradation of the level of service on several roadway segments.	<b>B.1:</b> Implement roadway improvements and transit improvements to reduce congestion on arterial roadways.	SU
<b>D. <u>Public Services</u></b>		
<b>D.6-2:</b> Development consistent with the proposed Land Use and Transportation Element would result in higher levels of population in areas where fire fighting and evacuation constraints presently exist. These constraints include narrow street widths, insufficient turning radii, steep slopes, distant fire stations, and an emergency water supply that is vulnerable to disruption in the event of an earthquake or power failure.	<b>D.6-2:</b> Proceed with construction of a fire station in the North Oakland Hills to reduce the identified service deficiency in this area, to reduce response times, and to minimize the risk of catastrophic wildfire.	SU
<b>E. <u>Air Quality</u></b>		
<b>E.1:</b> Implementation of the proposed Land Use and Transportation Element would not be consistent with population and VMT assumptions used in air quality planning, and would result in increased regional emissions of criteria air pollutants.	<b>E.1:</b> To the extent permitted by law, large new development within the City shall be required to implement Transportation Control Measures (TCMs) as recommended by the Bay Area Air Quality Management District (listed under Mitigation Measure E.6).	SU

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SU = Significant and Unavoidable

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>A. SIGNIFICANT UNAVOIDABLE IMPACTS</b>		
<b>E.6:</b> Cumulative development of projects in the Downtown Showcase District would result in long-term traffic increases and associated air pollutant emissions, which would adversely affect regional air quality.	<b>E.6:</b> The the extent permitted by law, downtown projects should be required to implement Transportation Control Measures (TCMs) to reduce mobile source emissions. Many of these measures already would be part of the downtown projects due to the proximity of these projects to existing local and regional transit facilities and existing limitations on parking availability.	SU
<b>E.10:</b> Cumulative development of projects in the Coliseum Showcase District would result in traffic increases and associated air pollutant emissions, which would adversely affect regional air quality.	<b>E.10:</b> Implement Mitigation Measure E.6.	SU
<b>L. <u>Noise</u></b>		
<b>L.8:</b> Development of the downtown projects would generate short-term increases in noise and vibration due to construction.	<b>L.8:</b> The City shall require the project sponsors to implement noise control techniques to minimize disturbance to adjacent or nearby sensitive noise receptors during project construction.	SU
<b>L.11:</b> Construction of projects in the Coliseum Showcase District would generate short-term increases in noise and vibration, and potential noise increases would be the same as described under Impact L.8 above for the Downtown Showcase District.	<b>L.11:</b> The City shall require the project sponsors to implement noise control techniques to minimize disturbance to adjacent or nearby sensitive noise receptors during project construction.	SU

SU = Significant and Unavoidable

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>A. SIGNIFICANT UNAVOIDABLE IMPACTS</b>		
<b>N. <u>Wind</u></b>		
<b>N.1:</b> Adoption of the Element could result in development that would change wind speeds at locations in the Downtown Showcase District.	<b>N.1:</b> The City shall require the project sponsors to incorporate specific design elements in the final siting and designs for the high rises that could reduce ground-level winds within the Downtown Showcase District.	SU
<b>O. <u>Consistency with Adopted Plans and Policies</u></b>		
<b>O.3:</b> The proposed Land Use and Transportation Element would be consistent with regional policies and programs except for the Clean Air Plan.	<b>O.3:</b> Implement Mitigation Measures E.1 and E.6.	SU

SU = Significant and Unavoidable

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>A. <u>Land Use</u></b>		
<p><b>A.1:</b> Implementation of the proposed Land Use and Transportation Element would alter the Oakland General Plan land use classifications, changing the densities that are allowed in various residential designations and restructuring the commercial and industrial designations to reflect a broader range of industry and business than anticipated in the 1980 Plan. Development consistent with the new definitions could result in a broader range of commercial and industrial uses in some areas.</p>	<p><b>A.1a:</b> Establish performance based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas.</p>	LS
	<p><b>A.1b:</b> Develop “performance” zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby land uses.</p>	
	<p><b>A.1c:</b> Develop strategies to mitigate conflicts associated with live/ work and home occupation uses.</p>	
	<p><b>A.1d:</b> During the revision of the zoning ordinance and map, develop zoning district definitions and map boundaries to protect enclaves of lower density residential development that may be designated for more inclusive density categories on the Land Use and Transportation Diagram. Use the General Plan Strategy Diagram as a means of making these determinations.</p>	
	<p><b>A.1e:</b> During the revision of the zoning ordinance, develop a one acre minimum lot size zoning district. Consistent with the recommendations of the OSCAR Element, apply this district to appropriate areas of the Oakland Hills as a means of maintaining and enhancing neighborhood character.</p>	

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<p><b>A.2:</b> Land Use Diagram changes could facilitate the redevelopment of large parts of the City, including military bases, transit corridors, the Coliseum area, the Estuary shoreline, and Downtown. Implementation of the proposed Land Use and Transportation Element would change the allowable land uses in a number of locations within the City. Subsequent zoning changes could result in designations that are inconsistent with the existing uses. Zoning changes consistent with the proposed Element could render some uses non-conforming.</p>	<p><b>A.2a:</b> Establish design requirements for large-scale commercial development that requires adequate buffers from residential uses. Use of open space, recreation space, or transit installations as buffers should be encouraged.</p>	LS
	<p><b>A.2b:</b> Develop distinct definitions for home occupation, live/work and work/live operations; define appropriate locations for these activities and performance criteria for their establishment; and create permitting procedures and fees that facilitate the establishment of those activities which meet the performance criteria.</p>	
	<p><b>A.2c:</b> Ensure that structures and sites are designed in an attractive manner which harmonizes with or enhances the visual appearance of the surrounding environment by preparing and adopting industrial and commercial development guidelines.</p>	
	<p><b>A.2d:</b> Establish performance-based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas.</p>	
	<p><b>A.2e:</b> Develop performance zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby uses.</p>	

LS = Less than Significant



**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
	<b>A.2f:</b> Develop an incentive program to encourage the relocation of non-conforming industrial/ commercial businesses or residential uses to more appropriate locations in the City.	
<b>B. <u>Transportation and Circulation</u></b>		
<b>B.3:</b> Development of Downtown Showcase District projects would result in degradation of intersection levels of service.	<b>B.3:</b> The impacts at the intersection of 12 <sup>th</sup> Street and Brush Street can be mitigated by increasing the cycle length to 120 seconds.	LS
<b>B.4:</b> Development of the Coliseum Showcase District projects would result in degradation of intersection levels of services.	<p><b>B.4a:</b> Install a traffic signal at the intersection of 66th Avenue and I-880 southbound ramps and restripe the lanes of the southbound off-ramp. This intersection meets the Caltrans peak hour signal warrants under PM peak hour conditions.</p> <p><b>B.4b:</b> Install a traffic signal at the intersection of 66th Avenue and I-880 northbound ramps. This intersection meets the Caltrans peak hour signal warrants under PM peak hour conditions.</p> <p><b>B.4c:</b> Install a traffic signal at the intersection of 66th Avenue and Oakport Street and widen Oakport Street to provide a through and turn lane in each direction. This intersection meets the Caltrans peak hour signal warrants under PM peak hour conditions.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
	<p><b>B.4d:</b> Widen the northbound approach at the High Street and Coliseum Way intersection to provide an additional left-turn lane or restripe the eastbound approach to provide double left-turn lanes and a shared through/right-turn lane. This intersection may be subject to changes in traffic patterns as a result of the current studies being conducted to reconfigure the High Street and 42 Street intersection. The identified mitigation measure should be implemented only after the reconfiguration of the High Street and 42nd Street intersection is approved.</p>	
<b>C. <u>Population, Housing, and Employment</u></b>		
<p><b>C.1:</b> The Land Use and Transportation Element would alter the amount of land available for new employment uses, increasing the acreage in some categories and decreasing it in others. A net increase in employment development potential would be created through policies and land use designations, including the promotion of redevelopment on over 1,100 acres at three military bases (OKNH, FISCO, and OAB) and 6,500 acres in the Coliseum Area. While the land supply for commercial development would not change significantly, the policy emphasis on Downtown and corridor redevelopment, coupled with airport and harbor expansion and a number of specific developments “in the pipeline,” would result in substantially higher employment in the retail, service, and government sectors. Projected employment will be significantly higher than the quantity anticipated by ABAG, creating a demand for new housing and increasing Oakland’s jobs:housing ratio.</p>	<p><b>C.2:</b> The City should maintain a data base of vacant and underutilized parcels in a form that is accessible to all departments. The City should assist developers of affordable and market rate housing in locating appropriate sites for their developments and identifying potential neighborhood concerns.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>D. <u>Public Services</u></b>		
<b>D.1-2:</b> Increased water demand would require localized improvements to the water delivery system and could require the addition of new infrastructure such as pumps and storage facilities in areas where major redevelopment or new development is proposed. These areas include the military bases, Downtown, the waterfront, transit station areas and transit corridors.	<b>D.1-2:</b> Review major new development proposals to determine projected water, wastewater, and storm drainage loads compared with available water, sewer, and storm drain capacity. Where appropriate, determine appropriate capital improvement requirements, fiscal impacts, and funding sources prior to project approval.	LS
<b>D.2-2:</b> Increased sanitary sewer flows would require localized improvements to the sewage collection system and could require the addition of new laterals and collection mains and upgraded pumps, lift stations, and other wastewater infrastructure. This impact would be most pronounced in areas where major redevelopment or new development is proposed, including the military bases, Downtown, along the waterfront, around transit stations and along transit corridors.	<b>D.2-2:</b> Review major new development proposals to determine projected water, wastewater, and storm drainage loads compared with available water, sewer, and storm drain capacity. Where appropriate, determine appropriate capital improvement requirements, fiscal impacts, and funding sources prior to project approval.	LS
<b>D.3-2:</b> The proposed Land Use and Transportation Element would allow continued buildout of hill area subdivisions and additional development of vacant land in the Oakland Hills, an area with acknowledged drainage problems.	<b>D.3-2a:</b> Review major new development proposals to determine projected water, wastewater, and storm drainage loads compared with available water, sewer, and storm drain capacity. Where appropriate, determine appropriate capital improvement requirements, fiscal impacts, and funding sources prior to project approval.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
	<p><b>D.3-2b:</b> Require major new developments to include a combination of on-site and off-site drainage improvements to ensure that such projects do not create downstream erosion or flood hazards, or adversely impact the City's ability to manage stormwater runoff.</p> <p><b>D.3-2c:</b> Address hill area drainage needs and develop additional drainage policies in the updated Safety Element.</p> <p><b>D.3-2d:</b> Prepare a comprehensive study of hill area drainage needs and identify policies, programs, and capital improvements to address these needs in the future.</p>	
<p><b>D.4-1:</b> New development consistent with the proposed Land Use and Transportation Element would increase the demand for solid waste services. Because of the higher population and employment forecasts contained in the Element, demand would increase at a faster rate than it would under the current General Plan.</p>	<p><b>D.4-1a:</b> Continue to implement programs that reduce the amount of solid waste generated in the City by encouraging recycling, composting, and other activities consistent with the City's Source Reduction and Recycling Element.</p> <p><b>D.4-1b:</b> Support solid waste collection, recycling, and disposal rates that are sufficient to cover the cost of adequate, efficient service delivery.</p> <p><b>D.4-1c:</b> Establish guidelines and incentives for the recycling of construction and demolition debris and the use of recycled concrete and other recycled products in the construction of new buildings, roads, and infrastructure.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>D.5-1:</b> Development consistent with the proposed Land Use and Transportation Element would result in higher levels of population and employment, thereby increasing the demand for police services. The need for staff, facilities, and equipment would increase in the Downtown, waterfront, military base, and transit corridor neighborhoods.	<p><b>D.5-1a:</b> In reviewing major land use or policy decisions, consider the availability of police and fire protection services, park and recreation services, schools, and library services in the affected areas, as well as the impact of the project on current service levels.</p> <p><b>D.5-1b:</b> Develop target ratios of police officers and firefighters to population for annual budgeting purposes. These ratios should be used to assess the feasibility and merits of service fees on new development which finance additional police officers and fire fighters.</p> <p><b>D.5-1c:</b> Increase police foot patrols and cruisers in high visibility downtown areas and locate funding sources to support them.</p> <p><b>D.5-1d:</b> Analyze the distribution of services provided by the public and privately operated civic and institutional uses, identify underserved areas of the City and increase services in those areas.</p> <p><b>D.5-1e:</b> Solicit comments from the Oakland Police and Fire Departments on major new development proposals to ensure that law enforcement and fire protection impacts are appropriately addressed and mitigated.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>D.6-1:</b> Development consistent with the proposed Land Use and Transportation Element would result in higher levels of population and employment, thereby increasing the demand for fire protection and emergency medical services. The need for staff, facilities, and equipment would increase in the Downtown, waterfront, military base, transit corridor and other residential neighborhoods as redevelopment occurred.	<p><b>D.6-1a:</b> In reviewing major land use or policy decisions, consider the availability of police and fire protection services, park and recreation services, schools, and library services in the affected areas, as well as the impact of the project on current service levels.</p> <p><b>D.6-1b:</b> Develop target ratios of police officers and firefighters to population for annual budgeting purposes. These ratios should be used to assess the feasibility and merits of service fees on new development which finance additional police officers and fire fighters.</p> <p><b>D.6-1c:</b> Retain the existing Fire Stations at all three military bases to facilitate the provision of adequate public services to users of these sites as well as to surrounding properties.</p> <p><b>D.6-1d:</b> Solicit comments from the Oakland Police and Fire departments on major new development proposals to ensure that law enforcement and fire protection impacts are appropriately addressed and mitigated during project planning and design.</p>	LS
<b>D.7-1:</b> Development consistent with the proposed Land Use and Transportation Element could increase the number of students served by the Oakland Unified School District (OUSD). The greatest impacts would be Downtown and in the Waterfront area.	<p><b>D.7-1a:</b> Mitigation measures available to the School District to reduce overcrowding include:</p> <ol style="list-style-type: none"> <li>1) reassigning students among district schools to account for changing population and new development;</li> <li>2) continuation and expansion of year-round school;</li> </ol>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>	<ul style="list-style-type: none"> <li>3) more efficient use of underutilized and/or abandoned school facilities;</li> <li>4) addition of portable classrooms; and</li> <li>5) the busing of students to less crowded schools.</li> </ul> <p>If these measures do not reduce overcrowding, OUSD may have to expand existing schools or construct new schools. All of these measures would require varying amounts of funding.</p> <p>If current sources of funding including the City of Oakland school mitigation fees, increases in property taxes and sales tax revenues, and increases in state funding are insufficient to pay for the cost of these mitigating overcrowding, the OUSD should formulate and implement specific measures to raise additional funds. Funding sources which may be considered by OUSD include:</p> <ul style="list-style-type: none"> <li>1) adjustments of school mitigation fees on commercial and residential development;</li> <li>2) the creation of special assessment or Mello Roos districts or annexation to a Community Facilities District;</li> <li>3) sale of surplus OUSD property; and</li> </ul>	

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
	<p>4) any other funding mechanisms available to the OUSD by state law or local ordinances, including those measures identified in the OUSD's 1996 Developer Fee Justification Study.</p>	
	<p><b>D.7-1b:</b> In reviewing major land use or policy decisions, the City will consider the availability of police and fire protection services, park and recreational services, schools, and library services in the affected areas and the impact of the project on the current service levels.</p>	
	<p><b>D.7-1c:</b> Support the School District's efforts to use local bond issues and voter approved assessment districts as a means of providing adequate school facilities.</p>	
	<p><b>D.7-1d:</b> Where feasible and appropriate, encourage the inclusion of child care centers in major residential and commercial developments near transit centers, community centers, and schools.</p>	
	<p><b>D.7-1e:</b> Continue to assist the Oakland Unified School District in securing all of the fees, grants, and other financial resources possible.</p>	
	<p><b>D.7-1f:</b> Work with the School District to coordinate land use and school facility planning and continue efforts by the City to collect impact fees and monitor the school capacity impacts of new development.</p>	

LS = Less than Significant



**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
	<p><b>D.7-1g:</b> The Office of Parks and Recreation, Real Estate Division of the Office of Public Works, and the Oakland Unified School District should assess the use of City and school-owned parcels for use as civic, institutional, or recreational facilities.</p> <p><b>D.7-1h:</b> Support state and federal legislation to promote affordable, safe, high-quality child care, including children with special needs.</p>	
<p><b>D.8-1:</b> Development consistent with the proposed Land Use and Transportation Element could result in an increased number of patrons at the Main and branch libraries. The greatest impacts would be in the South Hills, where there are presently no library facilities; along the waterfront, where there are no library facilities; and along the transit corridors, where libraries generally exist but are too small to meet projected patronage requirements.</p>	<p><b>D.8-1:</b> In reviewing major land use or policy decisions, consider the availability of police and fire protection services, park and recreation services, schools, and library services in the affected areas, as well as the impact of the project on current service levels.</p>	LS
<b>E. <u>Air Quality</u></b>		
<p><b>E.4:</b> Proposed General Plan map changes to allow a mix of commercial and residential uses (Urban Residential, Neighborhood Center Commercial, and Community Commercial designations) could result in odor nuisance problems at residential receptors.</p>	<p><b>E.4:</b> Where residential development would be located above commercial uses, parking garages, or any other uses with a potential to generate odors, the odor-generating use should be properly vented (e.g., located on rooftops) and designed (e.g., equipped with afterburners) so as to minimize the potential for nuisance odor problems.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>E.5:</b> Construction activities associated with downtown projects in the Downtown Showcase District would generate dust (including the respirable fraction known as PM <sub>10</sub> ) and combustion emissions.	<p><b>E.5a:</b> The following Basic Control Measures shall be implemented at all construction sites:</p> <ul style="list-style-type: none"> <li>• Water all active construction areas at least twice daily.</li> <li>• Cover all trucks hauling soil, sand, and other loose debris <i>or</i> require all trucks to maintain at least two feet of freeboard.</li> <li>• Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.</li> <li>• Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.</li> <li>• Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.</li> </ul> <p><b>E.5b:</b> The following enhanced control measures shall be implemented at all construction sites when more than four acres are under construction at any one time:</p> <ul style="list-style-type: none"> <li>• Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).</li> <li>• Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)</li> <li>• Limit traffic speeds on unpaved roads to 15 mph.</li> </ul>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
	<ul style="list-style-type: none"> <li>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways.</li> <li>• Replant vegetation in disturbed areas as quickly as possible.</li> </ul>	
	<p><b>E.5c:</b> BAAQMD dust control measures would be implemented by contractors of future development projects as outlined in BAAQMD <i>CEQA Guidelines</i> (1996) or any subsequent applicable BAAQMD updates. They are as follows:</p>	
	<ul style="list-style-type: none"> <li>• Any stationary motor sources (such as generators and compressors) to be located within 100 feet of any residence or school (sensitive receptors) would be equipped with a supplementary pollution control system on its exhaust as required by Bay Area Air Quality Management District (BAAQMD) and California Air Resources Board (CARB).</li> <li>• To minimize construction equipment emissions, low- NOx tune-ups should be performed on all construction equipment. Contractors should be required to utilize equipment with recent (within 30 days) low- NOx tune-ups to minimize NOx emissions. This would apply to all diesel-powered equipment greater than 50 horsepower and periodic tune-ups (every 90 days) would be required for equipment used continuously for construction of a specific development.</li> </ul>	

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>E.9:</b> E.9: Construction activities associated with projects in the Coliseum Showcase District would generate dust (including the respirable fraction known as PM <sub>10</sub> ) and combustion emissions.	<b>E.9:</b> Implement Mitigation Measures E.5a, E.5b, and E.5c.	LS
<b>F. <u>Visual and Aesthetic Conditions</u></b>		
<b>F.2:</b> The Land Use and Transportation Element encourages high-rise development in Downtown Oakland. Such development could potentially block views, cast shadows, appear visually incongruous with adjacent low-rise development, and block views of the City skyline from surrounding neighborhoods.	<p><b>F.2a:</b> Develop guidelines or a “step back” ordinance for height and bulk for new development projects in the downtown area. Projects should be encouraged to be designed at pedestrian-scale on the street-side, with high towers or strong vertical elements stepping back from the street.</p> <p><b>F.2b:</b> Analyze the desired height of downtown office development and develop zoning regulations that support the preferred skyline design.</p> <p><b>F.2c:</b> Define view corridors and, based upon these views, designate appropriate height limits and other requirements. Views of Lake Merritt, the Estuary, and architecturally or historically significant buildings should be considered.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>F.3:</b> The Land Use and Transportation Element would set in place policies and land use designations that encourage mid-rise, pedestrian-scale mixed use development along approximately 20 miles of transit-oriented corridors within the City. Although existing General Plan designations and zoning already permit this scale and mix of development in most instances, the policy emphasis on these areas could create additional momentum for development. Development of the scale proposed by the Plan would generally have positive visual impacts but could interrupt views and create the potential for architecturally incompatible development.	<p><b>F.3a:</b> Develop standard design guidelines for all Neighborhood Commercial areas that require continuous or nearly continuous storefronts located along the front yard setback, promote small scale commercial activities rather than large scale establishments at the ground level, restrict front yard parking lots and driveways, require small scale pedestrian-oriented signage, have a relatively low height limit, and promote the development of pedestrian friendly amenities at the street level. The standard design guidelines may be expanded to capture the unique or desired character of certain areas.</p> <p><b>F.3b:</b> Ensure that structures and sites are designed in an attractive manner which harmonizes with or enhances the visual appearance of the surrounding environment by preparing and adopting industrial and commercial design guidelines.</p> <p><b>F.3c:</b> Develop design guidelines for parking facilities of all types.</p>	LS
<b>G. <u>Cultural and Historic Resources</u></b>		
<b>G.2:</b> Excavation of development sites consistent with the Land Use and Transportation Element could unearth archaeological resources. Some of these remains could have scientific or cultural importance.	<b>G.2:</b> Establish criteria and interdepartmental referral procedures for determining when discretionary City approval of ground-disturbing activities should be subject to special conditions to safeguard potential archaeological resources.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>G.3:</b> Many of the City's historic resources are located Downtown and along transit corridors. Higher density uses are proposed in these areas and redevelopment is encouraged. This could have direct impacts by increasing the pressure to remove or demolish older buildings, including some historic structures.	<p><b>G.3a:</b> Amend the Zoning Regulations text to incorporate the new preservation regulations and incentives.</p> <p><b>G.3b:</b> Develop and adopt design guidelines for Landmarks and Preservation Districts.</p>	LS
<b>L. <u>Noise</u></b>		
<b>L.3:</b> Proposed General Plan map changes to allow a mix of commercial and residential uses (Urban Residential, Neighborhood Center Commercial, and Community Commercial designations) could pose noise compatibility problems between residential and commercial uses.	<p><b>L.3a:</b> Establish design requirements for large-scale commercial development that requires adequate buffers from residential uses. Use of open space, recreation space, or transit installations as buffers should be encouraged.</p> <p><b>L.3b:</b> Mixed residential/ non-residential neighborhoods should be rezoned after determining which should be used for residential, mixed, or non-residential uses. Some of the factors that should be considered when rezoning mixed use areas include the future intentions of the existing residents or businesses, natural features, or health hazards.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>L.4:</b> Proposed General Plan map changes to allow higher residential densities could pose noise compatibility problems between future residential development and existing, lower density residential uses within the same land use category.	<b>L.4:</b> Where high density residential development would be located adjacent to existing lower density residential development, new development shall be designed to minimize noise impacts on any existing residential uses due to increased traffic on local roadways and increased parking activities.	LS
<b>L.5:</b> Proposed General Plan map changes to allow live-work and other forms of housing in transitional industrial areas could pose future noise compatibility problems.	<p><b>L.5a:</b> The City should develop distinct definitions for home occupation, live/work and work/live operations; define appropriate locations for these activities and performance criteria for their establishment; and create permitting procedures and fees that facilitate the establishment of those activities which meet the performance criteria.</p> <p><b>L.5b:</b> Avoid proliferation of existing incompatible uses by eliminating, through appropriate rezoning actions, pockets of residential zoning within predominantly industrial areas.</p> <p><b>L.5c:</b> Establish performance-based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas.</p> <p><b>L.5d:</b> Develop performance zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby uses.</p>	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. SIGNIFICANT BUT MITIGABLE IMPACTS</b>		
<b>L.7:</b> Implementation of the proposed Land Use and Transportation Element could result in future transportation improvements that could create or aggravate noise compatibility problems with sensitive receptors.	<b>L.7:</b> Future transit improvements shall be designed sufficiently so that future noise levels along these streets can be adequately estimated and considered in the design of future residential or other noise-sensitive developments.	LS
<b>M. <u>Hazardous Materials</u></b>		
<b>M.5:</b> Remediation efforts at an identified hazardous waste site could expose workers and the public to hazardous substances.	<b>M.5:</b> Hazards to construction workers and the general public during demolition and construction shall be mitigated by the preparation and implementation of site-specific health and safety plans, as recommended by the Occupational Safety and Health Administration.	LS

LS = Less than Significant



**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>A.3:</b> Implementation of the Land Use and Transportation Element would place a greater emphasis on mixed use development and would require development of mixed use zoning designations. The emphasis on mixed use development could create a greater likelihood for conflicting uses within projects or between projects and adjacent sites.	None required.	LS
<b>A.4:</b> Implementation of the proposed Land Use and Transportation Element could result in future transportation improvements that could have land use impacts.	None required.	LS
<b>B. <u>Transportation and Circulation</u></b>		
<b>B.2:</b> Development that would occur under the Land Use and Transportation Element would increase transit demand.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>C. <u>Population, Housing, and Employment</u></b>		
<b>C.1:</b> The Land Use and Transportation Element would increase housing capacity in Oakland by providing greater allowances for higher density housing in commercial areas than those that already exist and by reclassifying several transit corridors for urban-density housing. Additionally, the Plan reflects emerging plans and development proposals for housing Downtown, at Oak Knoll Naval Hospital, along the Oakland Estuary, and at several BART Stations. The increase in land supply, coupled with specific development projects, are projected to result in a higher number of households in Oakland by the Plan's horizon year of 2015.	None required.	LS
<b>C.3:</b> The Land Use and Transportation Element would redesignate approximately 45 acres on the Land Use Diagram from residential use to "Housing-Business Mix." Although the intent of this designation is to acknowledge the existing pattern and create areas where residential and industrial uses can co-exist harmoniously, rezoning consistent with the General Plan could lead to further encroachment of industrial uses in these areas. This could lead to a loss of housing stock in some locations.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>D. <u>Public Services</u></b>		
<b>D.1-1:</b> Development consistent with the proposed Land Use and Transportation Element would result in an increase in water demand.	None required.	LS
<b>D.2-1:</b> Development consistent with the proposed Land Use and Transportation Element would result in an increase in flows to the regional wastewater treatment plant.	None required.	LS
<b>D.3-1:</b> Implementation of the proposed Land Use and Transportation Element would result in increased development activity Downtown, along transit corridors and around transit stations, along the waterfront, near the Coliseum, and on former military bases. Since these areas are already developed, the increased amount of impervious surface would be marginal and the amount and rate of runoff would not change significantly. The quality of runoff could be impacted by construction, soil disruption, and by the change in land uses in redevelopment areas. However, the shift would generally be away from manufacturing to more service-oriented industry and commerce.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>D.9-1:</b> Development consistent with the proposed Land Use and Transportation Element would increase the demand for park services, particularly in areas targeted for reuse and intensification. All of these areas, including Downtown, the waterfront, the transit stations and corridors, and the military bases, are located in areas that are already deficient in local-serving parkland. Further development would place even greater demands on the limited park acreage in these neighborhoods, unless additional park area was provided.	None required.	LS
<b>E. <u>Air Quality</u></b>		
<b>E.2:</b> The proposed Land Use and Transportation Element would be consistent with <i>Clean Air Plan</i> Transportation Control Measures (TCMs).	None required.	LS
<b>E.3:</b> Implementation of the proposed Land Use and Transportation Element would result in traffic increases along roadways in the City which could result in localized air quality impacts.	None required.	LS
<b>E.7:</b> Cumulative development of projects in the Downtown Showcase District would result in traffic increases that could result in long-term, localized air quality impacts.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>E.8:</b> Cumulative development of downtown projects would result in increased stationary source emissions associated with heating and electricity consumption.	None required.	LS
<b>E.11:</b> Cumulative development of projects in the Coliseum Showcase District would result in traffic increases that could result in localized air quality impacts.	None required.	LS
<b>E.12:</b> Cumulative development of Coliseum projects would result in increased stationary source emissions associated with heating and electricity consumption or other uses.	None required.	LS
<b>F. <u>Visual and Aesthetic Conditions</u></b>		
<b>F.1:</b> Development consistent with the Future Land Use Diagram could degrade or destroy existing scenic resources in the City, including hillsides, ridges, canyons, trees and riparian areas. However, adoption of the Element alone would not increase the potential for impacts. Existing policies in the OSCAR Element provide general mitigation of visual impacts.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>G. <u>Cultural and Historic Resources</u></b>		
<b>G.1:</b> Excavation of development sites consistent with the Land Use and Transportation Element could unearth paleontologic remains. Some of these remains could have scientific importance. However, adoption of the proposed Element would not significantly affect these resources.	None required.	LS
<b>G.4:</b> Increased development and more intense development in areas with high concentrations of older structures could have indirect impacts on these structures by changing their context and setting. Even if left intact, the integrity of older buildings could be compromised as larger, modern buildings are erected on adjoining properties.	None required.	LS
<b>G.5:</b> The Element's emphasis on adaptive re-use and live-work development could result in alteration of older buildings and historic structures in a manner that is architecturally incompatible with the structure.	None required.	LS
<b>H. <u>Vegetation and Wildlife</u></b>		
<b>H.1:</b> Development consistent with the Land Use and Transportation Element could damage or remove potential habitat for special status species on undeveloped parcels within the City, particularly at the military bases, along the Estuary, and at Leona Quarry.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>H.2:</b> Development consistent with the Land Use and Transportation Element could trigger impacts on adjacent lands designated for Resource Conservation. Greater levels of noise, traffic, lighting, urban runoff, and human activity on lands adjacent to waterfront parks could reduce the value of these areas as wildlife habitat.	None required.	LS
<b>H.3:</b> Development consistent with the Land Use and Transportation Element could affect the habitat of certain special status plants and result in the loss of special status plant species, and could result in the loss of mature trees on new development sites.	None required.	LS
<b>I. <u>Hydrology and Water Quality</u></b>		
<b>I.1:</b> Implementation of the proposed Land Use and Transportation Element would result in increased development activity at various locations throughout the City, including locations adjacent to creeks and waterways, which could result in water quality impacts during construction.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>I.2:</b> Implementation of the proposed Land Use and Transportation Element would result in increased development activity that could alter drainage patterns, could increase impermeable surfaces leading to increased volume of runoff, and could potentially affect quality of stormwater runoff. However, since the areas proposed for the greatest change are already developed with similar uses, the changes in runoff patterns, volume and quality would be negligible.	None required.	LS
<b>J. <u>Energy</u></b>		
<b>J.1:</b> Development consistent with the Land Use and Transportation Element would result in a marginal increase in energy consumption.	None required.	LS
<b>K. <u>Geology and Seismicity</u></b>		
<b>K.1:</b> Adoption of the Plan could result in development on existing soil conditions at various locations throughout the City that could cause structural damage to new and existing buildings unless properly constructed.	None required.	LS
<b>K.2:</b> Adoption of the Plan could result in development of many areas that are subject to geologic hazards including steep slopes, high erosion potential, and landsliding and mudsliding.	None required.	LS

LS = Less than Significant



**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>K.3:</b> Adoption of the Plan would result in development that requires grading and earthmoving activities. Grading during construction of individual projects in hillside areas could increase the potential for erosion. This could cause clogging of local culverts, decrease downstream channel capacity, and degrade water quality.	None required.	LS
<b>K.4:</b> In the event of an earthquake, damage from surface fault rupture could affect structures, foundations, and underground utilities that could be developed as a result of Plan adoption.	None required.	LS
<b>K.5:</b> In the event of an earthquake, damage from strong ground shaking or ground failure (liquefaction, densification, or landsliding) could affect structures, foundations, and underground utilities that could be developed as a result of Plan adoption. Human injury and life also could be risked.	None required.	LS
<b>L. <u>Noise</u></b>		
<b>L.1:</b> Implementation of the proposed Land Use and Transportation Element would increase noise levels along streets throughout the City.	None required.	LS
<b>L.2:</b> Proposed General Plan map changes would redesignate some segments of major transportation corridors from commercial to urban density residential uses, which could pose noise compatibility problems for residential uses.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>L.6:</b> Proposed General Plan map changes could allow development of light manufacturing, wholesale, business, commercial or mixed uses in areas designated for "Housing Business Mix," posing potential future noise compatibility problems.	None required.	LS
<b>L.10:</b> Future cumulative noise levels along downtown streets could increase to levels that are considered conditionally acceptable for retail commercial, office, and residential uses.	None required.	LS
<b>L.12:</b> Development of projects in the Coliseum Showcase District would result in noise increases along local roadways serving the proposed project.	None required.	LS
<b>L.13:</b> Depending on proximity of future development to I-880 and selected roadways in the Coliseum area, noise levels could be conditionally acceptable for retail commercial or office uses.	None required.	LS
<b>M. <u>Hazardous Materials</u></b>		
<b>M.1:</b> Proposed land use changes for the Central Business District, Military Bases, Coliseum Area, and BART Transit Villages include a change to mixed uses that may allow housing as well as commercial operations that may use of hazardous materials. In addition, land use changes within the transit corridors would allow commercial land uses transitioning to urban residential uses.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>M.2:</b> Adoption of the proposed Land Use and Transportation Element could encourage new business and expansion of existing businesses within the areas designated for change, with associated potential increases in the quantities of hazardous substances used, stored and transported, increasing the potential for accidents or spills and increasing the potential for exposure to workers, the public and the environment.	None required.	LS
<b>M.3:</b> Adoption of the proposed Land Use and Transportation Element would increase the potential for demolition and renovation activities within the areas designated for change. Many of these buildings could contain hazardous building materials and demolition or renovation could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns.	None required.	LS
<b>M.4:</b> Adoption of the proposed Land Use and Transportation Element would increase the potential for construction activities within the areas designated for change, which could increase the likelihood of encountering contaminated soil or groundwater and potentially expose workers and the community to hazardous substances.	None required.	LS
<b>O. <u>Consistency with Adopted Plans and Policies</u></b>		
<b>O.1:</b> The proposed Land Use and Transportation Element would be consistent with federal policies and programs.	None required.	LS

LS = Less than Significant

**TABLE S-1 (Continued)**  
**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Significant Impact	Mitigation Measures	Significance After Mitigation
<b>B. LESS THAN SIGNIFICANT IMPACTS</b>		
<b>O.2:</b> The proposed Land Use and Transportation Element would be consistent with state policies and programs.	None required.	LS
<b>O.4:</b> The proposed Land Use and Transportation Element would be consistent with the policies and programs of adjacent jurisdictions.	None required.	LS

LS = Less than Significant

# CHAPTER I

---

## INTRODUCTION

This Program Environmental Impact Report (EIR) describes the environmental consequences of adopting the proposed Oakland General Plan Land Use and Transportation Element (Element). The report has been prepared by the City of Oakland (the "Lead Agency") pursuant to all relevant sections of the California Environmental Quality Act (CEQA).<sup>1</sup> It is intended to inform City officials, responsible agencies, and the public of the proposed Element's environmental effects.<sup>2</sup> The EIR is intended to publicly disclose those impacts that may be significant and adverse, describe possible measures that mitigate or eliminate these impacts, and describe a range of alternatives to the project.

As part of the proposed Element, the City of Oakland intends to concentrate development within two areas that are identified in this EIR as the Downtown Showcase District and the Coliseum Showcase District. This EIR identifies specific impacts that would occur as a result of development in these two areas as a first tier analysis of these projects. To also more fully understand the environmental consequences of the Element, the EIR includes additional analysis of the cumulative effects of planned developments in the Downtown and Coliseum areas of Oakland. Using a projected development size and use for six anticipated projects in the Downtown area and two anticipated projects in the Coliseum area, the EIR provides additional evaluation of potential cumulative impacts of implementation of the Element policies in the areas of traffic, air quality, noise, and downtown wind.

## BACKGROUND

California Government Code Section 65300 requires each city and county in California to adopt a comprehensive, long-range general plan for its physical development. The plan consists of development policies, a land use diagram, and text framing the major proposals. The Government Code requires that General Plans contain seven mandatory elements: land use, circulation, housing, open space, conservation, noise, and safety. Optional elements may also be included in the plan.

The City of Oakland has consolidated some of the State-mandated elements to eliminate redundancies and establish a more integrated approach to long-range planning. Open Space and

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<sup>1</sup> CEQA Guidelines define the "Lead Agency" as the public agency that has the principal responsibility for carrying out or approving a project. The City of Oakland is the Lead Agency for preparation of this EIR.

<sup>2</sup> CEQA Guidelines define "Responsible Agencies" as those which have discretionary approval power over aspects of the project for which the Lead Agency has prepared an EIR.

Conservation, along with an optional recreation plan, have been merged into an Open Space, Conservation, and Recreation Element, or "OSCAR." Land Use and Circulation, previously separate elements, are proposed for consolidation into a single "Land Use and Transportation Element." Other elements of the General Plan, including housing, noise, safety, and historic preservation, remain separate documents.

Oakland is in the process of comprehensively updating its General Plan for the first time since the 1970s. The Historic Preservation Element was adopted in 1995 and the OSCAR Element was adopted in 1996. Housing, Safety, and Noise Elements are programmed to be updated during the next two years. The Land Use and Transportation Element Update has perhaps the most far-reaching consequences of the overall effort, as it includes the updating of the City's Land Use and Transportation Diagram (the map guiding future development decisions) and the City's policies regarding growth and development. The Land Use and Transportation Element will also provide the basis for updating the Oakland zoning ordinance, including the zoning map.

## GENERAL PLANS AND CEQA

The adoption of a general plan or a general plan element constitutes a "project" under CEQA. However, since general plans are by their very nature "general," CEQA recognizes that the level of specificity in the EIR need not be as detailed as an EIR for a specific development proposal. Section 15146(b) of the State CEQA Guidelines states that an EIR for a project of this type should focus on the secondary effects that can be expected to follow from adoption. These effects (residential, commercial, and industrial development in various parts of Oakland) include impacts associated with land use changes, traffic increases, added demands on municipal services, and similar impacts. Without specific project information and a development time frame, it is not possible to adequately address all of the specific impacts that could occur as development consistent with the Element takes place. Additional environmental documentation will be required to assess the impacts of development projects that implement the General Plan.

This EIR does assume development of certain projects that are known to be in the planning stages in the downtown area and in the vicinity of the Oakland-Alameda County Coliseum Complex. These projects are described at a general level, for purposes of analyzing their cumulative effects and in anticipation of subsequent project-specific environmental documents, in Chapter II (Project Description).

CEQA further requires that an EIR for a general plan amendment (including an Element Update) describe the significant impacts of the revised policies and map designations *on the existing setting*, even if the amendment would result in a reduced level of impact from the previous plan. Therefore, even where the proposed Land Use and Transportation Element reduces the degree of potential environmental impacts associated with growth and change from those anticipated under the current (1980) Plan, these reduced impacts may still be considered significant.

## PROGRAM EIR SCOPE AND FORMAT

This EIR has been formulated as a "Program EIR" under the authority of Section 15168 of the CEQA Guidelines. A Program EIR is a CEQA-authorized device that is especially appropriate for addressing the anticipated environmental consequences of City decisions to carry out a new governmental program or adopt new policies or regulations. The Program EIR enables the City to examine the overall effects of the proposed course of action and take steps to avoid unnecessary adverse environmental effects.

The CEQA Guidelines stipulate that a Program EIR may be prepared for a series of related actions that can be characterized as one project. These actions must be related geographically; as a logical part of a sequence; in connection with plans, regulations, or a continuing program; or as individual activities carried out under the same statutory or regulatory authority and having generally similar effects. The proposed Element meets all four of these criteria.

A Program EIR may also be used to simplify the task of preparing environmental documents on later projects that may occur as a result of the program. When individual projects are proposed in Oakland in the future, the City will be required to examine these activities during the normal environmental review process. During that process, this EIR can be used to determine whether the project's effects have already been analyzed to a satisfactory level. Thus, this EIR will provide the basis for:

- determining the level of significant effects associated with subsequent projects;
- presenting information that can be incorporated by reference in the subsequent project-specific environmental documents to address cumulative effects, growth-inducing effects, alternatives, and other secondary effects related to the community as a whole; and
- focusing specific project environmental documents on more direct impacts (such as site-specific wildlife impacts and local traffic) that are not considered on a site-specific level in this EIR.

If the proposed subsequent project activities are consistent with the Element's policies and would have no effects beyond those analyzed in this EIR, the City may assert that the activities are part of the approved General Plan Update program and that no further CEQA compliance is required.

The Program EIR scope includes all environmental issues to be resolved and all areas of controversy known to the City, including those identified by the City in its Initial Study of the proposed action, and those identified by individuals and agencies responding to the City's Notice of Preparation. The format of the EIR is that prescribed by CEQA. For each topic addressed, the text describes the existing setting, the probable impacts, and suggested mitigation measures. Most of these mitigation measures are included in the proposed project, or in other elements of the General Plan that have already been adopted. Additional measures may not currently be included but are identified to further reduce adverse impacts.

## REQUIRED LEGISLATIVE APPROVALS

Implementation of the proposed Land Use and Transportation Element will require approval of a General Plan Amendment by the Oakland City Planning Commission and City Council. State law (Government Code Section 65351) requires that the Planning Commission and City Council each hold at least one public hearing on the amendment before they take formal action.

Comments received at the public hearing will be considered by each body before taking formal action to adopt or revise the Element. The Final EIR must be certified prior to adoption of the Element.

## INTENDED USES OF THE EIR

The City of Oakland is acting as the Lead Agency for all environmental review associated with the Land Use and Transportation Element Update. This EIR has been prepared to serve as the CEQA-required environmental documentation for City consideration of the update and to assist the Oakland City Planning Commission and City Council in their review of the document. These bodies will use this EIR along with other information in determining whether to approve, deny, or modify the proposed Element.

The EIR may also be used at a future date by the Planning Commission and City Council to evaluate the environmental impacts of subsequent actions that are consistent with the Land Use and Transportation Element or are intended to implement the Land Use and Transportation Element. The environmental review for future actions may rely solely on this EIR, may reference information in this EIR for a plan or project specific environmental document, or use this EIR as a "first tier" document for subsequent or supplemental environmental documentation. Examples of subsequent actions for which this EIR may be used include:

- Amendment of the Zoning Ordinance and Zoning Map for General Plan consistency;
- Adoption of area plans or additional policies intended to implement the Land Use and Transportation Element, such as the Oakland Estuary Plan;
- Development projects that are consistent with the Land Use and Transportation Element, such as those described in Tables II-5 and II-6; and
- Adoption of additional General Plan elements, such as the Safety Element, the Noise Element and the Housing Element.

As the Lead Agency, the City also intends to use this EIR as the required documentation for approvals that may be required by other responsible agencies, such as the East Bay Municipal Utility District, the Bay Conservation and Development Commission, Caltrans, the state Department of Fish and Game, and other agencies not identified at this time.

The EIR is also intended for use as a first tier environmental review document for the projects listed in Tables II-5 and II-6. Where appropriate, the information presented in this EIR will be



incorporated by reference in the environmental documentation required for each project under CEQA. The analysis of cumulative impacts, growth inducing impacts, and other secondary effects in this document may also be used to meet CEQA requirements for these projects.

## ANTICIPATED CHANGES TO THE PROJECT

The formal public review process may lead to changes in the Draft Element. These changes will be made before the Final EIR is certified. If these modifications involve new potentially significant impacts, revision and recirculation of the EIR could be required. If the modifications do not involve new significant impacts or impacts that can be mitigated through the measures laid out in this EIR, then recirculation would not be required.

## ORGANIZATION OF THE EIR

Pursuant to Sections 15140 and 15143 of the CEQA Guidelines, an EIR should be organized and written in a manner that allows decision makers and the public to understand the material contained in the document. The focus should be on the significant effects of the project on the environment. Accordingly, this EIR focuses on the information necessary to make an informed decision regarding project approval. The EIR is organized into the following sections:

**Summary of Impacts and Mitigation:** This Summary highlights the significant environmental impacts that would result from implementation of the proposed Element and lists the mitigation measures needed to reduce the effects to a less-than-significant level.

**I. Introduction:** This section explains the purpose of the EIR and its organization.

**II. Project Description:** This section describes the major recommendations of the proposed Land Use and Transportation Element and presents quantitative and qualitative data on the project. The text discusses policy changes, map changes, land use definition changes, and anticipated projects in specific areas of the City..

**III. Setting, Impacts, and Mitigation:** This section presents an impact analysis for all of the topics identified in the Initial Study as being potentially affected by the proposed Element. The following topic areas are addressed:

- A. **Land Use**, including land use compatibility issues and the potential effects of the Element and its associated map changes on long-term land use and development patterns in Oakland.
- B. **Transportation and Circulation**, including the effects of project-facilitated land use changes and housing and employment growth on local and regional traffic conditions.
- C. **Population, Employment and Housing**, including anticipated impacts of the Element on population, employment, and housing growth; the balance between jobs and housing; and the displacement of housing by new development.

- D. **Public Services**, including the impact of project-facilitated change on Oakland's water system, sewer system, storm drainage system, solid waste capacity, police and fire services, schools, libraries, and parks.
- E. **Air Quality**, including the potential air quality impacts of the land use and transportation changes and the population growth facilitated by the project.
- F. **Visual and Aesthetic Conditions**, including the effect of the Element on urban design, views, and visual character in Oakland neighborhoods.
- G. **Cultural and Historic Resources**, including the impact of the Element on historic, archaeological, and paleontological resources in Oakland.
- H. **Vegetation and Wildlife**, including the potential vegetation and wildlife impacts of projects facilitated by the new Element, particularly on sensitive habitats and rare, endangered, or threatened species.
- I. **Hydrology and Water Quality**, including the impact of project-related development on urban runoff and local water quality conditions.
- J. **Energy**, including the impact of the Element on fossil fuel consumption and gas and electric infrastructure.
- K. **Geology and Seismicity**, including the relationship of long-range development patterns facilitated by the Element to local seismic conditions, geologic hazards, and soil resources.
- L. **Noise**, including impacts related to the traffic increases projected by the Element and impacts associated with existing and projected noise sources.
- M. **Hazardous Materials**, including the increased risk of exposure to hazardous substances or incidents resulting from project-facilitated development.
- N. **Wind**, describing the impacts that could occur within the Downtown Showcase District as a result of known development projects.
- O. **Consistency with Adopted Plans and Policies**, describing the relationship between this Element and other plans and programs guiding land use and transportation decisions in the Oakland area, including the Alameda County General Plan, the General Plans of adjoining cities, and plans prepared by the Port of Oakland, East Bay Regional Park District, Alameda County Airport Land Use Commission, Association of Bay Area Governments, Metropolitan Transportation Commission, Alameda County Congestion Management Agency, and other regional, state, and federal agencies.

**IV. Alternatives Analysis:** This section compares the project (the "preferred alternative") to other alternatives, including a "no project" alternative that would leave the current Land Use and Transportation Elements in place.

**V. Impact Overview:** This section describes the growth-inducing effects of the project, the cumulative effects of this project and others underway in the City and region, and the unavoidable or irreversible impacts of the project. The "unavoidable" impacts are those that would remain significant even after mitigation measures are applied.

**VI. Report Preparers:** This section identifies the persons and organizations involved in preparing this EIR.

A separate document will be prepared for mitigation monitoring purposes. That document will list the mitigation measures included in the EIR and will identify the City departments and agencies responsible for implementing the mitigation measures.

# CHAPTER II

## PROJECT DESCRIPTION

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### DEFINITION OF THE PROJECT

The project is the update of the Land Use and Transportation Element of the Oakland General Plan. The Element combines the State-mandated Land Use Element and Circulation Element into a single integrated document. It replaces the 1980 Land Use Element and the 1974 Circulation Element of the Oakland General Plan and updates the Land Use and Circulation sections of the Oakland Policy Plan. In addition to updating the City's Land Use and Transportation Diagram, the Element introduces new strategies, policies, and priorities for Oakland's development and enhancement during the next two decades.

As stipulated by Section 15124 of the State CEQA Guidelines, this section describes (a) the location and boundaries of the Oakland Planning Area; (b) the basic objectives of the Land Use and Transportation Element Update; (c) the specific objectives and principles upon which the revised Element is based; (d) the legislative approval required for implementation; and (e) the intended uses of this EIR.

### LOCATION AND SETTING

Oakland is located at the eastern shore of San Francisco Bay and encompasses approximately 56 square miles of land and 24 square miles of water. The City is defined by the Bay and Estuary on the southwest, the crest of the Berkeley-Oakland Hills on the northeast, and other urban areas on the north and south.<sup>1</sup> Most of Oakland's development is located on the coastal shelf, which varies in width from two to four miles. Significant portions of the City are rolling or hilly, with elevations in the City limits ranging from sea level to 1,760 feet at Grizzly Peak. The Hayward Fault defines a straight high "valley" near the base of the hills. The City's location within the region is shown in Figure II-1.

More than a dozen named creeks traverse the City, generally flowing from the crest of the hills south to the Bay. The shoreline extends for 19 miles from Emeryville to San Leandro. It has been modified extensively by past landfilling activities and creation of the Shipping Channel between Oakland and Alameda. The City also contains a number of lakes, including Lake

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<sup>1</sup> Convention in Oakland environmental review documents generally describes the hills to the "north" and the Bay and Estuary to the "south."



Merritt, Lake Temescal, and a portion of Lake Chabot. Most of Oakland's natural hydrology has been altered by urban development, including major flood control projects that buried or culverted many of the flatland creeks.

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. Substantial pockets of oak woodlands, redwood forests, riparian woodlands, native grasslands, and wetlands remain in the City. These plant communities harbor a diverse mix of plants and animals, including several listed as rare, endangered, or threatened. The City's natural landscape is complemented by an urban landscape that includes yards, street trees, gardens, and "urban" wildlife.

Oakland had a population of about 388,000 in 1997. 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.

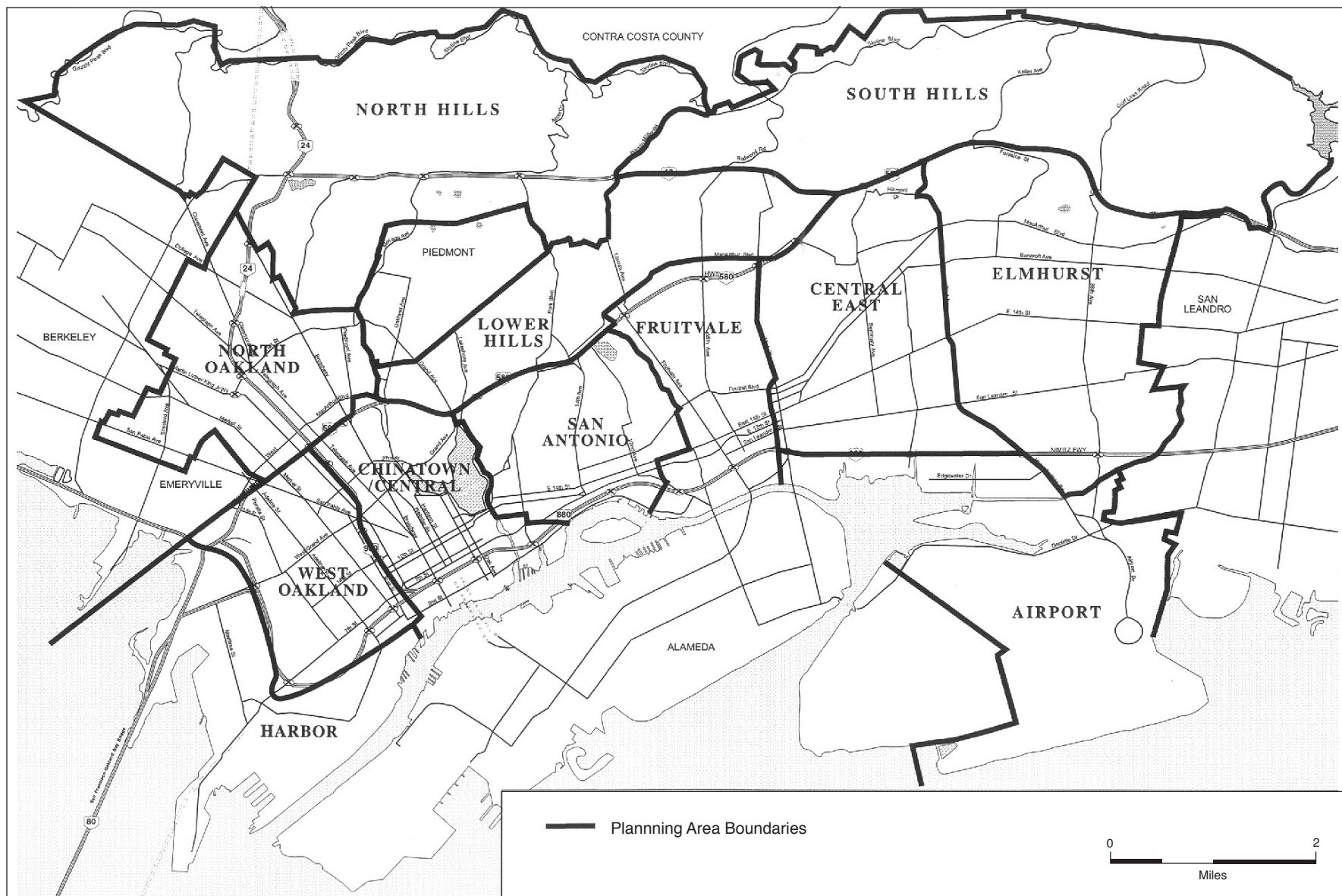
The total number of jobs in the City in 1995 was about 166,000. Commercial areas include downtown, which is a major regional office center, and numerous neighborhood commercial districts and thoroughfare shopping "strips." Most industrial areas are located along the waterfront and on the fringes of the City's older residential neighborhoods along the Nimitz Freeway (Interstate 880). The City is served by several major freeways, is the hub of the BART system, contains an international airport, and is home to one of the largest seaports on the West Coast (see Section III-B for more discussion of the City's transportation system).

Oakland is divided into 12 Planning Areas, as shown in Figure II-2. In 1994, approximately 82 percent of the City's land area was developed. Approximately 12 percent was permanent open space and 6 percent consisted of vacant land with development potential. Along its northeastern (hill) boundary, Oakland's planning jurisdiction extends beyond the City limits and includes a "Sphere of Influence" defined by the Alameda County Local Agency Formation Commission. Because the City is abutted by regional parks and watershed land at most locations along this boundary, the portion of the Sphere outside the City is limited to just a few privately-owned parcels.

## PROJECT CONTEXT

California law requires every City and County to adopt a General Plan for its long-term physical development. The Plan must be comprehensive, long-range, and internally consistent. The State requires that each Plan address at least seven topics or "elements" (land use, transportation, housing, open space, conservation, safety, and noise). Local governments can use their





SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure II-2**  
Planning Area Boundaries

discretion as to how to organize and present these elements. They may also add optional elements that address issues of local importance.

The Oakland General Plan is currently organized into the following seven elements:

- Land Use Element (1980)
- Circulation Element (1974)
- Housing Element (1992)
- Open Space, Conservation, and Recreation ("OSCAR") Element (1996)
- Safety Element (1974)
- Noise Element (1974)
- Historic Preservation Element (1995)

The proposed Land Use and Transportation Element (the "project") will replace the 1980 Land Use Element and the 1974 Circulation Element, combining both in a single, integrated document. The Oakland Policy Plan, a compendium of the policies in each of the General Plan Elements, will also be updated upon adoption of the project. It will incorporate the Element's revised goals, objectives, and policies in lieu of the former land use and circulation policies.

The City adopted an updated OSCAR Element in 1996 and a Historic Preservation Element in 1995. The Housing Element was adopted in 1992 and will be updated in 1998. The Safety and Noise Elements were prepared in the mid-1970s and are programmed to be updated during 1998. (By the end of 1998, all Elements of the General Plan are anticipated to be current.) An updated zoning ordinance and map that are consistent with the updated General Plan are planned for adoption in 1999.

The update of the Land Use and Transportation Element began in October 1993. The Mayor's Office appointed a committee of 25 Oakland residents and business persons, including representatives of various neighborhoods, interest groups, commissions, Council districts, and business groups. This Committee, known as the General Plan Congress, was later expanded to 36 members. The Congress met on a regular basis for more than 3 years to assess future directions for Oakland, consider alternatives, and reshape the City's land use and transportation plan. A number of interim products were prepared, including a *Visions, Goals, and Issues* report, a *Trends* report, a *Policy Audit*, a *Community and Agency Survey* report, a *Community Services Analysis*, and an *Environmental Factors Analysis*. The General Plan Congress also developed a *Policy Framework*, outlining goals, objectives, policies, and actions; and *Envision Oakland*, a gazette that illustrated the main policy direction and proposals emerging from the group's meetings. The planning process included extensive public participation, including two General Plan Fairs, more than 20 community workshops, and presentations to dozens of community groups.

The Congress evaluated a number of alternatives for growth and redevelopment in Oakland. These alternatives, and the process used to evaluate them, are presented in this EIR. The



alternatives did not consist of dramatically different scenarios for the City, but rather addressed possible land use categories, policy and program choices, and designations for particular sites or areas. A "preferred" alternative was selected and is the subject of this EIR. This alternative was incorporated in the Land Use and Transportation Element, which is under separate cover.

## ASSUMPTIONS

Several key assumptions were made for the environmental review of the Land Use and Transportation Element update. These assumptions are outlined below:

- For the purposes of environmental review, the EIR assumes the addition of about 12,000 households and 25,000 residents between 1995 and 2015, based on the plan policies and diagram. The household and population changes represent increases of 8 percent and 7 percent, respectively, over the 20 year period. These figures are about one-third higher than the increase projected by the Association of Bay Area Governments (ABAG) over the period.
- The EIR assumes the addition of 42,400 jobs between 1995 and 2015. This represents an increase of 25 percent over the 20-year period. The increase projected by the Plan is 90 percent higher than the increase projected by ABAG over the period.

In the case of both jobs and housing, the higher growth rates assumed by the project reflect the strong emphasis of the new Element on the redevelopment of key sites and areas within Oakland, a number of anticipated projects that were not reflected in the ABAG projections, and the more optimistic vision of the future embodied in the Element.

- Because Oakland is an older, mostly built-out City, a majority of its future development will occur on land that is underutilized rather than "vacant" in the conventional sense. Because it is difficult to reliably measure underutilization of land, projections of growth are based on policies that direct new development to underutilized areas planned for change rather than data on which specific parcels are most likely to redevelop.
- Patterns of growth in Oakland will be influenced by new local policies that encourage redevelopment along transit corridors and around transit stations, along the waterfront, Downtown, and on closed military base sites, and that discourage increased density within established single-family residential neighborhoods. The ABAG population and employment forecasts for Oakland had previously been disaggregated to 264 traffic analysis zones (TAZs) within the City. The amount of growth that had been assigned to each TAZ (by ABAG and the Metropolitan Transportation Commission [MTC]) depended on the availability of land and infrastructure, known projects, and local development policies. Because the proposed Element would alter local development policies, it was assumed for the EIR analysis that the distribution of people and jobs would change accordingly.
- Estimates of household size and numbers of employed residents per household will be the same as what was projected by ABAG. These figures vary from one part of the City to another based on local demographic characteristics. Citywide, average household size is expected to drop from 2.64 in 1995 to 2.59 in 2015. The number of employed residents per household will increase from 1.11 in 1995 to 1.33 in 2015.

- A number of local and regional transportation improvements will be implemented. These include completion of the Highway 13/24 interchange, the Cypress Freeway replacement (partially completed as of Summer 1997), I-880 interchange improvements at 98th Avenue and Hegenberger Road, the Cross-Airport roadway, and the extension of Mandela Parkway.
- The EIR impact analysis is based on the increment of development that is projected to occur during the 1995-2015 General Plan time frame rather than the maximum amount of development that could occur under the proposed Land Use and Transportation Map. Most vacant land in the City is presumed to "build out" by 2015. However, redevelopment of every parcel to the maximum density or intensity limit specified on the Map is not assumed. In fact, such a scenario would be fundamentally inconsistent with the goals of the General Plan and is expressly discouraged by the Plan. The Land Use and Transportation Element acknowledges the importance of updating the zoning map to identify where the maximum development intensity is appropriate and where lower intensities should be put in place.

Table II-1 summarizes Citywide housing, population, and job estimates for 1995 and 2015.

Table II-2 summarizes the distribution of housing and job growth in the City's 12 planning areas during the 20-year increment.

**TABLE II-1  
HOUSEHOLDS, POPULATION, AND EMPLOYMENT, 1995 and 2015**

	1995	2015		
		ABAG <sup>1</sup>	General Plan	General Plan change vs. ABAG change
Households	144,030	153,110	156,075	2,965
Population	387,950	406,000	413,170	7,170
Employment	166,520	188,740	209,010	20,270

<sup>1</sup> From ABAG "Projections 96"

## SUMMARY OF PROJECT

### OBJECTIVES AND CONCEPTS

Early in the planning process, the General Plan Congress divided into five thematic working groups---Neighborhoods, Industry and Commerce, Transportation and Transit-Oriented Development, Downtown, and the Waterfront. The major concepts presented in the Land Use and Transportation Element (the "Element") are organized around the recommendations of each working group. These concepts are presented below.

**TABLE II-2  
HOUSEHOLD AND JOB GROWTH IN THE  
CITY'S TWELVE PLANNING AREAS, 1995-2015**

Planning Area	Additional Households	Percent of City Growth	Additional Jobs	Percent of City Growth
West Oakland/ Harbor	700	5.8	6,330	14.9
Central/Chinatown	2,655	22.0	20,485	48.3
San Antonio/ Fruitvale/ Lower Hills	3,040 <sup>1</sup>	25.2	3,800	9.0
East Oakland (includes Elmhurst, Airport)	1,710	14.2	9,610 <sup>2</sup>	22.6
North and South Hills	2,860 <sup>3</sup>	23.8	1,720	4.0
North Oakland	1,080	9.0	490	1.2
<b>TOTAL</b>	<b>12,045</b>	<b>100.0</b>	<b>42,435<sup>4</sup></b>	<b>100.0</b>

- 1 San Antonio-Fruitvale-Lower Hills figures include 900 new housing units and 3,000 jobs within the Estuary Plan Study Area.
- 2 East Oakland figure includes 2,800 jobs within Edgewater/ Oakport project area.
- 3 Hills household figure excludes firestorm reconstruction
- 4 Numbers for each planning area are rounded and total varies slightly from Table II-1.

SOURCE: Oakland CEDA, based on 1997 Land Use and Transportation Element

1. **Maintaining and enhancing Oakland's neighborhoods.** The Element seeks to sustain clean, attractive neighborhoods, rich in character and diversity, yet well integrated into a cohesive urban fabric. Major policy initiatives address the protection of neighborhoods from inappropriate uses and densities. The Element also recognizes and emphasizes the importance of neighborhood activity centers as places for shopping, services, social and civic functions, and community identity.
2. **Improving the local business and economic climate.** The Element envisions a dynamic economy that taps into Oakland's economic potential and capitalizes on its physical and cultural assets. It places special emphasis on a crescent-shaped area extending from the Harbor to the Airport and including the Seaport, Downtown, the Estuary shoreline, the Coliseum area, Oakland Airport, and an array of commercial and industrial uses in the 880 corridor. The Element supports growth in industry and commerce; provides flexibility for future changes in retailing, entertainment, manufacturing, and distribution; and strives to maximize the City's commercial and industrial development opportunities and take advantage of the City's transportation assets. For example, the Element encourages the creation and enhancement of neighborhood commercial areas on neighborhood corridors, community commercial centers on major transit corridors, and regional commercial centers on regional transportation corridors.
3. **Integrating land use and transportation decisions.** Oakland is an older, relatively dense City with a history of transit-oriented neighborhoods and development patterns. The City

is committed to maximizing the efficiency of its transportation infrastructure, particularly its rapid transit lines and transit corridors. A major theme of the Element is to intensify and diversify land uses along selected corridors and around the City's eight BART stations. In doing so, the City hopes to transform these corridors into attractive, lively commercial and urban density residential areas. The Element also envisions a transportation system that promotes Oakland's role as the transportation hub of the Bay Area, with efficient connections to the rest of the region, the nation, and the world.

4. Identifying Oakland as a waterfront City. The Element seeks to redress a century of decisions that have cut the waterfront off from the City's neighborhoods. It establishes a policy and action framework for Oakland to reclaim the waterfront as a central identifying feature and to reunite this feature with the rest of the City. It also acknowledges the need to balance access and aesthetic goals with efforts to realize the waterfront's potential as an economic asset. In this regard, it promotes expansion of the Harbor and Airport to promote Oakland's position as a major business center and concentrates mixed use activities between Jack London Square and High Street.
5. Creating a diverse, vibrant Downtown. The Element envisions a central business district that has round-the-clock activity, including a strong office center, interesting and diverse shopping areas, urban density residential neighborhoods, a well-preserved legacy of historic resources, and cultural and recreational amenities. A major objective of the Element is to boost the appeal, vitality, and economic base of the downtown area. It proposes a clearer identity for downtown, increased housing and mixed use development, and a greater variety of commercial and entertainment businesses.

The Element includes 26 goals organized around these themes. The goals are summarized in Table II-3.

Other concepts and themes also are present in the Element. These include accommodation of new housing in targeted locations, enhancement of open space both for recreation and as a defining feature of Oakland's neighborhoods, and an emphasis on alternatives to the automobile. The Element also emphasizes the importance of implementation. It establishes a priority action agenda to be undertaken in the five years following the Element's adoption.

## COMPONENTS OF THE LAND USE AND TRANSPORTATION ELEMENT

The Element is organized into four major sections, summarized as follows:

- **"Planning Context"** summarizes the process used to create the Element, presents a brief history of Oakland along with data on current and projected conditions, identifies the major challenges facing the City, and describes the responses to these challenges.
- **"Policy Framework"** presents goals, objectives, and policies, organized around the themes of industry and commerce, transportation and transit-oriented development, Downtown, Waterfront, and neighborhoods. The **goals** are broad and general, describing an "end state" envisioned by the City. The **objectives** provide more specific language toward the achievement of a goal. The **policies** direct City actions in the review of development and administration of services. The Land Use and Transportation Element includes 26 goals, 55 objectives, and 236 policies.

**TABLE II-3  
GENERAL PLAN GOALS**

<b>Waterfront</b>	<ol style="list-style-type: none"> <li>1 Increase the awareness of the waterfront throughout the City and the region and maximize the benefit of Oakland's waterfront for the people of the City.</li> <li>2 Promote the diversity of the waterfront by providing opportunities for new parks, recreation, and open space; cultural, educational, and entertainment experiences; and new or revitalized retail, commercial, and residential development</li> <li>3 Enhance and promote the City's waterfront for the economic benefit of the community with emphasis on Oakland's position as a leading west coast maritime terminal and a primary Bay Area passenger and cargo airport.</li> <li>4 Connect the waterfront to the rest of the City with emphasis on linking adjacent neighborhoods and Downtown directly to the waterfront, reducing physical barriers and the perception of isolation from the water's edge, and improving public access to and along the waterfront.</li> <li>5 Preserve and enhance the existing natural areas along the waterfront.</li> </ol>
<b>Downtown</b>	<ol style="list-style-type: none"> <li>1 Promote Downtown Oakland's position as a dynamic economic center.</li> <li>2 Serve as a primary communications, office, government, high technology, retail, entertainment, and transportation hub for Northern California.</li> <li>3 Become a premier location in the region for urban residential living by building upon existing neighborhoods and promoting and expanding the diverse and exciting range of housing, social, cultural, and arts opportunities available.</li> <li>4 Further develop, support, revitalize, and promote the distinct, attractive, urban character of each of the Downtown districts.</li> </ol>
<b>Industry and Commerce</b>	<ol style="list-style-type: none"> <li>1 Recognize and support industrial and commercial land use as a primary vehicle for the generation of the economic support required for the attainment of the physical, social, and community service goals of the Oakland General Plan.</li> <li>2 Strengthen and expand Oakland's diverse economic base through land use and transportation decisions.</li> <li>3 Maximize Oakland's regional role as a transportation, distribution, and communications hub.</li> <li>4 Provide increased employment, training, and educational opportunities through land use and transportation decisions.</li> <li>5 Ensure that the Oakland community has access to a wide variety of goods and services, meeting daily and long-term needs.</li> <li>6 Create and maintain a favorable business climate in Oakland.</li> </ol>

**TABLE II-3 (Continued)**  
**GENERAL PLAN GOALS**

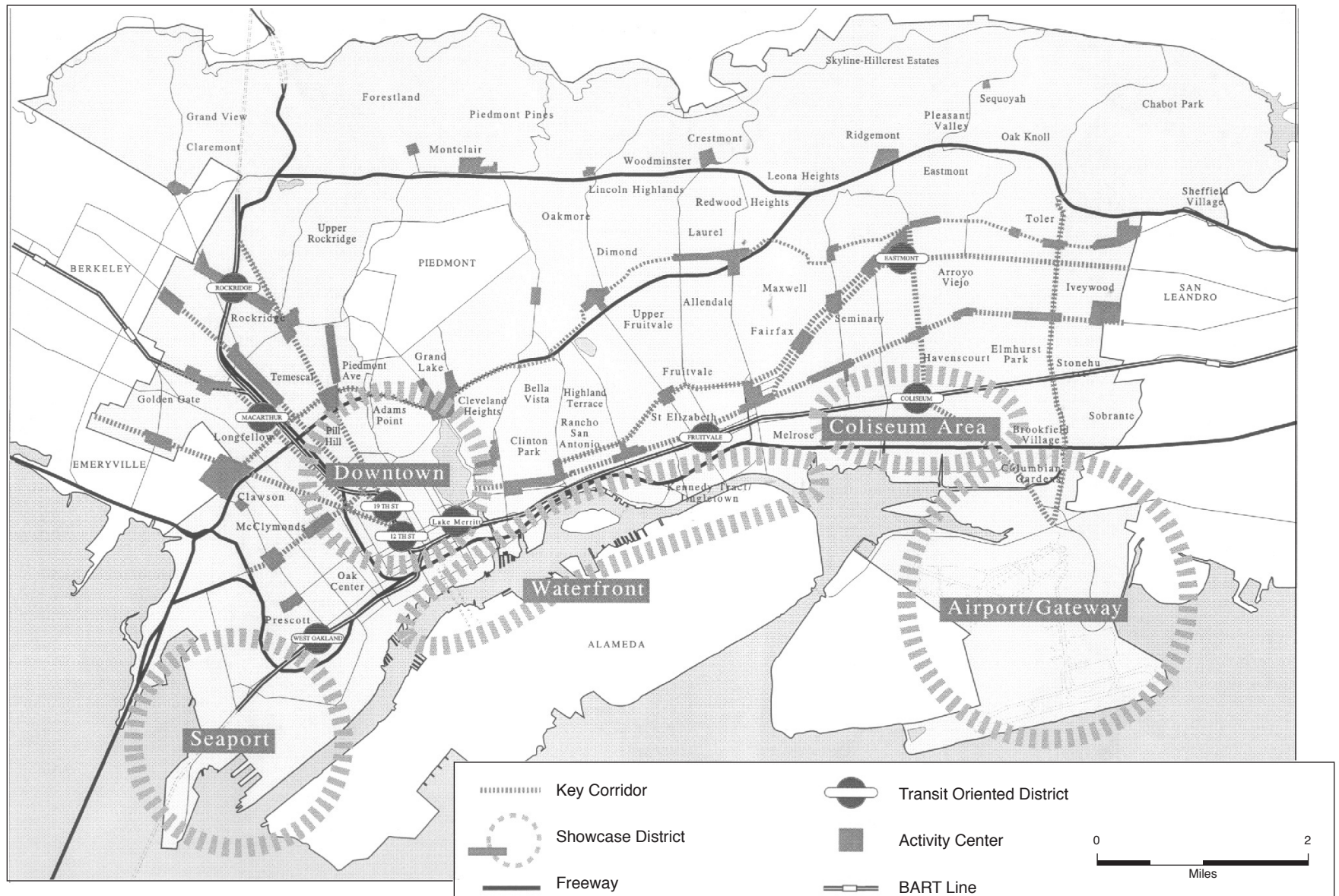
<b>Neighborhoods</b>	1	Foster healthy, vital, and distinctive neighborhoods with adequate open space.
	2	Encourage quality housing for a range of incomes in Oakland's neighborhoods.
	3	Encourage thriving, diverse, and attractive shopping districts in Oakland's neighborhoods to provide a variety of goods, services, and entertainment, and that are oriented to and well served by public transit, pedestrian, and bicycle facilities.
	4	Design neighborhoods that are compatible with alternative transportation.
<b>Transportation and Transit-Oriented Development</b>	1	Take full advantage of Oakland's position as a major West Coast transportation hub.
	2	Integrate transportation and land use planning at the neighborhood, City, and regional levels by developing transit-oriented development, where appropriate, at transit and commercial nodes.
	3	Reduce congestion and improve traffic flow by developing an integrated road system and traffic demand management system that provides an appropriate mix of mobility and accessibility throughout the City.
	4	Reduce dependency on the automobile by promoting use of alternative transportation modes.
	5	Program and provide adequate funding for needed transportation facilities and services, and related investments.
	6	Improve air quality and reduce exposure to traffic noise.
	7	Provide safe streets.

SOURCE: Draft Oakland Land Use and Transportation Element, 1997

This section also presents the *Structure Diagram*, a graphic representation of how the City will be organized in the future, identifying its neighborhoods, activity centers, transit corridors, and economic "showcases." The diagram is included in the EIR as Figure II-3. The text describes the showcase areas, which include Downtown, the Seaport, the Airport/Gateway, The Estuary Shoreline ("Waterfront"), and the Coliseum Area.

- **"Policies in Action"** includes a number of diagrams that show how the City's policies will be applied in practice. The *Strategy Diagram* shows the types of change envisioned in each part of the City during the next twenty years. The Diagram demonstrates the City's intent to maintain and enhance current land use patterns in most areas and to focus change and growth in particular locations. The *Land Use and Transportation Diagram* corresponds to the state-mandated General Plan Diagram. It uses 15 color-coded use classifications to show the general distribution and intensity of development that will be





SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure II-3**  
City Structure Diagram

allowed in the future. These diagrams are included in this EIR and correspond to Figures II-4 and II-5 respectively. This section also describes the City's street classification system and describes planned and programmed transportation improvements and study areas.

- **"Implementation Program"** includes two major components. The first is a "Priority Implementation Agenda" that identifies specific actions to be taken by the City during the first five years following adoption of the updated Element. These relate to General Plan Administration (annual review, adopting remaining elements, etc.); updating the Zoning Ordinance and map; economic development strategies for the City's key business centers, neighborhoods, and corridors; and improving transit and transportation systems. The second part of the Implementation Program is a series of six "Area Views." Each Area View provides more specific direction by applying the citywide goals, objectives, and policies to each of the City's 12 planning areas, which are aggregated to six areas in the Element: West Oakland/Harbor; Central/Chinatown; San Antonio/Fruitvale/Lower Hills; Central East Oakland/Elmhurst; North Hills/South Hills; and North Oakland. In addition to describing the outlook for each Area, the text identifies zoning and regulatory strategies and priorities for targeted reinvestment.

In addition to the Draft Element, the project includes a second document ("Volume Two") containing technical and background data used as the basis for development of the Element's policies. An Implementation Sourcebook also has been prepared to guide Plan implementation during the first five years.

## MAJOR CHANGES ENVISIONED BY THE ELEMENT

There are four major types of change between the existing (1980) General Plan and the proposed 1997 Land Use and Transportation Element. These are:

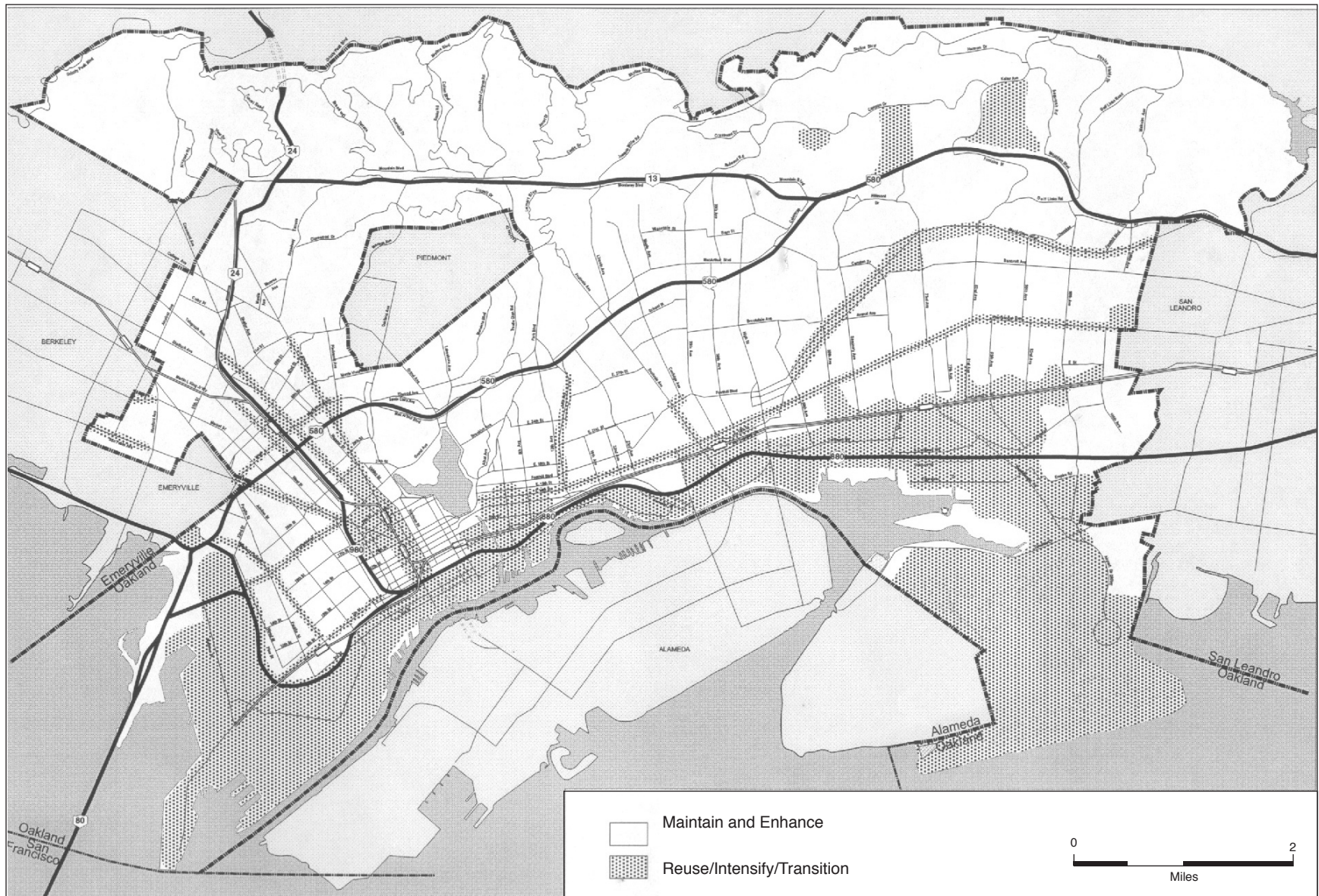
- Land Use Category Changes
- Map Changes
- Policy Changes
- Transportation Project and Priority Changes

Each of these is discussed below.

## LAND USE CATEGORY CHANGES

The General Plan's land use categories describe the type and intensity of development that is allowed on land within the City's Planning Area. Each category describes typical land uses, such as housing, commercial/retail development, and industry, and establishes standards for building intensity or density. The 1980 Land Use Element used 10 categories to classify land; the proposed Element uses 15 categories, all of which are newly created. Table II-4 provides a general correlation between the categories in the existing Plan and those in the proposed Element. Revisions to the Zoning Map that will follow adoption of the Land Use and Transportation Element will determine specific densities within the range allowed by the General Plan and consistent with the Plan's other policies.





SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure II-4**  
Strategy Diagram

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure II-5**  
**Land Use and Transportation Diagram**



TABLE II-4  
CORRELATION BETWEEN PROPOSED AND EXISTING LAND USE CATEGORIES

Proposed Category	Description	1980 Equivalent
Hillside Residential	Existing and planned detached unit residential neighborhoods in the Oakland Hills. Maximum allowable density is 5 units per gross acre but actual density should vary depending on environmental, access, and safety constraints.	Replaces the "Suburban Residential" category in the 1980 Plan; also incorporates the low end of the density range allowed by the "Low Density" category. "Suburban" currently allows roughly 3.5 units per gross acre and "Low" allows roughly 7 units per gross acre.
Detached Unit Residential	Low density, mostly single family housing areas. Maximum allowable density is 11 principal units per acre.	Replaces the "Low Density Residential" category; also incorporates part of the density range allowed by the "Low-Medium Density Residential" category. "Low Medium" allows roughly 14 units per gross acre.
Mixed Housing Type Residential	Areas characterized by a mix of detached unit homes, 2-4 unit buildings, and townhomes. Maximum allowable density is 30 principal units per acre.	Replaces the "Low-Medium" and "Medium Density Residential" categories. "Medium" allows about 25 units per gross acre.
Urban Residential	Neighborhoods dominated by apartments and condominiums, excluding the downtown area (which has its own category and allows higher densities). Maximum allowable density is 125 units per acre.	Replaces the "Urban Density Residential" category in the old Plan. There is presently no density limit for this category.
Neighborhood Center Mixed Use	Pedestrian-oriented shopping districts with a mix of retail, housing, office, restaurants, services, entertainment, and community facilities. Maximum FAR is 4.0. Maximum allowable density is 125 units per acre.	Included in the "Commercial" designation. No FAR or density limit is established in the definition, but a policy discouraged FARs above 4.0.
Community Commercial	Similar land use mix as Neighborhood Centers, but more inclusive. This category also accommodates larger scale retail and service uses, and auto-oriented as well as pedestrian uses. Maximum FAR is 4.0. Where housing is included, maximum density is 125 units per acre.	Included in the "Commercial" designation. No FAR or density limit is established in the definition, but a policy discouraged FARs above 4.0.
Housing and Business Mix	Transitional areas between industrial and residential neighborhoods characterized by a mix of housing, light industry and manufacturing, live-work space, commercial uses, and service businesses. Performance standards are to be used to improve land use compatibility in these areas. Maximum FAR is 1.0; maximum housing density is 30 units per acre.	No equivalent in the 1980 Plan. Most of these areas were either designated as Industrial or Low-Medium Density Residential.
Central Business District	High intensity mixed uses, including large-scale office, high-rise residential, institutional, arts and entertainment, retail, service, and visitor-serving uses. Maximum FAR is 20.0. Maximum housing density is 300 units per acre.	Included in the "Commercial" designation. No FAR or density limit was established.

**TABLE II-4 (Continued)**  
**CORRELATION BETWEEN PROPOSED AND EXISTING LAND USE CATEGORIES**

Proposed Category	Description	1980 Equivalent
Regional Commercial	Land uses serving a regional market for shopping, entertainment, sports, arts, associated residential, and visitor services. Maximum FAR is 5.0.	Included in the "Commercial" designation
Business Mix	A mix of light industrial, biotechnology, research and development, office, warehouse and distribution, commercial, and compatible uses. Live-work is allowed in some areas. Maximum FAR is 4.0.	No equivalent in 1980 Plan. About an equal number of these areas were previously designated for industrial and commercial uses. The land use mix is probably more closely aligned with the "Industrial" category.
General Industrial/Transportation	Industrial and transportation uses with impacts that limit their compatibility with other uses. Includes the Airport and Harbor, existing heavy industry and manufacturing areas, and transportation-related business areas. Maximum FAR is 3.0.	Replaces both the "Industrial" and "Transportation" categories in the previous Plan, although the lighter industries correspond more closely to the "Business Mix" category.
Institutional	Cultural and institutional uses, medical uses, educational uses, and other uses of similar character. Maximum FAR is 11.0 to acknowledge that there are existing high-rise hospitals with this designation.	Replaces the "Institutional/ Governmental" category in the 1980 Plan. In the 1980 Plan, this category included cemeteries; these are now proposed as Urban Open Space.
Waterfront	Mixed use district designed to showcase Oakland's identity as a waterfront city. Allows a full range of urban activities, including commercial, industrial, and residential uses. Compatibility is to be ensured through performance standards. Maximum FAR is 5.0 and maximum residential density is 125 units per acre. The Oakland Estuary Plan currently being developed will provide a more detailed land use distribution for the Waterfront area.	No equivalent in the 1980 Plan. Most of the areas with this designation were previously designated as Industrial, with Commercial or Transportation uses in areas closest to downtown.
Resource Conservation Areas	Undeveloped areas with high natural resource and scenic value. These areas are in public ownership or are slated for public ownership.	Replaces the "Park, Recreation, Natural Area, or Watershed" designation on ecologically sensitive areas along the shoreline and in the hills.
Parks and Urban Open Space	Golf courses, cemeteries, and City and regional parks characterized by a mix of active and passive recreation, including recreational facilities.	Replaces the "Park, Recreation, Natural Area, or Watershed" designation on active recreation parks. Cemeteries were formerly designated Institutional.

**NOTE:** Most of the land use categories also include provisions for compatible Community Facilities such as schools and churches. The residential categories also allow accessory housing units where certain conditions are met.

**SOURCE:** Barry Miller, AICP, 1997

Major changes are summarized below:

1. Residential designations will be changed to correlate with housing type rather than square feet of land per unit. The 1980 Land Use Element used five residential categories, each corresponding to a different range of land area per unit. The 1997 Element uses includes four residential categories. Although each one has an associated density range, the categories are distinguished by the types of units: hillside homes, single family detached homes, mixed housing types, and urban housing. The density ranges in these categories are different than the categories of the 1980 Land Use Element.
2. The one commercial designation in the 1980 Land Use Element will be replaced by three primary commercial categories (neighborhood center, community, and regional) and several categories in which commercial uses are mixed with other uses, including residential or industrial uses.
3. While the 1980 Element stratified Industrial and Transportation uses into two separate categories, the new Element will combine General Industrial and Transportation uses in a single category and separate lighter industrial and other business uses into a new category called "Business Mix."
4. The new Element will include several new designations that reflect the function of areas within the City rather than their primary land use. Specifically, "Waterfront" and "Central Business District" categories will be created. A diverse range of uses is allowed in both areas. An Estuary Plan to be adopted as part of the General Plan in early 1998 will provide further land use guidance for the "Waterfront" area.
5. The new Element will include a category that acknowledges the existing mix of housing and business in some Oakland neighborhoods and is designed to provide areas for low-impact businesses and residential uses. Through performance standards to be adopted subsequently, this category will also be used to enhance transitions and buffers between residential and industrial areas.
6. Open space designations will distinguish between "urban" open spaces like City parks and cemeteries and "wildland" open spaces, including wetlands and large natural areas in the hills.
7. Maximum Floor Area Ratios (FARs) are expressly stated for each commercial and industrial category. The prior Land Use Element addressed FAR in policy language, but did not set a maximum FAR for its commercial or industrial categories. The 1980 Land Use Element indicated that commercial FARs should not exceed 4.0 outside the Central District; no limit was set for industrial uses or land within the Central District. The new categories call for limits ranging from 3.0 to 5.0 in most employment-based districts, but allow FARs of up to 11.0 in Institutional areas and 20.0 in the Central Business District.<sup>2</sup>
8. A maximum density of 300 units per acre is established downtown. The previous Land Use Element described housing as an acceptable use downtown, but did not specify a maximum density.

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<sup>2</sup> Floor area ratio is the relationship between area within a building and the area of the lot. Thus, a three story building that occupies one-half of a lot has a FAR of 1.5:1, while a five-story building occupying an entire lot has a FAR of 5.0:1.

## MAP CHANGES

Because the proposed Land Use Map introduces a completely new set of land use categories, the General Plan designation on every parcel in Oakland will change when the new Element is adopted. In most cases, the new designation is similar to the existing one and will not substantially change the allowed land use or intensity of development. In some cases, the new designation does not change the allowable land use but does change the allowable density or intensity. In a number of cases, the proposed designation calls for a completely different use than the current (1980) designation. These changes reflect new land use policies embodied in the proposed Element.

The proposed Land Use Diagram is more generalized than the 1980 map. While the 1980 map drew fine distinctions on individual blocks based on existing uses and residential densities, the proposed diagram uses more generalized designations. This is partly a result of the more inclusive categories, and partially a policy decision to leave block by block distinctions to the rezoning process.

The following major map changes are proposed:

### Reclassification of Downtown Oakland

Downtown Oakland, a 550-acre area bounded by I-980, I-880, Lake Merritt/Tidal Channel, and Grand Avenue, is designated as "Central Business District" rather than "Commercial." The 1980 Plan mapped existing enclaves of high-density residential development and institutional uses within this area. Although these are no longer shown, proposed policies encourage their continued presence. The CBD designation permits a broader range of uses than the Commercial designation and aspires to make downtown Oakland a more vibrant, diverse place. The designation signifies a commitment to more housing, office, retail, cultural, and entertainment uses within this area.

The EIR analysis assumes, for analysis of cumulative effects, implementation of several projects in the Downtown Oakland "showcase" district by 2005 (see Table II-5).

### Creation of a Waterfront District

The Estuary shoreline, a 700-acre area bounded by Martin Luther King Jr. Way, I-880, Damon Slough, and the Estuary, is designated as a "Waterfront District." The General Plan envisions a transformation of this area from industrial and transportation uses to a diverse mix of new uses that capitalize on the presence of the waterfront. New housing, recreational, commercial, and public uses are among the activities envisioned in the future. The 1980 General Plan recognized the potential of the waterfront in its text, but designated most of the area east of the Tidal Channel for industry and transportation.

### Military Base Re-Use

Each of Oakland's military bases is envisioned as undergoing transition to new uses. Most of the 422-acre Oakland Army Base will be redesignated from "Transportation" to

**TABLE II-5  
PROJECTS WITHIN THE DOWNTOWN SHOWCASE DISTRICT**

<b>Project</b>	<b>Location</b>	<b>Description</b>
Uptown Entertainment Project	Bounded by 17th St., 20th St., San Pablo Ave., Broadway	600,000 sf office, 1,000,000 sf retail, and 250,000 sf entertainment in buildings up to 4 stories (60 ft. tall); plus 3,000-space garage. Includes closure of 19th Street and Williams Street (San Pablo to Telegraph) and narrowing of Telegraph to 2 lanes from 17th to 20th Streets.
Administrative Office Building	Vicinity of 19th Street and Broadway	300,000 sf office; no on-site parking
Key System Building Block	Half block on east side of Broadway betw. 11th & 12th St.	300,000 sf, approx. 20-story (300-ft.) office building. Includes renovation/reuse of Key System Building; no on-site parking. Alternative is 300-room hotel; EIR includes office building for more conservative traffic analysis.
City Center Sites (4 sites)	Blocks bounded by Broadway/Clay/11th/12th; Clay/Jefferson/11th/12th; Jefferson/MLK/11th/12th; & Jefferson/MLK/14th/13th	Four office towers, each 550,000 sf and 30 stories (about 425 feet); Parking in existing City Center West Garage
TransPacific Site	Broadway/Franklin/9th/10th (south of TransPacific Center)	50,000 sf retail plus 300 residential units. Alternative is 250,000 sf, approx. 12-story (180-ft.) office bldg.; EIR includes retail-residential for more conservative traffic analysis.
Housewives Market	Clay/Jefferson/8th/9th	30,000 sf, 4-story (60-ft.) retail building plus 150 residential units; 150 parking spaces. Includes demolition of existing Housewives Market.

sf = square feet

“Business Mix.<sup>3</sup>” Warehouse, distribution, and light industrial uses are among the new activities envisioned. The 528-acre Fleet Industrial Supply Center (FISCO) will retain its General Plan designation (Industrial/Transportation) but will be redeveloped with maritime uses. The 235-acre Oak Knoll Naval Hospital will be redesignated from “Institutional” to a mix of uses that reflects the approved redevelopment plan for the site. The land use and redevelopment choices made for these sites are being made through a

<sup>3</sup> The City and federal government are currently preparing an Army Base Reuse Plan, which may result in a different mix of uses and future General Plan amendment for this site.

separate planning process for military base re-use. That process has been closely coordinated with the Land Use and Transportation Element update to ensure consistency.

#### Coliseum Redevelopment Area

Although the City adopted a Redevelopment Plan for the 6,500-acre Coliseum Area in 1995, it did not amend the General Plan map at that time. A number of major map changes are proposed in the Hegenberger Road and Coliseum areas to implement the Redevelopment Plan and establish consistency with Land Use and Transportation Element policies. The Oakland Coliseum itself will be redesignated from "Institutional" to "Regional Commercial." The adjacent concentration of hotels, shopping centers, and businesses along Hegenberger will be redesignated from "Commercial" to "Regional Commercial." A corridor of "Regional Commercial" uses will extend from San Leandro Street to the Airport, indicating the City's intention to establish visitor-serving and larger-scale commercial activities in this area. The Edgewater and Airport business parks, and nearby vacant or underutilized properties, are to be redesignated from "Commercial" or "Industrial" to the new "Business Mix" designation. This should maximize development flexibility in this area. Nearby sites owned by PG&E and the East Bay Municipal Utility District (EBMUD) are redesignated from "Institutional" to "Business Mix."

The EIR analysis assumes, for analysis of cumulative effects, implementation of two projects in Coliseum area "showcase" district by 2005 (see Table II-6).

**TABLE II-6  
PROJECTS WITHIN THE COLISEUM SHOWCASE DISTRICT**

Project	Location	Description
Coliseum Shoreline	I-880/66th Av.	300,000 sf office, 412,000 sf retail/entertainment, 200,000 sf community sports facility; 125,000 sf Cultural, plus 4,050 parking spaces
Oakport Site	I-880/66th Av.	150,000 sf retail/entertainment, plus 375 parking spaces

sf = square feet

#### Segmentation of Corridors into Commercial and Residential Sections

A number of the corridors will be segmented into urban residential sections and commercial sections. Ground level commercial uses will still be permitted on the urban residential sections, but the primary use will be housing. Likewise, residential uses will be permitted in commercial sections, but these areas will primarily be neighborhood activity centers. The intent of this Map change is to transform undifferentiated commercial strips



with high vacancy rates and concentrations of auto-oriented businesses into blocks of mid-rise, transit-oriented housing. Commercial activities will be focused around major intersections and transit stations, rather than dispersed along each corridor. Most of the commercial areas along the corridors are designated "Neighborhood Center Mixed Use." A few, like Broadway, 7th Street, and West Grand Avenue, are designated as "Community Commercial." This provides a stronger indication of where a pedestrian-scale "village-like" environment will be promoted and where higher concentrations of auto-oriented uses will be allowed.

#### Creation of Transit-Oriented Districts

Major land use designation changes are proposed around several transit stations:

- In the MacArthur BART station vicinity, the existing "Commercial" designations are replaced by "Neighborhood Center Mixed Use" designations, while Commercial and Medium Density housing "strips" along Martin Luther King Jr. and Telegraph Avenues are changed to "Urban Density" housing areas;
- At the West Oakland BART station, the "Neighborhood Center Mixed Use" designation will replace the "Transportation" and "Commercial" designations;
- At the Fruitvale BART station, a mix of "Commercial" and "Industrial" designations are to be replaced by the "Neighborhood Center Mixed Use" classification; and
- At the Coliseum BART station, a "Regional Commercial" designation replaces the "Institutional" designation on the parking lot.

#### Mixing of Housing and Business Uses on the Edge of Oakland's "Industrial Belt"

Several areas in North and West Oakland and the I-880/San Leandro Street corridors that were previously identified for either Industrial or Residential uses (usually Low Medium or Medium Density) are now designated as "Housing and Business Mix." Approximately 700 acres have been given this designation. In most cases, these areas include a patchwork of industrial and residential uses. The designation is applied to parts of West Oakland, North Oakland, and along the edge of the industrial "belt" in East Oakland where residential and business areas require buffering and special performance standards that will ensure that appropriate businesses are not affected by residential uses and that residential uses are not affected by business uses.

#### New Development Sites

Outside of the highlighted areas, there are a number of large vacant or underutilized sites to be assigned new General Plan designations. The largest is the 125-acre Leona Quarry, alongside Interstate 580 to the north (east) at Keller Avenue, which will be changed from "Suburban Density Residential" to a mix of Regional Commercial and Hillside Residential. Several major vacant sites in the Oakland Hills will have their designations changed from Low or Suburban Density Residential to the new Hillside Residential category. This will not change the allowable use and will have only marginal impacts on allowable density.

### Density Reductions in Established Neighborhoods

In some areas, the proposed Map implements neighborhood land use policies by applying new designations with lower allowable densities than currently apply. Large sections of the Adams Point, Richmond Boulevard, Piedmont Avenue, Rose Garden, and Dimond neighborhoods were designated for high density housing in the 1980 Land Use Element. Portions of these areas would be redesignated to "Mixed Housing Type," where the maximum density is 30 units per acre. Most of Central East Oakland, Elmhurst, Dimond, Glenview, and Laurel were designated "Low-Medium Density Residential" in the old element, with a corresponding density range of about 7-14 units per acre. At this range, the predominant housing type consisted of attached housing. The proposed Land Use and Transportation Element would replace this designation with "Detached Unit Residential." Densities would range from 5 to 11 units per acre and the predominant housing type would be small-lot single family homes. This change will be applied to about 3,000 acres of developed, mostly single family neighborhoods.

### Density Increases

Some areas outside of the transit corridors are proposed for *Urban Density Housing*. In a few cases, these areas were previously designated for "Medium" or "Low-Medium Density" residential uses. Typically, the intent of the proposed change is to recognize existing development patterns rather than to promote new high density housing development. Examples of this change are the Acorn Center and Peralta Village areas of West Oakland.

Table II-7 summarizes the geographic areas where the greatest changes (although not necessarily the most adverse environmental impacts) would occur with implementation of the revised Land Use and Transportation Element. Collectively, these areas comprise just under 15 percent of Oakland's land area.

Notably, the proposed Land Use Map would designate fewer acres for urban use than the 1980 Map. This is a result of the City limits remaining the same while about 1,000 acres were acquired or identified as permanent open space during the 1980s and early 1990s. In almost all cases, land designated for urban use on the proposed Map was also designated for urban use on the 1980 Map. Only two areas (10 acres at the base of Leona Quarry and EBMUD's 7-acre site adjacent to I-880 at the end of 66th Avenue) are to be reclassified from an open space category to an urban category. The reason the General Plan growth projections exceed the ABAG projections is not because more land will be made available for new development, but because the City's proposed policies and implementation strategies embody a more aggressive philosophy towards development in the Downtown and Coliseum areas and along the waterfront and corridors.

Table II-8 lists the acreage proposed under the revised Element in each land use category. Under the draft Land Use and Transportation Element, residential designations apply to about 53 percent of Oakland's land area. About two-thirds of this area is designated for detached housing. Mixed use designations, including Downtown, the waterfront, and Neighborhood Centers, apply to about 8 percent of the City's area. Commercial designations represent another 3 percent of the City's area. Industrial/ transportation designations, including the Airport, Harbor, and "Business Mix" areas, comprise

**TABLE II-7  
MAJOR LAND USE DIAGRAM CHANGE AREAS**

Area	Acreage	Proposed Change
Central Business District	550	Change from specific designation of sites as "Commercial," "High Density Residential," and "Institutional" to a single <i>Central Business District</i> category that encourages mixing of all these of three uses within the entire area. Development intensity, which has not been previously limited in this area by the General Plan, would be limited to 20.0 FAR and/ or 300 units per acre.
Estuary Shoreline	700	Change from mostly "Industrial" and "Commercial" designations to a <i>Waterfront</i> category that encourages mixing of uses, including housing and open space. Development intensity would remain limited to 4.0 FAR; residential uses would be encouraged, with a density limit of 125 units per acre. An Estuary Plan is presently being prepared to guide more detailed land use and transportation decisions in this area.
Military Bases	1,185	Fleet Industrial Supply Center Oakland- designation changed from "Transportation" to <i>General Industrial/ Transportation</i> . Allowable use does not significantly change. Redevelopment with Port maritime uses is planned  Oakland Army Base - designation on most of site changed from "Transportation" to <i>Business Mix</i> in anticipation of site redevelopment with light industrial, warehousing, and distribution facilities.  Oak Knoll Naval Hospital - from "Institutional" to <i>Community Commercial</i> , <i>Hillside Residential</i> , <i>Resource Conservation</i> , and <i>Institutional</i> ; change is consistent with adopted re-use plan
Coliseum Area	2,000	Combination of "Commercial," "Industrial," and "Institutional" uses changed to combination of <i>Business Mix</i> , <i>Regional Commercial</i> , <i>General Industrial/ Transportation</i> , and <i>Housing and Business Mix</i> . Change does not significantly alter development potential but provides greater flexibility.
Leona Quarry (Base)	20	Change from "Park Recreation Open Space" to combination of <i>Regional Commercial</i> and <i>Hillside Residential</i> . Would substantially change the allowable use.
Transit Corridors	500	From "Commercial" to <i>Urban Density Residential</i> . Commercial uses would still be allowed, but the intent is to have these areas transition from auto-oriented commercial strips to urban residential uses. Ground floor commercial uses would be encouraged. Density would be limited to 125 units per acre. Maximum FAR would remain 4.0.
BART Transit-Oriented Districts	280	<u>MacArthur</u> : From "Institutional" and "Commercial" to <i>Neighborhood Center Mixed Use</i> , with <i>Urban Density Housing</i> around perimeter. <u>West Oakland</u> : From "Institutional" and "Medium Density Residential" to <i>Housing and Business Mix</i> and <i>Neighborhood Center Mixed Use</i> . <u>Fruitvale</u> : From "Institutional," "Commercial," and "Manufacturing" to <i>Neighborhood Center Mixed Use</i> . <u>Coliseum</u> : From "Institutional," "Manufacturing," and "Commercial" to <i>Regional Commercial</i> , <i>Housing and Business Mix</i> , and <i>Industrial</i> .
Total	5,340	

NOTES: Only the portions of corridors to be redesignated from Commercial to Urban Density Housing are included. Acreage is based on total corridor width of 500 feet. Acreage excludes portions of corridors within other categories in this table. Assumed each Transit-Oriented District extends out 1000' from station. Only MacArthur, Fruitvale, West Oakland, and Coliseum included.

**TABLE II-8  
ACREAGE IN PROPOSED LAND USE CATEGORIES**

General Plan Classification	Acres	Percent of City Total
Hillside Residential	6,080	17 %
Detached Unit Residential	5,925	17 %
Mixed Housing Type Residential	5,530	15 %
Urban Residential	1,310	4 %
Neighborhood Center Mixed Use	775	2 %
Community Commercial	655	2 %
Regional Commercial	500	1 %
Housing and Business Mix	725	2 %
Business Mix	1,545	2 %
General Industrial/ Transportation	4,770	13 %
Central Business District	580	4 %
Waterfront	700	2 %
Institutional	985	3 %
Resource Conservation Area	3,120	9 %
Parks and Urban Open Space	2,350	7 %
<b>TOTAL</b>	<b>35,550</b>	<b>100 %</b>

SOURCE: CEDA, ArcView Oakland General Plan Map, 1997

18 percent. Institutional and open space uses also represent about 18 percent of Oakland. Probably the most substantive change between this distribution and that of the 1980 Land Use Element is the designation in the revised Element of nearly 2,800 acres with Mixed Use categories. Most of these areas were designated for commercial or industrial use in the 1980 element.

## POLICY CHANGES

The map changes described above present a graphic representation of the proposed Land Use and Transportation Element's objectives and policies. These policies convey the City's intent to focus redevelopment activities Downtown, on the waterfront, and in the transit corridors; its commitment to expanding the Airport and Seaport; its interest in improving the Airport/Coliseum area as a business center and civic gateway; and its intent to maintain and enhance residential neighborhoods. In some cases, the policies also convey land use and development concepts for geographic areas that are not conveyed on the land use map. For instance, Downtown policies call for a new urban neighborhood along Channel Park, a "tapering" of building heights away from the Broadway spine and towards Lake Merritt, and an emphasis on housing that serves diverse income groups.

Similarly, waterfront policies describe the types of uses envisioned on each segment of the shoreline, providing more specific direction than the generalized "Waterfront" category that appears on the Land Use Map.

The *Structure Diagram* (Figure II-3) provides a graphic description of how the City is structured. The Diagram designates the Downtown, Waterfront, Seaport, Airport, and Coliseum as Oakland's "showcases." All of these areas are intended to serve a regional economic function. The Diagram designates other, smaller economic centers throughout the City that are local in function. Transit-oriented districts, intended to be pedestrian-oriented and urban in character, are also shown.

The *Strategy Diagram* (Figure II-4) provides direction by indicating the types of change envisioned in Oakland during the lifetime of the Plan. The diagram indicates the City's intent to limit major land use changes to a small percentage (13 percent) of Oakland's land area--primarily in the Downtown, Waterfront, Coliseum, and Harbor areas, and along the transit corridors. The land use and development pattern in the remaining 87 percent of the City is to be maintained and enhanced. Infill development in these areas may occur, but changes will be small.

The 236 new Land Use and Transportation Policies would replace the policies in the existing Land Use and Transportation Elements. The 1980 Oakland Policy Plan, which served as an overview and summary of policies contained in all elements of the General Plan, contained 58 land use policies and 41 circulation policies. The proposed policies do not radically depart from the previous policies, but do place a somewhat greater emphasis on economic development in the "showcase" districts, nodal development of the transit corridors, and preservation of neighborhoods.

## TRANSPORTATION PROJECT AND PRIORITY CHANGES

The Land Use and Transportation Element discusses a number of specific transportation capital improvements, most of which are already programmed or planned by the City, County, and Caltrans. The Element also identifies projects for further study. Table II-9 lists both the committed projects and those to be studied.

The Land Use Diagram designates specific Oakland streets as "Regional" and "Local" Transit Streets. This designation will have implications for how the City plans and prioritizes transit service and transit capital improvements during the coming years. Transit arterials are candidates for new passenger waiting areas and shelters, signal modifications, exclusive transit lanes, and extension of bus stop curbs. The Regional Transit Arterials are candidates for light rail transit. The designations are consistent with AC Transit's Quality Bus Concept and Comprehensive Services Plan. No specific capital improvements are proposed at this time.

**TABLE II-9**  
**TRANSPORTATION IMPROVEMENT PROJECTS AND PRIORITIES**

	<b>Name</b>	<b>Status as of July 1997</b>
<b>Programmed Projects</b>	Mandela Parkway and Extension	Planned
	Highway 24/13 Interchange	Under construction
	Cypress Freeway Replacement	Portion open; portion under construction
	I-880 Interchange Improvements at Hegenberger and 98th	Under construction
	16th Avenue overcrossing replacement	Under construction
	Cross-Airport Roadway	Programmed (by Port of Oakland)
<b>Projects Requiring Further Study</b>	I-880 modernization and improvement; including interchange upgrades and HOV lanes	Called for by Alameda County CMA; planning underway by Caltrans
	Transit street improvements	San Pablo/ International and Telegraph/ Foothill/ MacArthur trolleys under consideration; unfunded at this time
	Jack London shuttle (looped route from City Center to Jack London Square/Amtrak)	Element proposal; also proposed by other Oakland plans
	Coliseum BART/Oakland Airport transit connector	Proposed by BART, MTC with City Support
	73rd Avenue connector (MacArthur to I-580)	Capital improvement project under study since 1960s; unfunded and still not programmed
	Water transportation (water taxis and ferries to San Francisco)	No specific project; generic category of improvements
	Oakland/ Alameda connections (Webster/Posey tube, to NAS, 66th Av.)	No specific project proposed at this time; depends on future use of NAS
	Local road improvements (neighborhood traffic control, signal timing, etc.)	On-going small-scale capital improvements to local streets; funded annually
	Shopper Shuttles (Fruitvale and Coliseum BART)	No specific project
	Bike and Pedestrian Facilities	Separate planning effort underway to identify capital projects
	Port of Oakland Joint Intermodal Terminal	Planned
	Port of Oakland Middle Harbor Road Realignment	Planned
	Airport Expansion	Master Plan published in 9/96

SOURCE: 1997 Draft Oakland Land Use and Transportation Element; Port of Oakland Reuse of Navy Fleet and Industrial Supply Center (FISCO) and Vision 2000 EIR/ EIS: March 1997

The prior Circulation Element did not address traffic improvements, transit streets, or transit-oriented development and gave minimal consideration to non-vehicular modes of circulation. The proposed Element establishes a much stronger policy framework for a multi-modal transportation system that supports the land use pattern envisioned.

Proposed Regional and Local Transit Street designations are shown below:

- Regional Transit Arterials (light rail priority): San Pablo Ave./International Blvd.(E. 14th Street), and Telegraph Ave./Foothill/ MacArthur Blvd.
- Local Transit Arterials: 7th St., 11th/12th St. (part), Mandela Pkwy., Broadway, 40th St., MacArthur Blvd., College Ave., Grand Ave., Santa Clara St., Park Blvd., 23rd Ave., 35th Ave./ Redwood Rd./Campus Dr. (part), Hegenberger Rd./73rd Ave, 98th Ave.

# CHAPTER III

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## ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

### A. LAND USE

This section of the EIR describes existing land use within the Oakland Planning Area, the potential impacts of the proposed Land Use and Transportation Element on land use, and mitigation measures to address any potentially significant adverse impacts.

#### SETTING

A description of Oakland's location and overview of its physical characteristics may be found in the Project Description of the EIR. In 1997, the City encompassed approximately 56 square miles of land, or about 35,650 acres. The City is comprised of approximately 103,000 parcels of land.

#### *CONTEXT*

Land use patterns in Oakland reflect the City's evolution from a gold-rush era settlement to a major industrial, maritime, and population center. Oakland's central street grid was laid out in 1850, two years prior to the City's incorporation. Completion of the transcontinental railroad in 1869 raised the City to national significance. Growth was rapid through the latter part of the 1800s, a result of both neighborhood expansion and annexation. By 1900, much of the area around downtown, in West Oakland, and just east of Lake Merritt had been developed. In the aftermath of the 1906 earthquake and fire, 150,000 people sought refuge in Oakland. Many did not return to San Francisco and were housed in new neighborhoods to the north and east of Downtown. Downtown became Oakland's civic, cultural, and retail center, with a large concentration of high-rise buildings established by 1920.

Buildout of most of Oakland's flat lands occurred during the 1930s and 1940s. Among the major physical changes of this era were the filling of large areas west of the City for construction of military bases and shipbuilding terminals, completion of the Bay Bridge, and expansion of Oakland Airport. During World War II, the City's population topped 400,000 as thousands of military and industrial workers migrated to Oakland. The post-war era marked the start of a long period of economic decline. This decline was accompanied by land use and transportation changes, including the clearing of neighborhoods for interstate highways and urban renewal projects and the closure of major manufacturing operations. Although large areas of the hills



developed in the post-war era, most of the land use pattern was already well established when the City adopted its first General Plan in 1959.

Oakland's first zoning map was adopted in 1935. For the most part, the zones reflected existing development patterns. However, in West Oakland, industrial and multi-dwelling zoning was mapped upon large areas of existing single family homes. This set the stage for conflicts between residential and industrial uses that continue today. In much of the City, single family neighborhoods were zoned to allow much higher density housing, creating a pattern of mixed single and multi-family housing which persists today in much of North and East Oakland. In East Oakland, single family zones directly abutted heavy industrial zones, establishing "edge" conditions which continue to be a problem in some locations. Nearly all of the waterfront was zoned for heavy industry, and most of the arterial streets were zoned for commercial uses. Over the years, the zoning ordinance has been expanded and amended to respond to land use conflicts, the established pattern, and goals for reshaping Oakland's form.

Table III.A-1 summarizes the results of a land use inventory conducted by the City in 1995 for more than 103,000 parcels. Approximately 40 percent of the City is comprised of residential uses, including more than 10,000 acres of single family residences and 3,000 acres of attached or multi-family housing. Transportation and utility uses, including the airport and much of the harbor, comprise another 20 percent of the City. Industrial and commercial uses each represent 4 percent of Oakland. Public and institutional uses comprise 9 percent of the City. The remainder of the City -- or about 23 percent of its area -- is open space. This includes nearly 3,000 acres of permanent open space (parks, cemeteries, golf courses, etc.) and more than 3,700 acres of vacant land.

These land uses are distributed in a pattern which reflects natural features such as the waterfront and hills, transportation improvements, and the various stages of Oakland's development. Transportation and utility uses are concentrated at the harbor and airport. Industrial uses are generally located in West Oakland and in a broad corridor extending along the Southern Pacific Railroad from West Oakland to San Leandro. Commercial uses are located in activity "nodes" such as downtown and in "strips" along the City's arterial streets. Residential uses occupy most of the remainder of the City, with densities generally decreasing towards the hills. The highest residential densities are found Downtown and in the neighborhoods around Lake Merritt.

### ***PLANNING AREA LAND USES***

A summary of land uses in each of the City's major planning areas is provided below:

#### **West Oakland/ Harbor**

The West Oakland Planning Area is one of Oakland's oldest communities and contains a mix of residential and industrial uses. The Harbor Planning Area is entirely non-residential and consists

**TABLE III.A-1  
EXISTING LAND USE BY PLANNING AREA, 1996 (IN ACRES)**

	<b>West Oakland/ Harbor</b>	<b>Central/ Chinatown</b>	<b>San Antonio/ Fruitvale/ Lower Hills</b>	<b>East Oakland/ Airport<sup>a</sup></b>	<b>North and South Hills</b>	<b>North Oakland</b>	<b>TOTAL<sup>a</sup></b>
1 Unit Residential	140	50	2,250	2,330	3,800	700	9,270
2-4 Unit Residential	150	60	790	440	40	340	1,820
5 + Unit Residential	90	150	320	200	40	120	920
Public/Civic/ Institutional	70	120	220	530	1,780	120	2,840
Park/Open Space	340	130	80	380	1,800	30	2,760
Retail/ Service/ Entertainment	40	130	160	240	30	110	710
Office	10	100	50	70	10	30	270
Automotive	30	50	50	80	0	30	240
Parking Lots	20	110	20	30	10	10	200
Hotel/ Motel	0	10	10	30	20	5	75
Light Industry	260	100	140	610	0	30	1,140
Heavy Industry	80	0	70	210	120	10	490
Utility/ Transportation	4,230	110	120	1,040	110	10	5,620
Vacant	130	50	140	640	2,360	50	3,370
<b>TOTAL</b>	<b>5,580</b>	<b>1,170</b>	<b>4,420</b>	<b>6,830</b>	<b>10,130</b>	<b>1,590</b>	<b>29,720</b>

<sup>a</sup> Acreage figures exclude streets and portions of Oakland International Airport. Addition of these areas brings the total city area to approximately 35,500 acres.

SOURCE: Alameda County Assessor's Office data, updated to 1993 and supplemented by Oakland CEDA Staff, 1997.

mostly of maritime terminals, railyards, and former military bases on land filled during the 1930s. The two areas comprise 5,571 acres, or about 17 percent of the City. More than three-quarters of this acreage is presently in transportation or utility use. About 7 percent is residential, and 6 percent is industrial. The residential areas are characterized by Italianate and Victorian homes on very narrow lots, intermixed with duplexes, tri-plexes, and fourplexes. A number of large public or subsidized housing projects, including Campbell Village, Peralta Villages, and Acorn, are located in the area. As a result of historic zoning patterns, many blocks in West Oakland contain

a mix of residential, industrial, and commercial uses. The area lacks a distinct commercial center, although there are remnants of once active commercial districts along Seventh Street and San Pablo Avenue.

### **Central/ Chinatown**

The Central/ Chinatown Planning Area includes Downtown Oakland, Chinatown, Pill Hill, the Jack London Waterfront, and the residential neighborhoods of Adams Point, Richmond Boulevard, and the Gold Coast. At 1,170 acres, it is one of the smallest planning areas in the City. However, it is Oakland's primary employment and civic center and its transportation hub. About 23 percent of the area is residential, 9 percent is industrial, and 9 percent consists of transportation or utility uses. Commercial uses, including more than 13 million square feet of office space, comprise 32 percent of the area.

### **San Antonio/ Fruitvale/ Lower Hills**

This Planning Area extends from the east side of Lake Merritt to High Street and includes the mostly single family residential neighborhoods east of Piedmont between Highways 580 and 13. The area covers 4,417 acres, or about 13 percent of the City's area. Although three quarters of the land area is residential, this is one of the most diverse parts of the City in its land use mix. Some 51 percent of the area consists of one-family homes and 25 percent consists of attached and multi-family housing. Most of the higher density housing is located in San Antonio and Fruitvale, often in a land use pattern in which single family homes and apartments are mixed on the same blocks. Concentrations of high density housing are located on the eastern edge of Lake Merritt and along Foothill and Park Boulevards.

Commercial uses comprise 6 percent of the Planning Area. The area's commercial uses are primarily located in "strips" along arterials such as MacArthur Boulevard, International Boulevard, Fruitvale Avenue, and East 12th Street. Industrial uses comprise 5 percent of the area and are mostly located near the waterfront and along East 12th Street.

### **East Oakland**

This Planning Area encompasses Central East Oakland, Elmhurst, and the International Airport. Its 6,700 acres represent 20 percent of Oakland's land area. The Airport, including runways, aprons, and clear zones, constitutes about a third of the area. Residential uses comprise another third. About 80 percent of the residential acreage consists of single family housing. Although portions of the area are exclusively single family, large portions contain mixes of single and multi-family dwellings. East Oakland also includes more than 800 acres of industry, 500 acres of public and institutional uses, 300 acres of parkland, and 400 acres of commercial land use. Industrial uses are generally located in a corridor along San Leandro Street extending from High Street to 98th Avenue, while commercial uses are located along arterial streets and in business

parks adjacent to Oakland Airport. The separation between industrial and residential uses is more distinct here than it is in West Oakland, although there are land use conflicts at some of the edge locations where the two uses meet.

### **North and South Hills**

This is the largest Planning Area in size, extending more than 12 miles from Berkeley to San Leandro and encompassing 30 percent of Oakland's land area. Nearly half of this area consists of parks, open space, and vacant land. The remainder is mostly developed with single family homes. Commercial uses are limited to Montclair Village, neighborhood shopping centers, and special uses such as the Claremont Hotel and Peralta Oaks Business Park. The area includes Leona Quarry, Oak Knoll Naval Hospital, Merritt and Holy Names Colleges, Mountain View Cemetery, and the Knowland Park Zoo. The land use pattern reflects the area's steep terrain and its development during more recent times than the flatlands. Average lot size is 9,000 square feet in the North Hills and 14,000 square feet in the South Hills. The combination of large lots, winding roads built to rural standards, and dense tree cover create a rural character in much of the area.

### **North Oakland**

At 1,588 acres, North Oakland comprises about 5 percent of Oakland's land area. Some 73 percent of this area is residential, including more than 700 acres of single family residences. The area also contains 337 acres of duplexes, triplexes, and fourplexes, and 123 acres of multi-family housing. These varied housing types can be found on almost every block in North Oakland, creating a very diverse housing mix in a relatively small area. Commercial uses represent 11 percent of North Oakland's area and are concentrated along the San Pablo, Telegraph, College, Piedmont, MacArthur, and Broadway Corridors. Several of these corridors contain continuous street walls and are pedestrian-oriented. Residential uses are common on the upper floors of commercial buildings. Industrial uses represent just 3 percent of North Oakland and are concentrated along the Emeryville border and along a former railroad line parallel to Market Street. Seven percent of the Planning Area is in public or institutional use.

## **SIGNIFICANCE CRITERIA**

The State CEQA *Guidelines* indicate that a project may have a significant effect on land use if it would disrupt or divide the physical arrangement of an established community; conflict with established recreational, educational, religious, or scientific uses in an area; or convert prime agricultural land to urban use. The Guidelines further indicate that a significant land use impact may occur if a project results in a substantial alteration of the present or planned land use. The latter circumstance may result from adoption of the Land Use and Transportation Element. The discussion below describes this impact in greater detail and emphasizes potential land use

conflicts resulting from the proposed land use designations and application of the Element's policies in various parts of the City.

## IMPACTS AND MITIGATION MEASURES

### *CHANGES TO CLASSIFICATION SYSTEM*

**Impact A.1: Implementation of the proposed Land Use and Transportation Element would alter the Oakland General Plan land use classifications, changing the densities that are allowed in various residential designations and restructuring the commercial and industrial designations to reflect a broader range of industry and business than anticipated in the 1980 Plan. Development consistent with the new definitions could result in a broader range of commercial and industrial uses in some areas. This would be a less-than-significant impact, as it is mitigated by policies in the Land Use and Transportation Element and the additional measures identified in this EIR.**

The proposed Land Use and Transportation Element (also referred to here as the “proposed Plan”) would result in a complete revision of the City’s General Plan Map classifications. A tabular comparison between the classifications used in the 1980 Plan and the proposed Plan is included in the Project Description. The 1980 Plan used five residential classifications (stratified by density), one commercial classification, one industrial classification, one transportation classification, one public classification, and one open space classification. The proposed Plan uses four residential classifications (corresponding to different densities than the 1980 Plan designations), two commercial classifications, one combined industrial/ transportation classification, two open space classifications, and five mixed use classifications. The introduction of mixed use classifications would mark a major shift in Oakland land use policy. Mixed use classifications have been applied to 12 percent of the City’s land area; most of these areas were previously designated as Commercial or Manufacturing/Wholesaling.

The classification changes are summarized below, by major land use headings.

### **Residential**

The previous Land Use Plan established the following categories:

- Suburban Residential required 10,000 square feet of land per unit (which equates to a gross density of about 3.5 units per acre).
- Low-Density Residential required 5,000-9,999 square feet of land per unit (which equates to a gross density of 3.5 to 7 units per acre).
- Low-Medium-Density Residential required 2,500-4,999 square feet of land per unit (which equates to a gross density of 7 to 14 units per acre).
- Medium-Density Residential required 1,500-2,499 square feet of land per unit (which equates to a gross density of 14 to 23 units per acre).

- High-Density Residential required less than 1,500 square feet of land per unit, with no limit on the maximum density.

The proposed Plan would establish replace these categories as follows. The new categories specify a maximum density per acre rather than a land area requirement per unit.

- Hillside Residential allows a maximum gross density of 5 units per gross acre.
- Detached Unit Residential allows a maximum gross density of 11 units per gross acre.
- Mixed Housing Type Residential allows a maximum gross density of 30 units per gross acre.
- Urban Residential allows a maximum gross density of 125 units per gross acre.

All of the areas presently designated as “Suburban Residential” would be redesignated as “Hillside Residential.”<sup>1</sup> This change would impact more than half of the privately-owned land in the North and South Hills. Policies in the Draft Plan direct the City to zone this land in a manner which considers environmental conditions, neighborhood character and infrastructure availability. Further, the Strategy Diagram indicates that the City’s development policies should “maintain and enhance” these areas. Thus, it is unlikely that the allowable density will increase; in some instances, it may actually decrease.

The areas designated “Low-Density Residential” on the 1980 Plan would receive new designations of either “Hillside Residential” or “Detached Unit Residential,” depending on their location. Property in the Oakland Hills would generally be reclassified as Hillside Residential. This would effectively reduce the allowable density from 7 to 5 units per acre. Zoning consistent with the General Plan could make it more difficult to split or subdivide lots, particularly in areas like Montclair and Piedmont Pines. The development potential of some unsubdivided sites in the hills could be slightly reduced. “Low-Density Residential” areas in the flatter parts of the City would see an increase in allowable General Plan density from 7 to 11 units per acre. This change is proposed in Upper Rockridge, Trestle Glen/ Crocker Highlands, Lower Oakmore, and in parts of Redwood Heights, Millsmont, and Toler Heights. However, policies in the Plan encourage zoning designations which maintain the character of these neighborhoods and discourage increases in density. Policy N7.1 requires development in Detached Unit and Mixed Housing Type areas to be compatible with the density, scale, design, and existing or desired character of surrounding development. The Strategy Diagram indicates that these areas will be “maintained and enhanced,” reducing the potential for increased density.

Areas designated “Low-Medium-Density Residential” on the 1980 Plan include the majority of East Oakland, San Antonio-Fruitvale, and North Oakland. About 3,000 acres with this

<sup>1</sup> This excludes “Suburban Residential” land shown on the 1980 Plan that has since been acquired as open space.

designation will be reclassified as “Detached Unit Residential” with an attendant decrease in allowable General Plan density from 14 to 11 units per acre. Most of these areas are located in Central East Oakland and Elmhurst and in the Dimond, Laurel, and Glenview Districts. Most of the residential areas in North Oakland, San Antonio, and Fruitvale will be reclassified to “Mixed Housing Type Residential,” with an attendant increase in General Plan density from 14 to 30 units per acre. Zoning revisions would only allow density increases where compatible with neighborhood character, consistent with policies in the General Plan, and consistent with the Strategy Diagram. Zoning would reflect the City’s strategy to “Maintain and Enhance” its established residential neighborhoods.

Areas designated “Medium-Density Residential” on the 1980 Plan are generally located around existing concentrations of “garden apartment” housing in West Oakland, parts of Adams Point, the MacArthur, Foothill, and Fruitvale Corridors, and along the corridors in North Oakland. In West Oakland, Adams Point, and in parts of North Oakland and the Lower Hills, these areas are being reclassified as “Mixed Housing Type.” Along the corridors, they are generally being reclassified as “Urban Residential.” In both cases, the maximum density specified by the proposed Land Use and Transportation Map is higher than the existing General Plan density to reflect existing conditions or the policy emphasis on higher density corridor housing.

Most areas designated “High Density Residential” on the 1980 Plan are being reclassified as “Mixed Density Residential” or “Urban Residential.” The proposed map designations reflect the existing pattern more closely than the 1980 Plan. Thus, smaller portions of West Oakland, Adams Point, and the Piedmont Avenue area are being shown for the highest density residential categories. The Gold Coast and Chinatown areas, both designated High Density Residential in the 1980 Plan, are to be reclassified as “Central Business District.” This will not significantly impact the allowable uses or densities.

## Commercial

The 1980 Plan has one commercial classification. The Land Use and Transportation Element has three commercial classifications and the CBD classification. Areas designated “Commercial” in the 1980 General Plan include most of Downtown Oakland, the Jack London waterfront, the Airport Gateway, and the corridors along San Pablo, Martin Luther King, Telegraph, College, Broadway, Piedmont, MacArthur, Grand, Foothill, and International Boulevards. Most of the City’s shopping centers (Lincoln Square, Foothill Square, Eastmont, etc.) and districts are also commercially designated. The proposed Plan would reclassify these areas into the new commercial categories, mixed use categories, or the urban residential category.

Downtown commercial areas would be reclassified as “Central Business District.” A floor area ratio limit of 20.0 would be set and a maximum density of 300 units per acre is established.

Because the prior designations set no upper limit on development intensity, and because the “Commercial” designation allowed the same mix of uses as the new designation, the effect of this change would not be significant.

The corridors would generally be reclassified from unbroken commercial strips to “Urban Residential,” “Neighborhood Center Mixed Use,” and “Community Commercial” segments. Depending on how zoning is structured, some existing commercial uses (such as automotive services) could eventually become non-conforming. In a limited number of areas, including parts of the major transit corridors, the range of allowable uses in areas redesignated as Neighborhood Centers could be more narrowly defined than it is presently. The arrival of new urban residential development on commercial corridors could create land use compatibility conflicts and increase the demand for public services and transit along the corridors.

Most of the shopping centers on major transit corridors would be reclassified as “Community Commercial;” those on regional transportation corridors would be reclassified as “Regional Commercial.” The effect would not be significant, as the complement of allowable uses would not change under the new designation. Shopping “districts” away from the corridors, such as Montclair and Grand-Lakeshore, would be designated as “Neighborhood Center Mixed Use.” Again, the changes would not be significant unless substantial provisions for new housing were made in the revised zoning designations for these areas.

Commercial land around the Airport Gateway would be reclassified as “Regional Commercial” and “Business Mix.” The Regional Commercial areas would correspond to the Coliseum and Hegenberger Corridor, while the Business Mix areas would correspond to the business parks and quasi-industrial areas along 98th Avenue. The change would not significantly impact existing or planned commercial uses, as both the Business Mix and Regional Commercial categories are defined broadly enough to accommodate all of the existing commercial uses in this area.

Floor area ratios are specified in all of the proposed General Plan designations, while no floor area ratios were included in the old General Plan “commercial” category. Although the environmental impact of this change is less than significant, it does have implications for future zoning of these areas.

### **Manufacturing or Wholesaling**

Most of the areas designated as “Manufacturing or Wholesaling” on the 1980 General Plan map are being reclassified as “Business Mix,” “Housing and Business Mix,” “Waterfront Mixed Use,” and “General Industrial/ Transportation.” The proposed changes will distinguish different types of industrial land based on relative impacts and compatibility with other uses, particularly residential uses.



Most of the manufacturing areas in West Oakland have been redesignated as “Business Mix”, although a few areas are designated “Housing/ Business Mix.” Zoning consistent with this designation could limit the range of heavy manufacturing uses allowed in these areas but would allow greater flexibility for commercial use and place a greater emphasis on buffering and performance standards. Areas designated as “Housing/ Business Mix” could accommodate additional residential and live-work development. Zoning changes that implement the Housing/Business Mix designation would include standards that avoid future conflicts and mitigate existing conflicts where industry and housing abut one another.

Manufacturing/wholesale areas along the waterfront have been replaced with a “Waterfront Mixed Use designation.” Because this classification allows residential and commercial uses, potential land use conflicts could arise in the future. Moreover, the emphasis on mixed uses (and gradual transition of this area to higher-value land uses) could create economic pressures which make it more costly for industry to operate in the waterfront area. These conditions are specifically addressed through Plan policies.

### **Transportation**

The “Transportation” classification in the 1980 Plan is being replaced with a “General Industry/ Transportation” classification. The uses allowed are substantially the same (General industry is an accepted use in the “Transportation” category). The new category includes a floor area ratio limit, but this limit is not expected to change the type or intensity of development that occurs in industrial and transportation areas. The new category will be applied not only to those areas formerly designated for “Transportation” but to many of the areas formerly designated for “Manufacturing and Wholesaling.” Impacts of this change are less than significant.

### **Institutional and Open Space Areas**

The 1980 General Plan category for “Institutional or Government” land will be replaced with a new “Institutional” category. The categories are basically the same and are being applied to the same general areas. A floor area ratio limit, which did not exist previously, will be established, but the effect is not significant. The 1980 General Plan category for “Park, Recreation, or Natural Area, or Watershed” will be replaced with an “Park and Urban Open Space” category and a “Resource Conservation Area” category. The change is consistent with the adopted OSCAR Element of the Oakland General Plan and is a less-than-significant impact.

### **Land Use and Transportation Element Policies**

The “project” evaluated in this EIR includes both the map changes described above and the goals, objectives, and policies contained within the Draft Element. Potentially significant impacts relating from the new land use classification system are generally precluded by the

goals, objectives, and policies. Policies and “area view” maps in the Element describe the character and type of development envisioned in various parts of the City, and propose zoning revisions that implement the Plan’s “maintain and enhance” strategies for various areas. The following specific policies address this issue:

Policy I/C4.1:

Existing industrial, residential, and commercial activities and areas which are consistent with long-term land use plans for the City should be protected from the intrusion of potentially incompatible uses.

Policy W12.7:

The existing residential communities within and adjacent to the waterfront should be supported and enhanced.

Policy N1.8:

The height and bulk of commercial development in Neighborhood Center and Community Commercial areas should be compatible with that which is allowed for residential development.

Policy N3.8:

High quality design standards should be required of all new residential construction. Design requirements and permitting procedures should be developed and implemented in a manner that is sensitive to the added costs of those requirements.

Policy N7.1:

New residential development in Detached Unit and Mixed Housing Type areas should be compatible with the density, scale, design, and existing or desired character of surrounding development.

Policy N7.2:

Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, predominant development type and height, scenic values, distance from public transit, and desired neighborhood character are among the factors that could be taken into account when developing and mapping zoning designations or determining compatibility.

Policy N7.3:

Require at least 8,000 square feet of lot area per dwelling unit when land in the hill area is being divided. Lots smaller than 8,000 square feet may be created only when this ratio is being maintained for the parcel being divided.

Priority Implementation Agenda Item b1:

The zoning ordinance should be revised to implement the land use and transportation policies and to reflect the new land use diagram and classification system. Undertaking this action will require the development of criteria and standards which address and mitigate the potential for land use conflicts and compatibility problems.

Priority Implementation Agenda Item c2:

Economic development strategies are recommended in the waterfront, airport, downtown, Coliseum area, and seaport areas. Each of these strategies would contain more specific detail on business retention and attraction in these areas.

The policies listed above may not fully mitigate Impact A.1 to a level of insignificance. The following additional measures are proposed to ensure that the impacts are less than significant.

**Mitigation Measure A.1a:** Establish performance based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas. (Industry and Commerce Working Group)

**Mitigation Measure A.1b:** Develop “performance” zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby land uses. (Industry and Commerce Working Group)

**Mitigation Measure A.1c:** Develop strategies to mitigate conflicts associated with live/ work and home occupation uses. (Downtown Working Group)

**Mitigation Measure A.1d:** During the revision of the zoning ordinance and map, develop zoning district definitions and map boundaries to protect enclaves of lower density residential development that may be designated for more inclusive density categories on the Land Use and Transportation Diagram. Use the General Plan Strategy Diagram (Figure 3) as a means of making these determinations.

**Mitigation Measure A.1e:** During the revision of the zoning ordinance, develop a one acre minimum lot size zoning district. Consistent with the recommendations of the OSCAR Element, apply this district to appropriate areas of the Oakland Hills as a means of maintaining and enhancing neighborhood character.

**Impact A.1 Level of Significance After Mitigation:** Less Than Significant

## ***CHANGES TO THE OAKLAND GENERAL PLAN MAP***

**Impact A.2: Land Use Diagram changes could facilitate the redevelopment of large parts of the City, including military bases, transit corridors, the Coliseum area, the Estuary shoreline, and Downtown. Implementation of the proposed Land Use and Transportation Element would change the allowable land uses in a number of locations within the City. Subsequent zoning changes could result in designations that are inconsistent with the existing uses. Zoning changes consistent with the proposed Element could render some uses non-conforming. This would be a less-than-significant impact, since it is mitigated by proposed policies in the Land Use and Transportation Element and the additional measures identified in this EIR.**

Land Use Diagram Map changes for each Planning Area are summarized in Tables III.A-2 through III.A-7. These changes are further discussed in the paragraphs below. Eight specific types of potential land use impacts associated with Impact A.2 have been identified. These are referenced in the table (as Impacts A.2a through A.2h) and are discussed in greater detail at the end of this section. Each type of impact is mitigated by policies in the Draft Plan.

### **West Oakland/Harbor**

Major land use designation changes in West Oakland are summarized in Table III.A-2. The map reduces the General Plan density in most West Oakland neighborhoods to be more consistent with existing densities. Allowable density would be increased only in those areas where high density development already exists (for instance, at Acorn and Peralta Village). The most significant map changes are the redesignation of part of the Army Base to Business Mix, the change of several blocks formerly designated as “Manufacturing/ Wholesaling” to “Mixed Housing Type Residential,” the redesignation of portions of the San Pablo corridor from “Commercial” to “Urban Density Residential,” and the classification of some formerly industrial areas as “Housing/ Business Mix.” Table III.A-2 indicates those areas where the proposed change reflects existing land uses and areas where the proposed change reflects a policy decision to encourage a new land use.

The potential impacts associated with these changes have been classified in eight categories and are discussed at the end of this section (Impacts A.2a through A.2h). In each category, Plan policies mitigate potentially significant impacts.

### **Central/Chinatown**

The primary land use impacts in Central/ Chinatown are associated with the application of the more general “Central Business District” and “Waterfront Mixed Use” designations to the areas south of Grand Avenue. Five residential enclaves have been redesignated from Urban Density Residential to Central Business District. Plan policies direct the City to protect these areas from intrusion by incompatible uses. In the Jack London area, former manufacturing and commercial

**TABLE III.A-2  
POTENTIAL LAND USE IMPACTS ADDRESSED BY PLAN POLICIES IN WEST OAKLAND/ HARBOR**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
Vacant Industrial land west of East Bay Bridge Shopping Center	1	Manufacturing/Wholesaling	M-40	Vacant	Regional Commercial	See A.2e	Same GP change also applies to East Bay Bridge Ctr., reflecting existing development.
Area bounded by 32nd, 580, Mandela and Adeline, excluding area south of 33rd from Hollis to Mandela.	2	Industrial	M-30	Mostly industrial, scattered res/vacant land	Housing-Business Mix	See A.2c	Area south of 33rd b/w Hollis and Mandela to remain residential
San Pablo Avenue							
- from 30th Street to 580	3	Commercial	C-30,-40	Commercial/ indus.	Urban Density Residential	See A.2a	
- from 26th Street to 980	4	Commercial	C-30,-35	Mostly commercial			
Martin Luther King Jr Way		Medium Density Residential		Mixed single family and 2-4 unit res	Urban Density Residential	See A.2b	
- from 29th Street to 580	5		R-50				
Martin Luther King Jr Way				Mostly commercial, some multi-family	Urban Density Residential	See A.2a	
- from 29th Street to 980	6	Commercial	C-30,-35				
Martin Luther King Jr Way				Commercial, vacant industry, residential	Mixed Housing Res	See A.2e	
- w/ side street, Grand to 21st	7	Manufacturing	R-50				
Adeline Street, 28th to 32nd	8	Manufacturing	M-20/R-36	Mfg on w/ side Res on e/ side	Mixed Housing Res	See A.2e	
Market Street, West Grand to 28th St	9	Manufacturing on w/ side of strt. Commercial on e/ side of street	M-20/C-30	Commercial and residential, with industry b/w Filbert and Myrtle	Mixed Housing Res	See A.2e	

**TABLE III.A-2 (Continued)**  
**POTENTIAL LAND USE IMPACTS ADDRESSED BY PLAN POLICIES IN WEST OAKLAND/ HARBOR**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
<i>Other West Oakland proposed land use changes with less than significant impacts (not mapped):</i>							
Finger piers at FISCO	--	Transportation	M-40	Military Base Wharves	Parks/ Urban Open Space	None	Access, toxics issues to be covered by FISCO EIR
EBMUD Wastewater plant	--	- Institutional	M-40	Wastewater Plant	-Gen.Ind/Trans	None	No land use changes are proposed in these areas.
EBMUD Grand Ave facilities		- Institutional	M-20	Maint Yd/ Offices	- Business Mix		
Post Office Bulk Mail facility		- Institutional	S-2	Bulk Mail Facility	- Business Mix		
Oakland Army Base	--	Transportation	M-40	Military Base	Business Mix Gen Industry/ Transportation	None	Separate environmental review process underway.

SOURCE: CEDA, 1997

**TABLE III.A-3**  
**POTENTIAL LAND USE IMPACTS ADDRESSED BY PLAN POLICIES IN CENTRAL / CHINATOWN**

<b>Area</b>	<b>Map Legend #</b>	<b>1980 Plan designation</b>	<b>Existing Zoning</b>	<b>Existing Land Use (1997)</b>	<b>Proposed Plan designation</b>	<b>Potential Impacts to be addressed by Plan Policies</b>	<b>Comments</b>
Jack London Waterfront		Manufacturing/	M-20, M-	Manufacturing,	Waterfront	See A.2c	Estuary Plan subject to
- Off-price retail area	1	Wholesaling	30, M-45	wholesaling, off-	Mixed Use		separate environmental
- Produce district/ Loft	2			price retail, loft			review process
housing area				housing, office			

SOURCE: CEDA, 1997

**TABLE III.A-4**  
**POTENTIAL LAND USE IMPACTS ADDRESSED BY PLAN POLICIES IN SAN ANTONIO/ FRUITVALE/ LOWER HILLS**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
International Blvd, 15th Av to 22nd Av	1	Commercial	C-28	Mostly comm., some res. and ind.	Urban Density Res	See A.2a	
Foothill Blvd, 33rd Av to High St	2	Commercial	C-30	Mostly comm, SF res, some MF res	Urban Density Res	See A.2a	
MacArthur Blvd, Lincoln to Midvale	3	Commercial and Medium Density Residential	C-25	Mixed SF/ MF residential and some commercial	Urban Density Res	See A.2a	
Oakland School District land, 1st Av to 3rd Av between E 12th and E 10th	4	Institutional	S-2/ S-4	Admin offices, warehouses, maint. yards	Urban Density Res	See A.2a	
Estuary Shoreline, Tidal Channel to 9th Avenue Terminal	5	Transportation	M-40	Marine terminals, industry, live-work, commercial	Waterfront Mixed Use	See A.2c	Estuary Plan subject to separate environmental review process
Estuary Shoreline, 22nd Ave to East Creek Slough	6	Manufacturing or Wholesaling	M-40	Mostly industry, some res/comm	Waterfront Mixed Use	See A.2c	Estuary Plan subject to separate environmental review process
<b><i>Other San Antonio- Fruitvale- Lower Hills proposed land use changes with less than significant impacts (not mapped):</i></b>							
E.12th St. to SPRR, 2nd Av to 14th Av	--	mix of Mfg., Comm, High Density Res.	Mix of C-30, C-40, R-50	Mostly industrial, heavy commercial, scattered residential	Housing Business Mix	None	Change reflects existing land use pattern
San Leandro St. to SPRR, Fruitvale to 37th Av	--	High Density Residential	R-50	Very intermixed housing, industry	Housing-Business Mix	None	Change reflects existing land use pattern

SOURCE: CEDA, 1997



**TABLE III.A-5  
POTENTIAL LAND USE IMPACTS ADDRESSED BY POLICIES IN EAST OAKLAND (INCLUDING ELMHURST AND AIRPORT)**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
Bancroft to Bond, between 42nd and High	1	Low-Medium Density Res	R-40	Mostly residential	Community Commercial	See A.2f	
Foothill Blvd							
- S.side, High St. to 50th Av	2	Commercial	C-30	Mostly commercial	Urban Density	See A.2a	
- S.side, Cole to Avenal	3	Commercial	C-30	Mixed comm/ res	Res		
- S.side, 60th to Camden	4	Commercial	C-30	Mostly MF/ some commercial			
International Blvd.							
- 47th to 54th Av	5	Commercial	C-40	Commercial	Urban Density	See A.2a	
- E. Side, 62nd to 67th Av	6	Commercial	C-40	Comm, some res	Res		
- 75th Av to 81st Av	7	Commercial	C-40	Comm, some res			
- 84th Av to 90th Av	8	Commercial	C-40	Commercial			
85th to 90th Av, b/w E and G St.	9	Manufacturing/ Wholesaling	M-20	2 blocks housing, 3 blocks industry	Housing-Business Mix	See A.2c	
San Antonio Villa and adjacent manufacturing building (on the north)	10	High Density Residential and Mfg/ Wholesal.	R-70/ M-30	Public housing/ industrial building	Housing-Business Mix	See A.2c and A.3d	
Pippin St, Stone to Moorpark	11	Low Medium Density Res	R-50	Mostly SF res	Housing-Business Mix	See A.2d	
Coliseum BART Parking Lot	12	Institutional	M-20	Parking Lot	Community Commercial	See A.2g	
Area between High Street and PG&E Oakport Service Center west of I-880	13	Manufacturing/ Wholesaling	M-40	Tidewater Business Park (industry)	Waterfront Mixed Use	See A.2c	Estuary Plan subject to separate environmental review process
PG&E and EBMUD properties on Oakport, north of 66th Av	14	Manufacturing/ Wholesaling	M-40	Utility operations/ maintenance yards	Waterfront Mixed Use	See A.2g	Estuary Plan subject to separate environmental review process

**TABLE III.A-5 (Continued)**  
**POTENTIAL LAND USE IMPACTS ADDRESSED BY POLICIES IN EAST OAKLAND (INCLUDING ELMHURST AND AIRPORT)**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
7.7 acres at northwest corner of I-880 and 66th Avenue	15	Park, Recreation, Natural Area	M-40	Vacant land	Waterfront Mixed Use	See A.2g	Estuary Plan subject to separate environmental review process
<i>Other East Oakland proposed land use changes with less than significant impacts (not mapped):</i>							
MacArthur Blvd. - Parker to Castlemont High - Castlemont to 89th Av - 92nd to 96th Av - Warner to Foothill	--	Commercial Commercial Commercial Commercial	R-50/C-10 R-50 R-50 R-50	MF Res, commer. Comm, residential Comm, res, vacant Motels, MF res	Urban Density Residential	None	New plan designation is consistent with already approved changes in Elmhurst-MacArthur study and rezonings
45th to 47th Av, between International Blvd and Foothill	--	Low Medium Density Residential	R-70	MF Residential	Urban Density Residential	None	New designation reflects existing uses
International Blvd - 104th Av to San Leandro City	--	Manufacturing/ Wholesaling	M-20	Auto plant converted to retail and live-work	Community Commercial	None	New designation reflects existing uses
Oakland Coliseum	--	Institutional	C-36	Oakland Coliseum	Regional Commercial	None	Change anticipates future retail-entertainment use
South side Hegenberger between railroad and Baldwin	--	Manufacturing/ Wholesaling	C-40	Light industry/ institutional	Regional Commercial	None	New designation reflects existing use

SOURCE: CEDA, 1997

**TABLE III.A-6  
POTENTIAL LAND USE IMPACTS ADDRESSED BY PLAN POLICIES IN NORTH AND SOUTH HILLS**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
Oak Knoll Naval Hospital	1	Institutional	R-30	Naval Hospital, housing, and open space	Institutional, Hillside Res, Commercial, Urban Park, and RCA	--	Separate environmental review underway for re- use plan. Analysis not included in Land Use and Transportation Element
Base of Leona Quarry	2	Park, Recreation, or Natural Area	R-50	Quarry	Regional Commercial	See A.2h	Separate project-level environmental impact analysis to be required for this site.
<b><i>Other North and South Hills proposed land use changes with less than significant impacts (not mapped):</i></b>							
Open Space Acquisitions:	--						
- Upper Claremont Canyon		Suburban	R-30	All sites listed are	Resource	None	Map change reflects City
- Grizzly Peak Estates		Residential or	R-10	undeveloped	Conservation		acquisition of these
- Beaconsfield Canyon		Low Density	R-30	hillside open space	Area		properties as parkland
- Meyer and Boyle properties		Residential	uninc.				
- Leona Open Space			R-30				
- Ridgemont Open Space			R-30				
- Dunsmuir Ridge			R-30				
EBMUD tank site adjacent to Dunsmuir Ridge	--	Commercial	S-4	EBMUD reservoir and open space	Resource Conservation	None	Change reflects existing land use
Neighborhood Centers						None	Change reflects existing
- Clarewood at B'way Terrace	--	Low Density Residential	C-10 C-20 C-20	Neighborhood retail centers	Neighborhood Center Mixed Use		neighborhood centers not acknowledged on 1980 Plan Map.
- Thornhill at Grisborne							
- Joaquin Miller at Mountain							

SOURCE: CEDA, 1997

**TABLE III.A-7  
POTENTIAL LAND USE IMPACTS ADDRESSED BY PLAN POLICIES IN NORTH OAKLAND**

Area	Map Legend #	1980 Plan designation	Existing Zoning	Existing Land Use (1997)	Proposed Plan designation	Potential Impacts to be addressed by Plan Policies	Comments
Martin Luther King Junior Way							
- West MacArthur to I-580	1	Commercial	C-40	Mixed res/ comm	Urban Density	See A.2a	
- 42nd St to 47th St	2	Commercial	C-10/ C 30	Mostly comm	Residential		
Shattuck Av							
- E Side, Hwy 24 to 52nd	3	Med Dens Res	R-70	Residential	Neigh Ctr	See A.2f	
- W. Side, Hwy 24 to Telegraph	4	Med Dens Res	R-50/ R-70	Mixed Commercial and Residential	Mixed Use Neigh Ctr Mixed Use	See A.2f	
Telegraph Ave, 63rd to MacAuley	5	Commercial	C-28	Mixed commercial and residential	Urban Density Residential	See A.2a	Map changes on other portions of Telegraph reflect existing conditions.
40th Street, Webster to Opal	6	Commercial	C-30	Commercial, public	Urban Density Residential	See A.2a	
MacArthur BART parking lot	7	Institutional	R-70	Parking lot	Neigh Ctr Mixed Use	See A.2g	
<i>Other North Oakland proposed land use changes with less than significant impacts (not mapped):</i>							
West side of College Avenue, City of Berkeley to Chabot Rd	--	High Density Residential	C-31	Commercial	Neigh Ctr Mixed Use	None	Map change reflects existing conditions
Telegraph Av							
- 59th to Aileen St	--	Commercial	C-28	Mostly MF res	Urb. Dens Res	None	Map change reflects existing conditions
- Highway 24 to Claremont		High Dens Res.	C-28/R-70	Mostly Comm	Comm. Comm.		
- W/ side, Shattuck to 40th		Med Dens Res.	C-28	Commercial	NC Mixed Use		

SOURCE: CEDA, 1997

areas have been designated Waterfront Mixed Use. These areas are identified in Table III.A-3. In the area north of Grand Avenue, the major changes are density reductions in Adams Point and Richmond Boulevard areas.

The potential impacts associated with these changes have been classified in eight categories and are discussed at the end of this section (Impacts A.2a through A.2h). In each category, Plan policies mitigate potentially significant impacts.

### **San Antonio/Fruitvale/Lower Hills**

Most of the map changes are proposed in the area between International Boulevard and the Estuary shoreline. The most significant proposed change is the redesignation of the application of a “mixed use” designation on several hundred acres along the shoreline previously designated as “Manufacturing or Wholesaling.” The most probable effect of this change would be the introduction of housing and commerce into previously industrial or maritime areas. Some of the corridor between I-880 and International Boulevard, currently developed with commercial and manufacturing uses with pockets of residential uses, has been reclassified as “Housing-Business Mix.” Segments of the Foothill, MacArthur, and International Boulevard corridors--each about eight blocks in length--have been redesignated from “Commercial” to “Urban Density Residential.” Table III.A-4 summarizes these changes and indicates those areas where the proposed change reflects existing land uses and those areas where the change reflects a policy decision to encourage a new land use.

In addition to the changes shown in the Table, the proposed Map would lower the allowable density in large parts of San Antonio, Fruitvale, and the Lower Hills. Portions of the Rose Garden neighborhood, Highland Hospital area, South Dimond Park area, Fruitvale corridor, and the area east of Franklin School would be redesignated from High Density Residential to Mixed Housing Type Residential. Some of the areas previously designated for Low-Medium Density Residential development, including parts of Glenview, China Hill, Brookdale Park, Laurel, and Dimond, would be redesignated for Detached Unit Residential development.

The potential impacts associated with these changes have been classified in eight categories and are discussed at the end of this section (Impacts A.2a through A.2h). In each category, Plan policies mitigate potentially significant impacts.

### **East Oakland, including Elmhurst and Airport**

The principal land use impacts in East Oakland are the redesignation of several corridors from “Commercial” to “Urban Density Residential” uses and the application of the Housing-Business Mix category to a number of residential and industrial areas. Map changes are proposed on a number of specific large sites, including the Oakland Coliseum (changed from “Institutional” to

“Regional Commercial”) and the PG&E/ EBMUD facilities on Oakport (changed from “Institutional” to “Waterfront Mixed Use.”)

Table III.A-5 summarizes the changes in East Oakland. The table indicates those areas where the proposed change reflects existing land uses and those areas where the change reflects a policy decision to encourage a new land use. Approximately 30 blocks of MacArthur Boulevard frontage and 20 blocks of International Boulevard frontage (in disconnected segments) are to be redesignated from Commercial to Urban Density Residential. The MacArthur Boulevard changes reflect zoning map revisions that were made several years ago. The International Boulevard changes would promote residential uses in areas that are now primarily commercial. On the eastern edge of the San Leandro Street industrial corridor, a number of areas presently characterized by a mix of residential and industrial uses will be redesignated as “Housing-Business Mix.”

The potential impacts associated with these changes have been classified in eight categories and are discussed at the end of this section (Impacts A.2a through A.2h). In each category, Plan policies mitigate potentially significant impacts.

### **North and South Hills**

Proposed changes in General Plan designation in the North and South Hills are summarized in Table III.A-6. The most significant changes are the redesignation of the base of Leona Quarry and Oak Knoll Naval Hospital. The designation at the base of Leona Quarry would be changed from “Park, Recreation or Natural Area” to “Regional Commercial.” The designation at Oak Knoll would change from “Institutional” to a combination of “Institutional,” “Commercial,” “Hillside Residential,” “Urban Park,” and “Resource Conservation Area.” Designations would match the proposed master plan for the site.

Elsewhere in the North Hills, most of the designation changes reflect open space acquisitions by the City or recognition of existing neighborhood commercial centers that were not acknowledged in the previous General Plan. The other noteworthy change is that all nearly all of the residential areas are collectively classified as “Hillside Residential” whereas the 1980 Plan differentiated between “Suburban” and “Low Density” Residential areas. Plan policies direct the City to zone these areas in a manner which retains the existing character of the neighborhoods.

The potential impacts associated with these changes have been grouped in eight categories and are discussed at the end of this section (Impacts A.2a through A.2h). In each category, Plan policies and additional measures mitigate potentially significant impacts.

### **North Oakland**

The primary map changes in North Oakland are the redesignation of several corridor segments from Commercial to Residential uses. Specifically, segments of Telegraph and Shattuck

Avenues, West MacArthur Boulevard, and Martin Luther King Junior Way are to be redesignated from “Commercial” to “Urban Density Residential.” In addition, the Telegraph Avenue corridor between Shattuck and 40th is proposed for reclassification from “Medium Density Residential” to “Neighborhood Center Mixed Use”, and the area around the Claremont/ Telegraph intersection is proposed for reclassification from “High Density Residential” to “Community Commercial.” Most of these changes reflect existing land uses and are not significant. The MacArthur BART Station would be redesignated from Institutional to “Neighborhood Center Mixed Use.” These changes are summarized in Table III.A-7. The table indicates those areas where the proposed change reflects existing land uses and those areas where the change reflects a policy decision to encourage a new land use.

Substantial reductions in General Plan density are proposed in parts of North Oakland, namely in the Rose Garden neighborhood, in parts of the Piedmont Avenue neighborhood, and along Claremont and Alcatraz Avenues. These areas, designated as “High Density Residential” in the 1980 Plan, would be redesignated as “Mixed Housing Type.” In most cases, the change will bring General Plan designations closer in line with existing development.

The potential impacts associated with these changes have been grouped in eight categories and are discussed at the end of this section (Impacts A.2a through A.2h). In each category, Plan policies mitigate potentially significant impacts.

**Specific Impact Type A.2a: Proposed General Plan map changes would redesignate some segments of major transportation corridors from a “Commercial” to “Urban Density Residential” land use classification. Adverse impacts could occur in areas which currently have high concentrations of general commercial and auto-oriented businesses. Proposed policies in the Element and the additional measures specified in this EIR mitigate these impacts.**

The particular areas where this type of change is proposed are noted in Tables III.A-2 through III.A-7. The change would create opportunities for high-density residential development on vacant or underdeveloped sites formerly designated for commercial use. Over time, existing one and two-story vacant buildings or underutilized commercial land uses could be phased out. The corridors could redevelop with new high density residential buildings, some with ground floor commercial uses.<sup>2</sup> Redevelopment could result in temporary compatibility problems. Typical land use conflicts could include exposure of residents in new units to noise and air pollution associated with traffic on the arterials, localized parking and localized traffic problems associated with high density residential development, and nuisances (odors, noise, etc.) arising from existing commercial businesses operating in close proximity to new residences. Some existing commercial uses on the corridors, such as auto dismantlers, body shops, and other “heavy

<sup>2</sup> In most cases, existing commercial zoning on the corridors allows densities equivalent to Oakland’s R-70 district. This equates to approximately 97 units per acre, which is slightly less than the proposed General Plan density of 125 units per acre.

commercial” uses, could be rendered non-conforming. The policies listed at the end of this section, accompanied by the additional measures in this EIR, mitigate these potential impacts.

**Specific Impact Type A.2b: Proposed General Plan map changes would allow significant increases the allowable General Plan density in some areas now designated for low or medium density residential use. Proposed policies in the Element and the additional measures identified in this EIR mitigate these impacts.**

The particular areas where this type of change is proposed are noted in Tables III.A-2 through III.A-7. Vacant or underutilized land in the designated areas could be expected to develop or redevelop with high density residential uses. In most cases, the referenced areas are already developed with high density residential use and the map change reflects existing development rather than desired future change. In a number of cases, the referenced areas contain vacant land or existing single family development. Higher density development on these parcels could create localized land use conflicts such as parking problems, view blockage, shadows, noise, loss of privacy, and perceived negative effects on neighborhood character. In some instances, existing low density structures might be displaced by higher density structures. A number of the policies listed at the end of this section specifically address this issue and contain language which will avoid adverse impacts in the future.

**Specific Impact Type A.2c: Proposed General Plan map changes would redesignate several active industrial areas to new General Plan categories which are more restrictive or which allow live-work and other forms of housing. Depending on future zoning changes, new residential or higher value commercial/ light industrial uses could potentially locate in close proximity to existing business and industry, creating the potential for land use conflicts and making certain types of heavy commercial and industrial activities more difficult to carry out. Zoning changes could also render certain heavy industries in these areas non-conforming. Proposed policies in the Element and the additional measures in this EIR mitigate this impact.**

This impact would take place in those areas which are being redesignated from “Manufacturing or Wholesaling” to “Waterfront Mixed Use,” and “Housing Business Mix.” Subsequent zoning changes could make certain types of heavy industrial uses more difficult to carry out. If higher value industries (biotechnology, R&D, etc.) are attracted to these areas, existing heavy industry could be subject to a growing number of complaints regarding noise, dust, odor, visual quality, hours of operation, truck traffic, and various industrial processes and operations. The possibility of new live-work housing could raise added concerns about the exposure of future residents to the industrial activities going on in the area. The policies and the additional mitigation measures listed at the end of this section limit the potential for future adverse impacts.

**Specific Impact Type A.2d: Proposed General Plan map changes would change several areas now developed with residential uses to new categories which acknowledge their close proximity to industrial uses. Depending on future zoning changes, new manufacturing,**



**wholesale, or business uses could locate in close proximity to residential uses, creating the potential for land use conflicts. Proposed policies in the Element and the additional measures in this EIR mitigate this impact.**

In a limited number of areas, noted in Tables III.A-2 through III.A-7, the proposed General Plan map would change the land use designation from a residential category (usually “Low-Medium Density Residential”) to “Housing Business Mix.” The impact of this change will be less than significant in most cases since it reflects an established pattern in which residential and industrial uses are located adjacent to one another. In other cases, the change affects residentially zoned blocks or pockets of housing that are surrounded by industry. Land use conflicts for existing residents will be avoided by Plan policies that require buffering and performance standards within Housing-Business Mix areas and prohibit high impact business uses.

**Specific Impact Type A.2e: Proposed General Plan map changes would redesignate several areas from industrial designations to exclusively residential designations. This is a less than significant impact.**

Three small pockets of West Oakland designated “Manufacturing/ Wholesaling” on the current Plan are to be redesignated for “Mixed Housing Type” Residential on the proposed Plan. The areas are currently developed with a mix of residential and older manufacturing and commercial uses. The map change could result in additional residential development adjacent to existing industries, with the attendant potential for land use conflicts. However, most of the land in the areas in question is fully developed. The areas are generally considered unsuitable for heavy industrial use, and the existing industrial and commercial buildings in the area include large amounts of vacant floor space or storage yards.

**Specific Impact Type A.2f: Proposed General Plan map changes would reclassify some residentially designated land for commercial or mixed uses. This impact is less than significant due to proposed policies in the Element that address land use compatibility.**

On a handful of locations now developed with housing, the proposed Plan would apply new commercial or mixed use designations, including “Neighborhood Center Mixed Use,” “Community Commercial,” and “Central Business District.” These areas are identified in Tables III.A-2 through III.A-7. Vacant or underutilized sites in these areas could develop with commercial projects, mixed use projects, and higher density residential projects. In the absence of Plan policies, this could result in land use conflicts, including the encroachment of commercial uses on residential streets and into residential structures, the loss of housing units, changed neighborhood character, increased traffic, noise, loss of privacy, odors, and adverse visual effects. The potential for these conflicts is minimal in most cases, as the proposed map change is generally limited to areas that contain very little vacant land and that are already developed with a mix of residential and commercial uses. Moreover, Plan policies direct the City to protect residential uses from encroachment by incompatible commercial development.

**Specific Impact Type A.2g: Proposed General Plan map changes would reclassify several Institutional sites to commercial General Plan categories. This is a less than significant impact.**

The sites in question are various EBMUD and PG&E facilities, the BART parking lots and the Oakland Coliseum. The current designations on these sites is Institutional. The proposed designation is specified in Tables III.A-2 through III.A-7 but involves a commercial component in each case. Under existing (1980) General Plan policies and zoning designations, institutional sites can already be developed with commercial uses. Therefore, the new General Plan designation will not significantly change the allowable use or result in potential land use conflicts or compatibility problems.

**Specific Impact Type A.2h: Proposed General Plan map changes would reclassify two areas now designated as “Park, Recreation, or Natural Area” to a commercial development category. The land could subsequently be developed without a General Plan amendment. This a less than significant impact.**

The two instances where this is proposed are at the base of Leona Quarry and on EBMUD land at 66th Avenue and Oakport Drive. In both cases, the 1980 Plan designation reflected assumptions about open space dedication or acquisition in these areas. These acquisitions occurred (or are now planned to occur) in slightly different locations than originally expected. The amount of open space and recreation land city-wide is increased in the Land Use and Transportation Element compared to the 1980 Plan.

### **Land Use and Transportation Element Policies**

Potential impacts resulting from the map changes are generally precluded by the goals, objectives, and policies in the Draft Element. The City will consider Plan policies in concert with the Land Use Diagram when making any future land use decision. The following specific policies address the eight specific impacts described in the previous section:

Policy I/C4.1:

Existing industrial, residential, and commercial activities and areas which are consistent with long-term land use plans for the City should be protected from the intrusion of potentially incompatible uses.

Policy I/C4.2:

The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through efficient and appropriate implementation and monitoring of environmental and development controls.

Policy D10.7:

Locational and performance criteria should be developed for live-work developments.

Policy W1.2:

Land uses and impacts generated from such activities should be sensitive to one another and appropriate buffering should minimize the incompatibility of uses.

Policy W2.2:

Appropriate buffering measures for heavy industrial uses and transportation uses on adjacent residential neighborhoods should be developed.

Policy W3.2:

The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance and not detract from or damage the quality of the overall natural and man-made environment along the waterfront.

Policy W7.1:

Outside the seaport and airport, land should be developed with a variety of uses that benefit from the close proximity to the seaport and airport and....which can buffer adjacent neighborhoods from impacts related to such activities.

Policy W8.7:

Developments in this area (Jack London) should be designed to enhance direct access to and along the water's edge, maximize waterfront views and vistas, and make inviting public pedestrian access and spaces. Development and amenities must be sensitive to the surrounding character of pedestrian-oriented activities with focus on cultural and retail entertainment. Traditional and historic buildings and structures are character defining and should be preserved, adapted for new uses, or integrated into new development, where feasible.

Policy W9.6:

Development in this area, (Embarcadero Cove) should be designed to enhance direct access to and along the water's edge, maximize the water front views and vistas, and make the public pedestrian access and spaces inviting. Development and amenities must be sensitive to immediate surroundings.

Policy W10.7:

Development in this area (Fruitvale) should be designed to enhance direct access to and along the water's edge, maximize waterfront views and vistas, and make public pedestrian access and spaces inviting. Development and amenities must be sensitive to immediate surroundings.

Policy W10.5:

Since this area (Fruitvale waterfront) is and may continue to be an area that has a variety of uses, including industrial, incompatibilities should be mitigated through appropriate site planning and buffering.

Policy N1.5:

Commercial development should be designed in a manner that is sensitive to surrounding uses.

Policy N2.7:

Site design, architecture, and operating practices of community facilities should be compatible with the area's desired character.

Policy N3.9:

Residential developments should be encouraged 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 N5.1:

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 N8.2:

The height of development in Urban Residential and other higher density residential areas should step down as it nears lower density residential areas so that the interface between the different types of development are compatible.

Policy N12.6:

Prior to submitting required permit applications, project sponsors of medium and large scale housing developments should be encouraged to meet with established neighborhood groups, adjacent neighbors, and other interested local community members, hear their concerns regarding the proposed project, and take those concerns into consideration.

The policies listed above may not fully mitigate Impact A.2 to a level of insignificance. The following additional measures are proposed to ensure that the impacts are less than significant.

**Mitigation Measure A.2a:** Establish design requirements for large-scale commercial development that requires adequate buffers from residential uses. Use of open space, recreation space, or transit installations as buffers should be encouraged. (Neighborhood Working Group)

**Mitigation Measure A.2b:** Develop distinct definitions for home occupation, live/work and work/live operations; define appropriate locations for these activities and performance criteria for their establishment; and create permitting procedures and fees that facilitate the establishment of those activities which meet the performance criteria. (Neighborhood Working Group)

**Mitigation Measure A.2c:** Ensure that structures and sites are designed in an attractive manner which harmonizes with or enhances the visual appearance of the surrounding environment by preparing and adopting industrial and commercial development guidelines. (Industry and Commerce Working Group)

**Mitigation Measure A.2d:** Establish performance-based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas. (Industry and Commerce Working Group)

**Mitigation Measure A.2e:** Develop performance zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby uses. (Industry and Commerce Working Group)

**Mitigation Measure A.2f:** Develop an incentive program to encourage the relocation of non-conforming industrial/ commercial businesses or residential uses to more appropriate locations in the City. (Neighborhood Working Group)

**Impact A.2 Level of Significance after Mitigation:** Less Than Significant

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#### ***APPLICATION OF MIXED USE DISTRICTS***

**Impact A.3: Implementation of the Land Use and Transportation Element would place a greater emphasis on mixed use development and would require development of mixed use zoning designations. The emphasis on mixed use development could create a greater likelihood for conflicting uses within projects or between projects and adjacent sites. This impact is less than significant due to proposed policies in the Land Use and Transportation Element that address mixed use development.**

The Draft Land Use and Transportation Element acknowledges the many benefits of mixed use development and emphasizes its application along corridors, Downtown, along the waterfront, and in areas with mixed residential and industrial uses. The Element acknowledges that without sensitive design, mixed use development can create the potential for incompatible uses within a project, such as late night retail or entertainment activity below residential uses. In many cases, mixed use projects would also be more intense or dense than the existing land use pattern, creating the potential for siting and design conflicts. The Plan precludes such impacts through the following policies:

Policy W8.4:

Mixed use should be sensitive to the surrounding character and design of existing buildings as well as the desire to have the shoreline fully accessible to the public.

Policy W8.4:

The character of this area (Jack London) should be mixed use. Higher density housing, single use housing, and live/work lofts and units are appropriate within the area and developments. Mixed use should be sensitive to the surrounding character and design of existing buildings as well as the desire to have the shoreline fully accessible to the public.

Policy W9.4:

The mixed use character for this area (Embarcadero Cove) should incorporate a variety of uses throughout, including artist residential use, where appropriate.

Policy W10.4:

The mixed use characteristics for the area (Fruitvale) should incorporate office, commercial, and industrial uses, with recreation facilities and housing where appropriate and feasible.

Policy W12.3:

Mixed use and residential development should be sensitive to adjacent properties and designed to enhance the existing and unique characteristics of the waterfront and immediate surroundings.

In addition to the policies listed above, the policies and actions identified as mitigation for Impacts A.1 and A.2 also would apply.

**Mitigation Measure A.3:** None required.

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***LAND USE IMPACTS OF TRANSPORTATION PROJECTS***

**Impact A.4: Implementation of the proposed Land Use and Transportation Element could result in future transportation improvements that could have land use impacts. This impact is less than significant due to proposed policies in the Land Use and Transportation and because CEQA review would be required for subsequent transportation projects.**

The proposed designation of San Pablo Avenue, International Boulevard, Telegraph Avenue, Foothill Boulevard, and MacArthur Boulevard as “Regional Transit Streets” could have long-range impacts on the type and intensity of development that occurs along these streets. All of these streets will be considered candidates for light rail or electric trolley bus service. More intense development along these streets is called for by the Element. In addition, the Element supports designation of transit centers at Eastmont Mall and several BART Stations, shopper shuttle services at Fruitvale, Coliseum, and downtown BART Stations, and water taxis to

Alameda. Improvement of transportation infrastructure and service at these locations could induce long-term land use changes.

The Element specifically identifies the I-880 Corridor, 73rd Avenue Corridor, and Oakland-Alameda corridors as target areas for transportation improvements. Ingress and egress changes to I-880 could impact the existing land use pattern and potentially displace existing uses or create new development sites along the freeway. Similarly, improvements to the 73rd Avenue corridor or the Webster and Posey Tubes to Alameda could potentially impact East Oakland and Downtown neighborhoods, depending on the nature and location of these improvements.

Substantial transportation improvements at the Harbor and Airport are endorsed by the Element. The Element's directives in these areas are consistent with long-range plans of the Port of Oakland and have been (or will be ) addressed in separate environmental analyses. The Airport Expansion Plan, Joint Intermodal Terminal, and Cross-Airport Roadway have potential significant land use impacts that have been addressed in other planning documents.

The following policies from the Draft Element are intended to address potential land use impacts resulting from the recommended transportation improvements:

Policy T1.5:

Truck services should be concentrated in areas adjacent to freeways near the seaport and airport.

Policy T1.6:

An adequate system of roads connecting port terminals, warehouses, freeways, and regional arterials, and other important truck designations, should be designated. *This system should rely upon arterial streets away from neighborhoods.* (Emphasis added)

Policy T2.2:

Transit oriented development should be pedestrian-oriented, encourage day and night 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 T5.2:

A system to rank capital improvement program projects should be developed. Ranking criteria should include public safety, equity to different neighborhoods in Oakland, consistency with "transit first" principles, system maintenance cost, travel convenience, travel cost savings, environmental impacts, and reduced public expenditures.

Policy T6.2:

Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian oriented.

**Mitigation Measure A.4:** None required.

## **B. TRANSPORTATION AND CIRCULATION**

### **INTRODUCTION**

This analysis of transportation and circulation is separated into the policy-level analysis for the Land Use and Transportation Element of the General Plan Update and the project-level analysis of cumulative effects of the Downtown and Coliseum Showcase district projects.

### **SETTING**

Oakland is a major transportation hub for the East Bay. The city has a multi-modal transportation system that serves 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 needs.

The Downtown and Coliseum areas are identified as Showcase Districts in the proposed Land Use and Transportation Element. The Downtown Showcase District is the employment center for the City and the East Bay as well as a collection of residential neighborhoods. Its workers and residents are served by the City's grid street system, the regional freeways, and transit. The Downtown Showcase District is served by three BART stations and several AC Transit bus lines that radiate from downtown.

The focus of the Coliseum Showcase District is the Oakland-Alameda County Coliseum Complex located to the east of I-880 between 66<sup>th</sup> Avenue and Hegenberger Road. On the west side between I-880 and the bay, some regional commercial uses take advantage of the freeway visibility and accessibility. This area is served by I-880, the Coliseum BART station, AC Transit buses, and the several major city streets.

### ***ROADWAY SEGMENTS***

#### **State Highways**

Freeways provide access north via I-80, south via I-880, west via the Bay Bridge to San Francisco and the Peninsula, and east via State Route 24 and I-580. The California Department of Transportation (Caltrans) is responsible for five freeways and four arterial highways within the City boundaries.

1. I-880 (Nimitz Freeway) is the major north-south freeway, which extends along the 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. The section from I-980 to I-80 was destroyed by the 1989 Loma Prieta earthquake and is under construction along a new alignment to the west. The section between I-980 and the Bay Bridge was opened to traffic in July 1997.



2. 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 Central Valley via the Altamont Pass and to Marin County via the Richmond-San Rafael Bridge.
3. State Route (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.
4. I-980 connects I-580 to I-880 through downtown Oakland. From the time of the 1989 Loma Prieta earthquake to July 1997, all through traffic on I-880 between Oakland and San Francisco/Emeryville had been diverted to I-980.
5. SR 13 provides a connection between I-580 and SR 24 and continues as an arterial street (Ashby Avenue) through Berkeley north of SR 24.
6. 42<sup>nd</sup> Avenue (SR 71) links I-880 to International Boulevard (East 14<sup>th</sup> Street).
7. San Pablo Avenue north of I-580 is designated as State Route 123. San Pablo Avenue connects downtown Oakland to points north along the I-80 corridor to the Carquinez Bridge.
8. International Boulevard (East 14th Street) from 42nd Avenue south is designated as SR 185 providing access from downtown Oakland south to Hayward.
9. 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.
10. SR 260 (signed SR 61) connects Alameda and Oakland via the Webster Street and Posey Tubes under the Inner Harbor.

### **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.

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, and a portion of Grand Avenue. The major north-south arterials include Adeline Street, Telegraph Avenue, Broadway, Park Boulevard, Fruitvale Avenue, High Street, Hegenberger Road/73rd Avenue, and 98th Avenue.

### **Existing Traffic Conditions**

Daily traffic volumes provide a general picture of the traffic conditions throughout the city. They indicate which streets carry more traffic and how traffic is dispersed. The daily traffic volumes at selected locations are shown in Table III.B-1.

**TABLE III.B-1  
DAILY TRAFFIC VOLUMES (TWO-WAY) AT SELECTED LOCATIONS**

Street	Segment	Volumes	Year
Claremont Avenue	(South of SR 24)	6,680	1990
Embarcadero	(5 <sup>th</sup> Avenue to 14 <sup>th</sup> Avenue)	9,026	1985
Redwood Road	(SR 13 to MacArthur Boulevard)	17,293	1992
Seminary Street	(I-580 to Camden Street)	14,279	1991
Hegenberger Road	(I-580 to SR 61)	42,000	1995
MacArthur Boulevard	(73rd Street to South Border)	12,474	1991
	(Broadway to North Border)	24,100	1991
Fruitvale Avenue	(I-580 to West Border)	18,011	1990
East 14th Street	(High Street to Hegenberger Road)	19,573	1987
98th Avenue	(I-580 to I-880)	20,657	1991
Broadway	(I-580 to Grand Avenue)	23,754	1993
	(13th Street to Downtown)	19,621	1993
Foothill Boulevard	(Seminary Avenue to South Border)	13,389	1992
San Pablo Avenue	(I-580 to Grand Avenue)	24,848	1989
Grand Avenue	(Intersection of Broadway)	21,375	1993
College Avenue	(Entire Length to North Border)	17,840	1989
High Street	(I-580 to I-880)	20,238	1993
73rd Avenue	(I-580 to I-880)	24,948	1989

SOURCE: City of Oakland, Office of Planning and Building, Comprehensive Planning Division. Oakland General Plan Update, Technical Report #2: *Trends Report*, March 1995.

## Level of Service

The 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 and expectations vary by roadway type.

Individual levels of service are designated by letters "A" (for most favorable) to "F" (for least favorable) with each representing a range of conditions. 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, 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 jammed conditions.

Peak hour volumes are generally used to measure LOS. Traffic volumes have reached 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 (CMA) surveyed several facilities.

Table III.B-2 shows those segments that were observed to have an unacceptable LOS F during the PM peak period in 1991 or 1992. For freeway sections, LOS F is defined as an average travel speed of less than 30 mph. For arterials, the service level thresholds vary depending upon the class of arterial ranging from 7 to 13 mph. These results are based on field surveys of travel speeds; however, additional segments within the City of Oakland may be congested.

**TABLE III.B-2  
STATE HIGHWAY SEGMENTS IN OAKLAND OPERATING AT LOS F**

<b>Location</b>	<b>Facility Type</b>
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 to I-580 EB	Ramp Connector
I-580 WB to I-80 NB	Ramp Connector
SR 13 NB to SR 24 EB	Ramp Connector
I-580 WB/SR 24 WB to I-80 NB	Ramp Connector
San Pablo Avenue (SR 123) SB from Emeryville Border to 35th Street	Arterial
SR 260 SB from 7th Street/Webster Street to Webster Tube	Arterial

SOURCE: Congestion Management Agency. Congestion Management Program - 1995 Update, September 28, 1995.

### **Proposed Roadway Improvements**

In addition to policies regarding land use and transportation, the Land Use and Transportation Element identifies the following transportation improvements as priorities for implementation:

- Regional Transit Streets - San Pablo Avenue, East 14<sup>th</sup> Street/International Boulevard, Telegraph Avenue and Foothill Boulevard.

- Local Transit Streets - 7<sup>th</sup> Street, 11<sup>th</sup>/12<sup>th</sup> Street, Mandela Parkway, Broadway, College Avenue, Grand Avenue, Hegenberger/73<sup>rd</sup> Avenue, MacArthur Boulevard, Park Boulevard, 23<sup>rd</sup> Avenue, 35<sup>th</sup> Avenue/Redwood Road, 98<sup>th</sup> Avenue, and 40<sup>th</sup> Street.
- Transit Centers - Fruitvale BART, Eastmont Mall, West Oakland BART, Coliseum BART, MacArthur BART, and 14<sup>th</sup>/Broadway.
- BART Intermodal Connections - Jack London Square AMTRAK Intermodal Shuttle, Coliseum AMTRAK Connection, and Oakland Airport-BART Transit Connector.
- Shuttle Services - Fruitvale and Coliseum BART stations to shopping/office
- Bicycle and Pedestrian Facilities
- Water Transportation - along the Estuary and to San Francisco
- I-880 Improvement Corridor
- 73<sup>rd</sup> Avenue Improvement Corridor
- Oakland/Alameda Improvement Corridor
- Airport Roadway Project

Some of these improvements are under study or will require further study. The improvements emphasize a multi-modal approach to addressing the impacts of growth and take into the account the physical limitations of increasing roadway capacity in an older, mostly built out city.

### **Intersections**

The existing level of service was calculated using the 1994 Highway Capacity Manual Operations method. The level of service thresholds are based on delay at the intersection. For signalized and unsignalized intersections, the level of service is defined by the average delay per vehicle. The delay is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. The LOS criteria for signalized and unsignalized intersections are provided in the Appendix. The City considers LOS D as the minimally acceptable operating condition for intersections.

Tables III.B-3 and Table III.B-4 present the LOS and seconds of delay for the Downtown and Coliseum Showcase Districts, respectively. The LOS results are based in turning movement counts that were assembled from available data. The PM peak-hour is typically more congested than the AM peak-hour, and generally portrays the maximum level congestion at intersections. However, because Downtown streets generally have less capacity, AM peak-hour conditions are also reported for the Downtown intersections. A 0.5 percent per year growth was applied to factor all counts to achieve a consistent 1996 base year.

**TABLE III.B-3  
EXISTING LEVEL OF SERVICE - DOWNTOWN SHOWCASE DISTRICT**

Intersection	AM Peak Hour		PM Peak Hour	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
5 <sup>th</sup> Street and Broadway	B	14.1	C	22.2
6 <sup>th</sup> Street and Broadway	B	10.8	B	10.8
11 <sup>th</sup> Street and Broadway	B	5.1	B	5.3
12 <sup>th</sup> Street and Broadway	B	5.4	B	5.5
11 <sup>th</sup> Street and Brush Street	A	2.0	B	5.8
12 <sup>th</sup> Street and Brush Street	B	9.6	B	11.3
17 <sup>th</sup> Street and Brush Street	A	4.2	B	7.3
18 <sup>th</sup> Street and Brush Street	A	2.9	B	6.5
11 <sup>th</sup> Street and Castro Street	B	11.2	B	9.0
12 <sup>th</sup> Street and Castro Street	B	7.5	B	9.2
17 <sup>th</sup> Street and Castro Street	B	12.2	B	13.4
18 <sup>th</sup> Street and Castro Street	B	5.9	B	9.3
14 <sup>th</sup> Street and Broadway	B	5.3	B	5.6
West Grand Avenue and Broadway	B	11.7	C	20.5

**TABLE III.B-4  
EXISTING LEVEL OF SERVICE - COLISEUM SHOWCASE DISTRICT**

Intersection	Control Type	PM Peak Hour	
		LOS	Delay (sec/veh)
66 <sup>th</sup> Avenue and I-880 SB off ramp	stop sign	C	16.7
66 <sup>th</sup> Avenue and I-880 NB ramps	stop sign	E	1.8
66 <sup>th</sup> Avenue and Oakport Street	stop sign	F	61.2
66 <sup>th</sup> Avenue and Coliseum Way	signal	B	7.6
66 <sup>th</sup> Avenue and San Leandro Street	signal	B	7.3
Hegenberger WB and San Leandro	signal	A	2.6
Hegenberger EB and San Leandro	signal	B	6.1
Hegenberger and Edes Avenue	signal	D	25.8
Hegenberger and Edgewater	signal	C	21.1
High Street and Oakport Street	signal	C	18.2
High Street and Coliseum Way	signal	D	36.1

All intersections in the Downtown Showcase District currently operate at LOS C or better during the peak hours of travel. During the AM peak hour, all intersections operate at LOS B or better. During the PM peak hour, all but two intersections operate at LOS B or better. These intersections meet the City's LOS D standard.

For the Coliseum Showcase District, the unsignalized intersections along 66<sup>th</sup> Avenue at Oakport Street and the I-880 northbound ramps currently operate at LOS F and E, respectively. The delays at these intersections can be attributed to the stop sign control. All other intersections meet City standards and operate at LOS D or better.

### ***PUBLIC TRANSIT SERVICES***

The predominant forms of public transit are AC Transit buses and BART trains, but Oakland is also served by ferries and AMTRAK trains.

#### **AC Transit**

AC Transit serves most transit trips 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. Crosstown 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.

Systemwide restructuring that was initiated in 1989 by the Comprehensive Service Plan which re-orientes the system as a multi-destinational system. However, AC Transit has reduced service throughout the system, including in Oakland, every year since the Comprehensive Service Plan was originally implemented. Evening, late night, and weekend service has been substantially reduced.

#### **BART**

BART is a heavy-rail transit system serving the Bay Area. The current system consists of four routes with Oakland at the crossroads serving as the transfer point between the two main lines -- the north-south Fremont-Richmond line and the east-west Pittsburg/Bay Point-San Francisco/Colma line. Oakland is served by eight stations - MacArthur, 19<sup>th</sup> Street, 12<sup>th</sup> Street/City Center, Lake Merritt, Fruitvale, Coliseum, West Oakland, and Rockridge.

The Fremont line is the most heavily traveled line during commute hours, although it is followed closely by the Pittsburg/Bay Point line. Ridership during peak periods frequently exceeds the number of seats, and any major increases in ridership may 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 the system for travel within Oakland during peak periods, since trains arriving in Oakland may already be at capacity.

## Ferry

Ferry service has been available in Oakland 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 (Ferry Terminal and Pier 39). The 250-passenger M.V. Bay Breeze provides service across the bay.

## SIGNIFICANCE CRITERIA

According to the State CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would "cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system." For the City of Oakland, the impacts to the local and regional transportation system are described in terms of change in LOS. The current City of Oakland standard is LOS D, which is applied to intersections as well as roadway links within the City. Impacts to City streets are considered to be significant if the roadway or intersection level of service drops below the City standard.

In addition to the City standard, the CMA has established LOS standards for the regional facilities that are included in the congestion management network. The CMA LOS standard is E, except where F was the LOS originally measured when the program was initiated.

## IMPACTS AND MITIGATION MEASURES

The transportation and circulation analysis focuses on the following specific issues:

General Plan Program-level Impacts: This section addresses the potential increases in traffic along specific roadway segments in Oakland as a result of implementation of the proposed land use and Transportation Element.

Downtown and Coliseum Showcase District Project Impacts: This analysis addresses the increase in traffic on roadways and at intersections within these districts due to specific development projects in the Downtown and Coliseum Showcase Districts.

### GENERAL PLAN IMPACTS (PROGRAM-LEVEL)

#### Methodology

The impact analysis for the Land Use and Transportation Element is based upon the travel forecasts generated by the CMA Travel Demand Model. Use of the model requires input to the model of a series of assumptions concerning land use and socioeconomic data and transportation improvements. Modifications were made to the existing land use and socioeconomic data for Oakland to reflect the proposed changes to the General Plan. The land use projections for

Oakland were translated into households and jobs by sector for input into the model. The total growth in households and jobs for Oakland was based on the Association of Bay Area Governments (ABAG) *Projections '96* with some modifications for the proposed land uses as described in previous sections. For surrounding jurisdictions, the current model database of socio-economic variables for 1990 and 2010, which are consistent with ABAG *Projections '94*, were used to forecast future travel demand.

For the future year roadway networks, no modifications were made to the network for 2010 already prepared by CMA staff. The future year network included major improvements that are planned and programmed, and some, such as the Cypress Replacement, that are under way in 1997. Transportation improvements within the City of Oakland that were included in the CMA 2015 model run are<sup>1</sup>:

- Mandela Parkway extension
- SR 24/SR 13 Interchange - construct connectors of eastbound SR 24 to southbound SR 13 and northbound SR 13 to westbound SR 24.
- I-880/98<sup>th</sup> Avenue interchange reconstruction
- I-880/Hegenberger Road interchange reconstruction
- I-880 - reconstruction of the Cypress Freeway

Many of the transportation improvements identified in the Transportation Diagram were not analyzed by the CMA model since most still require additional study and are not defined enough to include them in the model or the model is not sensitive to the type of improvement.

To develop travel forecasts using the CMA model, trips are estimated based on trip generation rates for existing and planned land uses. These trips are then distributed through the transportation system by various routes and modes of travel. The model produces forecasts of traffic volumes on the street and highway network and patronage on the transit network for the AM and PM peak hours of travel.

The CMA provided output for the 2015 General Plan scenario, the 2010 CMA Baseline scenario, and the 1990 CMA Baseline scenario. The model outputs included system-wide travel statistics as well as specific roadway link data. The system-wide travel statistics included vehicle-miles traveled (VMT), vehicle-hours traveled (VHT), total trips, and trips by mode. The system-wide statistics were provided for CMA Planning Area 1, which includes Oakland, Berkeley, Albany, Alameda, Piedmont, and Emeryville. The link data provided by the CMA includes AM and PM peak hour traffic volumes for all freeways and arterials in Oakland.

<sup>1</sup> Tier 1 improvements identified in the CMA's *Transportation Vision 2010 and Beyond: A Diversified Strategy of Transportation Improvements for Alameda County* and a review of the CMA model network.



## Overall Growth in Travel

The travel statistics provide an overall picture of the effects of the proposed 2015 General Plan land uses on travel in CMA Planning Area 1. The AM and PM peak hour travel statistics are summarized in Table III.B-5. The 2015 General Plan scenario would result in a total of about 183,500 AM peak hour trips and 192,000 PM peak hour trips. When compared to the 1990 CMA Baseline scenario for Planning Area 1, the 2015 General Plan scenario results in an increase of 22,200 and 23,400 vehicle trips during the AM and PM peak hours, respectively. This represents an increase of about 0.5 percent per year in overall traffic during the peak hours of travel.

**TABLE III.B-5  
SUMMARY OF AM AND PM PEAK HOUR  
TRAVEL STATISTICS FOR CMA PLANNING AREA 1**

Travel Statistic	1990 CMA		2015 GP		Difference		Percent Change	
	AM	PM	AM	PM	AM	PM	AM	PM
Vehicle-Miles Traveled	765,866	817,679	869,233	944,883	103,367	127,204	13%	16%
Vehicle-Hours Traveled	28,819	31,196	34,122	39,680	5,303	8,484	18%	27%
Average Trip Length (miles)	4.7	4.9	4.7	4.9	0.0	0.1	0%	1%
Average Trip Duration (minutes)	11	11	11	12	0.4	1.3	4%	12%
Average Speed (mph)	26.6	26.2	25.5	23.8	-1.1	-2.4	-4%	-9%
Total Vehicle Trips	161,315	168,491	183,561	191,871	22,246	23,380	14%	14%

NOTE: Planning Area 1 includes Oakland, Berkeley, Albany, Alameda, Piedmont, and Emeryville.

SOURCE: CMA Travel Model, 1990 Baseline and 2015 General Plan, Planning Area 1 Travel Statistics, August 1997.

The average trip length remains essentially the same. This may indicate that the overall balance between jobs and housing within CMA Planning Area 1 does not change significantly. However, the increase in average trip duration and the decrease in average travel speeds, in particular during the PM peak hour, indicate the increased congestion and delays on major roadways in CMA Planning Area 1 by 2015.

## Level of Service

In addition to the system-wide results for CMA Planning Area 1, peak hour traffic volumes on the major roadways were reviewed. Using the AM and PM peak hour traffic volumes at several key locations throughout Oakland, the roadway levels of service (LOS) were calculated. The segment

evaluation was conducted for the AM and PM peak hour based on the CMA model forecasts for Year 2005 and Year 2015. The following tables show the peak hour volumes by direction, the corresponding V/C, and the LOS for the 2005 AM and PM peak hours and the 2015 AM and PM peak hours (see Tables III.B-6 through III.B-9).

The discussion of impacts and mitigation measures focuses on the 2015 results since that is the horizon year for the General Plan. However, the 2005 forecasts and LOS results provide information for major roadways in the City for the interim period. The land use and socio-economic data for the 2005 model run assumed half of the growth projected for 2015, with an exception for those zones with development-specific growth.

For the roadway segments, the Florida DOT Level of Service tables were used (FDOT, 1995). These FDOT tables are in turn derived from the 1994 Highway Capacity Manual. The default tables were modified as necessary to reflect local roadway conditions. For freeways, the FDOT tables were modified to reflect a higher saturation flow rate of 2,300 vehicles per hour per lane, higher travel speeds of 65 mph, and a peak hour factor of 0.98. For arterials, the default LOS tables were not modified.

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 signals per mile. The directional volumes are extracted from CMA model plots and are most representative of volumes along that segment. The volume to capacity ratio (V/C) is calculated using capacities derived from the FDOT tables based on the facility type.

### ***ROADWAY SEGMENT LEVEL OF SERVICE***

**Impact B.1: Development pursuant to the updated Land Use and Transportation Element would result in the degradation of the level of service on several roadway segments. This would be a significant impact.**

#### **State Highways**

The 2015 model forecasts indicate that several segments of state highways are forecast to experience congestion during the peak hours of travel. Although the following three segments are forecast to operate at LOS F during the AM and/or PM peak hours in 2015, these segments currently operate at LOS F; therefore, this is not considered to be a significant impact (see Tables III.B-6 and III.B-7):

- SR 24 - west of the Caldecott Tunnel (AM/PM)
- SR 123 (San Pablo Avenue) - east of Stanford Avenue (AM/PM)
- SR 260 (Webster-Posey Tubes) (AM/PM)

**TABLE III.B-6  
ROADWAY SEGMENT EVALUATION - 2005 AM PEAK HOUR**

Link Location	Facility Types	NB/EB Vol.	NB/EB V/C	SB/WB Vol.	SB/WB V/C	Peak Dir. LOS
<u>State Highways</u>						
SR 13 - west of I-580	Fwy	3514	0.78	4089	0.91	E
SR 13 - south of SR 24	Fwy	4176	0.93	3591	0.80	E
SR 24 - west of I-980	Fwy	4038	0.45	7407	0.82	D
SR 24 - west of Caldecott Tunnel	Fwy	4197	0.93	9576	1.06	F
I-80 - north of Bay Bridge	Fwy	4777	0.42	8729	0.77	D
I-580 - west of 106th Avenue	Fwy	7694	0.85	6731	0.75	E
I-580 - west of Grand Avenue	Fwy	4886	0.54	8595	0.95	E
I-580 - east of I-80/I-880	Fwy	8737	0.78	7620	0.68	D
I-880 - west of 98th Avenue	Fwy	7383	0.82	5893	0.65	D
I-880 - west of Oak Street	Fwy	5264	0.47	7100	0.63	C
I-980 - south of I-580	Fwy	3770	0.33	6091	0.54	C
SR 61 (Doolittle Drive) - west of Hegenberger Road	Class 1	139	0.07	707	0.37	B
SR 123 (San Pablo Avenue) - east of Stanford Avenue	Class 2	1926	1.11	1098	0.63	F
SR 260 (Webster-Posey Tubes) - south of I-880	Class 1	2885	1.53	2396	1.27	F
<u>Arterials</u>						
<b>Embarcadero - Oak Street to 5th Avenue</b>	<b>Class 2</b>	<b>243</b>	<b>0.30</b>	<b>736</b>	<b>0.92</b>	<b>E</b>
Redwood Road - SR 13 to MacArthur Boulevard	Class 2	628	0.36	776	0.45	D
Seminary Street - I-580 to Camden Street	Class 2	620	0.36	541	0.31	D
<b>Hegenberger Road - I-880 to SR 61</b>	<b>Class 2</b>	<b>919</b>	<b>0.35</b>	<b>2681</b>	<b>1.02</b>	<b>F</b>
<b>Hegenberger Road - I-580 to I-880</b>	<b>Class 2</b>	<b>583</b>	<b>0.18</b>	<b>2647</b>	<b>0.82</b>	<b>E</b>
MacArthur Boulevard - 73rd Street to San Leandro border	Class 2	771	0.44	719	0.41	D
MacArthur Boulevard - Broadway to Emeryville border	Class 2	457	0.17	1779	0.67	D
Fruitvale Avenue - I-580 to I-880	Class 2	417	0.52	508	0.64	D
International (E. 14th) Boulevard - High Street to Hegenberger Road	Class 2	682	0.39	1331	0.76	D
98th Avenue - I-580 to I-880	Class 2	364	0.21	1144	0.66	D
Broadway - I-580 to Grand Avenue	Class 2	277	0.10	1509	0.57	D
Broadway - 13th Street to Jack London Square	Class 3	501	0.29	117	0.07	D
Foothill Boulevard - Seminary Avenue to MacArthur Boulevard	Class 2	230	0.13	215	0.12	D
Market Street - 7th Street to 14th Street	Class 2	820	0.31	566	0.21	D
Market Street - I-580 to 40th Street	Class 2	1146	0.66	339	0.19	D
San Pablo Avenue - I-580 to Grand Avenue	Class 2	1033	0.59	639	0.37	D
Telegraph Avenue - 40th Street to Claremont Avenue	Class 2	158	0.09	458	0.26	D
Grand Avenue - I-880 to I-980	Class 2	395	0.15	811	0.31	D
Grand Avenue - I -980 to Broadway	Class 2	586	0.22	774	0.29	D
<b>Grand Avenue - Harrison Street to I-580</b>	<b>Class 2</b>	<b>673</b>	<b>0.25</b>	<b>2254</b>	<b>0.85</b>	<b>E</b>
12th Street - Oak Street to Lakeshore Ave.	Class 3	1982	0.63	239	0.08	D
<b>College Avenue - Broadway to Claremont Avenue</b>	<b>Class 2</b>	<b>735</b>	<b>0.92</b>	<b>260</b>	<b>0.33</b>	<b>E</b>
High Street - I-580 to I-880	Class 2	536	0.31	814	0.47	D

**Bold-face** indicates segment would operate at unacceptable level of service (and LOS is not currently unacceptable).

SOURCE: CMA Model, 2005 GP Forecast model plots, August 1997.

**TABLE III.B-7  
ROADWAY SEGMENT EVALUATION - 2005 PM PEAK HOUR**

Link Location	Facility Types	NB/EB Vol.	NB/EB V/C	SB/WB Vol.	SB/WB V/C	Peak Dir LOS
<u>State Highways</u>						
SR 13 - west of I-580	Fwy	4044	0.90	3724	0.83	E
SR 13 - south of SR 24	Fwy	3869	0.86	4041	0.90	E
SR 24 - west of I-980	Fwy	4269	0.47	7750	0.86	E
SR 24 - west of Caldecott Tunnel	Fwy	9831	1.09	5584	1.24	F
I-80 - north of Bay Bridge	Fwy	5779	0.51	9723	0.86	E
I-580 - west of 106th Avenue	Fwy	7759	0.86	7139	0.79	E
<b>I-580 - west of Grand Avenue</b>	<b>Fwy</b>	<b>9194</b>	<b>1.02</b>	<b>5883</b>	<b>0.65</b>	<b>F</b>
I-580 - east of I-80/I-880	Fwy	10366	0.92	6149	0.55	E
I-880 - west of 98th Avenue	Fwy	8201	0.91	6465	0.72	E
I-880 - west of Oak Street	Fwy	7353	0.65	5662	0.50	C
I-980 - south of I-580	Fwy	6797	0.60	3213	0.29	C
SR 61 (Doolittle Drive) - west of Hegenberger	Class 1	756	0.40	313	0.17	B
SR 123 (San Pablo Avenue) - east of Stanford Avenue	Class 2	2643	1.52	1941	1.12	F
SR 260 (Webster-Posey Tubes) - south of I-880	Class 1	2541	1.34	3172	1.68	F
<u>Arterials</u>						
<b>Embarcadero - Oak Street to 5th Avenue</b>	<b>Class 2</b>	<b>884</b>	<b>1.11</b>	<b>468</b>	<b>0.59</b>	<b>F</b>
Redwood Road - SR 13 to MacArthur Boulevard	Class 2	736	0.42	635	0.36	D
Seminary Street - I-580 to Camden Street	Class 2	532	0.31	528	0.30	D
<b>Hegenberger Road - I-880 to Doolittle Drive</b>	<b>Class 2</b>	<b>3855</b>	<b>1.46</b>	<b>1456</b>	<b>0.55</b>	<b>F</b>
<b>Hegenberger Road - I-580 to I-880</b>	<b>Class 2</b>	<b>2651</b>	<b>0.82</b>	<b>941</b>	<b>0.29</b>	<b>E</b>
MacArthur Boulevard - 73rd Street to San Leandro border	Class 2	872	0.50	592	0.34	D
MacArthur Boulevard - Broadway to Emeryville border	Class 2	550	0.21	1043	0.40	D
Fruitvale Avenue - I-580 to I-880	Class 2	484	0.61	319	0.40	D
International (E. 14th) Boulevard - High Street to Hegenberger Road	Class 2	1262	0.73	842	0.48	D
98th Avenue - I-580 to I-880	Class 2	953	0.55	339	0.19	D
Broadway - I-580 to Grand Avenue	Class 2	838	0.32	581	0.22	D
Broadway - 13th Street to Jack London Square	Class 3	720	0.42	122	0.07	D
Foothill Boulevard - Seminary Avenue to MacArthur Boulevard	Class 2	282	0.16	216	0.12	D
Market Street - 7th Street to 14th Street	Class 2	1424	0.54	261	0.10	D
Market Street - I-580 to 40th Street	Class 2	1065	0.61	548	0.31	D
<b>San Pablo Avenue - I-580 to Grand Avenue</b>	<b>Class 2</b>	<b>1694</b>	<b>0.97</b>	<b>696</b>	<b>0.40</b>	<b>E</b>
Telegraph Avenue - 40th Street to Claremont Avenue	Class 2	430	0.25	408	0.23	D
Grand Avenue - I-880 to I-980	Class 2	1171	0.44	871	0.33	D
Grand Avenue - I -980 to Broadway	Class 2	918	0.35	1077	0.41	D
<b>Grand Avenue - Harrison Street to I-580</b>	<b>Class 2</b>	<b>2353</b>	<b>0.89</b>	<b>1109</b>	<b>0.42</b>	<b>E</b>
12th Street - Oak Street to Lakeshore Avenue	Class 3	305	0.10	1307	0.42	D
College Avenue - Broadway to Claremont Avenue	Class 2	471	0.59	582	0.73	D
High Street - I-580 to I-880	Class 2	723	0.42	588	0.34	D

**Bold-face** indicates segment would operate at unacceptable level of service (and LOS is not currently unacceptable).

SOURCE: CMA Model, 2005 GP Forecast model plots, August 1997.

**TABLE III.B-8  
ROADWAY SEGMENT EVALUATION - 2015 AM PEAK HOUR**

<b>Link Location</b>	<b>Facility Types</b>	<b>NB/EB Vol.</b>	<b>NB/EB V/C</b>	<b>SB/WB Vol.</b>	<b>SB/WB V/C</b>	<b>Peak Dir LOS</b>
<u>State Highways</u>						
SR 13 - west of I-580	Fwy	3631	0.81	4125	0.91	E
SR 13 - south of SR 24	Fwy	3591	0.80	4176	0.93	E
SR 24 - west of I-980	Fwy	4290	0.48	7459	0.83	D
SR 24 - west of Caldecott Tunnel	Fwy	4424	0.98	9699	1.08	F
I-80 - north of Bay Bridge	Fwy	4759	0.42	10229	0.91	E
I-580 - west of 106th Avenue	Fwy	6987	0.77	7799	0.86	E
I-580 - west of Grand Avenue	Fwy	4785	0.53	8446	0.94	E
I-580 - east of I-80/I-880	Fwy	8750	0.78	7822	0.69	D
I-880 - west of 98th Avenue	Fwy	6040	0.67	7655	0.85	E
I-880 - west of Oak Street	Fwy	5430	0.48	7330	0.65	C
I-980 - south of I-580	Fwy	6249	0.55	3942	0.35	C
SR 61 (Doolittle Drive) - west of Hegenberger	Class 1	161	0.09	829	0.44	B
SR 123 (San Pablo Avenue) - east of Stanford Avenue	Class 2	1974	1.13	998	0.57	F
SR 260 (Webster-Posey Tubes) - south of I-880	Class 1	3008	1.59	2687	1.42	F
<u>Arterials</u>						
<b>Embarcadero - Oak Street to 5th Avenue</b>	<b>Class 2</b>	<b>975</b>	<b>1.22</b>	<b>847</b>	<b>1.06</b>	<b>F</b>
Redwood Road - SR 13 to MacArthur Boulevard	Class 2	619	0.36	842	0.48	D
Seminary Street - I-580 to Camden Street	Class 2	654	0.38	667	0.38	D
<b>Hegenberger Road - I-880 to Doolittle Drive</b>	<b>Class 2</b>	<b>899</b>	<b>0.34</b>	<b>2884</b>	<b>1.09</b>	<b>F</b>
<b>Hegenberger Road - I-580 to I-880</b>	<b>Class 2</b>	<b>617</b>	<b>0.19</b>	<b>2848</b>	<b>0.88</b>	<b>E</b>
MacArthur Boulevard - 73rd Street to San Leandro border	Class 2	839	0.48	750	0.43	D
MacArthur Boulevard - Broadway to Emeryville border	Class 2	458	0.17	1696	0.64	D
Fruitvale Avenue - I-580 to I-880	Class 2	438	0.55	524	0.66	D
<b>International (E. 14th) Boulevard - High Street to Hegenberger Road</b>	<b>Class 2</b>	<b>721</b>	<b>0.41</b>	<b>1456</b>	<b>0.84</b>	<b>E</b>
98th Avenue - I-580 to I-880	Class 2	386	0.22	1260	0.72	D
Broadway - I-580 to Grand Avenue	Class 2	278	0.11	1460	0.55	D
Broadway - 13th Street to Jack London Square	Class 3	534	0.31	126	0.07	D
Foothill Boulevard - Seminary Avenue to MacArthur Boulevard	Class 2	250	0.14	248	0.14	D
Market Street - 7th Street to 14th Street	Class 2	968	0.37	609	0.23	D
Market Street - I-580 to 40th Street	Class 2	1277	0.73	353	0.20	D
San Pablo Avenue - I-580 to Grand Avenue	Class 2	1204	0.69	585	0.34	D
Telegraph Avenue - 40th Street to Claremont Avenue	Class 2	170	0.10	511	0.29	D
Grand Avenue - I-880 to I-980	Class 2	391	0.15	943	0.36	D
Grand Avenue - I-980 to Broadway	Class 2	630	0.24	1008	0.38	D
<b>Grand Avenue - Harrison Street to I-580</b>	<b>Class 2</b>	<b>918</b>	<b>0.35</b>	<b>2903</b>	<b>1.10</b>	<b>F</b>
12th Street - Oak Street to Lakeshore Avenue	Class 3	271	0.09	1432	0.46	D
College Avenue - Broadway to Claremont Avenue	Class 2	675	0.84	274	0.34	D
High Street - I-580 to I-880	Class 2	578	0.33	1001	0.58	D

**Bold-face** indicates segment would operate at unacceptable level of service (and LOS is not currently unacceptable).

SOURCE: CMA Model, 2005 GP Forecast model plots, August 1997.

**TABLE III.B-9  
ROADWAY SEGMENT EVALUATION - 2015 PM PEAK HOUR**

Link Location	Facility Types	NB/EB Vol.	NB/EB V/C	SB/WB Vol.	SB/WB V/C	Peak Dir LOS
<u>State Highways</u>						
SR 13 - west of I-580	Fwy	4203	0.93	3829	0.85	E
SR 13 - south of SR 24	Fwy	3958	0.88	4268	0.95	E
SR 24 - west of I-980	Fwy	7847	0.87	4331	0.48	E
SR 24 - west of Caldecott Tunnel	Fwy	9768	1.08	5688	1.26	F
I-80 - north of Bay Bridge	Fwy	5993	0.53	9753	0.87	E
I-580 - west of 106th Avenue	Fwy	7451	0.83	8190	0.91	E
<b>I-580 - west of Grand Avenue</b>	<b>Fwy</b>	<b>9912</b>	<b>1.10</b>	<b>5966</b>	<b>0.66</b>	<b>F</b>
I-580 - east of I-80/I-880	Fwy	10506	0.93	6161	0.55	E
I-880 - west of 98th Avenue	Fwy	6576	0.73	8210	0.91	E
I-880 - west of Oak Street	Fwy	7478	0.66	5740	0.51	C
I-980 - south of I-580	Fwy	3428	0.30	6962	0.62	C
SR 61 (Doolittle Drive) - west of Hegenberger	Class 1	889	0.47	329	0.17	B
SR 123 (San Pablo Avenue) - east of Stanford Avenue	Class 2	2311	1.33	1448	0.83	F
SR 260 (Webster-Posey Tubes) - south of I-880	Class 1	2813	1.49	3280	1.74	F
<u>Arterials</u>						
<b>Embarcadero - Oak St. to 5th Ave.</b>	<b>Class 2</b>	<b>892</b>	<b>1.12</b>	<b>1598</b>	<b>0.00</b>	<b>F</b>
Redwood Road - SR 13 to MacArthur Boulevard	Class 2	778	0.45	642	0.37	D
Seminary Street - I-580 to Camden Street	Class 2	600	0.34	678	0.39	D
<b>Hegenberger Road - I-880 to Doolittle Drive</b>	<b>Class 2</b>	<b>3960</b>	<b>1.50</b>	<b>1490</b>	<b>0.56</b>	<b>F</b>
<b>Hegenberger Road - I-580 to I-880</b>	<b>Class 2</b>	<b>2783</b>	<b>0.86</b>	<b>987</b>	<b>0.31</b>	<b>E</b>
MacArthur Boulevard - 73rd Street to San Leandro border	Class 2	916	0.53	637	0.37	D
MacArthur Boulevard - Broadway to Emeryville border	Class 2	778	0.29	1071	0.41	D
Fruitvale Avenue - I-580 to I-880	Class 2	528	0.66	337	0.42	D
<b>International (E. 14th) Boulevard - High Street to Hegenberger Road</b>	<b>Class 2</b>	<b>1396</b>	<b>0.80</b>	<b>852</b>	<b>0.49</b>	<b>E</b>
98th Avenue - I-580 to I-880	Class 2	1113	0.64	362	0.21	D
Broadway - I-580 to Grand Avenue	Class 2	886	0.34	601	0.23	D
Broadway - 13th St. to Jack London Square	Class 3	742	0.44	122	0.07	D
Foothill Boulevard - Seminary Avenue to MacArthur Boulevard	Class 2	376	0.22	241	0.14	D
Market Street - 7th Street to 14th Street	Class 2	1649	0.62	244	0.09	D
Market Street - I-580 to 40th Street	Class 2	1234	0.71	508	0.29	D
<b>San Pablo Avenue - I-580 to Grand Avenue</b>	<b>Class 2</b>	<b>1558</b>	<b>0.90</b>	<b>647</b>	<b>0.37</b>	<b>E</b>
Telegraph Avenue - 40th Street to Claremont Avenue	Class 2	476	0.27	454	0.26	D
Grand Avenue - I-880 to I-980	Class 2	1422	0.54	718	0.27	D
Grand Avenue - I-980 to Broadway	Class 2	1156	0.44	1030	0.39	D
<b>Grand Avenue - Harrison Street to I-580</b>	<b>Class 2</b>	<b>3032</b>	<b>1.15</b>	<b>1396</b>	<b>0.53</b>	<b>F</b>
12th Street - Oak Street to Lakeshore Avenue	Class 3	2054	0.65	174	0.06	D
College Avenue - Broadway to Claremont Avenue	Class 2	463	0.58	572	0.72	D
High Street - I-580 to I-880	Class 2	853	0.49	691	0.40	D

**Bold-face** indicates segment would operate at unacceptable level of service (and LOS is not currently unacceptable).

SOURCE: CMA Model, 2005 GP Forecast model plots, August 1997.

### ***I-580 west of Grand Avenue***

During the PM peak hour, the segment of I-580 west of Grand Avenue would degrade to LOS F (see Table III.B-9). However, review of the baseline 2010 CMA model results indicates that this unacceptable level of service would occur without adoption of the updated Land Use and Transportation Element. Therefore, the project contribution to this impact is not considered significant.

### **Arterial Roadways**

The model results indicate that most of the city's arterials provide sufficient capacity to accommodate peak hour conditions at an acceptable level of service. However, some roadways are projected by the model to be at or near capacity. Those intersections that do not meet the City LOS standard are indicated in **bold** in Tables III.B-4, III.B-5, III.B-6, and III.B-7.

In 2015, the following roadway segments would operate at poor service levels:

- Embarcadero - Oak Street to 5<sup>th</sup> Avenue (AM/PM)
- Hegenberger Road - I-880 to SR 61 (AM/PM)
- Hegenberger Road - I-580 to I-880 (AM/PM)
- International (E. 14<sup>th</sup>) Boulevard - High Street to Hegenberger Road (AM/PM)
- San Pablo Avenue (SR 123) - I-580 to Grand Avenue (PM)
- Grand Avenue - Harrison Street to I-580 (AM/PM)

For each roadway link where there would be a significant degradation in LOS, the impacts are discussed further below.

### ***Embarcadero - Oak Street to 5<sup>th</sup> Avenue***

Embarcadero between Oak Street and 5<sup>th</sup> Avenue is a two-lane roadway that is the only roadway between the Estuary and I-880. With the growth projected for the waterfront area, the two lanes would not accommodate the increased traffic. The on-going Estuary study identifies a waterfront parkway that includes improvements along this portion of Embarcadero. The existing two lane roadway would require widening and improvements to address the impacts at this location.

### ***Hegenberger Road - I-880 to Doolittle Drive***

Hegenberger Road provides access from I-880 to the Oakland Airport, Bay Farm Island, and Alameda. The projected increase in traffic on this segment is likely due to increased activity forecast at Metropolitan Oakland International Airport and in the Coliseum Shoreline area. The CMA model assigns most of the Coliseum Shoreline traffic to Hegenberger Road, but the model does not consider the Airport Roadway Project approved as a part of Measure B in 1988.

***Hegenberger Road - I-580 to I-880***

Hegenberger Road provides one of the primary connections between I-580 and I-880, as well as access to the Coliseum sports complex. With the exception of the 73rd Avenue/Edwards Avenue segment between MacArthur Boulevard and I-580, the Hegenberger Road corridor is four lanes in each direction. Increased activity in the Coliseum Shoreline area would result in increased traffic towards the Coliseum area during the AM peak hour and away from the Coliseum area in the PM peak hour. In addition, reuse of the Leona Quarry would result in an increase in vehicle trips on the 73rd Avenue/Edwards Avenue segment.

***International (E. 14<sup>th</sup>) Boulevard - High Street to Hegenberger Road***

Projected congestion on International Boulevard would result from increased traffic traveling to and from the Downtown area in the AM and PM peak hours.

***San Pablo Avenue - I-580 to Grand Avenue***

Projected congestion on San Pablo Avenue would result from increased traffic traveling north from the Downtown area in the PM peak hour.

***Grand Avenue - Harrison Street to I-580***

Increased congestion on Grand Avenue would be due to traffic traveling between the residential hill neighborhoods and Downtown, since this roadway is a primary peak-hour link between these areas and around Lake Merritt.

**Proposed Land Use and Transportation Element Policies**

The policies set forth below are intended to reduce transportation impacts associated with implementation of the proposed Land Use and Transportation Element. They are policies that would encourage the provision of adequate roadway and transit capacity and advocate use of alternative transportation modes. These policies are included in the project and shall be adopted and implemented by the City:

Objective T2:

Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.

Policy T2.1:

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.

Objective T2.2:



Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.

Objective T2.3:

Promote neighborhood-serving commercial development within one-quarter to one-half mile of established transit routes and nodes.

Objective T2.4:

Encourage transportation improvements that facilitate economic development.

Objective T2.5:

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 T2.6:

Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).

Implementation of these policies would not reduce this impact to a less-than-significant level. Therefore, additional measures are identified below.

**Mitigation Measure B.1: Implement roadway improvements and transit improvements to reduce congestion on arterial roadways.**

***Embarcadero - Oak Street to 5<sup>th</sup> Avenue***

Improvements identified in the ongoing Estuary Study could reduce the impacts on this roadway segment. Introduction of alternative transportation modes along the waterfront, such as buses, shuttle vans, water taxi, and bicycles (including construction of bicycle lanes) would help relieve congestion on the Embarcadero. However, given the uncertainty about future improvements, it is not possible to determine that the level of service would be sufficiently improved to reduce this impact to a less-than-significant level.

***Hegenberger Road - I-880 to Doolittle Drive***

Several improvements identified in the Transportation Diagram would address the impacts at this location. The Airport Roadway project would improve access to the airport via 98<sup>th</sup> Avenue and provide additional access from Alameda via the Cross Airport Roadway. This would relieve some of the congestion along this section of Hegenberger Road. In addition, the proposed Oakland Airport-BART Transit Connector would provide alternate access to the Airport. Hegenberger Road is also identified as a Local Transit Street, which make it eligible for transit priority improvements that may promote transit usage through this corridor. (See discussion for San Pablo

Avenue.) The improvements described above for this segment of Hegenberger Road are expected to reduce the impact to a less-than-significant level.

***Hegenberger Road - I-580 to I-880***

Hegenberger Road is one of the primary connections between I-880 to I-580 in Oakland. The Transportation Diagram identifies several transportation improvements that would relieve congestion along this corridor. The need to implement a project in the 73<sup>rd</sup> Avenue Improvement Corridor is supported by these results. Further study will be needed to define the project in a way that will be locally acceptable and will result in satisfactory traffic conditions. In addition, Hegenberger Road is identified as a Local Transit Street in the Transportation Diagram. The network of transit streets is designated to provide transportation alternatives, reduce auto travel and avoid congested operating conditions. (See discussion for San Pablo Avenue below.) While transit priority improvements could reduce congestion, it is not likely that the level of service would be sufficiently improved to reduce this impact to a less-than-significant level.

***International (E. 14<sup>th</sup>) Boulevard - High Street to Hegenberger Road***

International Boulevard is identified as a Regional Transit Street. This corridor has been identified as a candidate for light rail transit. Improved transit service to the corridor may provide some congestion relief along this corridor. The network of transit streets is designated to provide transportation alternatives, reduce auto travel and avoid congested operating conditions. (See discussion for San Pablo Avenue below.) Transit improvements, potentially including a transit priority program or introduction of electric trolley bus or light-rail service, in this corridor, could probably achieve at least a 5 percent reduction in vehicle travel, which would result in an acceptable level of service. However, without detailed study of specific future improvements, it is not possible to determine that the level of service would be sufficiently improved to reduce this impact to a less-than-significant level.

***San Pablo Avenue - I-580 to Grand Avenue***

San Pablo Avenue is identified as a Regional Transit Street in the Transportation Diagram. The network of transit streets is designated to provide transportation alternatives, reduce auto travel and avoid congested operating conditions. The results of the San Pablo Avenue Corridor Study provide an indication of the effects of transit preferential treatments identified for transit streets. The San Pablo Avenue Corridor Study quantitatively and qualitatively evaluated a program of strategies that included the transit preferential treatments. The CMA model results for that study showed that travel speeds would increase slightly for auto trips and increase substantially for bus trips. The daily transit boarding in the corridor would increase. Single occupant vehicle usage would decrease slightly and transit usage would increase. While improvements along transit streets were not included as part of this General Plan model, similar results are anticipated for other transit streets. Transit improvements, potentially including a transit priority program or

introduction of electric trolley bus or light-rail service, in this corridor, potentially could result in an acceptable level of service. However, given the uncertainty about future improvements, it is not possible to determine that the level of service would be sufficiently improved to reduce this impact to a less-than-significant level.

***Grand Avenue - Harrison Street to I-580***

Grand Avenue is identified as a Local Transit Street. The network of transit streets is designated to provide transportation alternatives, reduce auto travel and avoid congested operating conditions. Transit priority improvements could result in decreased congestion on this segment. However, without detailed study of specific future improvements, it is not possible to determine that the level of service would be sufficiently improved to reduce this impact to a less-than-significant level.

**Impact B.1 Level of Significance After Mitigation:** Significant and Unavoidable

As noted in the above discussion of mitigation measures, transit and roadway improvements could reduce congestion on roadway links. The proposed Land Use and Transportation Element would encourage such improvements through the policy language identified above. However, given the uncertainty about funding for future transit and roadway improvements, it is not possible to determine that the levels of service would be sufficiently improved to reduce this impact to a less-than-significant level.

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***TRANSIT DEMAND***

**Impact B.2: Development that would occur under the Land Use and Transportation Element would increase transit demand. This would be a less-than-significant impact.**

Policies in the Land Use and Transportation Elements would promote transit ridership and encourage transit accessibility and improved transit service throughout the City. Transit priority treatments, including bus priority lanes and signal pre-emption, along roadway corridors would be expected to improve service by reducing auto congestion. 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 near capacity during peak hours. However, the increased ridership may be expected to increase fares collected on existing routes, because the Land Use and Transportation Element proposes new growth in the vicinity of existing transit corridors.

**Mitigation Measure B.2:** None required.

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***DOWNTOWN SHOWCASE DISTRICT IMPACTS (PROJECT-LEVEL)*****Methodology**

In addition to the citywide policy analysis conducted for the Land Use and Transportation Element, project-specific impacts were evaluated for the Downtown Showcase District. The development projects in the Downtown Showcase District were included in the 2015 forecasts described above. Year 2005 also was analyzed as it is assumed that projects in the Downtown Showcase District would be completed by that date. For 2005, the analysis includes intersection level of service analysis for the Downtown Showcase District. (Refer to the 2005 analysis above for roadway level of service analysis.) No 2015 intersection analysis was completed because (1) traffic generated by the projects in the Downtown Showcase District would be part of background traffic volumes at that time and (2) traffic from projects in the Showcase Districts would represent a smaller percentage increment, and thus would result in less incremental impact, in 2015.

Analysis intersections were identified for the Downtown and Coliseum Showcase Districts. The intersections are major intersections in the vicinity of the projects. For the Downtown Showcase District, 14 intersections were selected for the analysis (see Figure III.B-1). These are primarily the key intersections for access to the freeways and major city streets serving the proposed project sites. For the Coliseum Showcase District, 11 intersections were selected for the analysis (see Figure III.B-2). This list focuses on the major intersections near the project sites that provide access to the freeway.

**Trip Generation**

The trip generation is based upon standard published trip generation rates with some modifications to account for conditions unique to Oakland. The standard rates were adjusted for transit usage and pass-by traffic. Trip generation assumptions from previous studies conducted in the Downtown Showcase District were reviewed.

The Downtown Showcase district includes six projects. The trip generation rates for these projects are shown in Table III.B-10. The trip rates are based on standard rates published in the Institute of Transportation Engineers (ITE) *Trip Generation* manual. The development projects in the Downtown Showcase District would generate approximately 3,840 new trips during the AM peak hour and approximately 5,300 trips during the PM peak hour. The retail and entertainment uses proposed for the Uptown area results in the higher trip generation during the PM peak hour.

In the Downtown Showcase District, the standard vehicle trip rates were adjusted to account for the high level of transit service. Upon review of mode split data from previous traffic studies, the standard trip rates for office and retail developments were reduced by 30 percent to account for

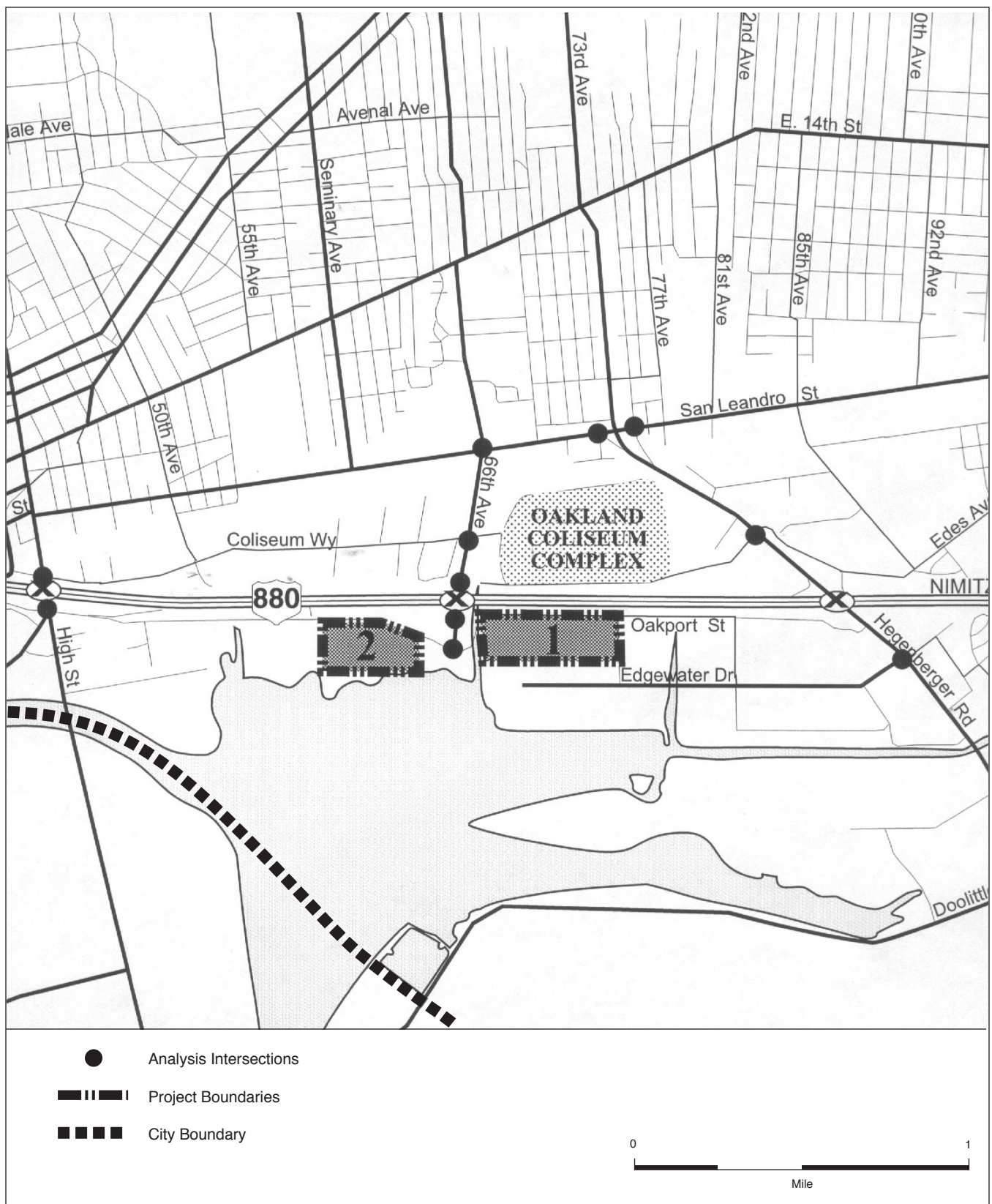


SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure III.B-1**  
Analysis Intersections for the  
Downtown Showcase District





SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure III.B-2 (Revised)**  
Analysis Intersections for the  
Coliseum Showcase District

**TABLE III.B-10  
TRIP GENERATION - DOWNTOWN SHOWCASE DISTRICT**

Project	Use	Units	AM Trip Rate	PM Trip Rate	AM Trips	PM Trips
Uptown Entertainment Project	Office	600 ksf	0.90	0.82	540	492
	Retail	1,000 ksf	0.35	1.66	350	1,660
	Entertainment	250 ksf	0.60	1.30	150	324
Administrative Office Building	Office	300 ksf	1.05	0.98	315	294
Key System Building Block <sup>a</sup>	Office	300 ksf	1.05	0.98	315	294
City Center	Office	2,200 ksf	0.86	0.78	1,892	1,717
TransPacific	Retail	50 ksf	0.76	2.95	38	147
	Residential	300 units	0.46	0.57	138	171
Housewives Market	Retail	30 ksf	1.11	4.13	33	124
	Residential	150 units	0.46	0.57	69	86
<b>Total Trips</b>					<b>3,840</b>	<b>5,309</b>

ksf = 1,000 square feet

<sup>a</sup> Hotel development is an alternative on this site; however, office is assumed for a more conservative analysis.

SOURCE: ITE *Trip Generation*, 5<sup>th</sup> Edition, January 1991.

transit use, while a 10 percent reduction was applied to the standard rate for multi-family housing. The 30 percent is consistent with the transit percentage assumed for the City of Oakland Administration Building.

For the retail uses in the Downtown Showcase District, a reduction for pass-by trips was applied to the trip rates. The pass-by reductions were based on pass-by percentages for shopping centers found in the ITE *Trip Generation* manual.<sup>2</sup> The percentage of pass-by trips varied depending upon the square footage of retail. The reductions for pass-by trips ranged from 20 percent for the Uptown retail uses to 50 percent for the smaller downtown City Center retail uses.

### Trip Distribution

Trip distribution assumptions were derived from previous traffic analyses conducted for projects in the Downtown Showcase and from CMA model forecasts. The trip distribution assumptions from these studies were reviewed for applicability to the proposed projects.

<sup>2</sup> Institute of Transportation Engineers. *Trip Generation*, 5<sup>th</sup> Edition, January 1991, p. I-30. Pass-by trips are stops made en route to another destination, such as stopping for groceries on the way home from work.

The trip distribution patterns for the Downtown Showcase District were derived from the CMA model. Given the overall difference in uses between the uptown projects and the city center projects, the trip distribution patterns for two separate zones were extracted from the CMA model. The trip distribution patterns were applied accordingly. These trip distribution assumptions are summarized in Table III.B-11.

**TABLE III.B-11  
TRIP DISTRIBUTION PERCENTAGES - DOWNTOWN SHOWCASE DISTRICT**

Gateway	City Center		Uptown	
	AM	PM	AM	PM
Broadway - north of Grand Avenue	0 %	0 %	3 %	2 %
Harrison and Grand Avenue	1 %	2 %	25 %	12 %
East 12 <sup>th</sup> Street - east of Oak Street	2 %	2 %	2 %	2 %
I-880 to San Leandro	17 %	13 %	12 %	12 %
Embarcadero - east of Oak Street	1 %	2 %	1 %	1 %
City of Alameda	4 %	5 %	5 %	5 %
I-880 to Bay Bridge	0 %	1 %	0 %	0 %
11 <sup>th</sup> Street - west of Brush Street	2 %	2 %	0 %	0 %
14 <sup>th</sup> Street - west of Brush Street	3 %	6 %	3 %	2 %
Grand Avenue - west of I-980	0 %	1 %	1 %	2 %
I-980 to I-580/SR 24	56 %	46 %	28 %	35 %
Internal	14 %	20 %	20 %	27 %
	100 %	100 %	100 %	100 %

SOURCE: Dowling Associates

### Trip Assignment

The assignment of project traffic to the roadway network was based on the location of parking. If the project is assumed to include parking, the project trips were assigned to the project site. However, if no parking provisions are included on site for the project, then the project trips were assigned to and from the surrounding parking lots and structures.

### Analysis Scenarios

The impacts due to the Downtown Showcase District projects were analyzed for the Year 2005, which are assumed to be their completion date. AM and PM peak hour intersection analyses were performed for the following conditions:

1. Existing + Projects
2. 2005 Base (without Projects)
3. 2005 + Projects



For the 2005 analysis, the existing traffic counts were factored to reflect the growth in background, non-project trips. The initial approach was to apply growth factors based on the 2005 CMA model run. However, the model forecasts did not provide reasonable growth factors. In several cases, model volumes were lower than the existing counts. A 0.5 percent per year growth was applied to the existing turning movement counts to estimate the 2005 base volumes. This approach was deemed appropriate for the Downtown Showcase District.

### ***DOWNTOWN INTERSECTIONS***

**Impact B.3: Development of Downtown Showcase District projects would result in degradation of intersection levels of service. This would be a less-than-significant impact due to measures identified in this EIR.**

The results of the level of service analysis are summarized by AM and PM peak hours for the Downtown Showcase District. The delay values represent average vehicle delay in seconds per vehicle. Any significant impacts are identified in **bold**.

Table III.B-12 summarizes the AM peak hour LOS results for the Downtown Showcase District. The project impacts at the intersection of 12<sup>th</sup> Street and Brush Street would result in LOS E in 2005.

Table III.B-13 summarizes the PM peak hour LOS results of the Downtown Showcase District. All intersections would operate at LOS D or better. At many of the intersections, the project trips would be minimal and within the daily fluctuation in traffic volumes.

**Mitigation Measure B.3: The impacts at the intersection of 12<sup>th</sup> Street and Brush Street can be mitigated by increasing the cycle length to 120 seconds. This would result in a LOS D.**

**Impact B.3 Level of Significance After Mitigation:** Less than Significant

### ***COLISEUM SHOWCASE DISTRICT IMPACTS (PROJECT-LEVEL)***

In addition to the citywide policy analysis conducted for the Land Use and Transportation Element, project specific impacts were evaluated for the Coliseum Showcase District. The development projects in the Coliseum Showcase District were included in the 2015 forecasts described above. Year 2005 also was analyzed as it is assumed that the projects in the Coliseum Showcase District would be completed by that date. For 2005, the analysis includes intersection level of service analysis for the Coliseum Showcase District.

**TABLE III.B-12  
AM LEVEL OF SERVICE SUMMARY - DOWNTOWN SHOWCASE DISTRICT**

Intersection	Existing		Existing + Project		2005 Base (Without Projects)		2005 + Project	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
5 <sup>th</sup> Street and Broadway	B	14.1	B	14.1	B	14.5	B	14.5
6 <sup>th</sup> Street and Broadway	B	10.8	B	10.8	B	10.8	B	10.8
11 <sup>th</sup> Street and Broadway	B	5.1	B	5.4	B	5.2	B	5.4
12 <sup>th</sup> Street and Broadway	B	5.4	B	5.5	B	5.5	B	5.6
11 <sup>th</sup> Street and Brush Street	A	2.0	A	2.4	A	2.1	A	2.5
12 <sup>th</sup> Street and Brush Street	B	9.6	D	37.0	B	10.5	E	49.4
17 <sup>th</sup> Street and Brush Street	A	4.2	A	3.8	A	4.3	A	4.0
18 <sup>th</sup> Street and Brush Street	A	2.9	A	2.9	A	2.9	A	3.0
11 <sup>th</sup> Street and Castro Street	B	11.2	B	12.0	B	11.3	B	12.2
12 <sup>th</sup> Street and Castro Street	B	7.5	B	8.1	B	7.5	B	8.1
17 <sup>th</sup> Street and Castro Street	B	12.2	B	12.8	B	12.3	B	13.0
18 <sup>th</sup> Street and Castro Street	B	5.9	B	6.9	B	5.9	B	6.9
14 <sup>th</sup> Street and Broadway	B	5.3	B	5.4	B	5.4	B	5.4
West Grand Avenue and Broadway	B	11.7	B	11.6	B	12.9	B	12.9

SOURCE: Dowling Associates

**TABLE III.B-13  
PM LEVEL OF SERVICE - DOWNTOWN SHOWCASE DISTRICT**

Intersection	Existing		Existing + Project		2005 Base (Without Projects)		2005 + Project	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
5 <sup>th</sup> Street and Broadway	C	22.2	C	22.4	D	26.1	D	26.6
6 <sup>th</sup> Street and Broadway	B	10.8	B	10.8	B	10.9	B	10.9
11 <sup>th</sup> Street and Broadway	B	5.3	B	5.5	B	5.3	B	5.6
12 <sup>th</sup> Street and Broadway	B	5.5	B	5.8	B	5.6	B	5.8
11 <sup>th</sup> Street and Brush Street	B	5.8	B	5.3	B	5.8	B	5.4
12 <sup>th</sup> Street and Brush Street	B	11.3	C	15.3	B	11.4	C	16.4
17 <sup>th</sup> Street and Brush Street	B	7.3	B	6.1	B	7.4	B	6.3
18 <sup>th</sup> Street and Brush Street	B	6.5	B	9.1	B	6.6	B	9.1
11 <sup>th</sup> Street and Castro Street	B	9.0	B	10.9	B	9.1	B	12.0
12 <sup>th</sup> Street and Castro Street	B	9.2	B	12.0	B	9.4	B	12.4
17 <sup>th</sup> Street and Castro Street	B	13.4	C	15.5	B	13.6	C	16.3
18 <sup>th</sup> Street and Castro Street	B	9.3	B	12.2	B	.5	B	12.6
14 <sup>th</sup> Street and Broadway	B	5.6	B	5.6	B	5.7	B	5.7
West Grand Avenue and Broadway	C	20.5	C	21.4	D	30.0	D	31.3

SOURCE: Dowling Associates

## Trip Generation

The trip generation is based upon standard published trip generation rates with some modifications to account for conditions unique to the Coliseum Showcase District. The standard rates were adjusted for pass-by traffic and are based on assumptions from previous studies conducted in the Coliseum Showcase District.

The Coliseum Showcase District includes two projects. The trip generation rates are shown in Table III.B-14. The trip rates for office and retail/entertainment uses are based on ITE rates. The trip rates for the community sports facility is based on San Diego *Traffic Generators*<sup>3</sup> rate for racquetball/health club. For the cultural uses, the trip rates are based in the ITE rate for a library. The development projects in the Coliseum Showcase District would generate about 1,300 new trips during the AM peak hour and about 3,460 new trips during the PM peak hour. The nature of the proposed uses in the Coliseum Showcase District result in significantly higher numbers of trips during the PM peak hour.

**TABLE III.B-14**  
**TRIP GENERATION - COLISEUM SHOWCASE DISTRICT**

Project	Use	Units	PM Trip Rate	PM Trips
Coliseum Shoreline	Office	300 ksf	1.40	420
	Retail/Entertainment	412 ksf	2.86	1,178
	Community Sports	200 ksf	3.60	720
	Cultural	125 ksf	4.74	593
Oakport	Retail/Entertainment	150 ksf	3.67	551
<b>Total Trips</b>				<b>3,462</b>

SOURCE: ITE *Trip Generation*, 5<sup>th</sup> Edition, January 1991 and SanDAG *Traffic Generators*, December 1996.

## Trip Distribution

Trip distribution assumptions were derived from previous traffic analyses conducted for projects in the Coliseum Showcase District and from CMA model forecasts. The trip distribution assumptions from these studies were reviewed for applicability to the proposed projects within the Coliseum Showcase District.

<sup>3</sup> San Diego Association of Governments, December 1996.

The trip distribution for the Coliseum projects is consistent with the trip distribution assumptions applied for the Coliseum Shoreline Commercial Center EIR (City of Oakland, 1994). The trip distribution assumptions for the Coliseum area are summarized in Table III.B-15. The same patterns were applied for the AM and PM peak hour analyses.

**TABLE III.B-15  
TRIP DISTRIBUTION PERCENTAGES - COLISEUM SHOWCASE DISTRICT**

<b>Gateway</b>	<b>PM</b>
High Street - north of San Leandro Street	4.5 %
San Leandro Street - north of High Street	4.0 %
San Leandro Street - south of Hegenberger	0 %
Hegenberger - east of San Leandro Street	3.5 %
Hegenberger - west of Edgewater Drive	7.5 %
I-880 towards City of San Leandro	19.0 %
I-880 towards downtown Oakland	50.5 %
High Street towards Alameda	0.0 %
66 <sup>th</sup> Avenue - north of San Leandro Street	11.0 %

SOURCE: Dowling Associates

### **Trip Assignment**

As under the analysis for the Downtown Showcase District, the assignment of project traffic to the roadway network was based on the location of parking, which was assumed to be provided at each of the specific projects identified in the Coliseum Showcase District.

### **Analysis Scenarios**

The analysis scenarios completed for the projects in the Coliseum Showcase District are the same as those described for the Downtown Showcase District:

1. Existing + Projects
2. 2005 Base (without Projects)
3. 2005 + Projects

### COLISEUM INTERSECTIONS

**Impact B.4: Development of the Coliseum Showcase District projects would result in degradation of intersection levels of services. This would be a less than significant impact due to measures identified in this EIR.**

The results of the level of service analysis are summarized by PM peak hours for the Coliseum Showcase District. The delay values represent average vehicle delay in seconds per vehicle. Any significant impacts are identified in **bold**.

Table III.B-16 summarizes the AM peak hour LOS results for the Coliseum Showcase District. Since counts were only available for the intersections on High Street and Hegenberger Road, the impact analysis did not include the other intersections. Each of the four intersections analyzed would operate at LOS C or better under all conditions.

**TABLE III.B-16  
PM LEVEL OF SERVICE - COLISEUM SHOWCASE DISTRICT**

Intersection	Existing		Existing + Project		2005 Base (Without Projects)		2005 + Project	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
66 <sup>th</sup> Avenue and I-880 SB off ramp	C	16.7	F	<b>overflow w</b>	C	19.3	F	<b>overflow</b>
66 <sup>th</sup> Avenue and I-880 NB ramps	E	<b>1.8</b>	F	<b>overflow w</b>	E	<b>2.0</b>	F	<b>overflow</b>
66 <sup>th</sup> Avenue and Oakport Street	F	<b>61.2</b>	F	<b>overflow w</b>	F	<b>76.6</b>	F	<b>overflow</b>
66 <sup>th</sup> Avenue and Coliseum Way	B	7.6	B	6.5	B	7.6	B	6.6
66 <sup>th</sup> Avenue and San Leandro Street	B	7.3	B	8.2	B	7.4	B	8.7
Hegenberger WB and San Leandro	A	2.6	A	3.0	A	2.6	A	3.0
Hegenberger EB and San Leandro	B	6.1	B	6.1	B	6.2	B	6.2
Hegenberger and Edes Avenue	D	25.8	D	25.9	D	27.8	D	28.1
Hegenberger and Edgewater	C	21.1	C	22.7	C	21.7	C	23.5
High Street and Oakport Street	D	18.2	C	21.2	C	19.3	C	23.2
High Street and Coliseum Way	D	36.1	E	<b>59.2</b>	E	<b>47.8</b>	F	<b>78.5</b>

"Overflow" indicates the delay cannot be calculated by the analysis program.

SOURCE: Dowling Associates

Table III.B-16 summarizes the PM peak hour LOS results for the Coliseum area. The following intersections are forecast to operate at unacceptable levels:

- 66<sup>th</sup> Avenue and I-880 SB off ramp
- 66<sup>th</sup> Avenue and I-880 NB ramps

- 66<sup>th</sup> Avenue and Oakport Street
- High Street and Coliseum Way

**Mitigation Measure B.4a:** Install a traffic signal at the intersection of 66th Avenue and I-880 southbound ramps and restripe the lanes of the southbound off-ramp. This intersection meets the Caltrans peak hour signal warrants under PM peak hour conditions.

**Mitigation Measure B.4b:** Install a traffic signal at the intersection of 66th Avenue and I-880 northbound ramps. This intersection meets the Caltrans peak hour signal warrants under PM peak hour conditions.

**Mitigation Measure B.4c:** Install a traffic signal at the intersection of 66th Avenue and Oakport Street and widen Oakport Street to provide a through and turn lane in each direction. This intersection meets the Caltrans peak hour signal warrants under PM peak hour conditions.

**Mitigation Measure B.4d:** Widen the northbound approach at the High Street and Coliseum Way intersection to provide an additional left-turn lane or restripe the eastbound approach to provide double left-turn lanes and a shared through/right-turn lane. This intersection may be subject to changes in traffic patterns as a result of the current studies being conducted to reconfigure the High Street and 42 Street intersection. The identified mitigation measure should be implemented only after the reconfiguration of the High Street and 42nd Street intersection is approved.

**Impact B.4 Level of Significance After Mitigation:** Less than Significant

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## REFERENCES - Transportation and Circulation

City of Oakland, Coliseum Shoreline EIR, October 20, 1994.

Florida Department of Transportation, *Florida's Level of Service Standards and Guidelines Manual for Planning*, 1995 Edition.

## C. POPULATION, HOUSING, AND EMPLOYMENT

This section of the EIR describes population, housing, and employment conditions within the Oakland Planning Area, the potential impacts of the proposed Land Use and Transportation Element on population, housing, and employment, and mitigation measures to address any significant adverse impacts.

### SETTING

#### *POPULATION*

A complete description of population characteristics and trends may be found in the “Trends Report” published by the Office of Planning and Building in March 1995. A summary of the findings is included here. Population change is summarized in Table III.C-1.

**TABLE III.C-1  
POPULATION CHANGE, 1980-1987**

	<b>1980 Population</b>	<b>1990 Population</b>	<b>1997 Population</b>	<b>Percent Growth, 1980-1997</b>
Oakland	339,337	372,242	388,100	14.4
Alameda County	1,105,379	1,279,182	1,375,800	24.5
California	23,667,902	29,760,902	32,609,000	37.8

SOURCE: 1995 Trends Report, 1997 Department of Finance

The population of Oakland increased from about 340,000 in 1980 to about 388,000 by 1997. Although the City has not grown as rapidly as the County or State, the growth experienced during the last two decades represents a significant turnaround for the City. Oakland experienced a net decrease of 45,000 residents between 1950 and 1980. The current population exceeds the previous decennial (1950) high and is close to the all-time 1945 high of about 400,000 residents. The increase is particularly significant in light of the fact that Oakland was almost completely developed by 1980. While outlying communities have grown through urbanization of vacant and agricultural land, Oakland’s growth has occurred through infill, redevelopment and larger household sizes. Much of the City’s increase has occurred in the San Antonio and Fruitvale neighborhoods, where population increased by 20 to 30 percent between 1980 and 1990.

Nearly all of Oakland’s net population increase occurred among Asian and Hispanic ethnic groups. During the 1980s, the City’s Asian population more than doubled and the Hispanic



population grew by 60 percent. By contrast, the City added only 2,000 African-American residents and lost 13,000 White residents during the decade. Partly as a result of these shifts, Oakland is much more ethnically diverse than other cities in Alameda County. The City has also become increasingly integrated, with no dominant ethnic group in many neighborhoods. At the same time, the City's non-native born population has risen, with about 20 percent of Oakland's residents born in other countries. Some 27 percent of the City's residents over age five lived in households where a non-English language was spoken at home.

Accompanying the trend towards ethnic diversity was an increase in average household size. The average number of persons per household rose from 2.34 in 1980 to 2.79 in 1990. A number of census tracts in the City had average household sizes exceeding 3.5 persons. The proportion of Oakland's population that was under 18 or over 65 (youth and seniors) did not change substantially between 1980 and 1990, but there were dramatic shifts in the geographic distribution and ethnic make-up of these groups. The percentage of population under 18 was generally lowest in the hills, North Oakland, and Downtown, while the percentage was highest in East Oakland and parts of West Oakland. The percentage of seniors was highest Downtown and around Lake Merritt. Growth in the African-American senior population was far greater than growth for African Americans as a whole, while the population of white seniors decreased at twice the rate of decrease experienced by Oakland's white population as a whole.

### ***HOUSING***

The number of housing units in Oakland increased from 150,212 in 1980 to 154,737 in 1990, a growth rate of about 3 percent or about 450 units per year. The State Department of Finance indicates that the number of housing units was 154,640 in 1997. The 1990-1997 decrease is largely a result of the 1991 firestorm, in which some 3,000 units were destroyed. Excluding the post-fire rebuilding, the City has continued to add several hundred units a year during the 1990s.

The City's housing stock is generally older than the County and the State average, and the average house size is smaller. Half of all housing units in Oakland were built before 1947. Some 80,000 of the housing units in Oakland are in multi-unit structures. The pace of multi-unit construction has exceeded the pace of single family construction since 1960 and in many parts of the City single family homes have been replaced by multi-unit buildings. The geographic distribution of housing growth has not matched the distribution of population growth. For instance, only 655 housing units were added in San Antonio-Fruitvale during the 1980s, while the population increased by 16,000. On the other hand, some tracts in the hills and near Downtown gained many housing units but saw little change in population. One outcome of this change was an increased incidence of overcrowding. The number of housing units classified as overcrowded nearly doubled between 1980 and 1990.

The vacancy rate in Oakland was reported by the Census to be 6.9 percent in 1990. A 1992 study reported the true vacancy rate to be closer to 3 percent, as many of the units counted as vacant by the census were uninhabitable. In 1990, an estimated 14,420 units were considered deteriorating.

The median price of a house in Oakland increased by 162 percent during the 1980s, while median rent increased by 140 percent. In both instances, this was a faster rate of housing inflation than in California as a whole. Housing costs outstripped income growth, resulting in a larger number of Oakland residents unable to afford home ownership or rental. In 1990, about 44 percent of all Oakland homeowners earning less than the median income were paying more than 30 percent of their income on housing costs, and 22 percent were paying more than 50 percent. Over half of Oakland's renter households paid more than 30 percent of their income on housing, including many households paying more than 50 percent. Rent burdens were highest in Elmhurst, Central East Oakland, West Oakland, and the west portions of North Oakland.

### ***EMPLOYMENT***

ABAG estimated that Oakland had 166,400 jobs in 1995. This was a slight decrease from the 1990 estimate of 170,200 jobs. Oakland's employment base included some 65,000 service jobs, 20,000 retail jobs, 15,500 manufacturing jobs, and 10,700 wholesale trade jobs. There were also 55,000 jobs classified simply as "other," including a large number of public sector jobs and jobs in transportation, communications, utilities, and similar fields.

During the last 30 years, traditional manufacturing and heavy industry have shifted away from Oakland, a trend witnessed in older cities throughout the United States. Manufacturing employment in Oakland declined by 30 percent during the 1980s alone. Most industrial development has been maritime or airport related and has occurred in the harbor and airport areas. The industrial vacancy rate in the City was more than 17 percent in 1993, despite the fact that cost per square foot tended to be lower in Oakland than elsewhere in the East Bay. On the other hand, office development boomed during the 1980s, with more than 6 million square feet of floor space added between 1981 and 1993. Still, vacancy rates were relatively high, ranging from 16 percent Downtown to 32 percent around Oakland Airport. Retail activity has declined along commercial "strips" in much of Oakland but has been healthy in neighborhoods like Rockridge, Piedmont Avenue, and Chinatown. While retail employment citywide was stable during the 1980s, retail sales fell in almost all categories. Several "big box" retail centers have opened during the early 1990s, most near freeway interchanges along I-880. While total employment in Oakland has been relatively stable during the last few years, the City's economy has grown at a slower rate than the East Bay as a whole.

During the 1980s, the number of Oakland residents in the labor force increased, but the proportion of those residents working in Oakland declined. The number of employed residents increased by 14 percent and the number of unemployed residents increased by nearly 16 percent. At the same time, the percentage of employed Oakland residents working in Oakland dropped

from 53 percent to 46 percent. These shifts have motivated Oakland's recent efforts to establish a balance between job and housing growth in the City. In 1990, there were about 1.17 jobs for every household in the City, compared to a ratio of 1.38 in the Bay Area as a whole. Oakland's policy emphasis on job growth reflects a desire to bring this ratio closer to the regional average and reduce out-commuting from the City.

### ***HOUSING NEEDS***

The 1992 Oakland General Plan Housing Element projected the City's five-year need for affordable housing based on ABAG's Housing Needs Determination. The figures for Oakland were for the period 1990-1995. Because of State revisions to Housing Element deadlines, the City now has until June 30, 1999 to provide the referenced number of units. The Needs Assessment showed a need for 4,349 units, including 1,305 very low income units, 739 low income units, 870 moderate income units, and 1,435 above moderate income units. As of 1997, the City had not produced this quantity of housing. Oakland's ability to meet its low and very low income housing needs depends largely on the availability of State and federal housing assistance funds. With the curtailment in State and federal housing programs and the economic recession of the early 1990s, production for these income groups has lagged.

### **SIGNIFICANCE CRITERIA**

Under CEQA, a project will normally have a significant effect on the environment if it would induce substantial growth or concentration of population (Appendix G of the CEQA Guidelines). Additionally, Appendix I of the CEQA Guidelines indicates that a project could have a significant effect on the environment if it alters the location, distribution, density, or growth rate of the population of an area. Appendix I also indicates that if a project affects existing housing or creates a demand for additional housing, such effects could be considered significant.

### **IMPACTS AND MITIGATION MEASURES**

#### ***INCREASED HOUSING CAPACITY***

**Impact C.1: The Land Use and Transportation Element would increase housing capacity in Oakland by providing greater allowances for higher density housing in commercial areas than those that already exist and by reclassifying several transit corridors for urban-density housing. Additionally, the Plan reflects emerging plans and development proposals for housing Downtown, at Oak Knoll Naval Hospital, along the Oakland Estuary, and at several BART Stations. The increase in land supply, coupled with specific development projects, are projected to result in a higher number of households in Oakland by the Plan's horizon year of 2015. This is a less-than-significant impact.**

Oakland's land use and housing policies influence how much of the region's growth it captures during the lifetime of the Plan. ABAG's projections make certain assumptions about Oakland's capture rate based on known projects, local policies, and the availability of land for housing.

ABAG's projections for 2015, prepared in 1996, indicated that the City would have 153,110 households and 406,000 residents in 2015. This represents an increase of 9,080 households and 18,400 residents over 1995. The proposed Land Use and Transportation Element contains more ambitious projections, with a forecast of 156,075 households by 2015, an increase of 12,045 and nearly 3,000 more households than what are projected by ABAG. Total population in 2015 would be about 413,000, or 7,000 residents more than what ABAG projects. The differences are summarized in Table III.C-2.

**TABLE III.C-2  
COMPARISON OF ABAG (PROJECTIONS 96) AND  
GENERAL PLAN PROJECTIONS FOR HOUSEHOLDS AND POPULATION**

	<b>1995</b>	<b>Year 2015- based on ABAG Projections 96</b>	<b>Year 2015 - based on Land Use and Transportation Element</b>	<b>Difference: General Plan vs ABAG</b>
Households	144,030	153,110	156,075	+2,965
Household Pop	380,200	396,600	404,420	+7,820
Group Quarters Pop	7,700	9,400	8,750	-650
Total Pop	387,900	406,000	413,170	+7,170

SOURCE: ABAG Projections 96, Oakland Land Use and Transportation Element, 1997

The difference between ABAG's projections and those resulting from adoption of the Land Use and Transportation Element are primarily due to policy and land use designation changes Downtown and along the Estuary and corridors. Specifically, the Land Use and Transportation Element anticipates a substantial increase in housing construction in the Old Oakland and Gateway neighborhoods (Downtown), near Jack London Square, at the Ninth Avenue Terminal and Fruitvale waterfront, and along sections of International, Foothill, and MacArthur Boulevards, Telegraph and San Pablo Avenues, and Martin Luther King Junior Way. Much of the waterfront development would consist of live-work units and most development along the corridors would consist of multi-family construction. ABAG projections showed little or no residential growth occurring in these areas. ABAG also projected a deficit of land available to meet Northern Alameda County's housing needs through 2015. The proposed Element could eliminate a substantial share of that deficit by making more land available for housing on underutilized urban land. Additional housing development in these areas would help achieve regional goals of sustainability and open space preservation, as it would result in slower conversion of farmland to housing, encourage transit-oriented housing, and promote more efficient development within the core of the region.

The increase in households and population should not be considered a significant impact in and of itself. However, indirect impacts on land use, transportation, noise, public services, and other environmental factors could occur as new housing is built. These potential impacts are addressed in other sections of this EIR.

The proposed land use changes should have a positive impact on the City's ability to meet the regional "fair share" housing allocations prescribed by ABAG. First, by making more land available for housing, the Plan creates a wider range of potential opportunities for construction. Second, the specific types of land made available include numerous sites where higher density and mixed use development will be allowed. Affordable housing is generally easier to provide where higher densities are allowed.

**Mitigation Measure C.1:** None Required.

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***INCREASED EMPLOYMENT GROWTH POTENTIAL***

**Impact C.2: The Land Use and Transportation Element would alter the amount of land available for new employment uses, increasing the acreage in some categories and decreasing it in others. A net increase in employment development potential would be created through policies and land use designations, including the promotion of redevelopment on over 1,100 acres at three military bases (OKNH, FISCO, and OAB) and 6,500 acres in the Coliseum Area. While the land supply for commercial development would not change significantly, the policy emphasis on Downtown and corridor redevelopment, coupled with airport and harbor expansion and a number of specific developments "in the pipeline," would result in substantially higher employment in the retail, service, and government sectors. Projected employment will be significantly higher than the quantity anticipated by ABAG, creating a demand for new housing and increasing Oakland's jobs:housing ratio. This impact is less than significant because of existing policies in the Housing Element, proposed policies in the Land Use and Transportation Element, and additional measures specified in this EIR.**

In 1996, ABAG projected that Oakland would add 22,000 jobs between 1995 and 2015, bringing the City's total to 188,740 jobs (see Table III.C-3). As a result of the proposed Land Use and Transportation Element, the City would be expected to gain substantially more jobs during the next 18 years. Based on proposed land use policies and map designations, total employment growth between 1995 and 2015 is projected to be 42,435, or almost double the ABAG projections. While the figure is substantially higher than the ABAG figure, it is worth noting that it is still lower than the figure ABAG had projected for Oakland during its 1994 projection series. (In 1996, ABAG revised its projections for Oakland and other parts of the East Bay downward to reflect the economic recession of the early 1990s.)

**TABLE III.C-3  
COMPARISON OF ABAG (PROJECTIONS 94 AND 96) AND  
GENERAL PLAN PROJECTIONS FOR EMPLOYMENT, BY SECTOR**

<b>TOTAL JOBS</b>	<b>1995</b>	<b>Year 2010- based on ABAG Projections 94</b>	<b>Year 2015 - based on ABAG Projections 96</b>	<b>Year 2015 - based on Land Use and Transportation Element</b>
Manufacturing	15,580	30,930	17,110	17,580
Wholesale	10,690	(pt. of mfg.)	12,030	12,810
Retail	19,880	23,870	22,610	27,920
Service	65,050	80,140	72,050	81,910
Other	55,320	77,990	64,940	68,790
<b>Total Employment</b>	<b>166,520</b>	<b>213,160</b>	<b>188,740</b>	<b>209,010</b>

SOURCE: ABAG Projections 96, Oakland Land Use and Transportation Element, 1997

The difference between the ABAG figures and the projected plan's figures can be attributed to several factors. First, since ABAG's projections were prepared, a number of specific commercial projects have been proposed in Oakland. These projects encompass several million square feet of Downtown office space, re-use of the military bases, development of retail and entertainment uses Downtown and near the Coliseum, creation of a "transit village" in Fruitvale, retail development at Leona Quarry, and expansion of the Airport. While some of this growth was anticipated by ABAG, the quantity is believed to have been underestimated.

Second, the Land Use Diagram designates large portions of the waterfront formerly reserved for manufacturing as "mixed use" development areas. While the redesignation alone would not spur development, it would increase the supply of land available for development with much higher employment densities than industry. Third, most of the transit corridors have been redesignated from "Commercial" to "Mixed Use" categories. Again, the designation alone does not mean that redevelopment would actually occur. However, if the General Plan is implemented, City capital improvements and investment strategies would place an increasing emphasis on these areas. Investment in transit and production of housing in these areas is likely to enhance their capacity and attractiveness to support new retail and service development.

The differences between the ABAG projections and the General Plan projections are especially large in the retail and service sectors. In 1996, ABAG projected that Oakland would gain 2,700 retail jobs between 1995 and 2015; based on proposed Plan policies, that figure is now estimated to be 8,000. For service jobs, ABAG projected that 7,000 jobs would be added, while the Plan

anticipates 16,800 jobs. While ABAG projected stable or declining retail-service employment in neighborhoods like East and West Oakland, the General Plan projects moderate increases. The General Plan also anticipates a much higher rate of employment growth Downtown than was anticipated by ABAG. Total Downtown employment is projected to be 65,000 by 2015, an increase of more than 17,000 jobs over the current figure.

As in the case of population and housing growth, the higher projections in and of themselves are less than significant. Employment growth would have impacts on traffic, air quality, noise, City services, and other environmental factors, but these impacts are covered in other sections of this EIR. One potentially significant impact, addressed below, pertains to housing. By increasing the number of jobs in the City, the demand for housing is likely to increase. To some degree, the employment increase is intended to correct an imbalance that emerged during the 1970s and 1980s when Oakland lost jobs but gained households. The goal is to reverse the declining ratio of jobs to households and the rate of “out-commuting” by providing more employment opportunities and retail/ service opportunities locally. By the year 2015, Oakland is expected to have increased its ratio of jobs to households from 1.16 to 1.33. Not all of the new jobs provided would be filled by Oakland residents. Some increase in housing demand can be expected. The could result in higher home prices and rents and declining affordability.

As part of the 1992 Housing Element, the City adopted the following policies to address issues associated with housing affordability and the production of new housing units:

Housing Production Policy 2:

Recognizing that there may be an impact on Oakland’s housing needs generated by new local and regional commercial development, the City shall gather relevant data and make it available to all interested parties, and acting on that data, facilitate the production of new housing to meet identified needs whenever possible.

Housing Production Policy 3:

The City will continue to study the effect of economic growth and job creation on Oakland’s housing market, including the demand for market rate housing as well as for below market rate housing.

Housing Production Policy 16:

The City encourages the re-use of vacant outmoded commercial and industrial buildings as joint living and work quarters, especially for members of the creative arts community.

The Draft Land Use and Transportation Element provides further guidance on the issue of housing production. The following policies and programs in the Element encourage housing production for all income levels, thereby reducing the potential for impacts associated with increased demand:

Policy N3.1/3.5:

Facilitating the production of housing units should be considered a high priority for the City of Oakland. The City should actively encourage the development of housing in designated mixed housing type and urban housing areas, through regulatory and fiscal incentives, assistance in identifying parcels that are appropriate for new development, and other measures.

Policy N6.1:

The city will generally be supportive of a mix of projects that provide a variety of housing types, unit sizes, and lot sizes which are available to households with a range of incomes.

Policy N9.1:

The City should support and encourage residents desiring to work and live in the same location where neither the residential use nor the occupation adversely affect nearby properties or the surrounding area.

Policy N12.1:

Consistency between the General Plan and Zoning Regulations should be provided within a reasonable time period of adoption of the final elements in the 1990s General Plan Update.

Policy D10.1:

Housing in the Downtown should be encouraged as a vital component of a 24-hour community presence.

Policy W12.4:

Higher residential densities should be permitted in appropriate areas along the estuary where design and development intensity allows for the preservation of public views, vistas, open space, and waterfront access. Access to transportation corridors and transit should be promoted.

Priority Implementation Agenda Item A7:

Update the Oakland Housing Element by 1998.

Priority Implementation Agenda Items B1 and B2:

Revise the Oakland Zoning Ordinance and Zoning maps.

The policies listed above may not fully mitigate Impact C.2 to a level of insignificance. The following additional measure is proposed to ensure that the impacts are less than significant.

**Mitigation Measure C.2:** The City should maintain a data base of vacant and underutilized parcels in a form that is accessible to all departments. The City should assist developers of affordable and market rate housing in locating appropriate sites for their developments and identifying potential neighborhood concerns. (Neighborhood Working Group)

**Impact C.2 Level of Significance After Mitigation:** Less Than Significant



### ***POTENTIAL HOUSING DISPLACEMENT***

**Impact C.3: The Land Use and Transportation Element would redesignate approximately 45 acres on the Land Use Diagram from residential use to “Housing-Business Mix.” Although the intent of this designation is to acknowledge the existing pattern and create areas where residential and industrial uses can co-exist harmoniously, rezoning consistent with the General Plan could lead to further encroachment of industrial uses in these areas. This could lead to a loss of housing stock in some locations. This impact is less than significant because of existing policies in the Housing Element and proposed policies in the Land Use and Transportation Element that address land use compatibility and housing displacement.**

The potential for the above impact would occur in portions of the East 12th Street/ San Leandro Street Corridor in San Antonio-Fruitvale and East Oakland. The existing land use pattern in these areas consists of a mix of residential uses, live-work units, heavy commercial, and industrial uses. The existing General Plan designation is Residential and the zoning typically reinforces these uses (R-30 through R-50 designations are typical). Existing industry in these areas is typically classified as legal and non-conforming.

Zoning revisions consistent with the proposed Mixed Use designation would potentially list certain types of industrial and commercial activities as conditionally permitted uses, or uses that are permitted outright. Existing light industry in the area might be permitted to expand, and new industry and business might develop. Although unlikely, these changes could potentially result in the conversion of housing to non-residential uses (including offices) or the demolition of housing. These changes also could affect the supply of land available for new housing, since the land might be more valuable if developed for non-residential purposes. The encroachment of industrial uses onto residential blocks could also affect the quality of existing housing and living conditions in these areas.

Land supply impacts are largely mitigated by the provision of more land for residential use in other parts of the City, particularly along transit corridors, and by the continued allowance of residential use within the Housing-Business Mix area. Importantly, there are no areas of the City proposed for conversion from a “Residential” category to “General Industrial” or another category where housing is not permitted. As part of the 1992 Housing Element, the City adopted the following policies to address these issues.

#### **Housing Element, Substandard Housing Policy 1:**

The City recognizes that housing is a valuable resource that should be carefully conserved and maintained and will take all necessary steps to prevent damage to the City’s occupied or vacant residential property.

Housing Element, Housing Production Policy 8:

The City will make every attempt to preserve the existing housing stock whenever possible and to limit the conversion of residential units to non-residential units.

Housing Element, Housing Production Policy 12:

The City, where economically feasible, will cause to be relocated, rather than demolish, residential property acquired for public or private purposes and urges Federal and State agencies to use a similar approach.

In addition, the Draft Land Use and Transportation Element includes the following policies that protect housing from displacement and ensure long-term land use compatibility:

Policy I/C4.1:

Existing industrial, residential, and commercial activities and areas which are consistent with long term land use plans for the City should be protected from the intrusion of potentially incompatible land uses.

Policy I/C4.2:

The potential for new or existing commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through efficient and appropriate implementation and monitoring of environmental and development controls.

Policy N3.6:

The City strongly encourages the moving of dwellings which might otherwise be demolished onto vacant lots where appropriate and economically feasible.

Policy N3.7:

Legal non-conforming residential structures in residential areas may be allowed to rebuild at the original density in the case of catastrophic damage or destruction, subject to development standards. However, such rebuilding should be subject to development standards and should address other neighborhood concerns as appropriate.

Policy W12.7:

The existing residential communities within and adjacent to the waterfront should be supported and enhanced.

**Mitigation Measure C.3:** None required.

## E. AIR QUALITY

### SETTING

#### *METEOROLOGY*

The Bay Area's climate, as with all of California coastal environs, is dominated by the strength and position of the semi-permanent high pressure center over the Pacific Ocean near Hawaii. It creates cool summers, mild winters, and infrequent rainfall; it drives the cool daytime sea breeze and maintains comfortable humidities and ample sunshine. Temperatures in Oakland average 58<sup>0</sup>F annually, ranging on the average from the mid-40s on winter mornings to the mid-70s in late summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby ocean. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from early November to mid-April. Oakland averages 18 inches of precipitation annually, but because much of the area's rainfall is derived from the fringes of mid-latitude storms, a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and near drought conditions.

Winds in the Oakland area are typically out of the west, west-northwest, and northwest (about 50 percent of the time). All other wind directions occur no more than seven percent of the time, individually, and calm conditions occur during eight percent of annual observations. Annual average wind speeds are approximately nine miles per hour (CARB, 1984). Winds in the Oakland area display several characteristic regimes. During the day, especially in summer, winds are from the southwest through northwest at 8 to 10 miles per hour as air is funneled through the Golden Gate and then diverges across the entire Bay Area. At night, especially in winter, the land becomes cooler than the ocean, and an offshore wind of 2 to 4 miles per hour develops from the Oakland Hills toward the Bay. After sunrise and after sunset, there is usually a period of light and disorganized wind flow, as one wind regime dissipates and the replacing regime has not yet become fully established. The net effect of the prevailing wind pattern is that the Oakland area is rapidly ventilated in the daytime with clean marine air, resulting in correspondingly good air quality. The air stagnation at night during the winter creates a strong potential for elevated air pollution levels, but the air draining off the hills toward the Bay is relatively unpolluted. Nighttime air quality is also usually healthful in the East Bay area.

In addition to the winds that govern the horizontal rate and trajectory of air pollutants, the Bay Area experiences two characteristic temperature inversions that control the vertical depth through which pollutants can be mixed. The first type of inversion occurs when the daytime onshore flow of marine air is capped by a massive dome of warm air that acts like a giant lid over the region. As the clean ocean air moves inland, pollutants from the urbanized area are generated in the lower layer of cool air with minimal dilution from the upper layer of warm air. As the lower layer travels towards the inland valleys and movement slows down, the pollutants in the air undergo photochemical transformations due to the sunlight and create unhealthful levels of smog, mainly

due to ozone. The second type of inversion occurs at night as cool air pools in low elevations while the air aloft remains warm. Shallow radiation inversions are formed, especially in winter, that trap pollutants near intensive traffic sources (such as freeways, shopping centers, etc.) and form localized violations of clean air standards called "hot spots." Although inversions can occur during all seasons of the year, the summertime regional capping inversion and the localized winter radiation inversion are the most dominant. The seasonal split in inversion intensity thus contributes to the different air quality climate found in summer and winter in Oakland.

### ***AMBIENT AIR QUALITY STANDARDS***

The Clean Air Act Amendments of 1970 established national ambient air quality standards, and individual states retained the option to adopt more stringent standards and to include other pollution species. California had already established its own air quality standards when Federal standards were established, and because of the unique meteorological problems in the state, there is considerable diversity between state and federal standards currently in effect in California, as shown in Table III.E-1.

The ambient air quality standards are intended to protect the public health and welfare and they incorporate an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, such as asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

### ***EXISTING AMBIENT AIR QUALITY***

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentrations of six criteria air pollutants: ozone (O<sub>3</sub>), carbon monoxide (CO), inhalable particulate matter (PM<sub>10</sub>), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>).

Existing and probable future levels of air quality in Oakland can be generally inferred from ambient air quality measurements conducted by the Bay Area Air Quality Management District (BAAQMD) at its monitoring stations. Table III.E-2 is a five-year summary of monitoring data from BAAQMD's Alice Street station in Oakland and BAAQMD's monitoring station at County Hospital in San Leandro. Data from the San Leandro station are included because the Alice Street monitoring station does not monitor PM<sub>10</sub> concentrations. Table III.E-2 compares measured pollutant concentrations with state ambient air quality standards, which are more stringent than the corresponding federal standards.

**TABLE III.E-1  
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS**

<b>Pollutant</b>	<b>Averaging Time</b>	<b>SAAQS<sup>1,3</sup></b>	<b>NAAQS<sup>2,3</sup></b>
Ozone	1 hour	0.09 ppm	0.12 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	NA
	Annual	NA	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	NA
	3 hour	NA	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	NA	0.03 ppm
Inhalable Particulate Matter (PM <sub>10</sub> ) <sup>4</sup>	24 hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
	Annual	30 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
Sulfates	24 hour	25 µg/m <sup>3</sup>	NA
Lead	30 day	1.5 µg/m <sup>3</sup>	NA
	Calendar Quarter	NA	1.5 µg/m <sup>3</sup>
Hydrogen Sulfide	1 hour	0.03 ppm	NA
Vinyl Chloride	24 hour	0.010 ppm	NA

<sup>1</sup> SAAQS stands for State Ambient Air Quality Standards (California). SAAQS for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and inhalable particulate matter (PM<sub>10</sub>) are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

<sup>2</sup> NAAQS stands for National Ambient Air Quality Standards. NAAQS, other than ozone, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one.

<sup>3</sup> ppm = parts per million by volume; µg/m<sup>3</sup> = micrograms per cubic meter; NA = Not Applicable

<sup>4</sup> Revised NAAQS for ozone and a new NAAQS for fraction of PM<sub>10</sub> that is 2.5 microns or less (called PM<sub>2.5</sub>) are expected to be adopted by the U.S. Environmental Protection Agency before the end of 1997.

SOURCE: Bay Area Air Quality Management District (1996)

### **Ozone (O<sub>3</sub>)**

O<sub>3</sub> is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NO<sub>x</sub>). O<sub>3</sub> is a regional air pollutant because its precursors are transported and diffused by wind concurrently with O<sub>3</sub> production by the photochemical reaction process.

O<sub>3</sub> causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease. Table III.E-2 shows that exceedance of the state standard occurred on two days in Oakland between 1990 and 1995, and exceedance of the less stringent federal standard of 0.12 ppm for one hour did not occur during the last five years, according to published data.

### **Carbon Monoxide (CO)**

CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances. Approximately 80 percent of the CO emitted in Alameda County comes from motor vehicles (CARB, 1997). High levels of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease and cause fatigue, headaches, and dizziness. Table III.E-2 shows that no exceedances of state CO standards were recorded between 1990 and 1995. Measurements of carbon monoxide (CO) show low baseline levels with the hourly maximum averaging less than 50 percent of the allowable state standard. Similarly, maximum 8-hour CO levels are 3 to 5 parts per million (ppm) below their allowable 8-hour exposure.

### **Inhalable Particulate Matter (PM<sub>10</sub>)**

PM<sub>10</sub> consists of inhalable particulates that can cause adverse health effects. PM<sub>10</sub> can include certain substances, such as sulfates and nitrates, that can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Table III.E-2 shows that exceedances of the state PM<sub>10</sub> standard occur relatively frequently in San Leandro. PM<sub>10</sub> concentrations in Oakland would be expected to be similar to those measured in San Leandro.

### **Other Criteria Air Pollutants**

The standards for NO<sub>2</sub>, SO<sub>2</sub>, and lead are being met in the Bay Area, and the latest pollutant trends information suggests that these standards will not be exceeded in the foreseeable future (ABAG and BAAQMD, 1994).

### **AIR POLLUTION SOURCES**

Motor vehicles are the primary source of air pollution in the basin and in Oakland. Motor vehicles account for approximately 50 percent of the ROG, 70 percent of the NO<sub>x</sub> (both O<sub>3</sub>

**TABLE III.E-2**  
**OAKLAND AMBIENT AIR QUALITY MONITORING SUMMARY, 1990 - 1995**

Pollutant	Standard <sup>1</sup>	Number of Days Standards were Exceeded and Maximum Concentration Measured					
		1990	1991	1992	1993	1994	1995

<i>Downtown Oakland Data:</i>							
<u>Ozone</u>							
1-Hour	>0.09 ppm	0	0	0	1	0	1
Max. 1-Hour Conc. (ppm) <sup>2</sup>		0.06	0.06	0.08	<b>0.11</b>	0.06	<b>0.11</b>
<u>Carbon Monoxide</u>							
1-Hour	>20. ppm	0	0	0	0	0	0
8-Hour	>9. ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)		8	9	7	7	7	5
Max. 8-Hour Conc. (ppm)		6.1	6.8	4.6	4.9	5.5	3.9
<i>San Leandro Data:</i>							
<u>Inhalable Particulates (PM<sub>10</sub>)</u>							
Max. 24-hr. Conc. (µg/m <sup>3</sup> ) <sup>2</sup>	>50 µg/m <sup>3</sup>	<b>123</b>	<b>99</b>	<b>56</b>	<b>51</b>	<b>62</b>	47
Exceedances/Samples <sup>3</sup>		4/26	10/6	2/61	1/61	1/61	0/61
			0				
Annual Geometric Mean (µg/m <sup>3</sup> )	30 µg/m <sup>3</sup>	29.3	27.6	22.7	18.1	18.7	16.9

<sup>1</sup> State standard, not to be exceeded.

<sup>2</sup> conc. = concentration; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

<sup>3</sup> Indicates the number of exceedances and the number of samples taken in a given year.

NOTE: **Bold** values are in excess of applicable standard. "NA" indicates that data is not available.

SOURCE: California Air Resources Board, *Summary of Air Quality Data, 1990-1995*. BAAQMD Monitoring Stations, Alice Street, in Oakland and County Hospital in San Leandro.

precursors) and 80 percent of the CO emitted in Alameda County (CARB, 1997). Construction and demolition, paved road dust, windblown dust, and residential fuel combustion generate approximately 80 percent of the PM<sub>10</sub> emissions in Alameda County. Table III.E-3 summarizes the relative contribution of mobile, stationary and diffuse areawide sources of emissions in Alameda County. Stationary sources of emissions include large industrial facilities as well as smaller sources such as service stations, dry cleaners, wastewater treatment plants, etc. Residential uses also contribute to air emissions from paints and solvents, fireplaces, heating and landscaping equipment. Although the contribution from any single residence is minimal, the cumulative contribution from a relatively high density of residences in a major urban area can make this a non-negligible emission source.

**TABLE III.E-3  
ALAMEDA COUNTY EMISSIONS INVENTORY (1995)**

Source Category	ROG	NO <sub>x</sub>	SO <sub>x</sub>	CO	PM <sub>10</sub>
On-Road Mobile	53%	68%	22%	81%	6%
Other Mobile <sup>1</sup>	7%	20%	59%	12%	5%
Industrial Activities	22%	8%	17%	<1%	11%
Miscellaneous <sup>2</sup>	18%	4%	2%	6%	78%
Daily Emissions (tons/day)	116	114	9	762	34

- <sup>1</sup> Construction equipment, ships, trains, planes, lawn equipment.  
<sup>2</sup> Fires, road dust, construction dust, paints & solvents, pesticides.

ROG = reactive organic gases  
 NO<sub>x</sub> = nitrogen oxides  
 SO<sub>x</sub> = sulfur oxides  
 CO = carbon monoxide  
 PM<sub>10</sub> = respirable particulate matter with 10-micron diameter or less

SOURCE: California Air Resources Board (1997)

Oakland has identified 17 major sources of air emissions (sources emitting more than 100 pounds per day). They are mapped in Technical Report No. 7 for the City's Open Space Conservation and Recreation program as part of the General Plan update. Major stationary sources are concentrated along the Interstate 880 corridor and along the Oakland Estuary. Because the BAAQMD has strictly regulated major stationary sources of air emissions, their contribution to the total emissions burden has decreased significantly within the last several decades, such that smaller, non-smokestack sources generate the largest fraction of such emissions.

### ***SENSITIVE RECEPTORS***

Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience. These sensitive uses are distributed throughout the City.



## **REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS**

### **Federal Standards**

The 1977 Clean Air Act required that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards within the deadlines specified in the Clean Air Act. For the Bay Area Air Basin, the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the BAAQMD jointly prepared a *Bay Area Air Quality Plan* in 1982 which predicted attainment of all federal clean air standards within the basin by 1987. This forecast was somewhat optimistic in that attainment of federal clean air standards did not occur throughout the entire air basin until 1991.

The Bay Area Air Basin attainment status with respect to federal standards is summarized in Table III.E-4. The San Francisco air basin was redesignated in June 1995 as an “attainment” area for the federal O<sub>3</sub> standard, although the U.S. Environmental Protection Agency has recently announced plans to redesignate the Bay Area “nonattainment” for ozone. The air basin is currently being considered for redesignation as an “attainment” area for the federal CO standard, since it has met the criteria for redesignation. For PM<sub>10</sub>, the basin is “unclassified” at present, awaiting a possible revision of PM<sub>10</sub> standards to include only very fine particulate matter (less than 2.5 µg/m<sup>3</sup>).

### **State Standards**

In 1988, California passed the California Clean Air Act (AB-2595) which, like its federal counterpart, called for designations of areas as attainment or nonattainment (but in reference to State Ambient Air Quality Standards rather than national standards). The Bay Area Air Basin attainment status with respect to state standards is summarized in Table III.E-4. The San Francisco Bay Area Air Basin has been designated as nonattainment for State Ambient Air Quality Standards for O<sub>3</sub> and PM<sub>10</sub> (BAAQMD, 1996).

The 1988 California Clean Air Act (CCAA) also required development of air quality plans and strategies to reduce ground-level O<sub>3</sub> levels in the Bay Area. The *Bay Area 1991 Clean Air Plan* (1991 CAP) included a comprehensive strategy to reduce air pollutant emissions and focused on control measures to be implemented during the 1991 to 1994 period. It also included control measures to be implemented from 1995 through 2000 and beyond. The *Bay Area 1994 Clean Air Plan* (1994 CAP) includes changes in the organization and scheduling of some 1991 CAP measures and also included eight new stationary and mobile source control measures. The 1994 CAP covers the period from December 1994 to 1997. The goals of the 1994 CAP are to reduce

**TABLE III.E-4  
CRITERIA POLLUTANT ATTAINMENT STATUS FOR THE CITY OF OAKLAND**

Pollutant	Ambient Standards	
	California	Federal
Ozone	Nonattainment	Attainment <sup>1</sup>
Carbon Monoxide		
- 1-Hour	Attainment	Attainment
- 8-Hour	Attainment	Nonattainment <sup>2</sup>
Nitrogen Dioxide		
- Annual Average	- -	Attainment
- 1-Hour	Attainment	- -
Sulfur Dioxide		
- Annual Average	- -	Attainment
- 24-Hour	Attainment	Attainment
- 1-Hour	Attainment	- -
Inhalable Particulates (PM <sub>10</sub> )		
- Annual Arithmetic Mean	- -	Attainment
- Annual Geometric Mean	Nonattainment	- -
- 24-Hour	Nonattainment	Unclassified

<sup>1</sup> The U.S. Environmental Protection Agency has recently announced plans to redesignate the Bay Area "nonattainment" for ozone. This change has not taken effect as of September 1997.

<sup>2</sup> The BAAQMD has applied for attainment status for carbon monoxide. No BAAQMD monitoring station has recorded an exceedance of the national CO standard since 1991. Only urban areas are designated as nonattainment (defined by U.S. Department of Commerce, Bureau of Census, 1980 Census of Population and Housing, Block Statistics Maps for San Jose and Vallejo-Fairfield-Napa Standard Metropolitan Statistical Areas (SMSAs).

SOURCE: Bay Area Air Quality Management District (1996)

the health impacts from ozone levels above the State ambient standard and to comply with the CCAA. The CCAA requires air districts that exceed the state ozone standard to reduce pollutant emissions by five percent per year, calculated from 1987, or take all feasible measures to achieve emission reductions. Since the Bay Area attained the state CO standard in 1993, the CCAA planning requirements for CO nonattainment areas no longer apply to the Bay Area. The control measures proposed in the 1994 CAP constitute all feasible measures for the reduction of ozone precursor emissions in the Bay Area.

For state air quality planning purposes, the Bay Area is classified by the CCAA as a *serious* non-attainment area for ozone. The *serious* classification triggers various plan submittal requirements

and transportation performance standards. One such requirement is that the Bay Area update the CAP every three years to reflect progress in meeting the air quality standards and incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area's record of progress in implementing previous (1994 CAP) measures must also be reviewed. The 1994 CAP is currently being updated and it is anticipated that the 1997 CAP will be adopted in December 1997. New or revised control measures that are proposed in the 1997 CAP apply to stationary sources, mobile sources, and transportation control measures (TCMs).

The California Air Resources Board (ARB) is the state agency responsible for regulating air quality. ARB responsibilities include establishing State Ambient Air Quality Standards, emissions standards and regulations for mobile emissions sources (e.g., autos, trucks, etc.), and overseeing the efforts of county-wide and multi-county air pollution control districts, which have primary responsibility over stationary sources. The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for air quality regulation within the San Francisco Bay Area Air Basin. The BAAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review activities.

### **Local Policies**

Existing adopted City of Oakland policies that pertain to air quality are contained in the Open Space, Conservation, and Recreation (OSCAR) Element and include the following:

#### Policy CO-12.1:

Promote land use patterns and densities which help improve regional air quality conditions by: a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, and office development with ground-floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis.

#### Policy CO-12.2:

Maintain a coordinated bus, rail, and ferry transit system which provides efficient service to major destinations and promotes alternatives to the single passenger auto.

#### Policy CO-12.3:

Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single-passenger autos.

#### Policy CO-12.4:

Require that development projects be designed in a manner which reduces potential adverse air quality impacts. This may include: (1) the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; (b) the use of low-polluting energy

sources and energy conservation measures; (c) designs which encourage transit use and facilitate bicycle pedestrian travel.

Policy CO-12.5:

Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.

Policy CO-12.6:

Require construction, demolition and grading practices which minimize dust emissions.

Policy CO-12.7:

Coordinate local air quality planning efforts with other agencies, including adjoining cities and counties, and the public agencies responsible for monitoring and improving air quality. Cooperate with regional agencies such as the Bay Area Air Quality Management District (BAAQMD), the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), and the Alameda County Congestion Management Agency in developing and implementing regional air quality strategies. Continue to work with BAAQMD and the California Air Resources Board in enforcing the provisions of the State and Federal Clean Air Acts, including the monitoring of air pollutants on a regular and on-going basis.

## SIGNIFICANCE CRITERIA

According to state *CEQA Guidelines*, a project would normally have a significant effect on the environment if it would: result in an exceedance of any ambient air quality standard, contribute substantially to an existing or projected air quality exceedance, expose sensitive receptors to substantial pollutant concentrations, or conflict with adopted environmental plans and goals of the community where it is located.

*CEQA Guidelines* Section 15125(b) states that an EIR shall discuss “any inconsistencies between a proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable Air Quality Management Plan (or State Implementation Plan)...”. The BAAQMD (1996) indicates that a General Plan must show consistency with regional plans and policies affecting air quality to claim a less-than-significant impact on air quality. For a local plan to be consistent with the most recently adopted Clean Air Plan (CAP), which is currently the 1994 CAP, a plan must show over the planning period of the plan that:

- a) population growth for the jurisdiction will not exceed the values included in the current Clean Air Plan, and
- b) the rate of increase in VMT for the jurisdiction is equal to or lower than the rate of increase in population.

For project-level impact analysis, the BAAQMD provides various thresholds and tests of significance. For ROG, NO<sub>x</sub> and PM<sub>10</sub>, a net increase of 80 lbs/day is considered significant, while for SO<sub>x</sub>, a net increase of 150 pounds per day (lbs/day) is considered significant. For CO,

an increase of 550 lbs/day of CO would be considered significant if it leads to a possible local violation of CO standards (i.e., a “hot spot”).

## IMPACTS AND MITIGATION MEASURES

The air quality impact analysis focuses on the following specific issues:

**General Plan Program-level Impacts:** This section addresses the consistency of the proposed Land Use and Transportation Element (referred to as the Plan) with regional air quality planning, as well as regional air quality impacts and local air quality impacts on major roadways that would result from additional traffic increases associated with implementation of the proposed Land Use and Transportation Element at 2015 buildout.

**Downtown and Coliseum Showcase District Project Impacts:** This analysis addresses the long-term, project-level impacts on local air quality (intersection hot spots and roadway links) resulting from cumulative traffic increases associated with specific development projects in the Downtown and Coliseum Showcase Districts by the year 2005. In addition, short-term emissions associated with the cumulative construction of these projects is also assessed.

### ***GENERAL PLAN IMPACTS (PROGRAM-LEVEL)***

Three approaches are used to assess the significance of Plan-related air emissions increases. The first is to evaluate the consistency of Plan-related population and traffic increases with planned regional growth that is accounted for in regional air quality planning (*Bay Area Clean Air Plan*). The second approach is to utilize air quality modeling to estimate whether emissions associated with Plan-related additional growth would cause violations of the ambient state and federal standards on a regional as well as local basis. The third approach is to evaluate the potential for nuisance odors and localized emissions as a result of proposed General Plan map changes. Regional air quality impacts are evaluated using the URBEMIS3 model to estimate ozone precursor and PM<sub>10</sub> (both regional pollutants) emissions produced by mobile sources. Local impacts are assessed using the CALINE4 model to estimate CO (a localized pollutant) emissions along roadways produced by mobile sources.

### ***Regional Emissions***

**Impact E.1: Implementation of the proposed Land Use and Transportation Element would not be consistent with population and VMT assumptions used in air quality planning, and would result in increased regional emissions of criteria air pollutants. This would be a significant impact.**

As indicated in the Population, Housing, and Employment section of this report, the projected 2015 total population resulting from Plan implementation would exceed ABAG's (*Projections 96*) 2015 population by 7,815 persons. Since the Clean Air Plan (CAP) is based on ABAG

population projections, an exceedance of ABAG projections is also an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, the proposed Land Use and Transportation Element would not be consistent with air quality planning and would have a significant air quality impact.

The 1988 California Clean Air Act, Section 40919(d), requires regions to implement “transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled.” Based on the population projections presented in the Population, Housing, and Employment section of this report, the projected population growth rate between 1995 and 2015 under ABAG projections is 0.2% per year and under the proposed Element is 0.3% per year. The vehicle miles traveled (VMT) growth rate is estimated at 0.5% to 0.6% per year,<sup>1</sup> which exceeds the projected population growth rate of the proposed Element. A Plan showing a VMT growth rate that is greater than the population growth rate would be considered to be hindering progress towards achieving this performance objective, and thus, be inconsistent with regional air quality planning. This would represent a significant air quality impact.

Although Element-related additional population growth is considered a significant air quality impact, it is important to note that proposed changes in land use designations that allow for this additional growth encourage new growth in proximity to public transit (along transit corridors or in transit villages) and other proposed policies promote the use of alternative transportation modes. Proposed policies would help reduce this significant impact.

Nevertheless, implementation of the proposed Land Use and Transportation Element would result in additional traffic increases in the City which could result in regional air quality impacts. Mobile source emissions associated with implementation of the proposed Land Use and Transportation Element were calculated by combining trip generation rates with the projected CMA model trip length and current California vehicular emissions factors extrapolated for 2015 (EMFAC7F1.1). The results are presented in Table III.E-5. These emissions increases would exceed BAAQMD project-specific significance thresholds for reactive organic gases, NO<sub>x</sub> and PM<sub>10</sub>, and would contribute to continued exceedance of applicable state O<sub>3</sub> and PM<sub>10</sub> standards in the region. However, such increases from projected growth would actually be less than would

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<sup>1</sup> The VMT growth rate is based on 1990 and 2015 VMT estimates for Planning Area 1 of Alameda County (which includes Oakland, Berkeley, Alameda, Piedmont, Emeryville, and Albany) which are generated by the CMA model. Projected population increases associated with implementation of the proposed Element were also used in the CMA model runs for 2015.

**TABLE III.E-5  
ESTIMATED DAILY REGIONAL EMISSIONS (2015)**

<b>Future Development Scenario</b>	<b>Carbon Monoxide (CO)</b>	<b>Reactive Organic Gases (ROG)</b>	<b>Nitrogen Oxides (NOx)</b>	<b>Sulfur Oxides (SOx)</b>	<b>Inhalable Particulates (PM10)</b>
Downtown Projects (2015)	1,868	137	341	15	417
Coliseum Projects (2015)	1,371	101	250	11	306
General Plan Buildout (2015)	5,841	430	1,066	48	1,305
Total Emissions	9,080	668	1,657	74	2,028
BAAQMD Significance Thresholds	550	80	80	150	80

SOURCE: Orion Environmental Associates, 1997.

occur if this growth occurred elsewhere in the basin (e.g., in outlying areas). The CMA model indicates that average trip lengths for the Oakland area (4.8 miles/trip) would be less than the basinwide average trip lengths (7.6 miles/trip), and the reduction in trip lengths could more than offset daily mobile source emissions attributable to regional growth.

The Land Use and Transportation Element policies set forth below reduce regional and local air quality impacts associated with implementation of the proposed Land Use and Transportation Element. They encourage use of transit, alternative transportation modes, and sustainable development patterns.

a. Objective T2

Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.

b. Policy T2.1

Transit-oriented development should be encouraged at existing and 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.

c. Policy T2.2

Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.

d. Policy T2.3

Promote neighborhood-serving commercial development within one-quarter to one-half mile of established transit routes and nodes.

- e. Policy T2.5  
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.
- f. Policy T2.6  
Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).
- g. Policy T3.2  
The City should promote and participate in both local and regional strategies to manage traffic supply and demand where unacceptable levels of service exist or are forecast to exist.
- h. Policy T3.7  
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.
- i. Policy T3.8  
The City, in constructing and maintaining its transportation infrastructure, shall resolve any conflicts between public transit and single occupant vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than vehicles, giving due consideration to the environment, public safety, economic development, health, and social equity impacts.
- j. Policy T4.1  
The City will require new development to incorporate design features in their projects that make use of alternative modes of transportation more convenient.
- k. Policy T4.2  
Through cooperation with other agencies, work to create incentives to encourage travelers to use alternative transportation options.
- l. Policy T4.3  
Encourage transit operators to reduce waiting times for users by coordinating schedules and maintaining intervals of fifteen (15) minutes or less between buses during daytime periods.
- m. Policy T4.4  
Support light rail or trolley bus along appropriate arterial streets in high travel demand corridors.
- n. Policy T4.5  
Prepare, adopt, and implement a Bicycle and Pedestrian Master Plan as a part of the Transportation element of this General Plan.



- o. Policy T4.6  
Alternative modes of transportation should be accessible for all of Oakland's population.
- p. Policy T4.7  
Where rail lines (including sidings and spurs) are to be abandoned, first consideration should be given to acquiring the line for transportation and recreational uses, such as bikeways, footpaths, or public transit.
- q. Policy T6.1  
Collector streets shall be posted at a maximum speed of 25 miles per hour, except where a lower speed is dictated by safety and allowable by law.
- r. Policy T6.2  
Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian-oriented.
- s. Policy T6.3  
The waterfront should be made accessible to the pedestrians and bicyclists in Oakland's neighborhoods.
- t. Objective D3  
Create a pedestrian friendly downtown.
- u. Policy D3.1  
Pedestrian-friendly commercial areas should be promoted.
- v. Policy D3.2  
New parking facilities should not be incorporated into the design of any project in a manner that discourages pedestrian activity.
- w. Policy D8.1  
New large scale office development should primarily be located along the Broadway corridor south of Grand Avenue, with concentrations at the 12th Street and 19th Street BART stations.
- x. Policy D8.4  
The Broadway spine, particularly near the 12th Street/City Center BART station, should be the primary location of new public office development.
- y. Policy W2.1  
All recreational activity sites along the waterfront should be connected to each other to create continuous waterfront access. Safe and direct automobile, bicycle, and pedestrian access between the waterfront and adjacent neighborhoods should be created and strengthened.

z. Policy W2.7

Public transportation to the waterfront should be encouraged, coordinated, and strategically located. Waterfront transportation should be marketed to enhance ease of access both locally and regionally.

aa. Policy W3.1

Waterfront objectives, policies, and actions regarding geology, land stability, erosion, soils, water quality, flood hazards, wetland plant and animal habitats, and air quality and pollutants, shall be consistent and in compliance with the Open Space, Conservation, and Recreation Element of the City's General Plan.

bb. Policy W12.4

Higher residential densities should be permitted in appropriate areas along the estuary where design and development intensity allows for the preservation of public views, vistas, open space, and waterfront access. Access to transportation corridors and transit should be promoted.

cc. Policy 12.5

Development along the estuary shore should reflect higher intensity mixed use activities and areas at Jack London Square. The balance of development along the estuary should be of lower intensity than at Jack London Square; however, high density nodes of development may be appropriate at key locations. Access to transportation corridors and transit should be provided.

dd. Policy N1.2

The majority of commercial development should be accessible by public transit. Public transit stops should be placed at strategic locations in Neighborhood Activity Centers and Transit-oriented Districts to promote browsing and shopping by transit users.

In addition, the existing adopted policies CO-12.1, CO-12.2, CO-12.3, CO-12.4, and CO-12.7, of the Open Space, Conservation, and Recreation (OSCAR) Element (also listed in the Setting section, p. III.E-9, above) would help to reduce regional air emissions:

**Mitigation Measure E.1:** To the extent permitted by law, large new development within the City shall be required to implement Transportation Control Measures (TCMs) as recommended by the Bay Area Air Quality Management District (listed under Mitigation Measure E.6).

**Impact E.1 Level of Significance After Mitigation:** Significant and Unavoidable.

Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections is also an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, the proposed Land Use and Transportation

Element would not be consistent with air quality planning and would have a significant air quality impact.

### *Consistency with Clean Air Plan*

**Impact E.2: The proposed Land Use and Transportation Element would be consistent with Clean Air Plan Transportation Control Measures (TCMs). This would be a less-than-significant impact.**

The Bay Area Air Quality Management District (BAAQMD, 1996) identifies the following the Clean Air Plan (CAP) transportation control measures (TCMs) for implementation by local government. The consistency of the proposed Land Use and Transportation Element with these measures is also evaluated as follows:

<u>CAP TCMs</u>	<u>Project Consistency</u>
1. <i>Expand Employer Assistance Program:</i> Provide assistance to regional and local ridesharing organizations.	In support of employer programs, the proposed implementation program specifies provision of staffing and resources to develop partnerships and coordinate with transit providers. The City will explore ways to promote transit use through development incentives (such as density bonuses and reduced parking requirements, etc.), development of intermodal transfer stations, implementation of transit priority improvements as part of future developments along transit streets, using developer fees to contribute to improved transit, working with AC Transit to pass benefit assessments that generate revenues for targeted service areas, pursuing state Transit Capital Improvement (TCI) funds, working with MTC to pursue a regional gas tax, support light rail development in the East Bay, and seek funding for implementing transit priority improvements along transit arterials. The Element also promotes new large-scale office development along the Broadway corridor with concentrations at the 12th Street and 19th Street BART stations. Such development patterns would support TCM 1 by locating employment uses in proximity to transit facilities.

CAP TCMs

9. *Improve Bicycle Access and Facilities:* Establish and maintain bicycle advisory committees in all nine Bay Area counties; develop comprehensive bicycle plans; encourage employers and developers to provide bicycle access and facilities; and improve and expand bicycle lane system.

12. *Improve Arterial Traffic Management:* Continue ongoing local signal timing programs; study signal preemption for buses on arterials with high volume of bus traffic; expand signal timing programs; and improve arterials for bus operations and encourage bicycling.

13. *Transit Use Incentives:* Expand marketing and distribution of transit passes and tickets; and set up local transportation stores to sell passes, distribute information.

15. *Local Clean Air Plans, Policies and Programs:* Incorporate air quality beneficial policies and programs into local planning and development activities, with a particular focus on subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips.

Project Consistency

Proposed policies of the Element promote the development of bicycle lanes and paths and call for the preparation, adoption, and implementation of a Bicycle and Pedestrian Master Plan as part of the Transportation Element of this General Plan.

Proposed policies specify acceptable levels of service for transit streets, expediting the movement of transit vehicles on these streets. Policies also recognize that a higher level of traffic congestion in the downtown area should be accepted, in order to promote use of transit and other methods of travel.

Although Element-related additional population growth is considered a significant air quality impact, it is important to note that proposed changes in land use designations that allow for this additional growth encourage new growth in proximity to public transit (along transit corridors or in transit villages), which is consistent with TCMs 13 and 15. The proposed Plan encourages higher density development and mixed use development along transit corridors and at BART stations to help promote the use of public transit. In general, high density development tends to encourage the use of public transit while lower densities encourage auto use, including carpools. Where people can live close to their jobs and other destinations, bicycling and walking become viable travel modes. The physical layout of commercial districts can promote or discourage pedestrian-oriented shopping.

The 1994 CAP is currently undergoing revision. Proposed revisions to TCMs contained in the 1994 CAP (as part of the 1997 CAP) are listed below. Project consistency with these revised measures are also evaluated below.

Proposed Revisions to CAP TCMs

Project Consistency

- |   |  |
|---|--|
| <p>1. <i>Support Voluntary Employer-based Trip Reduction Programs:</i> Support and encourage voluntary efforts by Bay Area employers to promote the use of commute alternatives by their employees.</p> | <p>See discussion above under TCM 1.</p> |
|---|--|

Proposed Revisions to CAP TCMs

Project Consistency

- |  |  |
|--|--|
| <p>19. <i>Advocate Planning and Design to Facilitate Pedestrian Travel:</i> Reduce motor vehicle travel and mobile source emissions by promoting measures that will increase walking.</p>  | <p>Proposed policies encourage increases in pedestrian trips at major transportation nodes and pedestrian oriented or pedestrian friendly development, and development of pedestrian paths or amenities where transportation infrastructure and capacity is underutilized.</p> |
| <p>20. <i>Promote traffic calming measures:</i> “Traffic calming” means the installation of physical barriers, traffic lane channelization, turning movement restrictions and lower speed limits in order to reduce the number and speed of motor vehicles. It reduces air emission by reducing the attractiveness and convenience of driving while increasing the attractiveness and convenience of transit, bicycling and walking.</p> | <p>Proposed Objective T6 is to make streets safe, pedestrian accessible, and attractive. Proposed policies encourage the design of pedestrian-oriented streetscapes.</p>   |

The “Transit First” resolution was passed by the City Council on October 29, 1996, which recognizes the importance of striking a balance between economic development opportunities and the mobility needs of those who travel by means other than the private automobile. The policy favors modes that have the potential to provide the greatest mobility for people, rather than vehicles. The support for a Transit First policy is an indication of the importance of public transit to the City and the need for cooperative efforts to improve local transit. This policy is reflected in the proposed policies of the Land Use and Transportation Element and is consistent with the objectives of the CAP and above TCMs.

The objectives of the Transit and Transportation Improvement Strategies outlined in the proposed Land Use and Transportation Element are also consistent with the CAP and above TCMs. They are to: maintain the transit system for existing transit-users, enhance the existing transit system to encourage alternatives to the automobile, and implement the Element’s Transportation Plan. Implementation strategies include: create a Transit Liaison Committee, include transit as an integral part of the planning and development approval process, explore alternatives to increase funding for transit, and prepare a citywide transportation improvement program to define, prioritize, and identify funding sources for each of the projects included in the Transportation

Plan. In addition to these strategies, the Element proposes a number of steps to implement these strategies such as incentives for transit-oriented development such as density bonuses and reducing parking requirements near transit.

**Mitigation Measure E.2:** None required.

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### *Localized Air Quality*

**Impact E.3: Implementation of the proposed Land Use and Transportation Element would result in traffic increases along roadways in the City which could result in localized air quality impacts. This would be a less-than-significant impact.**

A microscale impact analysis was conducted along 16 roadway links distributed throughout the City of Oakland. Service level operation (used as an indicator of travel speed) was calculated as part of the transportation analysis in this report. A Caltrans screening approach, which is based on the CALINE4 model, was used to estimate CO concentrations along these roadway links (Caltrans, 1988). Carbon monoxide concentrations were calculated at a distance of 25 feet from the edge of each roadway to determine impact potential, and based on worst-case conditions (peak hour traffic and theoretical minimum atmospheric mixing).

Table III.E-6 presents the one-hour and eight-hour CO exposures for future General Plan Interim (2005) and Buildout (2015) conditions. Significance of localized CO emissions from mobile sources are determined by modeling the ambient CO concentration under future conditions and comparing the resulting one- and eight-hour concentrations to the respective state and federal CO standards. A detailed impact analysis using the BAAQMD screening model indicates that the state and federal one- and eight-hour ambient standards for CO would not be violated along selected roadway links during worst-case atmospheric conditions (wintertime conditions when CO concentrations are typically their greatest of the year). Although traffic volumes would increase by 2005 and 2015, modeling results indicate that CO concentrations would be reduced due to attrition of older, high polluting vehicles, improvements in the overall automobile fleet, and improved fuel mixtures (as a result of on-going state and federal emissions standards and programs for on-road motor vehicles).

**Mitigation Measure E.3:** None required.

**TABLE III.E-6  
ESTIMATED WORST-CASE EXISTING AND FUTURE CO CONCENTRATIONS  
ALONG SELECTED ROADWAYS**

<b>Roadway Link</b>	<b>Averaging Period</b>	<b>General Plan Interim (2005)</b>	<b>General Plan Buildout (2015)</b>
Redwood Rd. - S.R. 13 to MacArthur Blvd.	1 Hour	6.7	5.8
	8 Hour	4.5	3.9
Seminary Ave. - I-580 to Camden St.	1 Hour	6.4	5.7
	8 Hour	4.3	3.9
Hegenberger Rd. - I-880 to MacArthur Blvd.	1 Hour	8.2	6.8
	8 Hour	5.6	4.6
MacArthur Blvd. - 73rd St. to San Leandro City Limit	1 Hour	6.7	5.9
	8 Hour	4.5	4.0
MacArthur Blvd. - Broadway to Emeryville City Limit	1 Hour	6.8	6.0
	8 Hour	4.6	4.1
Fruitvale Ave. - I-880 to I-580	1 Hour	6.3	5.6
	8 Hour	4.2	3.8
E. 14th St. - High St. to Hegenberger Rd.	1 Hour	7.2	6.1
	8 Hour	4.8	4.1
98th Ave. - I-880 to I-580	1 Hour	6.6	5.8
	8 Hour	4.4	3.9
Foothill Blvd. - Seminary Ave. to MacArthur Blvd.	1 Hour	6.0	5.5
	8 Hour	4.0	3.7
Market St. - 7th St. to 14th St.	1 Hour	6.9	6.0
	8 Hour	4.6	4.1
Market St. - I-580 to 40th St.	1 Hour	6.8	5.9
	8 Hour	4.6	4.0
San Pablo Ave. - I-580 to Grand Ave.	1 Hour	7.4	6.1
	8 Hour	5.0	4.1
Telegraph Ave. - 40th St. to Claremont Ave.	1 Hour	6.3	5.6
	8 Hour	4.2	3.8
Grand Ave. - Harrison St. to I-580	1 Hour	8.1	7.1
	8 Hour	5.5	4.8
College Ave. - Broadway to Claremont Ave.	1 Hour	6.4	5.6
	8 Hour	4.3	3.8
High St. - I-880 to I-580	1 Hour	6.6	5.8
	8 Hour	4.4	3.9
Background Levels (included in above numbers)	1 Hour	5.7	5.2
	8 Hour	3.8	3.5
State CO Standard	1 Hour	20 ppm	20 ppm
	8 Hour	9.0 ppm	9.0 ppm
Federal CO Standard	1 Hour	35 ppm	35 ppm
	8 Hour	9 ppm	9 ppm

SOURCE: Orion Environmental Associates, 1997.

### *Odor Nuisance Problems*

**Impact E.4: Proposed General Plan map changes to allow a mix of commercial and residential uses (Urban Residential, Neighborhood Center Commercial, and Community Commercial designations) could result in odor nuisance problems at residential receptors. This would be a less-than-significant impact due to measures identified in this EIR.**

Where residential uses would be located directly above commercial uses, residents could be subject to nuisance odors associated with restaurants or other commercial uses that generate odors or fumes. Use of afterburners in restaurants and/or roof vents would help reduce the potential for such effects.

If residential uses are located above parking garages (such as in transit center village developments), residents could be subject to exhaust odors generated by parking cars in the garage. As warm exhaust fumes leave a parking garage and rise along the sides of a building, they could then re-enter open windows of upstairs residential units. Because such a process would tend to be intermittent, it would not likely cause air quality standards to be violated. There may, however be brief periods when exhaust odor could be detectable, especially if a large number of cars are “cold-started” at the same time and are running inefficiently. Such nuisance potential could be reduced by provision of adequate openings in the parking garage walls to help increase ventilation and dispersion of exhaust emissions generated within a parking garage.

**Mitigation Measure E.4:** Where residential development would be located above commercial uses, parking garages, or any other uses with a potential to generate odors, the odor-generating use should be properly vented (e.g., located on rooftops) and designed (e.g., equipped with afterburners) so as to minimize the potential for nuisance odor problems.

**Impact E.4 Level of Significance After Mitigation:** Less Than Significant.

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### **Downtown Showcase District Impacts (Project-Level)**

Development of the specific downtown projects would affect air quality primarily through construction-related emissions, transportation-related vehicular exhaust emissions, and stationary source emissions. Construction-related emissions would be short-term and would vary with each specific development project within the showcase district. Transportation-related vehicular exhaust emissions would be long-term and would result from traffic increases associated with new development. Stationary source emissions associated with the office, retail commercial, entertainment, hotel, and residential uses would also be long-term and would primarily involve on-site energy consumption in space heaters, water heaters, and other natural gas-fired appliances.



### *Construction Impacts in Downtown*

**Impact E.5: Construction activities associated with downtown projects in the Downtown Showcase District would generate dust (including the respirable fraction known as PM<sub>10</sub>) and combustion emissions. This would be a less-than-significant impact due to measures identified in this EIR.**

Potential dust emissions associated with future development projects within the Downtown Showcase District would be specific to each site. The BAAQMD does not require quantification of construction emissions (BAAQMD, 1996) but considers any project's construction-related impacts to be adequately mitigated if required dust-control measures are implemented. The extent of dust-control measures required by the BAAQMD depends on the size of the project. Since most construction projects would comprise less than one city block (approximately two acres or less), implementation of the BAAQMD's standard dust control procedures would maintain project construction-related impacts at acceptable levels.

Combustion emissions from construction equipment and vehicles, such as heavy equipment and delivery/haul trucks, air compressors, and generators, would result during construction of future development projects. Construction employee vehicles would also result in air pollutant emissions, but the levels would be negligible compared to emissions from on-site heavy equipment and from transport trucks. Equipment exhaust contains both pulmonary irritants and hazardous compounds, which may affect sensitive receptors such as young children, senior citizens, or those susceptible to respiratory disease. Where construction occurs in proximity to residential uses, there may be a potential for unhealthful exposure of sensitive receptors to equipment exhaust.

Similar to dust emissions, the equipment activity level would be related to the project size and extent of earthmoving requirements in site preparation. Emission levels for construction activities would vary depending on the type of equipment, duration of use, operation schedules, and the number of construction workers. Although these emissions, in combination with other existing emissions sources, would temporarily contribute to local air quality degradation, the emissions associated with most development projects would not be expected to exceed BAAQMD significance thresholds due to the limited extent and short-term duration of earthmoving activities. The downtown projects are anticipated to be mid- and high-rise developments with limited associated earthmoving activities since the footprints of such buildings are relatively small when compared to the overall sizes of these developments. However, it is possible that a larger project, such as the Uptown Entertainment Project, or simultaneous development of several projects within the Downtown Showcase District could result in BAAQMD significance thresholds being temporarily exceeded, particularly for nitrogen oxides (NO<sub>x</sub>).

Construction activity air pollution emissions were calculated for a prototype downtown project with a two-acre disturbance “footprint” requiring 200 work-days to complete major construction. Equipment utilization was estimated based on the California Air Resources Board (ARB) area source emissions factor of 250,000 Brake-Horsepower-Hours (BHP-HR) per acre of commercial development. Average daily construction activity emissions are shown in Table III.E-7. As shown in this table, short-term construction emissions for a single prototype project (two acres or less) within the Downtown Showcase District would typically not exceed BAAQMD significance thresholds. However, thresholds could be exceeded with development of a project that covers an area larger than two acres or simultaneous development of future downtown projects.

As part of the 1996 Open Space, Conservation and Recreation (OSCAR) Element, the City adopted a policy associated with short-term air pollutant emissions. This policy, which is identified below, would reduce construction-related impacts and would continue to be implemented by the City.

OSCAR Element Policy CO-12.6: Require construction, demolition and grading practices which minimize dust emissions.

These practices are currently required by the City and include the following:

- Avoiding earth moving and other major dust-generating activities on windy days.
- Sprinkling unpaved construction areas within 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.

Continued implementation of this policy may not reduce the potential impact to a less-than-significant level. Therefore, the following measures are proposed.

**Mitigation Measure E.5a:** The following Basic Control Measures shall be implemented at all construction sites:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose debris *or* require all trucks to maintain at least two feet of freeboard.

**TABLE III.E-7  
AVERAGE DAILY CONSTRUCTION ACTIVITY AIR POLLUTION EMISSIONS**

Activity	Daily Emissions (pounds/day)				
	CO	ROG	NOx	SOx	PM <sub>10</sub>
Soil Disturbance <sup>1</sup>					51.0
Equipment Operations <sup>2</sup>	112.6	7.5	34.6	3.7	1.8
Employee Commuting <sup>3</sup>	42.8	3.3	4.4	negl.	3.6
Truck Hauling <sup>4</sup>	<u>17.2</u>	<u>4.7</u>	<u>22.2</u>	<u>1.6</u>	<u>4.2</u>
TOTAL	172.6	15.5	61.2	5.3	60.6
BAAQMD Threshold	n/a	80	80	n/a	80

Activity	Emissions Factors					Source
	CO	ROG	NOx	SOx	PM <sub>10</sub>	
Soil Disturbance (pounds/acre/day)					27.5	BAAQMD
Equipment Operations (grams/gallon)	511.0	34.0	157.0	17.0	8.0	BAAQMD
Employee Commuting (grams/mile)	9.7	0.7	1.0	negl.	0.8	BAAQMD
Truck Hauling (grams/mile)	7.8	2.1	10.1	0.7	1.9	EMFAC7F1.

1

NOTES: Emissions based on 2-acre building footprint and 200 days for construction. Equipment utilization was estimated based on the California Air Resources Board (ARB) area source emissions factor of 250,000 Brake-Horsepower-Hours (BHP-HR) per acre of commercial development.

<sup>1</sup> 2 acres x 51 lbs/acre/day x 50% for use of "standard" dust control measures.

<sup>2</sup> 2 acres x 250,000 BHP-HR/acre ÷ 200 days ÷ 25 HP-HR/gallon

<sup>3</sup> 50 employees x 40 miles

<sup>4</sup> 20 trucks x 50 miles

BAAQMD: Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines*, 1996.

EMFAC7F1.1: California Vehicle Emission Computer Model

SOURCE: Orion Environmental Associates, 1997.

- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

**Mitigation Measure E.5b:** The following enhanced control measures shall be implemented at all construction sites when more than four acres are under construction at any one time:

- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

**Mitigation Measure E.5c:** BAAQMD dust control measures would be implemented by contractors of future development projects as outlined in BAAQMD *CEQA Guidelines* (1996) or any subsequent applicable BAAQMD updates. They are as follows:

- Any stationary motor sources (such as generators and compressors) to be located within 100 feet of any residence or school (sensitive receptors) would be equipped with a supplementary pollution control system on its exhaust as required by Bay Area Air Quality Management District (BAAQMD) and California Air Resources Board (CARB).
- To minimize construction equipment emissions, low- NOx tune-ups should be performed on all construction equipment. Contractors should be required to utilize equipment with recent (within 30 days) low- NOx tune-ups to minimize NOx emissions. This would apply to all diesel-powered equipment greater than 50 horsepower and periodic tune-ups (every 90 days) would be required for equipment used continuously for construction of a specific development.

**Impact E.5 Level of Significance After Mitigation:** Less Than Significant.

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### ***Downtown Projects Contribution to Regional Emissions***

**Impact E.6: Cumulative development of projects in the Downtown Showcase District would result in long-term traffic increases and associated air pollutant emissions, which would adversely affect regional air quality. This would be a significant impact.**

To estimate the associated air pollutant emissions that would be generated under anticipated downtown projects, it was assumed, under worst-case conditions, that vehicles will continue to use conventional fuels (such as gasoline and diesel) rather than newly developed “clean” fuels or

electric power. The daily emissions from downtown-related traffic of criteria pollutants were estimated based on a model developed by the California Air Resources Board using the EMFAC7F1.1 emission factors. Estimated cumulative regional emissions for the Downtown Showcase District are presented in Table III.E-5, p. III.E-13. Emissions listed in this table indicate that regional emissions associated with the downtown projects would exceed BAAQMD significance thresholds.

**Mitigation Measure E.6:** To the extent permitted by law, downtown projects should be required to implement Transportation Control Measures (TCMs) to reduce mobile source emissions. Many of these measures already would be part of the downtown projects due to the proximity of these projects to existing local and regional transit facilities and existing limitations on parking availability.

To the extent permitted by law, TCMs could include the following:

1. Rideshare Measures: Implement carpool./vanpool program (e.g., carpool ridesharing for employees, assistance with vanpool formation, provision of vanpool vehicles, etc.) (Effectiveness 1% - 4% of work trips).
2. Transit Measures: (a) Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc. (Effectiveness 0.5% - 2% of all trips); (b) Design and locate buildings to facilitate transit access (e.g., locate building entrances near transit stops, eliminate building setbacks, etc. (Effectiveness 0.1% - 0.5% of all trips).
3. Services Measures: (a) Provide on-site shops and services for employees, such as cafeteria, bank/ATM, dry cleaners, convenience market, etc. (Effectiveness 0.5% - 5% of work trips); (b) Provide on-site child care, or contribute to off-site child care within walking distance.
4. Shuttle Measures: (a) Establish mid-day shuttle service from worksite to food service establishments/commercial areas (Effectiveness 0.5% - 1.5% of work trips); (b) Provide shuttle service to transit stations/multimodal centers (Effectiveness 1% - 2% of work trips).
5. Parking Measures: (a) Provide preferential parking (e.g., near building entrance, sheltered area, etc.) for carpool and vanpool vehicles (Effectiveness 0.5% - 1.5% of work trips); (b) Implement parking fees for single occupancy vehicle commuters (Effectiveness 2% - 20% of work trips); (c) Implement parking cash-out program for employees (i.e., non-driving employees receive transportation allowance equivalent to value of subsidized parking) (Effectiveness 2% - 20% of work trips).
6. Bicycle and Pedestrian Measures: (a) Provide secure, weather-protected bicycle parking for employees (Effectiveness 0.5% - 2% of work trips); (b) Provide safe, direct access for bicyclists to adjacent bicycle routes (Effectiveness 0.5% - 2% of work trips); (c) Provide showers and lockers for employees bicycling or walking to work (Effectiveness 0.5% - 2% of work trips); (d) Provide secure short-term bicycle parking for retail customers or non-commute trips (Effectiveness 1% - 2% of non-work trips); (e) Provide direct, safe, attractive pedestrian access from project to transit stops and adjacent development (Effectiveness 0.5% - 1.5% of all trips).

7. **Other Measures:** (a) Implement compressed work week schedule (e.g., 4 days/40 hours, 9 days/ 80 hours) (Effectiveness 2%- 10% of work trips); (b) Implement home-based telecommuting program (Effectiveness 0.5%- 1.5% of work trips); (c) Provide neighborhood-serving shops and services within or adjacent to (1/4-1/2 mile) residential projects (Effectiveness 1%- 4% of all trips); (d) Provide transit facilities, e.g., bus bulbs/turnouts, benches, shelters, etc. (Effectiveness 0.2%- 2% of all trips); (e) Provide shuttle service to regional transit system or multimodal center (Effectiveness 0.1%- 0.5% of all trips); (f) Provide shuttle service to major destinations such as employment centers, shopping centers, schools (Effectiveness 0.1%- 0.3% of all trips); (g) Provide bicycle lanes and/or paths, connected to community-wide network (Effectiveness 0.1%- 2% of all trips); (h) Provide sidewalks and/or paths, connected to adjacent land uses, transit stops, and/or community-wide network (Effectiveness 0.1%- 1% of all trips); (i) Provide satellite telecommute centers in large residential developments (Effectiveness 0.1%- 1.5% of work trips); (j) Provide interconnected street network, with a regular grid or similar interconnected street pattern (Effectiveness 1%- 5% of all trips).

**Impact E.6 Level of Significance After Mitigation:** Significant and Unavoidable

Because implementation of the TCM measures cannot be guaranteed to reduce trips to such a degree that all of the emissions standards would met, the impact is considered significant and unavoidable.

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***Localized Air Quality in Downtown***

**Impact E.7: Cumulative development of projects in the Downtown Showcase District would result in traffic increases that could result in long-term, localized air quality impacts. This would be a less-than-significant impact.**

In addition to the regional contribution to the total pollution burden, traffic generated by cumulative development of downtown projects may result in localized “hot spots” or areas with high concentrations of emissions around stagnation points such as major intersections and heavily traveled and congested roadways. Such traffic increases could add more cars as well as cause existing non-project traffic to travel at slower, less pollution-efficient travel speeds.

In order to evaluate "hot spot" potential, a microscale impact analysis was conducted adjacent to 14 downtown intersections. Vehicle-to-capacity ratio (used as an indicator of travel speed) was calculated as part of the transportation analysis in this report. A Caltrans screening approach, which is based on the CALINE4 model, was used to estimate CO concentrations at selected downtown intersections (Caltrans, 1988). Carbon monoxide concentrations were calculated at a distance of 25 feet from the edge of each intersection to determine "hot spot" potential, based on worst-case conditions (peak hour traffic and theoretical minimum atmospheric mixing).

Table III.E-8 presents the cumulative microscale air quality impact analysis for downtown projects.

**TABLE III.E-8**  
**ESTIMATED WORST-CASE EXISTING AND FUTURE CO CONCENTRATIONS AT**  
**SELECTED INTERSECTIONS IN DOWNTOWN SHOWCASE DISTRICT**

<b>Intersection</b>	<b>Averaging Period</b>	<b>Existing</b>	<b>Existing + Project</b>	<b>Future Baseline (2005)</b>	<b>Future Base + Project (2005)</b>
W. Grand/Broadway	1 Hour	11.3	11.0	7.5	7.5
	8 Hour	7.6	7.4	5.0	5.1
18th/Brush	1 Hour	9.4	10.6	6.7	7.3
	8 Hour	6.2	7.1	4.5	4.9
18th/Castro	1 Hour	11.4	12.9	7.3	8.5
	8 Hour	7.7	8.7	4.9	5.8
17th/Brush	1 Hour	9.5	10.7	6.7	7.4
	8 Hour	6.3	7.1	4.8	5.0
17th/Castro	1 Hour	10.4	11.2	7.3	8.0
	8 Hour	7.8	7.5	4.9	5.4
14th/Broadway	1 Hour	10.3	10.3	7.1	7.1
	8 Hour	7.7	6.9	4.8	4.8
12th/Brush	1 Hour	10.0	10.8	7.0	7.4
	8 Hour	6.7	7.3	4.7	5.0
12th/Castro	1 Hour	11.2	13.0	7.9	8.6
	8 Hour	7.5	8.8	5.3	5.8
12th/Broadway	1 Hour	9.7	9.7	6.8	6.9
	8 Hour	6.5	6.5	4.6	4.6
11th/Brush	1 Hour	10.0	10.6	7.0	7.4
	8 Hour	6.7	7.2	4.7	5.0
11th/Castro	1 Hour	10.4	10.6	7.1	7.4
	8 Hour	7.0	7.1	4.8	5.0
11th/Broadway	1 Hour	9.8	9.8	6.8	6.9
	8 Hour	6.6	6.5	4.6	4.6
6th/Broadway	1 Hour	10.6	10.6	7.3	7.3
	8 Hour	7.1	7.1	4.9	4.9
5th/Broadway	1 Hour	11.1	11.2	7.6	7.7
	8 Hour	7.4	7.4	5.7	5.2
State CO Standard	1 Hour	20 ppm	20 ppm	20 ppm	20 ppm
	8 Hour	9.0 ppm	9.0 ppm	9.0 ppm	9.0 ppm
Federal CO Standard	1 Hour	35 ppm	35 ppm	35 ppm	35 ppm
	8 Hour	9 ppm	9 ppm	9 ppm	9 ppm

NOTE: CO Levels listed above include the following background CO levels: 7.6 ppm (1 Hour) and 5.0 (8 Hour) for Existing (1997) and 5.7 ppm (1 Hour) and 3.8 ppm (8 Hour) for 2005.

SOURCE: Orion Environmental Associates, 1997.

Table III.E-8 presents the one-hour CO exposure for existing conditions (1997), existing with the downtown projects, future without the project(baseline, 2005), and future baseline with the project (2005). Table III.E-8 also shows the corresponding eight-hour exposure for the same four scenarios.

Significance of localized CO emissions from mobile sources are determined by modeling the ambient CO concentration under existing, future, and project conditions and comparing the resulting one- and eight-hour concentrations to the respective state CO standards of 20.0 and 9.0 parts per million (ppm). If an exceedance of the CO standard is projected to already exist without the project, the project's impact would be considered significant if it would contribute substantially to the existing violation.

A detailed impact analysis using the BAAQMD screening model indicates that the state and federal one- and eight-hour ambient standards for CO are not currently violated during worst-case atmospheric conditions (during wintertime conditions when CO concentrations are typically their greatest of the year) and would not be violated with addition of the downtown projects at the 14 analyzed intersections. Although traffic volumes would increase by 2005, modeling results indicate that CO concentrations would be reduced due to attrition of older, high polluting vehicles, improvements in the overall automobile fleet, and improved fuel mixtures (as a result of on-going state and federal emissions standards and programs for on-road motor vehicles).

**Mitigation Measure E.7:** None required.

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### *Downtown Stationary Source Emissions*

**Impact E.8: Cumulative development of downtown projects would result in increased stationary source emissions associated with heating and electricity consumption. This would be a less-than-significant impact.**

Incidental criteria air pollutants would be generated by stationary source emissions from natural gas combustion (for building heating) and electricity consumption (i.e., indirect power plant emissions) associated with proposed downtown projects, which would consist primarily of office and retail uses. Potential increases in emissions due to stationary sources would not be significant relative to the emissions potential of mobile sources associated with the downtown projects. Since mobile source emissions would comprise most of the emissions associated with these projects, it is the mobile source emissions, not stationary source emissions, that would determine the significance of the downtown projects' air quality impacts.

**Mitigation Measure E.8:** None required.



### **Coliseum Showcase District Impacts (Project-Level)**

Like the project impacts associated with future development of the Downtown Showcase District, development of the specific projects in the Coliseum Showcase District would affect air quality primarily through construction-related emissions, transportation-related vehicular exhaust emissions, and stationary source emissions.

#### ***Construction Impacts in Coliseum Area***

**Impact E.9: Construction activities associated with projects in the Coliseum Showcase District would generate dust (including the respirable fraction known as PM<sub>10</sub>) and combustion emissions. This would be a less-than-significant impact due to measures identified in this EIR.**

Potential dust and combustion emissions associated with future development projects within the Coliseum Showcase District would be specific to each site. Since projects within the Coliseum Showcase District would involve larger development sites than in the downtown area, construction-related emissions would be greater than the emissions estimated for the prototype downtown project shown in Table III.E-7. Based on those estimates, construction-related emissions for the Coliseum area projects would likely exceed BAAQMD NO<sub>x</sub> and PM<sub>10</sub> significance thresholds on development sites involving more than three acres. Implementation of standard and enhanced dust control measures would likely be required since most development sites would involve more than four acres.

As with projects in the Downtown Showcase District, OSCAR Element Policy CO-12.6 also would reduce construction-related air quality impacts (see discussion under Impact E.5).

**Mitigation Measures E.9:** Implement Mitigation Measures E.5a, E.5b, and E.5c.

**Impact E.9 Level of Significance After Mitigation:** Less Than Significant

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#### ***Coliseum Projects Contribution to Regional Emissions***

**Impact E.10: Cumulative development of projects in the Coliseum Showcase District would result in traffic increases and associated air pollutant emissions, which would adversely affect regional air quality. This would be a significant impact.**

Coliseum project-related daily emissions of criteria pollutants due to traffic increases were estimated based on a model developed by the California Air Resources Board using the EMFAC7F1.1 emission factors. Estimated regional emissions for the Coliseum Showcase District are presented in Table III.E-5. Emissions listed in this table indicate that regional

emissions associated with the Coliseum projects would exceed BAAQMD significance thresholds.

**Mitigation Measure E.10:** Implement Mitigation Measure E.6.

**Impact E.10 Level of Significance After Mitigation:** Significant and Unavoidable

Because implementation of the TCM measures cannot be guaranteed to reduce trips to such a degree that all of the emissions standards would met, the impact is considered significant and unavoidable.

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***Localized Air Quality in Coliseum Area***

**Impact E.11: Cumulative development of projects in the Coliseum Showcase District would result in traffic increases that could result in localized air quality impacts. This would be a less-than-significant impact.**

In order to evaluate "hot spot" potential, a microscale impact analysis was conducted adjacent to nine intersections in the Coliseum Showcase District. The same methodology as described under Impact E.7 above was applied to this analysis. Table III.E-9 presents the cumulative microscale air quality impact analysis for the Coliseum projects.

A detailed impact analysis using the BAAQMD screening model indicates that the state and federal eight-hour ambient standard for CO may be violated at one of the study intersections during worst-case atmospheric conditions (during wintertime conditions when CO concentrations are typically at their highest of the year). Although Table III.E-9 indicates that this standard would continue to be violated at this intersection and violation at an additional intersection would occur when project-related traffic is added to existing traffic levels, these violations would not occur by 2005, which is the buildout year for these projects. These future emissions reductions can be attributed to improvements in the overall automobile fleet, attrition of older, high polluting vehicles, and improved fuel mixtures. The state and federal eight-hour ambient standard for CO is not violated at any of the study intersections, nor would it be violated with the Coliseum projects. Since 2005 emissions would not violate state and federal one-hour standards, CO emissions increases due to the Coliseum projects are considered to be less-than-significant. The state and federal eight-hour ambient standard for CO is not currently violated, nor would it be violated at any of the study intersections with the Coliseum projects.

**Mitigation Measure E.11:** None required.

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**TABLE III.E-9**  
**ESTIMATED WORST-CASE EXISTING AND FUTURE CO CONCENTRATIONS AT**  
**SELECTED INTERSECTIONS IN COLISEUM SHOWCASE DISTRICT**

<b>Intersection</b>	<b>Averaging Period</b>	<b>Existing</b>	<b>Existing + Project</b>	<b>Future Baseline (2005)</b>	<b>Future Base + Project (2005)</b>
High/Oakport	1 Hour	12.0	12.0	8.1	8.0
	8 Hour	8.0	8.1	5.5	5.4
High/Coliseum Way	1 Hour	11.1	11.5	7.7	7.3
	8 Hour	7.5	7.8	5.2	4.9
66th/Oakport	1 Hour	9.3	14.0	9.0	7.1
	8 Hour	6.2	<b>9.5</b>	6.1	4.8
66th/I-880 SB Ramps	1 Hour	9.3	13.4	8.0	6.7
	8 Hour	6.2	9.0	5.4	4.5
66th/I-880 SB Ramps	1 Hour	10.5	12.3	8.1	7.4
	8 Hour	7.1	8.3	5.5	5.0
66th/Coliseum Way	1 Hour	9.6	10.2	7.1	6.8
	8 Hour	6.4	6.8	4.8	4.6
66th/San Leandro	1 Hour	10.1	10.3	7.1	7.0
	8 Hour	6.7	6.9	4.8	4.7
Edgewater/Hegenberger	1 Hour	13.8	14.2	9.1	9.0
	8 Hour	<b>9.3</b>	<b>9.6</b>	6.2	6.1
Hegenberger/Coliseum	1 Hour	11.5	11.6	7.9	7.8
	8 Hour	7.7	7.8	5.3	5.3
State CO Standard	1 Hour	20 ppm	20 ppm	20 ppm	20 ppm
	8 Hour	9.0 ppm	9.0 ppm	9.0 ppm	9.0 ppm
Federal CO Standard	1 Hour	35 ppm	35 ppm	35 ppm	35 ppm
	8 Hour	9 ppm	9 ppm	9 ppm	9 ppm

NOTE: CO Levels listed above include the following background CO levels: 7.6 ppm (1 Hour) and 5.0 (8 Hour) for Existing (1997) and 5.7 ppm (1 Hour) and 3.8 ppm (8 Hour) for 2005.

**Bold** values are in excess of applicable standard.

SOURCE: Orion Environmental Associates, 1997.

### *Coliseum Area Stationary Source Emission*

**Impact E.12: Cumulative development of Coliseum projects would result in increased stationary source emissions associated with heating and electricity consumption or other uses. This could be a potentially significant impact, depending on the specific development and uses, but it would be mitigated to a less than significant level by existing regulations.**

Incidental criteria air pollutants would also be generated by stationary source emissions from natural gas combustion (for building heating) and electricity consumption (i.e., indirect power plant emissions). Potential increases in emissions due to stationary sources would not be significant relative to the emissions potential of mobile sources associated with the planned Coliseum projects. Since mobile source emissions would comprise most of the emissions associated with these projects, it is the mobile source emissions, not stationary source emissions, that would determine the significance of these projects' air quality impacts.

However, within the Coliseum area, there is the potential that other stationary source activities, such as manufacturing or fuel combustion, could be added as part of the proposed projects, and there would be associated air emissions. Stationary source emissions are regulated by the BAAQMD. The BAAQMD is also authorized to abate nuisance emissions of fumes, dusts, mists, and odors from any source within its jurisdiction, even if it is exempt from permit requirements. New industry often must utilize best available control technology (BACT) under current BAAQMD rules. Thus, due to the BAAQMD regulations and permit process for stationary sources, the air quality impact from stationary source emissions associated with Coliseum projects would be less than significant.

**Mitigation Measure E.12:** None required.

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### REFERENCES - Air Quality

- Association of Bay Area Governments (ABAG) and the Bay Area Air Quality Management District (BAAQMD), *Improving Air Quality Through Local Plans and Programs*, October 1994.
- Bay Area Air Quality Management District (BAAQMD), Information Provided Through BAAQMD Internet Site, 1996.
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Caltrans, *Air Quality Technical Analysis*, 1988.

## F. VISUAL AND AESTHETIC CONDITIONS

This section of the EIR describes the impact of the Proposed Land Use and Transportation Element on visual and aesthetic conditions in the Oakland Planning Area. The analysis includes a summary of Oakland's existing visual and aesthetic setting, a description of impacts resulting from adoption of the Element, and measures to mitigate these impacts.

### SETTING

Oakland's visual character is a byproduct of the natural landscape and built environment. The City is framed by the ridgeline of the Oakland-Berkeley Hills on the east and the estuary shoreline and Bay on the west. Between these edges, individual neighborhoods and districts are defined by creeks, ridges, canyons, and hills, and also by railroads, freeways, and major thoroughfares. Topography has had dramatic effects on the overall form of the City. The land use pattern generally follows a series of parallel strips, beginning at the shoreline and extending to the hills. The areas that could be developed most economically were generally developed first, with growth creeping into the hills as vacant land in the flatland neighborhoods became more scarce.

Views and vistas of some sort are afforded from almost everywhere in Oakland. With a distance of just five miles from the shoreline to the crest of the hills, the abundance of ridges and canyons, and the prominence of distant landmarks, the City's setting provides a variety of interesting view opportunities. On open hillsides and from roadside clearings, the viewer can see as far south as the Santa Cruz Mountains, as far north as the Napa Valley, and as far west as the Farallones Islands. Along Skyline Ridge, the views are east to Mount Diablo and the rolling hills of the regional parks and watershed lands. From flatland neighborhoods, views take in the broad sweep of hillside on the eastern horizon and features across the water like Mount Tamalpais and San Francisco. Between the shoreline and the hills, there are panoramic views afforded by the City's gently rolling terrain.

More intimate or enclosed views are provided from many locations in the City. These include views to and from Lake Merritt and downtown, across canyons and slopes in the hills, to Alameda and Government Island from the shoreline, across low ridges in places like Ivy Hill, Maxwell Park, and Millsmont, and across bowl-shaped areas such as the Rose Garden.

Much of Oakland's visual character is a product of its architecture and urban form. During its first 60 years as a City, development was largely confined to the flat neighborhoods between downtown and Berkeley and the small hamlets along what is now International Boulevard. Early settlers typically imposed the architectural styles of the East Coast and Midwest. Between 1910 and 1930, the City's population nearly doubled. Architecture and neighborhood form became more expressive of California during this era, with romantic villas built on the slopes and bungalows built in the flatter areas. While Oakland's bungalows embraced a broad variety of

architectural styles, a handful of styles (Craftsman, Norman, Tudor, Mediterranean, etc.) were predominant and continue to characterize the City today. Between 1930 and 1950, thousands of simple wood or stucco cottages were built in East Oakland. These homes often lacked the architectural detail of their predecessors. The post-war period saw yet other forms of development emerge in the City, including suburban-scale tract housing, “California ranch” homes, and steep hillside housing.

During the decades following the 1930s, single family homes in many parts of the City were demolished to make way for higher density flats and apartments. As a result, the visual pattern in much of Oakland today is one of mixed single and multi-family development. The quality of the apartment construction is highly variable. The visual character of development in large parts of the City has been further affected by social and economic conditions, including the decline in manufacturing and resulting large number of vacant buildings, the loss of retail trade to the suburbs and resulting large number of empty storefronts and underutilized commercial land, and urban problems such as poverty, blight, and graffiti. Those neighborhoods that have fared best tend to be those with consistent or unique architecture, street trees, interesting topography or views, a clear street pattern, separation from other areas by physical features, or proximity to a landmark or focal point.

There are strong distinctions in Oakland between the visual issues faced by flatland neighborhoods and hill neighborhoods, and by residential areas versus non-residential areas. In the older residential neighborhoods, the issues relate to the compatibility of higher density development with single family housing, the compatibility of additions and new buildings with prevailing architectural styles, the quality of front yard landscapes and streetscapes, and the impact of blighting influences such as incompatible industrial or commercial uses.

In the hills, views are intricately linked to neighborhood character and are part of the reason the neighborhoods were developed in the first place. Primary issues include the impact of new development (including additions) on views, the removal of trees to restore views, and changes in topography (i.e., grading) associated with new development. These changes become citywide visual issues when they also affect views of the hills from the flatlands. Reconstruction in the fire damaged area has brought a whole new set of visual issues, some related to specific concerns such as view protection and others related to more general concerns about the neighborhood’s character.

In commercial areas, issues pertain to the design and appearance of buildings, parking areas, and signs. In many areas, the primary concern is the scale and compatibility of auto-oriented development with the pedestrian-oriented fabric of the established neighborhood. In some areas, expanses of parking and “big box” development have imposed a very different scale of development than what existed originally. Along the waterfront, visual character varies from intense maritime activities at the Port of Oakland to pastoral scenes along San Leandro Bay.

Overall, Oakland's waterfront has an industrial character, reflecting its long history for shipping, manufacturing, military, and aviation use. Construction of the airport, harbor, and Nimitz Freeway effectively divided the City from the waterfront, creating a physical and visual barrier that persists in many areas today.

A number of Oakland's physical and built features are visual landmarks and contribute to the City's character and sense of place. Significant built features include the Claremont Hotel, the Mormon Temple, the Bay Bridge, the County Courthouse, Leona Quarry, container cranes at the Port, the Coliseum, factory towers at Con Agra, Nabisco, and the former Safeway headquarters, Highland Hospital, the Kaiser and Ordway Buildings, the Federal Building, City Hall, the Tribune tower, and the APL tower. Clusters of office buildings on Pill Hill and near Oakland Airport also provide visual landmarks within the City.

Significant natural landmarks in the City include Lake Merritt, Dimond and Leona Canyons, the Emeryville Crescent and San Leandro Bayshore, the ribbons of eucalyptus trees along creek courses, and the redwood groves of the hills. The hills as a whole provide orientation but appear as a monolithic "wall" from the flatlands below rather than a discrete landmark. Individual peaks and knolls are perceivable from some neighborhoods. These include the "Sugarloaf" beside Merritt College, Dunsmuir Ridge, and the King Estates "mound." Some of the most identifiable Oakland landmarks are not in the City at all but are visible from many neighborhoods and trafficways. These include the UC Berkeley campanile, the cluster of high-rise buildings in Emeryville, the San Francisco skyline, Mount Tamalpais, Treasure Island, and Alcatraz.

The City's visual features also include a number of "gateways," including the Bay Bridge, the Caldecott Tunnel, the Alameda tunnels and bridges, and freeways entering the City from Emeryville and San Leandro. Other gateways include Hegenberger Road at Oakland Airport and many of the City's arterial streets which enter Oakland from Berkeley on the north and San Leandro on the south. The visual quality of these gateways has been an on-going issue, as it defines impressions of Oakland and the image imparted to visitors. The visual quality and extent of gateways into individual neighborhoods within the City is another on-going issue. Some are distinct and dramatic, others are unimpressive or non-existent.

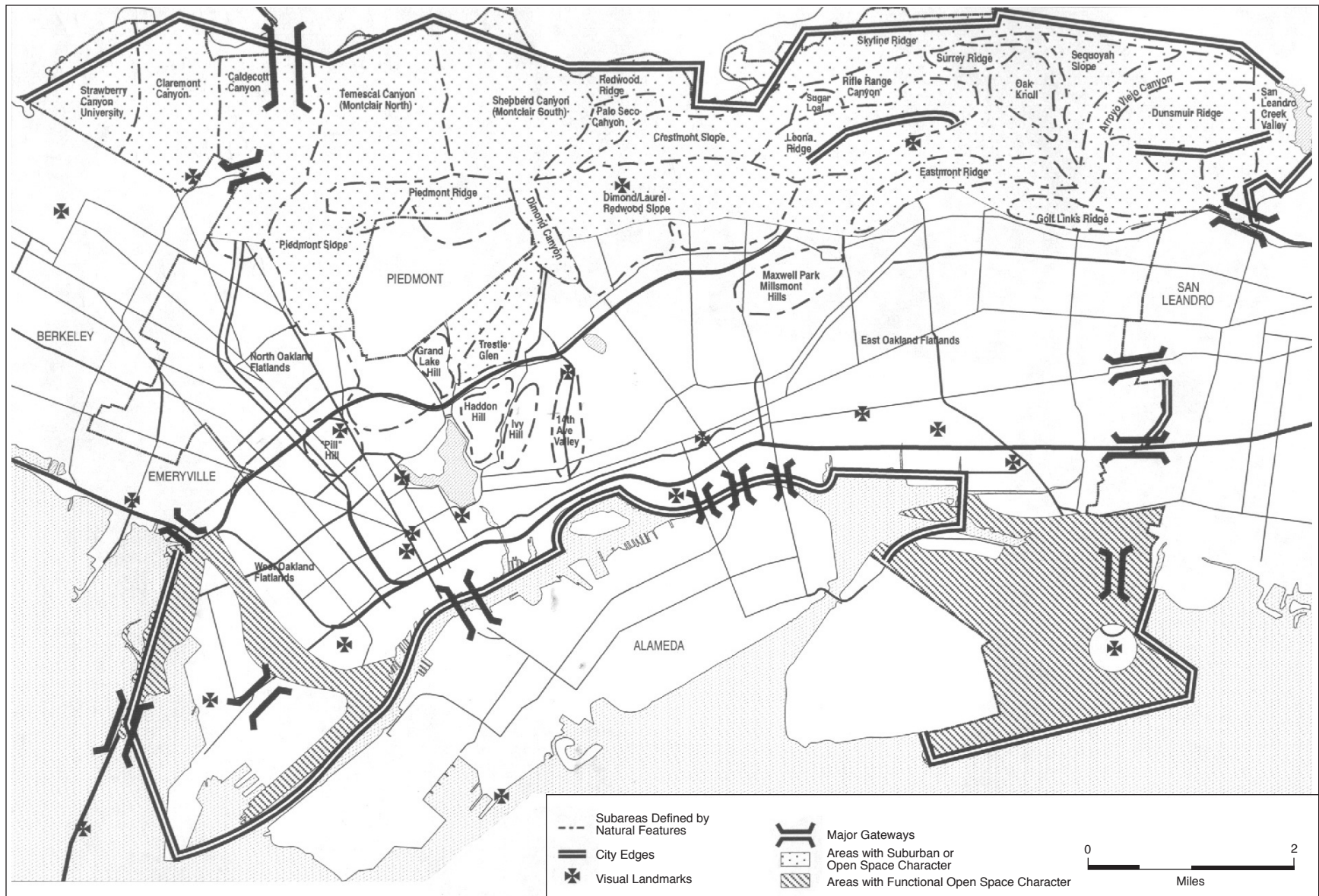
Gateways, edges, and landmarks are illustrated in Figure III.F-1.

### ***VISUAL CHARACTER OF "CHANGE AREAS"***

#### **Central Business District**

Visual quality in Downtown Oakland varies from block to block. There are many fine buildings and visual landmarks, but there are also many buildings that are vacant and boarded up. Some blocks appear vibrant and attractive, others appear depressed and deteriorating. Visual and





SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224

**Figure III.F-1**  
Visual Features and Urban Form  
of the City of Oakland

aesthetic quality tends to be highest at City Center and in the cluster of office buildings near Lake Merritt. Chinatown is visually chaotic but presents a robust, prosperous image. The Gold Coast is visually attractive, with a high concentration of stately apartments and street trees. On the other hand, the Broadway corridor and some of the downtown edges--particularly on the northwest side of downtown--appear to be in a deteriorating condition. The northwest quadrant of downtown is characterized by large surface parking lots, vacant buildings (including the Fox Theater), residential hotels, and low-rise residential and commercial buildings, including some still awaiting repair following the 1989 earthquake. Similarly, the southwest side of Downtown includes a large number of very old residential and commercial buildings, some in poor condition. Restoration at Old Oakland and new residential construction around Housewives Market convey a much more positive visual impression.

### **Estuary Shoreline**

The portion of the waterfront targeted for the greatest change in the General Plan (i.e., Jack London Square to High Street) has a mostly industrial character. There are pockets of commercial development at Jack London Square and Embarcadero Cove. Although individual areas contain unique buildings and high street activity, the overall impression is still visually chaotic. Visual quality tends to be highest at the foot of Broadway and in the four or five blocks of shoreline that have been redeveloped. Following the shoreline to the southeast, the water's edge includes a mix of parking lots, open storage, marine uses, houseboats, and industrial buildings that do not take full advantage of the water's presence. The Fruitvale waterfront, extending southeast from Brooklyn Basin to High Street, is more solidly industrial in character, with uses like a concrete batch plant and flour mill defining the visual profile.

### **Military Bases**

Of Oakland's three military bases, two (OAB and FISCO) have a largely industrial character, while one (Oak Knoll) has a more residential and campus-like character. The Army Base consists of large open storage areas, warehouse buildings dating mostly from the 1930s and 1940s, and small office buildings. The base includes a large percentage of open land, ranging from wharves and paved open storage yards to a ballfield. FISCO's dominant visual features are its enormous warehouses, arranged on a regular grid of streets within the Base and uniform in size, shape, and color. Like the Army Base, the prevailing character is industrial and there are sweeping views across the water. Oak Knoll's visual character derives from its hillside setting and the low-rise scale of the development on the base. The most prominent visual feature is the hospital itself, which appears to be a large mid-rise office or institutional building. Much of the site consists of open space, recreational lands, and the wooded channel of Rifle Range Creek. The scale of development is low and blends in with the suburban-density neighborhood on the perimeter.

### **Coliseum Area (San Leandro Street industrial corridor)**

The primary visual features of the Coliseum area are the Coliseum itself, the Hegenberger commercial corridor, the industrial area west of San Leandro Street, and the mixed residential and industrial area east of San Leandro Street and along Edes Avenue. The Coliseum complex includes major visual landmarks, including the stadium and the arena, both surrounded by large expanses of parking. The Hegenberger corridor (east of I-880) consists primarily of auto-oriented large-scale retailers and fast-food restaurants. The industrial area includes a number of architecturally unique buildings and interesting views and vistas, although much of the area has a visually depressing quality. The same is true in those areas where residential and industrial uses are mixed. In the latter case, much of the housing is in deteriorating condition and much of the industry consists of non-descript corrugated steel or concrete block sheds. Auto storage and scrap yards, as well as open storage yards and barbed wire fencing, give some blocks an inhospitable feel. On the other hand, within the area are a number of blocks of well-kept homes which appear to be holding their own despite the predominance of industry nearby.

### **Leona Quarry**

The quarry is one of Oakland's most visually distinguishing features, dramatically different in color and texture than the adjacent slopes of the Oakland hills. While other west facing slopes are either wooded, grassy, or dotted with low density housing, the quarry is immediately recognizable as an extensive mining operation. Past excavation activities have left a broad, visible "scar" on the hillside.

### **Transit Corridors**

The corridors targeted for reuse and intensification are highly urbanized and consist mostly of commercial development. The visual quality of development varies enormously from one location to the next. Generalizations about visual conditions on a citywide scale are difficult to make. Portions of the commercial strips appear quite prosperous; others are tired and run-down with high concentrations of vacant or dilapidated buildings. Some portions, such as Upper Telegraph, are fairly dense and pedestrian-oriented. A larger percentage, however, are auto-oriented and consist mostly of one and two story buildings, interspersed with parking lots, vacant land, and storage yards. Most of the corridors contain at least some residential use, sometimes on second or third floors above commercial space and sometimes in apartments, or even in single family homes. Some of the corridors, particularly San Pablo and International Boulevard, are intermixed with industrial or heavy commercial (auto repair, etc.) buildings. MacArthur Boulevard has a large number of motels.

The predominance of large signs, drive-up businesses, parking and storage lots, and vacant gaps between buildings make many of the corridors visually uninviting. Although some sections

include street trees, many do not. On some streets, the width of the street and volume of cars, coupled with the absence of trees, creates an inhospitable environment for pedestrians. On the other hand, large segments of the corridors, such as International Boulevard in Clinton Park and Fruitvale, appear to be thriving. These areas appear to be dynamic and in transition, with visible evidence of Oakland's growing immigrant population.

### **BART Transit-Oriented Development**

The four transit stations targeted for change (MacArthur, West Oakland, Fruitvale, and Coliseum) share the common visual quality of being surrounded by large surface parking lots. The dominant visual feature at MacArthur is Highway 24, with surrounds the station on both sides. Adjacent areas contain older retail and medium density residential development, in buildings ranging from good to poor condition. The character around West Oakland is more solidly residential, with a mostly single family neighborhood located on two sides of the station and multi-family housing across the street. The station provides a visual transition between the South Prescott neighborhood and the industrial area east of Mandela Parkway and south of Seventh Street. The visual character at Fruitvale is more commercial, with an active retail district just a block away on International Boulevard and extensive business activity on the perimeter. The scale of development is generally low, with buildings in the one to three-story range. At the Coliseum BART Station, the visual character is defined by an adjacent residential area to the east, the industrial uses along San Leandro Street, and the Oakland Coliseum located just across the skybridge.

### **SIGNIFICANCE CRITERIA**

According to the CEQA Guidelines, a project will normally have a significant impact on the environment if it would have a "substantial, demonstrable negative aesthetic effect," including obstruction of a scenic view or public view, or impairment of an existing view by introducing an aesthetically offensive visual feature.

It is important to note that most of the impacts listed below would also result through continued implementation of the existing General Plan. The reason they are highlighted here is because the proposed Plan includes a policy emphasis to encourage redevelopment in targeted geographic areas. Generally, the proposed Plan would have a lesser visual impact than the existing Plan, as it designates fewer acres for urban uses and designates some of the City's more visually sensitive areas for resource conservation.

## IMPACTS AND MITIGATION MEASURES

### *IMPACTS TO SCENIC RESOURCES*

**Impact F.1: Development consistent with the Future Land Use Diagram could degrade or destroy existing scenic resources in the City, including hillsides, ridges, canyons, trees and riparian areas. However, adoption of the Element alone would not increase the potential for impacts. Existing policies in the OSCAR Element provide general mitigation of visual impacts. Thus, this impact is less than significant.**

The visual impacts of the proposed Element will be limited to those areas identified for “change” on the Strategy Diagram. Impacts will be positive or less than significant in those areas where the policy emphasis is to “maintain and enhance” existing neighborhood character. Even in those areas targeted for change, the type of development that could occur in most cases is development that is already permitted by the current land use designation (i.e, high-rise office buildings in the downtown area). Impacts are generally associated with the specific sites where redevelopment is being encouraged, including the military bases, the quarry, and the waterfront. Visual impacts associated with projects in these areas will continue to be monitored on a case by case basis as development applications are received.

The following specific policies in the adopted OSCAR Element provide mitigation for future visual impacts:

Policy OS-10.1:

Protect the character of existing scenic views in Oakland, paying particular attention to: (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard, Grizzly Peak Boulevard, and other hillside locations.

Policy OS-9.1:

Design new development to preserve natural topography and terrain. Enhance prominent topographic features where appropriate by parks, plazas, or architectural expressions.

Policy OS-9.2:

Use open space and natural features to define City and neighborhood edges and give communities within Oakland a stronger sense of identity. Maintain and enhance City edges, including the greenbelt on the eastern edge of the City, the shoreline, and San Leandro Creek. Use creeks, parks, and topographical features to help define neighborhood edges and create neighborhood focal points.

Policy OS-9.3:

Enhance neighborhood and City identity by maintaining or creating gateways. Maintain view corridors and enhance the sense of arrival at the major entrances to the City, including freeways, BART lines, and the airport entry. Use public art, landscaping, and signage to create stronger City and neighborhood gateways.

Policy OS-10.2:

Encourage site planning for new development which minimizes adverse visual impacts and takes advantage of opportunities for new vistas and scenic enhancement.

**Mitigation Measure F.1:** None required.

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***EFFECTS OF HIGH-RISE BUILDINGS ON VIEWS AND VISTAS***

**Impact F.2: The Land Use and Transportation Element encourages high-rise development in Downtown Oakland. Such development could potentially block views, cast shadows, appear visually incongruous with adjacent low-rise development, and block views of the City skyline from surrounding neighborhoods. This impact is less than significant due to proposed policies addressing urban design and visual impacts in the Land Use and Transportation Element and the additional measures included in this EIR.**

The “Central Business District” designation allows residential densities as high as 300 units per acre and office intensities as high as FAR 20. The Plan’s “vision” for Downtown calls for continued office growth, additional high-rise development, and creation of an attractive skyline. Redevelopment of vacant and underutilized land is encouraged. The policy emphasis on downtown, coupled with policies which discourage high-rise development elsewhere in the City, could channel more development into the downtown area. Visual impacts could be experienced both on a “micro” scale (i.e, new development could be architecturally incompatible with adjacent older buildings) and on a “macro” scale (views of the Oakland skyline could be altered, and some bay, hill, or lake views from the neighborhoods could be blocked).

The policies identified below are intended to address visual impacts resulting from the development of downtown high-rise housing and office development anticipated by the proposed Land Use and Transportation Element. Impacts are to be avoided by channeling the most intense development to the “Broadway spine,” requiring development to step back in height and intensity from adjacent open space and lower density development areas, and adopting design guidelines. The following policies are included in the project:

Policy D2.1:

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 D81:

New large scale office development should primarily be located along the Broadway corridor south of Grand Avenue, with concentrations at 12th Street and 19th Street BART stations. The height of office development should respect the Lake Merritt edge. Small scale offices should be allowed throughout the downtown, including in the downtown neighborhoods, when compatible with the character of surrounding development.

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:

Housing in the downtown should be safe and attractive, of high quality design, and respect the downtown's distinct neighborhoods and identity.

Policy D12.5:

Art should be part of the fabric of Downtown, located in public and private facilities, and in public spaces.

The policies listed above may not fully mitigate Impact F.2 to a less-than-significant level. The following additional measures are proposed to ensure that the impacts are less than significant.

**Mitigation Measure F.2a:** Develop guidelines or a “step back” ordinance for height and bulk for new development projects in the downtown area. Projects should be encouraged to be designed at pedestrian-scale on the street-side, with high towers or strong vertical elements stepping back from the street.

**Mitigation Measure F.2b:** Analyze the desired height of downtown office development and develop zoning regulations that support the preferred skyline design.

**Mitigation Measure F.2c:** Define view corridors and, based upon these views, designate appropriate height limits and other requirements. Views of Lake Merritt, the Estuary, and architecturally or historically significant buildings should be considered.

**Impact F.2 Level of Significance After Mitigation:** Less Than Significant

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***SCALE OF CORRIDOR MIXED USE DEVELOPMENT***

**Impact F.3:** The Land Use and Transportation Element would set in place policies and land use designations that encourage mid-rise, pedestrian-scale mixed use development along approximately 20 miles of transit-oriented corridors within the City. Although existing General Plan designations and zoning already permit this scale and mix of development in most instances, the policy emphasis on these areas could create additional momentum for development. Development of the scale proposed by the Plan would generally have positive visual impacts but could interrupt views and create the potential for architecturally incompatible development. Potential impacts are mitigated to a less than significant level by the proposed policies in the Land Use and Transportation Element and the additional measures identified in this EIR.

Adoption of the Element would encourage the conversion of existing commercial or vacant corridor sites to high density residential development. The impacts are generally less significant because the existing commercial and industrial uses in the corridor are less sensitive to visual change than residential uses. However, the development could be incompatible with adjacent residential uses, particularly on blocks characterized by single family homes. Larger, more dense development could obstruct views and change the character of low density residential areas.

The following proposed Land Use and Transportation Element policies address visual issues associated with future development. These policies recommend design and development review practices which ensure that new development is visually compatible with its surroundings and does not obstruct views.

Policy N1.8:

The height and bulk of commercial development in Neighborhood Center and Community Commercial areas should be compatible with that which is allowed for residential development.

Policy N3.8:

High quality design standards should be required of all new residential construction. Design requirements and permitting procedures should be developed and implemented in a manner that is sensitive to the added costs of those requirements and procedures.

Policy N3.9:

Residential developments should be encouraged 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 N3.10:

Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but its visual prominence should be minimized.

Policy N8.2:

The height of development in Urban Residential and other higher density residential areas should step down as it nears lower density residential areas so that the interface between the different types of development are compatible.

The policies listed above may not fully mitigate Impact F.3 to a less-than-significant level. The following additional measures are proposed to ensure that the impacts are less than significant.

**Mitigation Measure F.3a:** Develop standard design guidelines for all Neighborhood Commercial areas that require continuous or nearly continuous storefronts located along the front yard setback, promote small scale commercial activities rather than large scale establishments at the ground level, restrict front yard parking lots and driveways, require small scale pedestrian-



oriented signage, have a relatively low height limit, and promote the development of pedestrian friendly amenities at the street level. The standard design guidelines may be expanded to capture the unique or desired character of certain areas. (Neighborhood Working Group)

**Mitigation Measure F.3b:** Ensure that structures and sites are designed in an attractive manner which harmonizes with or enhances the visual appearance of the surrounding environment by preparing and adopting industrial and commercial design guidelines. (Industry and Commerce Working Group)

**Mitigation Measure F.3c:** Develop design guidelines for parking facilities of all types. (Transportation Working Group)

**Impact F.3 Level of Significance After Mitigation:** Less than Significant

## **G. CULTURAL AND HISTORIC RESOURCES**

This section of the EIR describes the impact of the Proposed Land Use and Transportation Element on cultural and historic resources in the Oakland Planning Area. These resources include paleontologic and archaeologic remains, historic buildings and districts, and culturally significant sites and structures in the City. The analysis includes a summary of Oakland's existing cultural and historic resources, a description of impacts resulting from adoption of the Element, and measures to mitigate these impacts.

### **SETTING**

#### ***OVERVIEW***

##### **Paleontologic Resources**

Paleontologic resources are the fossilized remains of the area's early plants and animals. The oldest fossils of land animals were deposited about 12.5 million years ago and are found in the lowermost rocks of the Orinda geologic formation. Horse teeth, mastodon tusks, and camel bones from this era have been discovered in the East Bay Hills. Even older remains, including fossilized beds of oysters, scallops, and clams from the Miocene epoch (10 to 30 million years ago), have been found in the hills above Oakland and Berkeley. These remains were deposited at a time when the East Bay Hills were still submerged by the sea. Fossilized plants from the Pliocene and Pleistocene times also occur throughout the Bay Area, including Oakland. Plant and animal fossils are occasionally uncovered during major excavation projects, including quarrying and highway tunnel construction.

Table III.G-1 indicates recorded paleontological finds in Oakland. Remains of mammoths, bison, bears, ground sloth, field mice, and camels have been discovered within the City. These discoveries have been clustered in certain areas simply because they correspond to specific excavations, such as the Broadway (old Caldecott) Tunnel, the Webster and Posey tubes, Oak Knoll Naval Hospital, and the Coliseum. In fact, fossils are widespread and would be encountered in many places where broad, deep cuts into bedrock take place.

##### **Native American Resources**

The remains of Native American settlement are among Oakland's most fragile non-renewable resources. Since the Native American people kept no records, buried artifacts and other archaeological remains are the primary source of information on their cultures. Such remains have been found in various places in Oakland and further discoveries may be expected in the future.

**TABLE III.G-1  
PALEONTOLOGICAL REMAINS IN OAKLAND**

UC Berkeley Field ID	General Location	Remains
V5834	Webster Tube	Tremarctotherium (big bear) Paramylodon (ground sloth) Arctodus (bear)
V2841	Posey Tube	Bison Eutheria (unidentified mammal)
V6420	Coliseum (28' depth)	Paramylodon (ground sloth) Mammoth
V3933	Montclair Playground	Camelidae (camel)
V4045	81st @ San Leandro Blvd.	Mammatus (mammoth)
P3428	Oak Knoll Naval Hospital	Unidentified Rancho LaBrea invertebrate

NOTE: Unidentified prehistoric remains have also been discovered at Grizzly Peak, 1/4 mile north of Fish Ranch Road, on the west side of Telegraph Avenue at 30th Street, at the Broadway Tunnel bore, and in Sibley Regional Park.

SOURCE: OSCAR Technical Report Volume One, December 1993, City of Oakland

Shell mounds at the mouth of Temescal Creek in Emeryville and on the shores of Brooklyn Basin suggest that the East Bay was populated by Native American tribes as long ago as 3500 BC. The Ohlone and Costanoan tribes were the primary inhabitants, living in settlements on the shoreline and along creeks. In addition to shell mounds, evidence of their presence includes arrowheads, tools, skeletons, ornaments, charmstones, and pottery.

At the time of Spanish settlement, there were probably four or five Ohlone villages in Oakland. All traces of these villages have long since disappeared but they may exist as archaeological sites. Three of the sites are believed to have been located in the vicinity of 51st and Telegraph Avenue, Trestle Glen, and Holy Names College.

### **Resources from the Spanish-Mexican Period**

The rancho of Luis Maria Peralta, granted in 1820 and divided in 1842, included the present-day City of Oakland. The site of the rancho's 1821 adobe hacienda is located at 34th Avenue and Paxton Street. The hacienda was damaged in the 1868 earthquake, but the 1870 Italianate house that Antonio Maria Peralta built to replace still remains. Both sites are contained within a City

park. A small settlement and embarcadero were established along the east side of a slough now occupied by lower 14th Avenue to serve the rancho and import provisions. A plaza used for bullfights was located at what is now San Antonio Park.

### **Resources from the period of early European Settlement and Cityhood**

European settlement in Oakland dates to around 1850. The Gold Rush of 1849 and California statehood in 1850 brought miners, lumbers, and businessmen, as well as bankers, speculators, and opportunists. Among these settlers were a trio of squatters (Adams, Moon, and Carpenter) who squatted on Vicente Peralta's land and sold lots to fellow squatters. The settlement they established was incorporated in 1852 as the City of Oakland. The original city included what is now downtown and West Oakland up to about 22nd Street. The earliest townspeople numbered less than 100 and clustered around what is now the foot of Broadway. About a mile to the east, a lumbering operation was established across the Slough from the Rancho San Antonio embarcadero and the town of Clinton was established. Further east, the town of San Antonio was platted. Ferryboat service from Oakland to San Francisco began in 1854 and in 1856 a bridge was erected over what is now the Lake Merritt Channel, connecting Clinton and San Antonio to Oakland.

The City's first brick building was erected between 1857 and 1859. This and five other brick commercial structures from the early 1860s still stand along Lower Broadway. Examples of early wood-frame residential architecture can still be found scattered within the area of original settlement. Rail service to the San Francisco Ferry terminus was established in 1863 and was extended east to Clinton and San Antonio in 1865. The location of the railroad on 7th Street brought about a shift in Oakland's commercial center to the north; remnants of the ensuing development still remain in the six-block Old Oakland preservation district.

### **Resources from the Late 1800s**

The selection of Oakland as the land terminus of the first transcontinental railroad, completed in 1869, stimulated a development boom. The City's population tripled from 10,500 in 1870 to 34,555 in 1880. Much of the Old Oakland historic district, containing elaborate multi-story brick commercial buildings, dates from this era. By 1880, multi-story commercial buildings extended up Broadway beyond 14th Street. Rapid construction of Italianate Victorian homes occurred between downtown and the railroad service yards in West Oakland. Today this area still contains Oakland's largest concentration of Victorian homes. On the east, Oakland annexed the City of Brooklyn (which included Clinton and San Antonio and had itself just incorporated in 1870). Portions of the early Brooklyn commercial center still remain around 13th Avenue, and East 12th and East 14th Streets.

By the 1870s, fruit orchards and farms had been established north and east of the City. A number of large Victorian farmhouses of this era still stand today in the Fruitvale and Dimond

neighborhoods. Industries and warehouses located along the waterfront and railroad. Portions of the California Cotton Mills, built in 1884 near 23rd Avenue and East 12th Street, still remain today. The adjacent neighborhood of Victorians between 23rd and 29th Avenues, now called “Jingletown,” still remains today. Further east, the settlements of Melrose, Fitchburg, and Elmhurst were established along the railroad. To the north, the area around 51st and Telegraph emerged as a business district. The 1872 “Brick House Block” still stands on the east side of Telegraph Avenue. Elsewhere in North Oakland, the opening of a commuter railroad spurred the development of a new town called Klinknerville (Golden Gate) around 59th and San Pablo. Several of the distinctive Victorian houses are still relatively intact.

### **Resources from the Post Earthquake Boom Years**

The 1906 earthquake and ensuing migration from San Francisco spurred a three decade development boom in Oakland. The City’s land area was increased from 23 to 60 square miles (nearly its current size) during a single annexation in 1909. The population reached 150,000 in 1910, more than doubling in ten years. By 1920, nearly all of North Oakland had been developed, West Oakland was built out, and East Oakland continued to expand. The colonial revival and craftsman houses built during this era are the defining element of many of Oakland’s neighborhoods today. Several homes are considered architecturally significant, having been designed by Julia Morgan and other notable architects of the era. Many of the City’s distinctive residential areas, including Idora Park and Havenscourt, were platted at this time.

Many of downtown Oakland’s structures date from the post-quake boom years as well. Oakland’s present City Hall (1913) was the first city hall in the country designed as a skyscraper. Other notable downtown landmarks built during this era include the Union Bank (Unity) Building at 1300 Broadway, the Broadway Building (1907-8), the Oakland Bank of Savings Building (1200-1212 Broadway, 1907-1909), Security Bank (1100 Broadway, 1911-1912), the Oakland Hotel (1910-1912), the Rotunda (1912-13) and the Cathedral Building (1913-1914). All of these buildings were designed in the Beaux Arts style typical of this era. Landmarks like the Henry J. Kaiser Convention Center also date from this period.

During the 1920s, the heart of downtown retailing shifted north, anchored by what is now Sears (Emporium- Capwells) at 20th and Broadway. A concentration of Art Deco landmarks, including the Paramount and Fox Theaters, I. Magnin’s, and the Floral Depot were constructed during this decade.

During this same era, industry gained a strong foothold in Oakland. East Oakland boasted several automobile assembly plants, gaining the city the nickname “Detroit of the West.” Only one of these plants, Durant Motor Company (East 14th and 105th), remains today and it has been converted to retail and loft housing. One of the most outstanding remnants of the industrial boom is the tower and warehouse complex on East 14th Street near Seminary. The complex housed Mutual Stores, later absorbed by Safeway.

## **World War II and Post-War Era**

The Second World War brought enormous demographic change to Oakland. The City's population reached a historic peak of 405,301 in 1945. The City's small African-American population increased five fold during the War, with the migration of shipyard workers from the south. Although historic landmarks from the post-war era are few in number, some of the City's downtown buildings provide early examples of modernist architecture. These include the First Western Bank (1330 Broadway), the Kaiser Building, and the Oakland Museum.

### ***STATUS OF OAKLAND'S HISTORIC RESOURCES TODAY***

About half of the buildings in the City of Oakland pre-date 1946. The proportion is much higher within deteriorating areas, where their current neglected condition places these buildings at risk of demolition. The City has actively promoted historic preservation as a redevelopment tool and believes that preservation activities will help stabilize declining areas. Oakland adopted a General Plan Historic Preservation Element in 1994, the first step in its current effort to update the entire General Plan. The City's Zoning Ordinance includes historic district designations (there are five within the City), and the City has a Landmarks Preservation Advisory Board which considers development and design matters pertaining to the use of historic buildings.

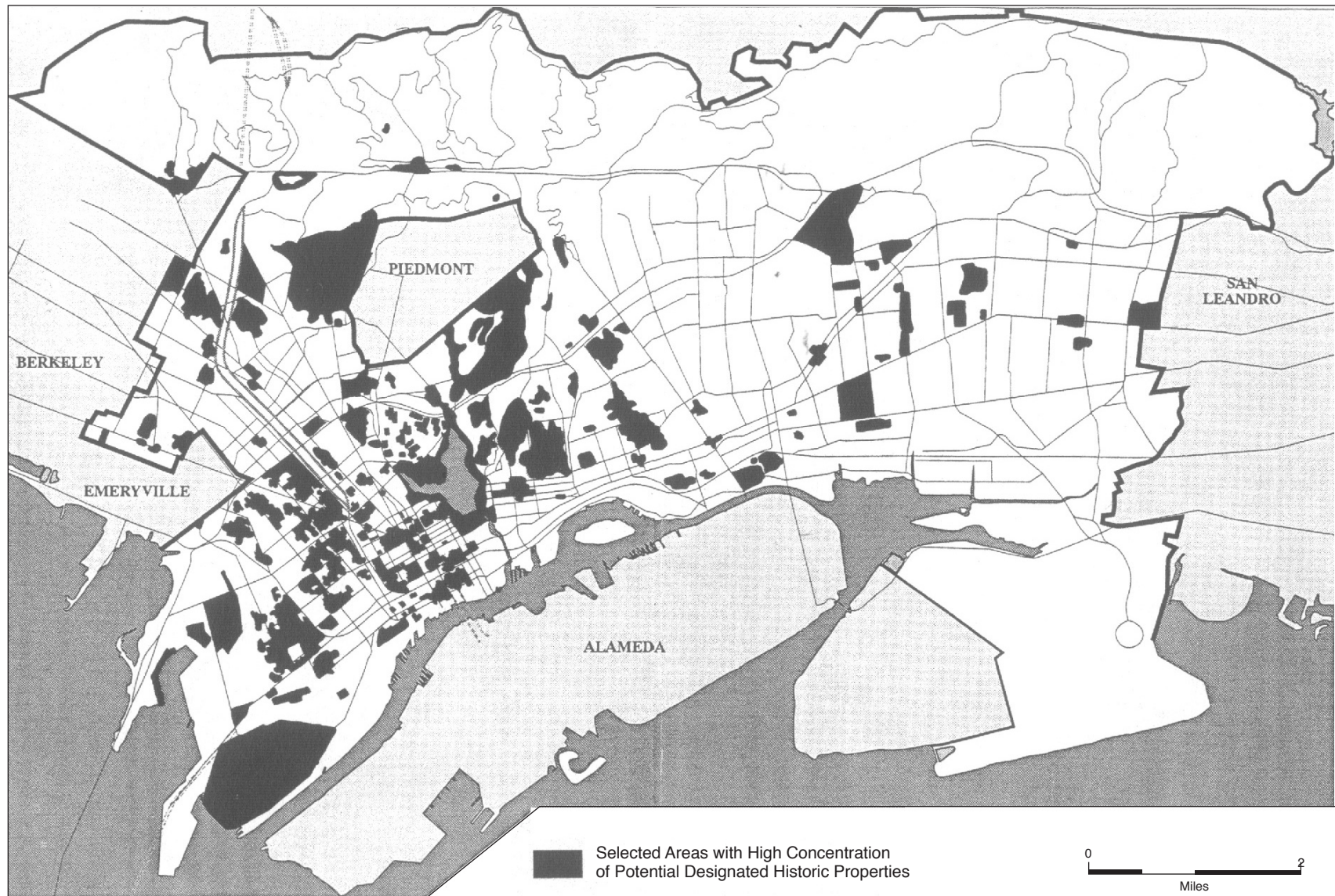
Oakland currently has 38 properties on the National Register of Historic Places and several hundred more that appear to be eligible. Oakland also has 11 State Historical Landmarks and one Point of Historical Interest. The City itself has adopted a list of over 110 local landmarks, and these are afforded protection under local zoning regulations. Several hundred additional properties have been identified as eligible for addition to this list. About 300 properties are on the City's Preservation Study list, indicating they may be added to the local register at some time in the future. The City has been conducting an exhaustive inventory of its historic resources for nearly two decades and has surveyed more than 8,000 properties to determine their historic significance. The inventory has identified several thousand properties which may be suitable for inclusion in historic districts or listing on the local register.

Figure III.G-1 indicates areas in Oakland with the greatest concentration of historic properties. Although the map depicts resources throughout the City, a very high proportion are located Downtown. Half of the City's National Register listings are Downtown, and three of the five preservation zoning districts are Downtown. Other major concentrations of older buildings are located east of Lake Merritt and in West Oakland.

### ***HISTORIC AND CULTURAL RESOURCES IN "CHANGE" AREAS***

#### **Central Business District**

The Central Business District contains Oakland's most concentrated area of historic resources, including the Preservation Park and Preservation Park Extension Historic Districts, and the Old



SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure III.G-1**  
Selected Areas with High Concentrations  
of Potential Designated Historic Properties

Oakland Historic District. Downtown was where Oakland began, and there are a legacy of historic sites and structures remaining. Some of this legacy has been lost to demolition and natural disasters (including fires and earthquakes), but many important structures remain. Historic buildings are concentrated in the southwest quadrant of Downtown, along Broadway, around the County Courthouse, in the retail/ entertainment district near Telegraph and 20th, and along Franklin, Webster, and Harrison Streets. In addition, several Downtown parks are considered historic, having been laid out when the City was initially platted in 1852. Major historic resources in the downtown area are listed in Table III.G-2.

### **Estuary Shoreline**

The Estuary shoreline includes a large concentration of 19th century buildings in the Jack London area, particularly around the Produce Market, and scattered historic sites and buildings to the east along the San Antonio and Fruitvale waterfronts. Although the area only contains four sites on the National Register and three more on the Local Register (all in the Jack London area), the waterfront includes numerous eligible buildings as well as buildings that may lack individual significance but may be collectively significant. Examples include the Jingletown (South Kennedy Tract) neighborhood near 29th Avenue, the old maritime buildings at the Ninth Avenue Terminal, and some of the older brick industrial buildings in the South-of-Nimitz area and along the Fruitvale waterfront. Major historic resources along the Estuary shoreline are listed in Table III.G-3.

### **Military Bases**

Although the military bases do not contain National Register landmarks or structures on the Oakland register, they do contain buildings of architectural significance. Most of the permanent structures pre-date 1945. The City's Historic Preservation Element identifies the entire Fleet Industrial Supply Center (FISCO) and the northern portion of the Army Base as being an "area of primary importance." Such areas are believed to be eligible for National Register listing as Districts. Oak Knoll Naval Hospital, while not identified as historically significant, contains individual buildings such as the Officer's Club with architectural merit.

### **Coliseum Area (San Leandro Street Industrial Corridor)**

The San Leandro Street corridor includes a mix of older, mostly single family wood frame cottages and industrial properties ranging from small single story buildings to large manufacturing complexes. Although many of the homes are quite old, most lack architecturally distinct features and many have been altered. The Environmental Impact Report for the Redevelopment Area concluded that the residential portions of this area would probably not be eligible for National Register or Local Register consideration, either as individual residences or as a District. The industrial buildings tend to have greater historic value. Notable structures include Owens Brockaway (also within the waterfront area) dating from 1936, Fleischmann's



**TABLE III.G-2  
REGISTERED HISTORIC RESOURCES WITHIN THE  
CENTRAL BUSINESS DISTRICT “CHANGE” AREA**

<b>Structure/ Site</b>	<b>Address</b>	<b>National Register?</b>	<b>Local Register?</b>
Camron Stanford House	1426 Lakeside	Yes	Yes
Paramount Theater	2025 Broadway	Yes	Yes
Governor George Pardee House	672 11th Street	Yes	Yes
First Unitarian Church of Oakland	685 14th Street	Yes	Yes
Greek Orthodox Church	9th/ Castro	Yes	Yes
Dunns Block	725 Washington	Yes	Yes
Clay Building	1001-1007 Clay	Yes	Yes
Cathedral Building	1615 Broadway	Yes	Yes
Fox Theater	1807-29 Telegraph	Yes	Yes
Oakland Hotel	260 13th Street	Yes	Yes
Main Post Office	201 13th Street	Yes	Yes
Madison Park Apartments	100 9th Street	Yes	Yes
Key System Building	1100 Broadway	Yes	Yes
Oakland Public Library	659 14th Street	Yes	Yes
Oakland City Hall	One City Hall Plaza	Yes	Yes
Oakland YWCA	1515 Webster	Yes	Yes
Pacific Gas and Electric Building	1625 Clay/ 551 17th	Yes	Yes
Kahns Department Store	1501-1539 Broadway	Yes	Yes
Ginn House	660 13th Street	No	Yes
Tribune Tower	409-415 13h Street	No	Yes
Maclese Drug Store	1633 San Pablo	No	Yes
Oakland Municipal Auditorium	10 Tenth Street	No	Yes
James White House	Preservation Park	No	Yes
Portland Hotel/ Henry House	470-482 9th Street	No	Yes
Peniel Mission/ Oriental Block	716-724 Washington	No	Yes
LaSalle Hotel	491-497 9th Street	No	Yes
Central Pacific Railway Depot	464-468 7th Street	No	Yes
Bowman B Brown Building & Annex	727-735 Washington 509-513 8th St	No	Yes
Wilcox Block and Annex	821-833 Broadway 459-475 9th St	No	Yes
Delger Block	901-933 Broadway	No	Yes
Lloyd Hotel Building	477-487 9th St	No	Yes
Arlington Hotel Building	484-494 9th St	No	Yes
Gooch Block (Ratto's)	817-829 Washington	No	Yes
Jefferson Square	6th/7th/Jefferson	No	Yes

**TABLE III.G-2 (Continued)**  
**REGISTERED HISTORIC RESOURCES WITHIN THE**  
**CENTRAL BUSINESS DISTRICT “CHANGE” AREA**

<b>Structure/ Site</b>	<b>Address</b>	<b>National Register?</b>	<b>Local Register?</b>
Lincoln Square	10th/11th/Harrison	No	Yes
Asian Resource Center	8th/ Harrison	No	Yes
Latham Square Fountain	15th/ Telegraph	No	Yes
Howden Building	325-43 17th St.	No	Yes
Financial Center Building	405 14th St.	No	Yes
Oakland Title Insurance Building	1449-1459 Franklin	No	Yes
	401-407 15th St.		
White Building	327-349 15th St.	No	Yes
	1464-1466 Webster St.		
Roos Brothers Building	1500-20 Broadway	No	Yes
	448 15th St.		
Leamington Hotel	1800-26 Franklin St.	No	Yes
	365-89 19th St.		
Lake Merritt Hotel	1800 Madison St.	No	Yes
Palace Apartments	1560 Alice St.	No	Yes

SOURCE: Oakland Historic Preservation Element, 1994

**TABLE III.G-3**  
**REGISTERED HISTORIC RESOURCES WITHIN THE**  
**ESTUARY SHORELINE “CHANGE” AREA**

<b>Structure/ Site</b>	<b>Address</b>	<b>National Register</b>	<b>Local Register</b>
USS Potomac	1660 Embarcadero	Yes	Yes
Oakland Iron Works	552-92 Second Street	Yes	Yes
USS Hoga	FDR Memorial Pier	Yes	Yes
Lightship WAL-605. Relief	Oakland Estuary (Brooklyn Basin)	Yes	Yes
Western Pacific Depot	Third/ Washington	No	Yes
Heinolds First and Last Chance Saloon	90 Jack London Square	No	Yes
Posey Tube Portal	415 Harrison Street	No	Yes

SOURCE: Oakland Historic Preservation Element, 1994

Yeast (1934), Sunshine Bakery (1940), Blue Bird Potato Chip (1931), Illinois-California Wire (1924), and the Safeway/ Parr Soap Plant/ Victor Talking Machine Company (1923-24). The area also contains a large number of industrial buildings that are not architecturally significant.

### **Leona Quarry and other Major New Development Sites**

While the quarry itself is old, dating back to 1910, it does not contain historically significant sites or structures. Other new development sites generally do not contain structures and have low potential for historic resources. Several development sites in the vicinity of Leona Heights contain abandoned mines and have the potential for archaeological remnants. Where evidence suggests that further investigation is warranted, historic and archaeologic surveys should be required prior to development of major vacant sites.

### **Transit Corridors**

The corridors -- particularly San Pablo, Telegraph, Broadway, Foothill, East 14th/ International, and MacArthur -- are centered along some of Oakland's earliest streets. Most of the streets date back to the City's establishment and most served as important travel routes between Oakland and outlying communities during the late 1800s. Consequently, the likelihood of historic sites and buildings along the corridors is high. Particularly large concentrations of older buildings can be found in the Temescal District on Telegraph, the Golden Gate District on San Pablo, the Fruitvale District on International, and in the areas near Clinton Park and San Antonio Park. Although only three buildings on the corridors have National Register status, and only 12 more are on the Oakland Register, some of the corridors contain long segments of commercial and mixed use buildings dating from the streetcar era. Unfortunately, a high percentage of these buildings are in poor or deteriorating condition, particularly on San Pablo and International Boulevard. The corridors also include notable examples of "vintage" highway-commercial architecture, including motels along MacArthur and car dealerships along Broadway. Major historic resources in the transit corridors are listed in Table III.G-4.

### **Transit-Oriented Districts**

Of the four new transit villages identified in the Land Use and Transportation Element, the ones with the greatest potential for impacts on historic structures are West Oakland and Fruitvale. West Oakland station lies immediately adjacent to 7th Street, which at one time was a major commercial artery connecting downtown with the ferry and railroad terminals. The nearby South Oakland Point (South Prescott) neighborhood contains a high concentration of Victorian structures dating from the late 1800s. Much of the original housing stock has already been demolished through attrition and redevelopment activities. The Fruitvale area includes a high concentration of post 1906-earthquake commercial construction, as well as a high number of homes pre-dating 1910. The Oakland Cultural Heritage Survey recently inventoried structures in the Fruitvale BART area and identified numerous examples of the Craftsman, Colonial Revival,

**TABLE III.G-4  
REGISTERED HISTORIC RESOURCES WITHIN  
TRANSIT CORRIDOR “CHANGE” AREA**

<b>Building Name</b>	<b>Address</b>	<b>National Register?</b>	<b>Local Register?</b>	<b>Corridor Name</b>
Treadwell Mansion/Carriage House	5212 Broadway	Yes	Yes	Broadway
California Hotel	3443-3501 San Pablo	Yes	Yes	San Pablo
University High School	5714 MLK Jr Way	Yes	Yes	MLK Jr Way
J Mora Moss Cottage	Mosswood Park	No	Yes	MacArthur
Jack London House	1914 Foothill	No	Yes	Foothill
St. Augustine’s Church	29th/ Telegraph	No	Yes	Telegraph
Brooklyn Fire House	1235 International	No	Yes	International
Golden Gate Library	5606 San Pablo	No	Yes	San Pablo
Melrose Library	4805 Foothill	No	Yes	Foothill
Temescal Library	5205 Telegraph	No	Yes	Telegraph
King’s Daughters Home	3900 Broadway	No	Yes	Broadway
Caettano Block (Buon Gusto)	5006-5010 Telegraph	No	Yes	Telegraph
St. Joseph’s Home for the Aged	2647 International	No	Yes	International
Oakland Technical High School	4500 Broadway	No	Yes	Broadway
Modern/ Safeway Stores Office	5701-5759 International	No	Yes	International

SOURCE: Oakland Historic Preservation Element, 1994

Queen Anne, and Mission Revival design styles. The original dwellings have been greatly altered over the years, limiting the area’s eligibility as a National Register District. Some 35 commercial buildings were inventoried, but the area was identified as being of “secondary” rather than “primary” historic importance

## SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will “disrupt or adversely affect a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic group or social group, or a paleontological site except as part of a scientific study.” Disruption or adverse effects to an archaeological site is further defined in Appendix I of the CEQA Guidelines as alteration or destruction of the site, including both physical and aesthetic effects. These criteria have been incorporated in CEQA as amended by Public Resources Code 21083.2(g). This law requires a lead agency to make a determination of whether a project will have a significant effect on archaeological resources and whether such resources are “unique” under the law.

“Unique” resources are defined as those which contain information needed to answer important scientific research questions, have special and particular qualities (such as being the “oldest” or “best available example of” the resource), or are directly associated with a scientifically recognized important prehistoric or historic event or person. Appendix K of the CEQA Guidelines provides further direction in evaluating important archaeological resources.

Potentially significant impacts on historic resources are considered to be present when the historic character or integrity of a resource may be diminished as a result of the Land Use designations or development policies included in the proposed General Plan. The “historic character” of a resource includes all of the visual qualities that establish its links to its historic associations, including architectural style, and the historic uses of the land, structures, and setting. On a parcel-specific basis, potentially significant impacts are considered to be present when the proposed plan policies and land use designations:

- represent a change from the historic use of a structure or property;
- encourage an increase in development densities; or
- permit alterations to the historic character of land uses or structures.

The City of Oakland considers an impact to be significant if it has the potential to disqualify an existing or Potential Designated Historic Property from Landmark or Preservation District eligibility or if it may have substantial adverse effects on the property’s character-defining elements, unless adequately mitigated (Historic Preservation Element, Policy 3.8)

## IMPACTS AND MITIGATION MEASURES

### *IMPACTS ON PALEONTOLOGICAL REMAINS*

**Impact G.1: Excavation of development sites consistent with the Land Use and Transportation Element could unearth paleontologic remains. Some of these remains could have scientific importance. However, adoption of the proposed Element would not significantly affect these resources. This is a less-than-significant impact.**

Some of the paleontological finds listed in Table III.G-1 are located in areas targeted for redevelopment by the proposed Land Use and Transportation Element. These include the Oakland Coliseum area, the San Leandro Street corridor, and Oak Knoll Naval Hospital. If fossils are unearthed during future excavations, a qualified paleontologist should be consulted so that the resource is not damaged or destroyed. The decision to extract the resource, preserve the resource in place, or sacrifice the resource should be made at that time, depending on its significance.

**Mitigation Measure G.1:** None required.

### ***IMPACTS ON ARCHAEOLOGICAL REMAINS***

**Impact G.2: Excavation of development sites consistent with the Land Use and Transportation Element could unearth archaeological resources. Some of these remains could have scientific or cultural importance. This would be a less-than-significant impact due to existing development requirements, the policies of the Historic Preservation Element, and a measure identified in this EIR.**

Some of the areas targeted for redevelopment and intensification may contain Native American and other archaeological remains. One of the five Ohlone villages that is believed to have existed in Oakland prior to European settlement is located near 51st and Telegraph, along a corridor which has been targeted for intensification. Moreover, excavation and reconstruction on sites Downtown and along the waterfront areas may unearth the remnants of previous buildings or their contents. This type of impact would be considered significant if the resource is deemed archaeologically important. Oakland has standard development conditions of approval and environmental review procedures to protect these resources. Mitigation measures are typically incorporated into projects if it is believed those projects could damage archaeological resources. Policies have been adopted by the City in its Historic Preservation Element and are identified below.

Historic Preservation Policy 4.1:

To protect significant archaeological resources, the City will take special measures for discretionary projects involving ground disturbances located in archaeologically sensitive areas.

**Mitigation Measure G.2:** Establish criteria and interdepartmental referral procedures for determining when discretionary City approval of ground-disturbing activities should be subject to special conditions to safeguard potential archaeological resources.

**Impact G.2 Level of Significance After Mitigation:** Less than Significant

### ***RISK OF DEMOLITION***

**Impact G.3: Many of the City's historic resources are located Downtown and along transit corridors. Higher density uses are proposed in these areas and redevelopment is encouraged. This could have direct impacts by increasing the pressure to remove or demolish older buildings, including some historic structures. This impact is less than significant due to existing policies in the Historic Preservation Element, the proposed policies in the Land Use and Transportation Element, and measures identified in this EIR.**

The proposed Element places a strong emphasis on redevelopment downtown, on the waterfront, and along transit corridors. Many of these areas were developed more than a century ago and, as Tables III.G-2 through III.G-4 suggest, contain many older buildings and sites. In addition to the

buildings listed in the tables, there are hundreds of additional buildings that may be eligible for National or Local Register listing. These buildings would generally be at greater risk of demolition, as they are not currently protected with a landmark designation.

Recognizing the risk of redevelopment to the City's historic resources, Oakland adopted a Historic Preservation Element in 1994. The Element seeks to increase the number of protected structures through additional research, inventories, and public awareness; create regulatory and financial incentives for preservation; and encourage the protection, rehabilitation, and restoration of historic buildings. The Element includes 24 policies and 66 actions to achieve its objectives. The most relevant policies are identified below.

Historic Preservation Policy 1.3:

The City will designate significant older properties which definitively warrant preservation as Landmarks, Preservation Districts, or Heritage Properties. The designations will be based on a combination of Historical and Architectural Inventory Ratings, National Register of Historical Places criteria, and special criteria for Landmarks and Preservation District eligibility.

Historic Preservation Policy 2.1:

The City will use a combination of incentives and regulations to encourage the preservation of significant older properties and areas which have been designated as Landmarks, Preservation Districts, or Heritage Properties. The regulations will be applied according to the importance of each property, with the more important properties having stronger regulations.

Historic Preservation Policy 2.4:

Demolitions and removals involving Landmarks or Preservation Districts will generally not be permitted or be subject to postponement unless certain findings are made. Alterations or new construction involving Landmarks or Preservation Districts will normally be approved if they are found to meet Secretary of the Interior Standards for the Treatment of Historic Properties or if certain other findings are made.

Historic Preservation Policy 2.5:

Properties which definitively warrant preservation but which are not Landmarks or Preservation Districts will be eligible as Heritage Properties....Demolition, removal, or Specified Major Alterations of Heritage Properties may normally be postponed for up to 120 days.

Historic Preservation Policy 2.6:

Landmarks and all properties contributing or potentially contributing to a Preservation District will be eligible for all of the following preservation incentives: Mills Act contracts; use of the State Historic Building Code; conservation easements; broader range of conditional uses; transferable development rights; priority for community and economic development assistance; eligibility for acquisition, rehabilitation, or development assistance from a possible historic preservation revolving fund; and fee waivers.

**Historic Preservation Policy 3.4:**

Where all other means of preservation have been exhausted, the City will consider acquiring, by eminent domain if necessary, existing or potential designated historic properties, or portions thereof, in order to preserve them. Such acquisition may be in fee, as conservation easements, or a combination thereof.

**Historic Preservation Policy 3.5:**

For additions or alterations to Heritage Properties or Potential Designated Historic Properties requiring discretionary permits, the City will normally require that either: (1) the design match or be compatible with the property's existing or historical design; (2) the proposed design comprehensively modifies and is at least equal in quality to the existing design and is compatible with the character of the neighborhood; or (3) the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood.

In addition to these policies, the proposed Land Use and Transportation Element includes additional policies which ensure that historic resources are protected from adverse impacts, particularly Downtown, along the waterfront and transit corridors, and at the Military Bases. The following policies are included in the Draft Element:

**Policy D1.11:**

The Produce Market should be recognized and preserved as California's last example of an early 20th century produce market. Should the wholesale distribution of produce be relocated to another site, the integrity and vitality of this unique district should be preserved in its reuse if economically viable.

**Policy D1.4:**

Old Oakland should be respected and promoted as a significant historic resource and character-defining element, with Washington Street as its core. Residential development in Old Oakland should be of mixed housing type.

**Policy W8.7:**

Development in the (Jack London waterfront) area should be designed to enhance direct access to and along the water's edge....Traditional and historic buildings and structures are character-defining and should be preserved, adapted for new uses, or integrated into new development, where feasible.

**Policy N10.5:**

Identify locations of interest and historic significance by markers, signs, or by other means.

**Policy N11.3:**

Locations that create a sense of history and community within the City should be identified and preserved where feasible.

Implementation of the policies may not reduce this impact to a less-than-significant level. Therefore, the following measures are proposed.



**Mitigation Measure G.3a:** Amend the Zoning Regulations text to incorporate the new preservation regulations and incentives.

**Mitigation Measure G.3b:** Develop and adopt design guidelines for Landmarks and Preservation Districts.

**Impact G.3 Level of Significance After Mitigation:** Less than Significant

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***EFFECTS OF INCREASED DEVELOPMENT INTENSITY***

**Impact G.4: Increased development and more intense development in areas with high concentrations of older structures could have indirect impacts on these structures by changing their context and setting. Even if left intact, the integrity of older buildings could be compromised as larger, modern buildings are erected on adjoining properties. This impact is less-than-significant due to existing Historic Preservation Policies and policies to be adopted in the Land Use and Transportation Element.**

These so-called “indirect” impacts have already been experienced in much of Oakland, particularly Downtown. Many Downtown blocks contain a mix of ornate post-quake office towers beside international-style or post-modern office towers. Street-level facades in Chinatown and other retail areas present a mix of turn-of-the-century storefronts and non-descript post-war structures. Likewise, along the corridors, much of the construction has not been sympathetic to the pedestrian scale of the streets that existed during their first era of development. Only a few areas, such as Old Oakland, have retained their integrity as historic neighborhoods. In the past, the City has used Historic District designations to preserve notable concentrations of historic buildings; however, there are only five districts in the City and they occupy a very small percentage of Oakland’s historic resources.

Future development throughout the City, and especially within areas identified for change, could reduce the value of older structures even if those structures were left standing and unaltered. Several policies from the 1994 Historic Preservation Element address this issue.

**Historic Preservation Policy 3.1:**

The City will make all reasonable efforts to avoid or minimize adverse effects on the character-defining elements of existing or potential designated historic properties which could result from public or private projects requiring discretionary City actions.

**Historic Preservation Policy 3.9 (a):**

Unless necessary to achieve some other General Plan goal or policy which is of greater significance, the base zone of existing eligible Preservation Districts shall not encourage demolition or removal of a District’s contributing or potentially contributing structures nor encourage new construction that is incompatible with these properties.

In addition, the proposed Land Use and Transportation Element contains policies which further ensure the protection of historic resources. These policies generally prevent impacts on the character and context of older buildings abutted by adjacent development:

Policy D1.1:

The characteristics that make downtown Oakland unique, including its strong core area; proximity to destinations such as the Jack London waterfront, Lake Merritt, historic areas, cultural, arts, and entertainment activities; and housing stock, should be enhanced and used to strengthen the downtown as a local and regional asset.

Policy D2.1:

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 N11.4:

The City encourages rehabilitation efforts which respect the architectural integrity of a building's original style.

**Mitigation Measure G.4:** None required.

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***ADAPTIVE REUSE AND LIVE-WORK***

**Impact G.5: The Element's emphasis on adaptive re-use and live-work development could result in alteration of older buildings and historic structures in a manner that is architecturally incompatible with the structure. With the current design review procedures in place, this impact is less than significant.**

The Land Use and Transportation Element specifically identifies loft and live-work housing as a form of shelter to be encouraged and supported in the future. Many of Oakland's older industrial buildings, some of which may be historically significant, could be converted to residential space. Such conversions could result in alterations and additions that are not compatible with the original structure. The City's Design Review requirements presently address this issue.

**Mitigation Measure G.5:** None required.

## H. VEGETATION AND WILDLIFE

This section of the EIR describes the impact of the Proposed Land Use and Transportation Element on vegetation and wildlife in the Oakland Planning Area. The analysis includes a summary of Oakland's existing plant and animal resources, a description of impacts resulting from adoption of the Element, and measures to mitigate these impacts.

### SETTING

#### *OVERVIEW*

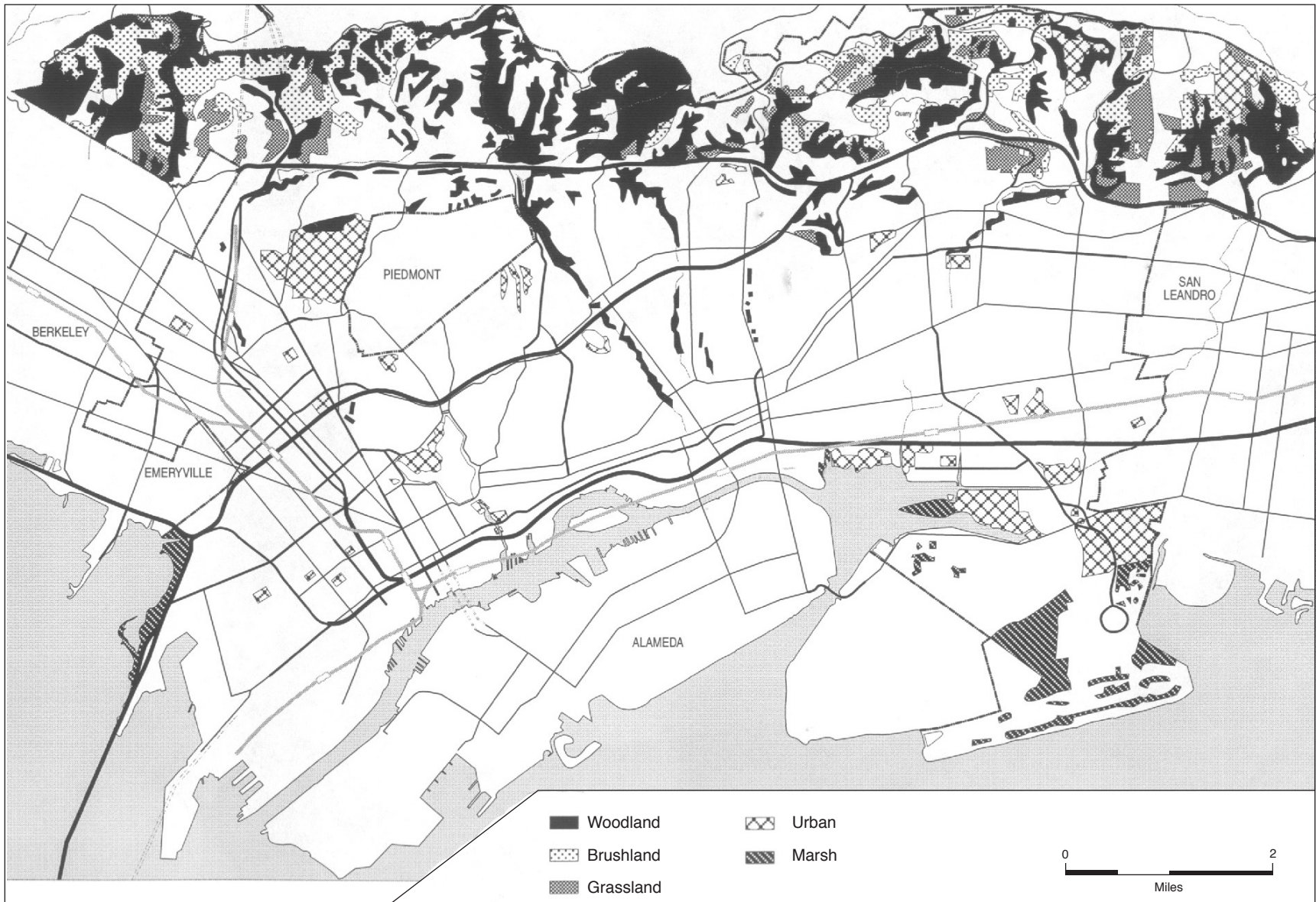
Very little of the native landscape remains intact in Oakland. Even in the City's parks and open spaces, much of the native vegetation has been overtaken by exotic and introduced species. When the City was first settled, groves of coast live oak lined the shoreline and redwood forests crowned the hills. Much of the shoreline was marshy--San Leandro Bay was a vast wetland, Alameda was connected to the mainland, and the Lake Merritt channel was a tidal slough. Until the mid-1800s, Oakland's animal population included grizzly bears and mountain lions, among other wildlife. While deer, racoon, rabbits, and other mammals remain in the City today, most of the animal population consists of species that have adapted to an urban environment.

Most of Oakland's native vegetation was removed for farming in the 1800s, and then for urbanization in the late 1800s and early 1900s. The redwood groves were logged between 1840 and 1860, to be replaced in some locations by eucalyptus "plantations" around the turn of the century. Most of the oaks were removed, and in later years the field crops and orchards were replaced by non-native street trees, shrubs, and grasses. Dredging and filling of the tidal marshes began as early as 1859 and accelerated during the ensuing years with the damming of Lake Merritt (late 1860s), the deepening of the estuary channel (1870s), and the extension of the Oakland Estuary to San Leandro Bay (1901). Several square miles of marshland in the harbor and airport areas were filled during in the first half of the 20th century.

#### *OAKLAND'S PLANT AND ANIMAL COMMUNITIES*

Despite the dramatic changes of the past 150 years, Oakland retains a great deal of plant and animal life and supports a diverse variety of ecosystems. Nearly 7,000 acres of wildland areas remain within the City, on parks, college campuses, vacant lots, at the airport, and on private lands in the Oakland hills. Today, the natural communities of Oakland may be broadly categorized as woodlands, brushlands, grasslands, and wetlands. These plant communities are profiled below.

Figure III.H-1 illustrates the location of the major plant communities in Oakland today. Table III.H-1 indicates the acreage in each plant community.



SOURCE: CEDA

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure III.H-1**  
Plant and Animal Communities  
in the City of Oakland

**TABLE III.H-1  
COMPOSITION OF WILDLAND AREAS WITHIN OAKLAND CITY LIMITS**

Plant Community	Acres	Percent of Total
Woodlands	3,467	50.8
Brushlands	1,859	27.3
Grasslands	932	13.7
Wetlands	556	8.2
TOTAL	6,814	100.0
<i>Wildlands as a percent of Oakland's total land area: 19.8 %</i>		

SOURCE: OSCAR Technical Report Volume One, December 1993, City of Oakland

## Woodlands

The woodland habitats characterize most of Oakland's open spaces and include native woodlands (redwood forests and broadleaf vegetation), introduced woodlands, and riparian woodlands. Most of the Oakland's woodlands are located in the hills, where moisture is highest and growing conditions are more sheltered. North-facing canyons in Montclair and other hill area neighborhoods support broadleaf evergreen forests, with a canopy dominated by bay and oak trees. Other common species in these areas include California Buckeye, Western Sycamore, and Bigleaf Maple. On canyon bottoms and wet slopes where moisture and shade are greatest, there are remnants of the redwood forest that once covered the East Bay Hills. On the drier and more exposed slopes in the South Hills, coast live oak is predominant, sometimes accompanied by Black Oak, Bay, and Bigleaf Maple. Understory conditions depend heavily on the density and nature of the canopy, and typically include grasses, ferns, chaparral, poison oak, blackberry, and other shrubby vegetation.

The woodland communities support a rich and diverse array of wildlife. Redwood forests provide food and shelter for nearly 200 different animal species. Likewise, the oak woodlands provide breeding, nesting, and feeding grounds for more than 60 species of mammals and 100 species of birds. Resident animals include ground squirrels, racoons, deer, mice, and owls.

Oakland's woodlands also include areas dominated by eucalyptus and Monterey pine. In 1910, a 14-mile Eucalyptus plantation was planted by lumber speculators along the ridge from Redwood Road to North Berkeley. Today, eucalyptus habitat range from single trees with little or no understory to clustered trees with dense scrub and herbaceous understory. Monterey Pines were also planted in these areas, as were other exotic species. Many of the animal species found in the

oak or riparian woodlands are also found in these areas. However, since the diversity of plant species is diminished, the number of different animal species present is usually smaller.

On the other hand, riparian woodlands along Oakland's streams and creeks are very diverse biologically. Their vegetation consists of dense broadleaf trees, shrubs, and vines. Species include cottonwoods, willows, and alders, in addition to the plants found in other Oakland woodland areas. The moist, sandy soils in these areas accommodate a wide variety of shrubs, herbs, and grasses beneath the canopy. Riparian areas are probably the most visible plant communities in Oakland's urban neighborhoods, often forming dense bands of vegetation in residential backyards. Since they are linear in nature, they provide migratory corridors for a range of wildlife, including skunks and opossums.

### **Brushlands**

The brushlands include chaparral and coastal scrub plant communities. Chaparral is the familiar plant community found on Oakland's drier brushy hillsides. It consists of broad-leaf shrubs and is usually found on dry, steep slopes and ravines. Most plants in this community have adapted to poor soil conditions and lack of year round water by developing two sets of roots, one to catch surface water and another deep enough to tap moisture from fractured bedrock. The shrubs are so dense that they are practically impenetrable; there is little or no understory below. The low moisture and high resin content of chaparral makes it highly flammable and it is in this habitat that dangerous wildfires often originate. Chamise is the most common shrub, and manzanita, coyote bush, and ceanothus are often found in chaparral communities. Coastal scrub includes similar plants, along with poison oak, coffeeberry, sagebrush, blackberry, and wildflowers. Coastal scrub is found under the same conditions as chaparral but is somewhat less dense.

Although brushland is less ecologically productive than woodland and wetland, it supports a wide variety of animal life, including many nocturnal species. Squirrels, skunks, deer, opossum, racoon, and other woodland dwellers are frequent visitors to brushland areas. Coyote, foxes, brush rabbit, mice, lizards, and snakes are also common.

### **Grasslands**

Grasslands in Oakland usually occur on south or west facing slopes and on knolls and ridgetops. Much of flatland Oakland was once covered by grasslands, but these were removed when the land was cultivated for farming. Some patches of grassland persist near the shoreline, where they are an integral part of the wetland ecosystem. Oakland's grasslands also include the remnants of serpentine bunchgrass and valley needlegrass communities, now considered to be rare habitat. The serpentine communities have a high tolerance for minerals that may be toxic to other plants and are located in areas along Redwood Road.

The composition of grassland plants range from annual and perennial grasses to dense prairies, bunch grass, and wildflowers. Most hillside grasslands are composed of Wild Oats, Bromes, Italian Rye Grass, Foxtail, and Purple Needlegrass. Blue Bunch Grass, California Oat Grass, Foothill Sedge, and other broad-leafed herbaceous species are also common. Most of the grasses are exotic species that invaded after European livestock were introduced in the 1800s. Wildlife in the grassland habitat includes ground squirrels, pocket gophers, jackrabbits, mice, and gopher snakes, as well as a variety of bird species.

## Wetlands

Oakland's wetlands usually form a transitional zone between terrestrial and aquatic habitat areas. They have critical ecological importance and are one of the City's most valuable natural resources. Most marine life in the bay depends on wetlands either directly or indirectly for sustenance and survival. Habitats include "estuarine" wetlands, located along the shoreline and dominated by cordgrass and pickleweed; "riverine" and "palustrine" wetlands, found along Oakland's creeks; and "lacustrine" wetlands, found along Lakes Temescal, Chabot, and Merritt. Most of Oakland's wetland acreage is estuarine.

The estuarine wetlands are characterized by salt marshes and mudflats. They are found at the Emeryville Crescent, along the shoreline of San Leandro Bay (including Fan, Damon, and Arrowhead Marshes), and within the boundaries of Oakland Airport. All of San Leandro Bay is classified as an estuarine wetland. At high tide, the Bay consists of about 600 acres of open water; at low tide, open water is reduced to about 100 acres and extensive mudflats are exposed. The San Leandro Bay salt marshes once encompassed 2,000 acres but have been reduced to about 70 acres by landfill and drainage projects. The lacustrine wetlands are characterized by marsh grasses (tule, bulrush, sedge, cattails, etc.) and are characterized by low salinity and low oxygen levels. Similar plants are found in the riverine and palustrine wetlands.

The Emeryville Crescent and San Leandro Bay wetlands provide habitat for a wide range of animal life. Clams, crabs, barnacles, sea stars, sea cucumbers, snails, mussels, worms, and plankton may be found on the lowest exposed areas. At high tide, these organisms provide food for striped bass, sturgeon, and other bay fish. At low tide, they provide food for water birds such as clapper rails, avocets, egrets and blue herons, ducks, gulls, sandpipers, dunlins, curlews, plovers, grebes, willets, dowitchers, yellowlegs, and whimbrels. Several of the bird species have been given special status by the state or federal governments due to their declining population. These are profiled later in this chapter. These species may be threatened by a loss of habitat, pesticide contamination and runoff, and predation by domestic animals.

## Urban Habitat

A majority of the habitat in Oakland is associated with land that has been urbanized. Urban vegetation consists of the trees, shrubs, and grasses that have been planted in residential yards, in

cemeteries, along streets, on median strips, on public lands, and in commercial and industrial developments. The canopy and density of vegetation varies depending on the species planted and the landscape design. In addition to providing nesting and feeding areas for wildlife, trees in the urban environment help improve air quality, abate noise, conserve energy, absorb runoff, and beautify Oakland's neighborhoods. There are 103 different tree species identified in Oakland's street tree plan, corresponding to the microclimates and soil conditions found in different parts of the City.

Wildlife in urban areas includes many of the species found in the woodland, brushland, and grassland communities. Some have adapted better to the urban environment than others. Birds are abundant in neighborhoods with large street trees and landscaping. Rock doves, house finches, hummingbirds, scrub jays, mockingbirds, and sparrows are common.

### ***SPECIAL STATUS SPECIES***

Special status species are those which have been identified by the federal and state governments and various conservation organizations as requiring protection and conservation due to their rarity, scarcity, or danger of extinction. The Endangered Species Act of 1974 authorized federal departments and agencies to conserve species falling into the following three categories:

- *Endangered species*, that is species whose survival and reproduction in the wild is in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors
- *Threatened species*, or species which are likely to become endangered in the future throughout all or a significant portion of its range
- *Rare species*, that is, species which are not presently threatened but exist in such small numbers throughout all or a significant portion of their ranges that they may become endangered if their environment worsens.

In addition, both the federal and state governments list species which are being considered for addition to the rare, threatened, and endangered list. At the federal level, these are called "proposed" species. Before a species is placed on the "proposed" list, it is placed on the "candidate" list. Candidate species are classified as Category 1, 2, or 3, depending on the level of information supporting their advancement to protected status. The federal government also identifies "recommended" species, or species which are believed to require Category 1 or 2 status. The lead agency in making these determinations is the US Fish and Wildlife Service.

The State equivalents to "proposed" species are called "candidate" species. The State also identifies "species of special concern." The lead agency making these determinations is the State Department of Fish and Game. Furthermore, the California Native Plant Society has developed a list of rare and endangered plants and under CEQA these plants are provided limited protection.



Tables III.H-2 and III.H-3 identify special status plants and animals in Oakland and the East Bay area. Most of the listed plants are found on undeveloped hillsides, particularly where unusual ground conditions such as serpentine soils or rock outcroppings are present. A number of plants that typically grow in salt marshes are also on the list.

Table III.H-3 lists two mammals, one reptile, 14 birds, one fish, and one insect. Not all of these species have actually been confirmed present in Oakland. They are listed here because the habitat that supports them exists in the City or because they have been observed in nearby jurisdictions. There may be additional special status species, including insects, fishes, and invertebrates, in the Oakland Planning Area. A majority of the special status species are wetland dwellers. As wetland habitat has been filled or degraded, these species have vastly diminished in number. Wetland birds constitute the greatest number of special status species. Most of the sightings have been at the Emeryville Crescent and San Leandro Bay, although clapper rails and least terns have been observed in locations like the Airport and Army Base and peregrine falcons have been observed nesting on the Bay Bridge. In the hills, the major species of special concern is the Alameda Whipsnake. Most open sites with a coastal scrub, chaparral, riparian mosaic may be potential habitat.

### ***VEGETATION AND WILDLIFE CHARACTERISTICS OF “CHANGE AREAS”***

#### **Central Business District**

The Central Business District has been fully urbanized. Vegetation is limited to street trees, and to landscaped areas within City parks, on roof gardens, and in private yards. A number of vacant lots contain weedy or non-native grassy vegetation and shrubs. The Lake Merritt edge consists of a man-made wall along most of its length. Wildlife is limited to birds and occasional opossums, raccoons, and other small mammals using the storm sewers for travel. The probability of special status species in this area is extremely low.

#### **Estuary Shoreline**

Virtually the entire Estuary shoreline between Jack London Square and High Street has been fully urbanized. However, there may be remnants of wetland vegetation in a number of isolated locations, including portions of the Lake Merritt Tidal Channel and East Creek Slough. Most of the wetlands east of High Street are contained within Martin Luther King Junior Regional Shoreline Park. The Estuary shoreline includes a number of large vacant parcels, some of which contain shoreline grassland or urban vegetation. Vacant land within the area may provide habitat for mice and a variety of birdlife. Because of the area’s location between the Lake Merritt and San Leandro Bay bird refuges, a large number of shorebirds may travel through the area.

**TABLE III.H-2  
RARE, THREATENED, AND ENDANGERED VASCULAR PLANTS  
POTENTIALLY PRESENT IN OAKLAND**

Common Name	Scientific Name	Federal Status	State Status	Where Observed <sup>1</sup>
Alameda manzanita	Arcostaphylos pallida	C1	E	Montclair/ Skyline Ridge
Milk vetch	Astragalus tener var. tener	--	E	
Balsamroot	Balsamorhiza macrolepis var. macrolepis	--	--	
Mt. Diablo globelily	Calochortus pulchellus	--	--	
Oakland star-tulip	Calochortus umbellatus	--	--	Throughout hills
San Francisco Bay spineflower	Chorizanthe cuspidata var. cuspidata	C2	--	
Robust spineflower	Chorizanthe robusta var. robusta	--	--	
Presidio clarkia	Clarkia franciscana	C1	E	Skyline/ Redwood area
Serpentine collomia	Collomia diversifolia	--	--	
Pt.Reyes bird's beak	Cordylanthus maritimus ssp. palustris	C2	--	
Soft bird's beak	Cordylanthus mollis ssp mollis	C1	R	
Hoover's cryptantha	Cryptantha hooveri	--	--	
Western leatherwood	Dirca occidentalis	--	--	North Hill canyons
Tiburon buckwheat	Eriogonum caninum	--	--	
Fragrant fritillary	Frittilaria lilacea	C2	--	Tilden/ Lake Chabot
Great Valley gumplant	Grindelia camporum var.parviflora	--	--	
Marsh gumplant	Grindelia humilis	--	--	Emeryville Crescent/ Airport/ San Leandro Bay
Mt. Diablo sunflower	Helianthella castanea	C2	--	Leona Heights Park
Parry's tarplant	Hemizonia parryi ssp. congdonii	--	--	
Santa Cruz tarplant	Holocarpha macradenia	C1	E	EBMUD lands
Wedge-leaved horkelia	Horkelia cuneata ssp. sericea	C2	--	
Delta tule pea	Lathyrus jepsonii ssp. jepsonii	X2	--	
Hairless popcornflower	Plagiobothrys glaber	C2	--	
Valley oak	Quercus lobata	--	--	Hills
Lobb's Aquatic buttercup	Ranunculus lobii	--	--	
Straggly gooseberry	Ribes divaricatum var. pubiflorum	--	--	Chabot Regional Park
Sanicula maritima	Sanicula maritima	C2	R	

**TABLE III.H-2 (Continued)**  
**RARE, THREATENED, AND ENDANGERED VASCULAR PLANTS**  
**POTENTIALLY PRESENT IN OAKLAND**

Common Name	Scientific Name	Federal Status	State Status	Where Observed <sup>1</sup>
Metcalf Canyon jewelflower	<i>Streptanthus albidus</i> ssp. <i>albidus</i>	C1	--	
Uncommon jewelflower	<i>Streptanthus albidus</i> ssp. <i>peramoneus</i>	C1	--	Crestmont area
Mt. Diablo cottonweed	<i>Sylocline amphibola</i>	--	--	Merritt College
California sueada	<i>Sueda californica</i>	--	--	Bay Farm Island

NOTES: C1 = Category 1  
C2 = Category 2  
E = Endangered  
R = Rare

<sup>1</sup> Only observations within or adjacent to the City of Oakland are listed. Observations prior to the year 1900 are not included.

SOURCE: OSCAR Technical Report Volume 1, December 1993, City of Oakland.

## Military Bases

The Fleet Industrial Supply Center - Oakland (FISCO) and the Oakland Army Base (OAB) are fully urbanized and contain very little vegetation. Past heavy industrial and transportation activities at both locations have reduced the potential for either of these areas to support a diverse wildlife population. However, because both areas are proximate to the shoreline, it is likely that shorebirds may use the area for nesting and roosting. Some of these species may be classified as rare, endangered, or threatened. As recently as 1992, the endangered least tern was observed at the Army Base. It is also likely that mice and urban wildlife such as opossums and racoons, may visit these areas from time to time. Oak Knoll Naval Hospital includes more than 100 acres of hillside open space, including grassland and oak woodland. Unlike the other two military bases, it contains habitat suitable for a range of animals, including larger mammals like foxes, coyote, and deer. The Hospital may also contain habitat suitable for threatened species such as the Alameda Whipsnake and Bay Checkerspot Butterfly.

**TABLE III.H-3  
SPECIAL STATUS ANIMAL SPECIES IN OAKLAND**

Species	Scientific Name	Federal Status	State Status	Habitat
Salt Marsh Harvest Mouse	Reithrodontomys raviventris	Endangered	Endangered	Salt Marshes, especially in the pickleweed zone. <i>Last observed: 1982, Emeryville Crescent (ID now considered possibly erroneous)</i>
Salt Marsh Vagrant Shrew	Sorex vagrans halicoetes	Category 1	Special Concern	Higher levels of the Salt Marshes, especially where driftwood is scattered among pickleweed. <i>Last observed: 1950s, near Oakland Airport</i>
Alameda Whipsnake (striped racer)	Masticophis lateralis euryxanthus	Category 2	Threatened	Coastal scrub and chaparral, especially in combination with riparian zones. <i>Last observed: Hills between Oakland and Orinda, 1990. Also, Leona Heights Park, date not specified.</i>
California Clapper Rail	Rallus longirostris obsoletus	Endangered	Endangered	Salt marshes (cordgrass areas) traversed by tidal sloughs near San Francisco Bay. <i>Last observed: 1975, Arrowhead Marsh</i>
California Least Tern	Sterna antillarum albifrons	Endangered	Endangered	Bare or sparsely vegetated flat areas; beaches, pavement, landfill, or alkali flats beside lagoons or estuaries. <i>Last observed: 1992, Oakland Airport; also observed at Oakland Army Base and NAS Alameda.</i>
American Peregrine Falcon	Falco peregrinus anatum	Endangered	Endangered	Rocky cliffs or manmade structures. <i>Last observed: Nest on Bay Bridge, late 1980s</i>
California Brown Pelican	Pelecanus occidentalis californicus	Endangered	Endangered	Steep rocky slopes in sandy, saline environments. <i>Last observed: regularly, Emeryville Crescent, San Leandro Bay, and Lake Merritt</i>

**TABLE III.H-3 (Continued)**  
**SPECIAL STATUS ANIMAL SPECIES IN OAKLAND**

Species	Scientific Name	Federal Status	State Status	Habitat
California Black Rail	<i>Laterallus jamaicensis coturniculus</i>	Category 1	Threatened	Salt marshes, in pickleweed and bulrush areas. <i>Last observed: Berkeley, 1979.</i>
Western Snowy Plover	<i>Charadrius alexandrius</i>	Category 2	Special Concern	Sand dune areas. <i>Last observed: regularly, Oakland Airport</i>
Salt Marsh Yellowthroat	<i>Geothlypis trichas sinuosa</i>	Category 2	Special Concern	Tall wetland and adjacent upland vegetation. <i>Last Observed: 1989, Emeryville Crescent; 1992, Oakland Airport</i>
Alameda Song Sparrow	<i>Melospiza melodia pusillula</i>	Category 2	Special Concern	Salt marsh with adjacent upland vegetation. <i>Last observed: Emeryville Crescent, 1990</i>
Long-billed Curlew	<i>Numenius americanus</i>	Category 2	Special Concern	Grasslands and cordgrass/mudflat areas. <i>Last observed: Emeryville Crescent, 1990</i>
Burrowing Owl	<i>Athene cunicularia</i>	--	Special Concern	Open, dry\ level grasslands. <i>Last observed: regularly around Oakland Airport Central Basin; also, near Edgewater and Pardee, 1993.</i>
Double Crested Cormorant	<i>Phalacrocorax auritus</i>	--	Special Concern	Coastal cliffs, offshore islands, on sequestered islets or sloping ground or in tall trees on water's edge. <i>Last observed: 1988, Bay Bridge; Regularly, Lake Merritt.</i>
Common Loon	<i>Gavia immer</i>	--	Special Concern	Winter migrant to SF Bay; does not nest/breed locally. <i>Last observed: No data available.</i>
Barrow's Goldeneye	<i>Bucephala islandica</i>	--	Special Concern	Diving duck, present in small numbers in fall/ winter. Does not nest/ breed locally. <i>Last observed: Regularly (winters), Lake Merritt Tidal Channel</i>

**TABLE III.H-3 (Continued)**  
**SPECIAL STATUS ANIMAL SPECIES IN OAKLAND**

Species	Scientific Name	Federal Status	State Status	Habitat
Northern Harrier	Circus cyaneus	--	Special Concern	Marsh and wetland areas <i>Last observed: No data available.</i>
Loggerhead Shrike	Information Not Available			Marsh and wetland areas <i>Last observed: Oakland Airport, 1992</i>
Tidewater Goby	Eucyclogobius newberryi	Category 2	Special Concern	Brackish water with fairly high oxygen levels. <i>Last observed: 1975, Lake Merritt</i>
Bay Checkerspot Butterfly	Euphydras editha bayensis	Threatened	--	Native grasslands on serpentine outcroppings. <i>Last observed: 1980, Joaquin Miller Park</i>

SOURCE: OSCAR Technical Report Volume 1, December 1993, City of Oakland

### **Coliseum Area (San Leandro Street industrial corridor)**

Although the officially-designated Coliseum Redevelopment Area includes wetlands around San Leandro Bay and Oakland Airport, the only areas designated for new land uses are located in already urbanized upland locations. Most of the land in the I-880 and San Leandro Street corridors consists of developed industrial or commercial parcels. A number of vacant lots and small city parks are located in this area, along with scattered street trees and trees in residential yards. Plants are generally limited to non-native grasses and ornamental shrubs. Typical animal species include deer mice, voles, opossum, and ground squirrels, with a variety of birds present in areas with a tree canopy. Areas closest to the shoreline, particularly along the sloughs and bayfront in the Oakport and Edgewater areas, have the potential for a broader variety of birdlife, including some protected species.

### **Leona Quarry**

Like Oak Knoll Naval Hospital, Leona Quarry includes about 100 acres of hillside open space. However, unlike the Naval Hospital, most of this space has had its habitat value greatly reduced by human activity. Mining operations on most of the land have substantially reduced its ability to support plant and animal life. Peripheral areas of the quarry site include oak woodlands. These

areas adjoin larger privately owned wooded open spaces in the Ridgemont development that support deer, raccoon, skunks, and other small mammals. The potential for special status species (Alameda whipsnake and Bay Checkerspot Butterfly) exists but is very low.

### **Transit Corridors**

The transit corridors are fully urbanized. Vegetation is limited to City parks, vacant lots, parking strip and median plantings, and landscaping on private properties. Animal life is generally limited to birds and species that have adapted to urban environments. Special status species are very unlikely in these areas.

### **BART Transit-Oriented Development**

The BART station areas are fully urbanized. Vegetation is limited to vacant lots, parking strip and median plantings, and landscaping at the BART stations and surrounding properties. Animal life is generally limited to birds and species that have adapted to urban environments. Special status species are very unlikely.

## **SIGNIFICANCE CRITERIA**

Section 15065 (a) of the California Environmental Quality Act (CEQA) Guidelines specifies that a lead agency shall find that a project may have a significant effect on the environment when the project has the potential to “substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of restrict the range of a rare or endangered species....” Appendix G of the CEQA Guidelines provides examples of impacts that normally are considered significant. These include those that would “substantially affect a rare or endangered species of animal or plant or the habitat of the species;” “interfere substantially with the movement of any resident or migratory fish or wildlife species;” or “substantially diminish habitat for fish, wildlife, or plants.”

Given these standards, a project would be considered to have a significant adverse impact on plant and animal resources if it would result in substantial disruption to, or destruction of, any special status species, their habitat, or their breeding grounds. Impacts would be considered significant if they caused a change in species composition, abundance, or diversity beyond that of normal variability. The measurable degradation of sensitive habitats (e.g., wetlands or riparian areas) resulting directly from implementation of a project would also be considered significant. Impacts would be considered cumulatively significant when the incremental effects of the individual project when viewed together with past projects, other current projects, and probable future projects, would substantially affect the resource.

## IMPACTS AND MITIGATION MEASURES

### OVERVIEW

Vegetation and wildlife impacts could occur as development consistent with the proposed Land Use and Transportation Element takes place on sites with significant biotic resources. As the Element is implemented, the amount of developed land in the City would increase and the acreage in open space and vegetated land would decrease. Impacts to plants and animals could result as trees are removed, habitats are disturbed, and human activity encroaches into previously undisturbed areas. New construction along the shoreline and creeks and in the Oakland Hills could disturb special status species and diminish habitat value for other plants and animals. Development adjacent to protected areas, including wetland parks, could result in off-site impacts that could be considered significant.

It is important to note that most of these impacts also would result through continued implementation of the existing General Plan. The impacts listed below are specifically highlighted because the proposed Plan emphasizes the redevelopment of targeted geographic areas. Generally, the proposed Plan would have a lesser impact on vegetation and wildlife than the existing Plan, as it designates fewer acres for urban uses and designates the City's more environmentally sensitive areas for resource conservation. Impacts would generally be limited to those areas where an increase in development intensity over the 1980 General Plan is permitted.

### Direct Loss of Habitat

**Impact H.1: Development consistent with the Land Use and Transportation Element could damage or remove potential habitat for special status species on undeveloped parcels within the City, particularly at the military bases, along the Estuary, and at Leona Quarry. This is a less-than-significant impact due to existing policies in the OSCAR Element, proposed policies in the Land Use and Transportation Element, and CEQA requirements for subsequent environmental review.**

Redevelopment of the Army Base, Fleet Industrial Supply Center, Naval Hospital, Leona Quarry, and Oakland Estuary shoreline could result in the removal of trees, shrubs, grass, and other vegetation that presently supports animal life. Although these areas were also designated for development in the 1980 General Plan, the proposed Plan emphasizes their redevelopment with more intense uses and could act as a catalyst for new development. Subsequent environmental studies for each of these projects would be required prior to redevelopment to assess the specific impacts on vegetation and wildlife.

In addition to the sites mentioned above, the Plan designates approximately 800 acres of undeveloped land in the Oakland Hills for "Hillside Residential" development. Another 500 acres of subdivided vacant lots in the hills bear the same designation. All of these sites were designated for "Low Density" or "Suburban" Residential development in the 1980 Plan. Most of the sites are heavily wooded and form transitional zones between large publicly owned open



space lands. Cumulatively, the sites provide significant habitat for wildlife, possibly including the Alameda Whipsnake and Bay Checkerspot Butterfly. Development of these areas would remove much of the vegetation, introduce invasive plant species, and displace wildlife or block migratory corridors.

Biotic impacts in the Downtown area, along transit corridors, and in transit village areas would be less than significant. Most of the plant and animal resources in these areas are located in existing City parks and would not be adversely impacted by the intensified levels of activity on nearby sites. Likewise, biotic impacts associated with the transportation improvements described in the Plan would be less than significant, since the improvements are limited to areas that are already developed and largely devoid of vegetation. Any future roadway improvements along the waterfront or near San Leandro Bay would be subject to further environmental review and study.

Construction-related impacts on vegetation and wildlife could result from adoption of the Land Use and Transportation Element. These impacts include direct mortality of resident species from construction activity, habitat loss or degradation, and disturbance of nests. These impacts and any other impacts on sensitive habitat or special status species may be determined and mitigated on a project specific basis as future development is proposed on specific sites.

As part of the 1996 OSCAR, the City adopted a series of policies associated with impacts to biotic resources. These policies, which are identified below, would mitigate some of the localized biotic resource impacts that could occur as a result of development.

**OSCAR Action OS-1.2.5:**

Designate the Emeryville Crescent as a Resource Conservation Area and manage the area to preserve its value as an estuarine wetland. Encourage the Port of Oakland and the private sector to facilitate the transfer of the Crescent to the California Department of Parks and Recreation.

**OSCAR Action OS-3.2.1:**

Work with the agencies and commissions developing re-use plans for Oak Knoll Naval Hospital to designate steep slopes, significant oak woodlands, and riparian areas as Resource Conservation Areas.

**OSCAR Policy CO-6.1:**

Protect Oakland's remaining natural creek segments by retaining creek vegetation, maintaining creek setbacks, and controlling bank erosion. Design future flood control projects to preserve the natural character of creeks and incorporate provisions for public access, including trails, where feasible. Strongly discourage projects which bury creeks or divert them into concrete channels.

**OSCAR Policy CO-7.1:**

Protect native plant communities, especially oak woodlands, redwood forests, native perennial grasslands, and riparian woodlands, from the potential adverse impacts of development. Manage development in a way which prevents or mitigates adverse impacts to these communities.

**OSCAR Policy CO-7.3:**

Make every effort to maintain the wooded or forested character of tree-covered lots when development occurs on such lots.

**OSCAR Policy CO-7.4:**

Discourage the removal of large trees on already developed sites unless removal is required for biological, public safety, or public works reasons.

**OSCAR Policy CO-8.1:**

Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts.

**OSCAR Policy CO-9.1:**

Protect rare, endangered, and threatened species by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas.

**OSCAR Action CO-9.1.1:**

Develop performance criteria, development standards, and standardized mitigation measures for development within the habitat of the species listed in Tables 6 and 7 (corresponding to Tables D-2 and D-3 in this EIR). These tables should be updated from time to time to add or delete species as appropriate.

**OSCAR Action CO-9.1.2:**

Require large-scale development within the habitat of the species listed in Tables 6 and 7 (corresponding to Tables D-2 and D-3 in this EIR) to conduct pre-development surveys to determine whether these species are present. Require site-specific analyses of the effects of the proposed development on the species where appropriate, along with a plan for minimizing those effects. These surveys and analyses may be included in any environmental documentation for a project.

**OSCAR Policy CO-11.1:**

Protect wildlife from the hazards of urbanization, including loss of habitat and predation by domestic animals.

**OSCAR Action CO-11.1.1:**

Require wildlife surveys when major open space areas are managed for fire prevention (including controlled burns) or are disturbed in any way which could have a significant adverse impact on wildlife populations.

OSCAR Policy CO-11.2:

Protect and enhance migratory corridors for wildlife. Where such corridors are privately owned, require new development to retain native habitat or take other measures which help sustain local wildlife population and migratory patterns.

The following additional policies addressing the potential impacts of future development and construction on vegetation and wildlife habitat are included in the Draft Land Use and Transportation Element:

Policy W3.1:

Waterfront objectives, policies, and actions regarding geology, land stability, erosion, soils, water quality, flood hazards, wetland plant and animal habitats, and air quality and pollutants, shall be consistent and in compliance with the Open Space, Conservation, and Recreation Element of the City's General Plan.

Policy W3.3:

Native plant communities, wildlife habitats, and sensitive habitats should be protected and enhanced.

Specific mitigation measures would still need to be developed for future projects in environmentally sensitive areas, including sites in the Oakland Hills, along creeks, along the shoreline, and at the military bases.

**Mitigation Measure H.1:** None required.

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**Disturbance to Resource Conservation Areas**

**Impact H.2: Development consistent with the Land Use and Transportation Element could trigger impacts on adjacent lands designated for Resource Conservation. Greater levels of noise, traffic, lighting, urban runoff, and human activity on lands adjacent to waterfront parks could reduce the value of these areas as wildlife habitat. This is a less-than-significant impact due to existing policies in the OSCAR Element.**

The proposed Land Use and Transportation Element promotes the redevelopment of land near the Oakland shoreline with higher intensity, higher value land uses. While new waterfront park and open space areas may provide some new habitat for shorebirds on former industrial or maritime sites, the increased presence of people (and domestic animals) near the shoreline could have undesirable impacts on adjacent wildlife preserves at Lake Merritt and along San Leandro Bay. Development of trails and park facilities in or adjacent to these preserves could introduce light, noise, and trash into inaccessible areas, potentially disturbing feeding and nesting behavior. Although no wetlands have been designated for development, intensified activities on nearby upland sites could alter the quantity and quality of runoff into the wetlands and produce adverse

impacts. Elevated levels of oil, grease, heavy metal, and fertilizer could enter the wetlands, creeks, and ultimately San Francisco Bay.

Oakland's wetlands may provide habitat for special status species, including the clapper rail, least tern, and burrowing owl. Development in and around these areas could contribute to the cumulative loss of habitat for these species. Field surveys of future development sites may be required to determine whether project-level mitigation is necessary.

As part of the 1996 OSCAR, the City adopted a series of policies associated with biotic resources. These policies, which are identified below, mitigate this impact.

OSCAR Policy CO-5.3:

Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program, to: (a) reduce water pollution associated with stormwater runoff; (b) reduce water pollution associated with hazardous spills, runoff from hazardous material areas, improper disposal of household hazardous wastes, illicit dumping, and marina live-aboards; and (c) improve water quality in Lake Merritt to enhance the lake's aesthetic, recreational, and ecological functions.

OSCAR Action CO-5.3.5:

Continue to use the environmental review process to ensure that future road construction and dredging projects incorporate measures to protect water quality in potentially impacted lakes, creeks, wetlands, and nearshore waters. Consider developing standard mitigation measures for future road improvement and dredging projects in collaboration with Caltrans and the Port.

OSCAR Policy CO-6.4:

Manage Oakland's lakes to take advantage of their recreational and aesthetic potential while conserving their ecological functions and resource value. Discourage new recreational uses which impair the ability of the lakes to support fish and wildlife. Support improvements which enhance water circulation, water quality, and habitat value, provided they are cost-effective and are compatible with established recreational activities.

OSCAR Policy CO-6.5:

Protect the surface waters of the San Francisco Estuary system, including San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.

OSCAR Policy CO-8.1:

Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts.

OSCAR Action CO-8.1.2:

Work with the Port to establish buffers or mandatory setbacks on the perimeter of wetlands.

OSCAR Action CO-8.1.3:

Limit public access within the Emeryville Crescent, Damon Marsh, Arrowhead Marsh, and Fan Marsh.

OSCAR Action CO-9.1.3:

Support a collaborative effort between Oakland, County, state and federal agencies, adjacent cities, the East Bay Regional Park District, and local environmental groups to develop a long-term multi-species habitat conservation plan (HCP) for the East Bay Hills.

**Mitigation Measure H.2:** None required.

## Special Status Species

**Impact H.3: Development consistent with the Land Use and Transportation Element could affect the habitat of certain special status plants and result in the loss of special status plant species, and could result in the loss of mature trees on new development sites. This is a less-than-significant impact due to existing policies in the OSCAR Element.**

A small number of undeveloped sites in the Oakland Hills contain Alameda Manzanita, Western Leatherwood, Presidio Clarkia, Uncommon Jewelflower, Tiburon Buckwheat, and Oakland Star Tulip. All of these species are identified as rare, endangered, or threatened by the California Native Plant Society. Although they typically occur on land that is publicly owned, some of these plants may be present on private sites designated for Hillside Residential development. Development consistent with the Proposed Land Use Diagram could result in the direct loss of these plants, or the destruction of habitat suitable for their presence. In all cases, these sites were designated for residential development in the prior General Plan.

The loss of large trees could occur in both hill and flatland neighborhoods as development consistent with the Plan takes place. These could include coast live oak, some of which are very old. Although Oakland's tree removal ordinance requires a permit before large trees are removed, and includes more stringent requirements for the removal of coast live oak trees, adverse impacts are still possible. Impacts to trees could either be direct, through tree cutting, or indirect, through construction, grading, or irrigation changes in their vicinity.

As part of the 1996 OSCAR, the City adopted a series of policies associated with biotic resource impacts. These policies, which are identified below, mitigate this impact.

OSCAR Policy CO-7.1:

Protect native plant communities, especially oak woodlands, redwood forests, native perennial grasslands, and riparian woodlands, from the potential adverse impacts of development. Manage development in a way which prevents or mitigates adverse impacts to these communities.

OSCAR Policy CO-7.3:

Make every effort to maintain the wooded or forested character of tree-covered lots when development occurs on such lots.

OSCAR Policy CO-7.4:

Discourage the removal of large trees on already developed sites unless removal is required for biological, public safety, or public works reasons

OSCAR Action CO-9.1.2:

Require large-scale development within the habitat of the species listed in Tables 6 and 7 (corresponding to Tables III.H-2 and III.H-3 in this EIR) to conduct pre-development surveys to determine whether these species are present. Require site-specific analyses of the effects of the proposed development on the species where appropriate, along with a plan for minimizing those effects. These surveys and analyses may be included in any environmental documentation for a project.

**Mitigation Measure H.3:** None required.

## I. HYDROLOGY AND WATER QUALITY

### SETTING

#### *PRECIPITATION AND SURFACE WATERS*

The project area lies within the overall regional drainage of San Francisco Bay. Average annual rainfall varies within the City of Oakland from about 16 to 26 inches going west from the Bay towards the hills. The City is located along the eastern margin of San Francisco Bay, with over 19 miles of shoreline. Major water features of the Bay along Oakland's shoreline include, from north to south, the Outer Harbor, Middle Harbor, Oakland Estuary or Inner Harbor, and San Leandro Bay.

Surface drainage within the City is controlled by a combination of natural creeks and man-made storm water drainage facilities. About fourteen major creeks and 30 tributaries run through the City, flowing west from the hills to the Bay. In their upper reaches, the creeks generally follow natural channels, while downstream in the flatlands, most creek channels have been routed through man-made channels lined with concrete or buried in culverts and pipes. In addition to the creeks, there are three major lakes plus several East Bay Municipal Utility District water supply distribution reservoirs.

#### **San Francisco Bay**

Along Oakland's shoreline, San Francisco Bay is generally less than ten feet deep. In the Outer and Inner Harbor areas, the shipping channel is periodically dredged by the Port of Oakland to maintain adequate depth for shipping. Nearshore waters are characteristically more marine in nature and subject to tidal currents than other parts of the Bay due to the proximity to the Golden Gate. Sediments from Oakland's shoreline and creeks are carried by the tidal current to shoals and sand bars, causing silting of the shipping channels.

#### **Major Creeks and Watersheds**

The City's drainage system can be divided into separate drainage basins or watersheds that are generally associated with one of the major creeks. Major creeks include Strawberry Creek, Claremont Creek, Temescal Creek, Glen Echo Creek, Trestle Glen Creek, Sausal Creek, Peralta Creek, Courtland Creek, Seminary Creek, Lion Creek, Arroyo Viejo, Elmhurst Creek, Stonehurst Creek, and San Leandro Creek. The largest watersheds include the ones associated with Temescal, Sausal, Lion, and Arroyo Viejo creeks, and all watersheds flow either directly to the Bay or to Lake Merritt and then to the Bay. The hydrologic conditions of the creeks vary widely, from being almost entirely buried and contained within manmade channels (such as Trestle Glen and Stonehurst creeks) to having large segments of natural, free flowing creek sections supporting riparian vegetation (such as Strawberry and San Leandro creeks). Where the creeks are open, many of them cross private residences, but a few, such as Sausal Creek, flow through parks and

are accessible to public. A field survey of the conditions of Oakland's creeks was conducted in 1992, and further information on individual creeks is available in Technical Report #5, Water Resources (City of Oakland, 1993) as background for the Open Space Conservation and Recreation Element.

### **Lakes and Reservoirs**

The three lakes in Oakland -- Lake Temescal, Lake Merritt, and Lake Chabot -- are all artificial lakes constructed during the last century. Lake Merritt is a 155-acre tidal estuary in downtown Oakland and was originally connected directly to the Bay until a dam was built in 1869 across the tidal marshes. The lake is currently used as both a recreational facility and a stormwater holding basin, and its water level is regulated by tidal gates at the Seventh Street Pump Station. Lake Temescal is a 10-acre lake created as a water supply reservoir in 1866 by the damming of Temescal Creek. Currently it serves as an urban park land for swimming and fishing maintained by the East Bay Regional Park District. Lake Chabot is a 315-acre reservoir, largely located in unincorporated Alameda County at the southeastern corner of Oakland, constructed in 1875 as a water supply reservoir. It is used extensively as a recreational fishing lake, but also serves a standby emergency water supply. All three lakes are identified by the Regional Water Quality Control Board (RWQCB) as significant surface waters in the Water Quality Control Plan for the San Francisco Bay Basin (California RWQCB, 1995).

The East Bay Municipal Utility District maintains several distribution reservoirs in Oakland, including the 23rd Avenue Reservoir, the 39th Avenue Reservoir, Seneca Reservoir, and Estates Drive Reservoir. Most of these facilities are large covered tanks with restricted access.

### ***STORM DRAINAGE SYSTEM AND FLOOD ZONES***

Please refer to Section III.D.3, Public Services, Storm Drainage.

### ***GROUNDWATER***

The East Bay Plain is an important groundwater basin underlying the East Bay, extending from Richmond to Hayward and including the City of Oakland (California RWQCB, 1995). The basin is identified for municipal, industrial and agricultural water supply, although the East Bay Municipal Utility District is the major water purveyor for Oakland and the groundwater basin is currently not being used for municipal water supply. However, groundwater is currently used by industry as well as for water quality testing and monitoring. Depth to groundwater varies, but is generally more than ten feet below ground surface. The quality of the shallow groundwater has been affected by urban uses, including leakage from sewer pipes, underground storage tanks, and improper handling or storage of hazardous materials. The Regional Water Quality Control Board is currently conducting a beneficial uses study of the East Bay Plain aquifer (Clark-Clough, 1997).



### ***WATER QUALITY***

Like all urban communities, the quality of water resources within the City of Oakland has been and continues to be affected by the diverse range of urban uses. Pollutant sources include both point and nonpoint sources, although point sources, primarily municipal and industrial discharges, have been regulated by federal and state laws to protect water quality of receiving waters. There are 12 facilities with discharge permits from the RWQCB under the National Pollutant Discharge Elimination System program (NPDES; discussed below) that discharge wastewater to receiving waters, primarily the Bay. These facilities are subject to discharge prohibitions, water quality conditions, monitoring, reporting and other requirements to protect water quality. The East Bay Municipal Utility District wastewater treatment plant at the foot of the Bay Bridge is the largest discharger in the City.

Currently, the major source of contaminants to waters in Oakland is from nonpoint sources, which include stormwater runoff, dredging, marine vessel waste, infiltration/inflow from sewage pipes, accidental spills or leaching of hazardous materials, and construction activities. These sources are also subject to regulation to protect water quality, through the federal, state and local regulations, and ongoing programs are being implemented to improve and protect water quality of Oakland's waters, as discussed below.

### ***REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS***

#### **Federal**

The major federal legislation governing the water quality in the City of Oakland is the Clean Water Act as amended by the Water Quality Act of 1987. The objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," and it requires states to establish water quality standards to protect designated uses for all waters of the nation. In general, implementation of many aspects of this Act under the U.S.

Environmental Protection Agency has been delegated to individual states. Federal regulations issued in November 1990 require a National Pollution Discharge Elimination System (NPDES) permit for storm water discharge to water of the U.S. from sites engaging in industrial activities and from sites engaging in construction activities that disturb greater than five acres.

The U.S. Army Corps of Engineers has jurisdiction over projects involving the "waters of the United States," and the Corps reviews, and may require that an applicant receive a permit for, any project involving construction in either creeks or wetlands areas that are under the jurisdiction of Section 404 of the Clean Water Act. The Corps also has jurisdiction over fill, dredging and disposal of dredge spoils under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

The Federal Emergency Management Agency administers the National Flood Insurance Program, which restricts development in flood-prone areas and requires communities to evaluate and establish flood plain management regulations in order to participate in the Flood Insurance Program.

### **State**

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. This Act established the authority of the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The SWRCB administers water rights, water pollution control and water quality functions throughout the state, while the RWQCBs conduct planning, permitting and enforcement activities. The project area lies within the jurisdiction of the RWQCB, San Francisco Bay Region.

The Act allows the SWRCB to adopt statewide water quality control plans, which establish water quality objectives for specific water bodies. In the San Francisco Bay region, the Water Quality Control Plan (1995 Basin Plan) is the RWQCB's master policy document containing descriptions of the legal, technical, and programmatic basis of water quality regulation in the region (California RWQCB, 1995). The Act also authorizes waste discharge requirements for municipal wastewater treatment facilities through the National Pollutant Discharge Elimination System (NPDES) program. The RWQCBs administer the NPDES permits under a provision of the Porter-Cologne Act, which established effluent limitations and quality requirements for wastewater plant discharges. In addition, the RWQCB maintains an "Antidegradation Policy" that requires the continued maintenance of existing high-quality water. This policy specifies conditions under which a change in water quality is allowable. A change must be consistent with the maximum benefit to the people of the state, not unreasonably affect present and anticipated beneficial uses, and not result in water quality worse than that prescribed in the Water Quality Control Plans. Certification from the RWQCB is also required when a proposed activity may result in discharge into navigable waters or for dredging and disposal activities under the federal Clean Water Act. In the San Francisco Bay Region, the RWQCB has also included permit requirements for stormwater runoff under the NPDES program since 1991. In the project area, the stormwater program is administered by the Alameda Countywide Clean Water Program.

The California Department of Fish and Game has jurisdiction over any activity that could affect the bank or bed of any stream that has value to fish and wildlife. If any changes are proposed along a creek or waterway within their jurisdiction, a Streambed Alteration Agreement is required under Fish and Game Code Sections 1601 and 1603.

## Local

### *Alameda County*

The Alameda Countywide Clean Water Program consists of 17 participating agencies, including the City of Oakland, that are cooperatively complying with RWQCB requirements to prevent storm water pollution and to protect and restore creek and wetland habitat. Implemented since 1991, this program includes a storm water management plan through reduction of discharge of pollutants in stormwater and urban runoff, public information and participation, construction site controls, illicit discharge identification and elimination, monitoring and runoff control. The member agencies have developed performance standards to clarify the requirements of the stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced storm water pollutants from industrial areas and construction sites. In July 1996, the County developed its second five-year plan, which address the following major program areas: regulatory compliance, focused watershed management, public information/participation, municipal maintenance activities, new development and construction controls, illicit discharge controls, industrial and commercial discharge controls, monitoring and special studies, and local agency program areas with performance standards. The award-winning Alameda County program has served as a model for other programs in the Bay Area as well as in the nation.

### *City of Oakland*

The City of Oakland has a number of policies, programs and ordinances currently in place that address water quality and protection of the City's water resources.

The OSCAR Element of the City's General Plan includes the following objectives and policies (the reader is referred to the OSCAR Element for identified action measures for these objectives and policies):

#### Objective CO-5: Water Quality

To minimize the adverse effects of urbanization on Oakland's groundwater, creeks, lakes, and nearshore waters.

#### Policy CO-5.1: Protection of Groundwater Recharge

Encourage groundwater recharge by protecting large open space areas, maintaining setbacks along creeks and other recharge features, limiting impervious surfaces where appropriate, and retaining natural drainage patterns within newly developing areas.

#### Policy CO-5.2: Improvements to Groundwater Quality

Support efforts to improve groundwater quality, including the use of non-toxic herbicides and fertilizers, the enforcement of anti-litter laws, the clean-up of sites contaminated by toxics, and on-going monitoring by the Alameda County Flood Control and Water Conservation District.

**Policy CO-5.3: Control of Urban Runoff**

Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program, to: (a) reduce water pollution associated with stormwater runoff; (b) reduce water pollution associated with hazardous spills, runoff from hazardous material areas, improper disposal of household hazardous wastes, illicit dumping, and marina “live-aboards;” and (c) improve water quality in Lake Merritt to enhance the lake’s aesthetic, recreational and ecological functions.

**Policy CO-5.4: Development in Reservoir Watersheds**

Discourage development in the watersheds of East Bay Municipal Utility District reservoirs, including Upper San Leandro Reservoir. When development does occur, require measures to detain or treat urban runoff. Detain or treat runoff from new or refurbished horse stables in the watershed wherever feasible.

**Objective CO-6: Surface Waters**

To protect the ecology and promote the beneficial uses of Oakland’s creeks, lakes, and nearshore waters.

**Policy CO-6.1: Creek Management**

Protect Oakland’s remaining natural creek segments by retaining creek vegetation, maintaining creek setbacks, and controlling bank erosion. Design future flood control projects to preserve the natural character of creeks and incorporate provisions for public access, including trails, where feasible. Strongly discourage projects which bury creeks or divert them into concrete channels.

**Policy CO-6.2: Creek Maintenance and Safety**

Strictly enforce local, state, and federal laws and ordinances on the maintenance of creeks and watercourses. Abate health and safety hazards along and within creeks through a variety of measures, including creek clean-up programs, stronger enforcement of litter and anti-dumping laws, and vegetation maintenance requirements for properties abutting creeks.

**Policy CO-6.3: Creek Awareness**

Encourage and support programs which educate the public, especially school children, on the ecological importance of creeks.

**Policy 6.4: Lake Management**

Manage Oakland’s lakes to take advantage of their recreational and aesthetic potential while conserving their ecological functions and resource value. Discourage new recreational uses which impair the ability of the lakes to support fish and wildlife. Support improvements which enhance water circulation, water quality, and habitat value, provided they are cost-effective and are compatible with established recreational activities.

**Policy CO 6.5: Protection of Bay and Estuary Waters**

Protect the surface waters of the San Francisco Estuary system, including San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.

Policy CO-6.6: Restriction on Bay Fill

Prohibit bay fill unless there is compelling evidence that its benefits will outweigh the environmental and other costs. In such instances, support compliance with the mitigation requirements of the Bay Conservation and Development Commission and other regulatory agencies.

The City implements the following ordinances which protect water quality and water resources:

- The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specified conditions of volume of earth to be moved, slope characteristics, areas where "land disturbance" or stability problems have been reported. To obtain a grading permit, a soils report, a grading plan, and an erosion and sedimentation control plan must be submitted to the Department of Public Works and approved.
- The *Sedimentation and Erosion Control Ordinance* (Ordinance No. 10446) requires any person who performs grading, clearing, and grubbing or other activities that disturb the existing soil to take appropriate preventative measures to control erosion; prevent sedimentation of eroded materials onto adjacent lands, public streets, or rights-of-way; and prevent carrying of eroded materials to any water course by any route.
- The *Creek Protection, Stormwater Management and Discharge Control Ordinance* (Ordinance No. 11590) establishes comprehensive guidelines for the regulation of discharges to the City's storm drain system. The ordinance directs and guides control of surface water quality by identifying specific protective measures required by the City for development projects. The ordinance requires the implementation of best management practices for new developments and redevelopments. The Public Works Department must issue permits for storm drainage facilities that would be connected to existing city drainage facilities, and the ordinance identifies specific mechanisms for the inspection and enforcement of the ordinance's provisions. In 1997, the ordinance was amended to include the requirement for a Creek Protection Permit for any construction or related activity on creekside property, and it includes enforcement provisions to provide more effective methods to deter and reduce the discharge of pollutants to the storm drain system, local creeks, lakes and the Bay. The Creek Protection Permit provides clear guidelines and best management practices to creekside residents for protecting the creek and habitat.

The City also has a Creek Maintenance Program, Clean Creeks campaign, several watershed and creek restoration programs, and the annual Creek to Bay Day volunteer cleanup, which are described below.

- The Creek Maintenance Program was adopted in 1996 by the City in coordination with the Alameda County Flood Control and Water Conservation District Zone 12 to preserve and improve Oakland's creeks and waterways and includes a maintenance plan, public education, enforcement and volunteer activities. The program involves working with the local community to remove non-native plants, restore native plants, prevent illegal dumping, and conduct clean-up and maintenance improvements. The 1996-97 plan includes Temescal, Glen Echo, Courtland, Peralta, Sausal, and Seminary creeks and Lake Merritt Channel and Coliseum Slough.
- The Clean Creeks Campaign, funded by the Alameda County Flood Control and Water Conservation District and implemented by the City, is a community outreach program to

prevent water pollution and illegal dumping. The program includes organization of community-based creek clean-ups, development of printed outreach materials, sign posting, and implementation of various public education and outreach strategies that promote local creek awareness and community stewardship.

- The City is overseeing creek habitat restoration project and watershed program along portions of Sausal Creek. Both are funded by the Alameda County Flood Control and Water Conservation District.
- The Creek to Bay Day, Earth Day, and Adopt-a-Creek are part of the “We Mean Clean” program, which is a citywide volunteer-based community program to cleanup and protect creeks.

## SIGNIFICANCE CRITERIA

According to Appendix G of the CEQA *Guidelines* a project will normally have a significant effect on hydrological conditions and/or water quality if the proposed project would cause substantial flooding, erosion, or siltation; substantially degrade water quality; substantially degrade or deplete groundwater resources; interfere substantially with groundwater recharge; or contaminate a public water supply.

## IMPACTS AND MITIGATION MEASURES

### ***CONSTRUCTION-RELATED WATER QUALITY IMPACTS***

**Impact I.1: Implementation of the proposed Land Use and Transportation Element would result in increased development activity at various locations throughout the City, including locations adjacent to creeks and waterways, which could result in water quality impacts during construction. This is a less-than-significant impact due to existing regulations.**

Increased development as well as higher-density development permitted under the proposed Element would result in increased citywide construction activities, including likely creekside and hillside locations. Construction and earthmoving activities would expose soil and would lead to wind and water erosion, which could in turn lead to downstream sedimentation and siltation in creeks or other waterways. Construction adjacent to creeks and other surface water bodies would be particularly susceptible to cause erosion impacts, while locations on steep slopes could result in more extensive erosion.

However, any construction activities would be subject to existing City ordinances (Grading, Erosion Control and Sedimentation, and Creek Protection Stormwater Management and Discharge Control ordinances) as well as NPDES stormwater permit requirements (for sites over five acres). Compliance with these regulations would minimize or eliminate potential erosion impacts to waterways. Therefore, this impact would be less-than-significant.

**Mitigation Measure I.1:** None required.

### ***INCREASE IN RUNOFF IMPACTS***

**Impact I.2: Implementation of the proposed Land Use and Transportation Element would result in increased development activity that could alter drainage patterns, could increase impermeable surfaces leading to increased volume of runoff, and could potentially affect quality of stormwater runoff. However, since the areas proposed for the greatest change are already developed with similar uses, the changes in runoff patterns, volume and quality would be negligible. This is a less-than-significant impact.**

The proposed Land Use and Transportation Element would result intensification and restructuring of commercial and industrial uses in some areas as well as higher density development in some neighborhoods. These changes in land use, however, would by and large consist of redevelopment or infill within an existing urban or residential area. Changes in runoff patterns or volumes would likely be negligible in areas currently developed or paved. For future development in open space areas, the City's existing policy CO-5.1 of the OSCAR Element would minimize any changes in runoff patterns by "protecting large open space areas, maintaining setbacks along creeks and other recharge features, limiting impervious surfaces where appropriate, and retaining natural drainage patterns within newly developed areas." Implementation of this policy would minimize any changes to runoff patterns.

In addition, the City is currently participating and will continue to participate in the Countywide Clean Water Program to control storm water pollution through various source control, public outreach, monitoring, and other best management practices to protect water quality of surface water. New development would be required to comply with existing storm water runoff controls (e.g., hazardous materials storage requirements, elimination of illicit discharges, etc.) so that no significant changes in runoff quality would be associated with implementation of the proposed Element.

Nevertheless, as protection of water quality of both surface and groundwater resources is required under federal, state and local regulations and because nonpoint source pollution, particularly urban runoff, continues to be a source of contaminants to receiving water, ongoing consideration of water quality effects and implementation of mitigation measures would be required to assure this impact remains less than significant.

The policies set forth below are intended to address potential impacts on long-term changes in runoff patterns, volumes or quality. These policies are included in the project and shall be adopted and implemented by the City:

Policy W3.1: Consistency with Conservation Objectives and Policies

Waterfront objectives, policies, and actions regarding geology, land stability, erosion, soils, water quality, flood hazards, wetland plant and animal habitats, and air quality and pollutants, shall be consistent with and in compliance with the Open Space, Conservation, and Recreation Element of the City's General Plan.

Policy W3.2: Quality of the Natural and Built Environment

The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance and should not detract from, or damage the quality of the overall natural and man-made environment along the waterfront.

Policy W3.3: Protection and Preservation of Wetland Plant and Animal Habitats

Native plant communities, wildlife habitats and sensitive habitats should be protected and enhanced.

Policy N7.2:

Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, predominant development type and height, scenic values, distance from public transit, and desired neighborhood character are among the factors that could be taken into account when developing and mapping zoning designations or determining "compatibility." These factors should be balanced with the citywide need for additional housing.

Policy N7.6:

Permit the development of subdivided parcels provided that site and building design minimize environmental impacts, building intensity and activity can be accommodated by available and planned infrastructure, and site and building designs are compatible with neighborhood character.

**Mitigation Measure I.2:** None required.

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REFERENCES - Hydrology and Water Quality

California Regional Water Quality Control Board, 1995. Water Quality Control Plan, San Francisco Bay Basin (Region 2), June 21, 1995.

City of Oakland, 1993. Technical Report #5, Water Resources. Open Space, Conservation Recreation. Submitted by B. Miller and K. Koh, March 25, 1993.

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## **J. ENERGY**

This section of the EIR describes the impact of the Proposed Land Use and Transportation Element on energy in the Oakland Planning Area. The analysis includes a summary of Oakland's existing energy resources, a description of impacts resulting from adoption of the Element, and measures to mitigate these impacts.

### **SETTING**

#### ***OVERVIEW***

Electricity and gas are supplied to Oakland by Pacific Gas and Electric (PG&E), a private, investor-owned utility which generates and distributes electricity and which procures and distributes natural gas to most of northern and central California. Energy is supplied through a combination of hydro-electric facilities, fossil fuel burning facilities, nuclear facilities, power purchased from other utilities, and "alternative" facilities such as wind farms and geothermal plants. Power generated at these facilities is transported to consumers through an interconnected grid of high voltage transmission lines. There are seven main substations in the City at which power is stepped down from the transmission grid and routed to distribution lines. Substation capacity is 792 megawatts (MW), while peak summertime demand is 476 MW (1991). There is one PG&E power plant in Oakland, consisting of three 55 MW turbines burning fossil fuels to generate 165 MW of power. The larger fossil fuel power plants supplying the City's energy are located near Pittsburgh, at Moss Landing, and at locations further away in the State.

Natural gas is provided through an interconnected network of underground pipelines and distribution mains. The gas originates from sources throughout California, the Southwest, the Rocky Mountains, and Canada. As in the rest of California, much of the energy consumed in Oakland consists of petroleum products used to run motor vehicles, ships, and planes. Petroleum consists of about half of the energy consumed in the state.

In 1991, there were over 144,000 residential electric customers and 126,000 residential gas customers in the City. There were also 15,000 commercial and industrial electric customers and 7,300 commercial and industrial gas customers. These customers used a total of 2.09 billion kilowatt hours of electricity and 144 million therms of natural gas in 1991. Electric use increased 6 percent between 1980 and 1991, while natural gas use declined by more than 30 percent during the 1980s due to greater efficiency standards and the closure of several manufacturing plants. In 1991, residential customers represented 30 percent of Oakland's electric demand and 59 percent of its natural gas demand. Use per customer was generally lower in Oakland than in outlying parts of the PG&E service area. Approximate electric use for a single family home was 4,100 kWh in Oakland, compared to 6,600 in the service area as a whole.

PG&E has indicated that gas and electric demand for its entire service area will grow at the rate of about 1.35 percent a year through 2010. The fastest growth rates will be in the commercial and transportation sectors. Residential demand is expected to grow at about one percent a year. Most of the growth is projected to occur in outlying parts of the service area, and in locations such as Silicon Valley. At this time, PG&E has no plans to substantially change the electric transmission system in Oakland. Demand in the City is projected to be relatively stable, and the utility's prime objective in Oakland is the safety and maintenance of the existing transmission and distribution system.

### ***LOCAL ENERGY RESOURCES***

There are no significant fossil fuel deposits in Oakland. Because of the City's urban character, it would probably not be environmentally or economically feasible to extract such fuels if they were discovered in the future. Oakland does possess a number of alternative fuel sources that could be harnessed. These include solar power, which can be used directly for space or water heating ("passive" systems) or converted to electricity by mechanical means ("active" systems). The City receives sufficient solar radiation to meet individual home energy needs, but insufficient amounts to power major facilities. Oakland's zoning ordinance permits the use of solar and wind energy generators in any zone, although height, setback, and design standards apply. The City also has the potential to generate energy from biomass resources, such as trash and sludge, and through cogeneration, a process by which the heat generated through certain industrial processes is recovered and reused for energy. Oakland presently has one biomass plant and five cogeneration facilities.

### ***CONSERVATION MEASURES***

Most energy conservation measures in Oakland have occurred as a result of the City's Building Code and the California Energy Commission's Title 24 program. All structures in Oakland must comply with both. The building code includes a number of construction requirements for energy conservation, primarily for roof and wall insulation. Title 24 contains prescriptive standards for wall, ceiling, and floor insulation, vapor barriers, glazing, infiltration, climate control, and water heating equipment. Local subdivision regulations further address solar access in site planning and encourage buildings to be oriented to take advantage of local microclimates. Tentative map approval is conditioned on a finding that the project is designed to use sea breezes for natural cooling.

Oakland has also encouraged energy conservation through the publication of a manual for homeowners, architects, and contractors called "Retrofit Right." The manual describes how an older home can be made more energy efficient by reducing heat losses, making appliances and heating more efficient, changing consumer behavior, and improving the delivery of energy to the house.

Many of the conservation and energy efficiency programs in Oakland are administered by PG&E. According to federal law, all major utilities are required to offer residential customers free energy audits and assist in the installation of conservation materials. PG&E offers programs for residential weatherization, appliance efficiency and rebates, solar retrofitting, clean air vehicles, and financial incentives for energy management. The utility also conducts educational programs and research and development activities to explore alternative energy sources and additional conservation measures.

## SIGNIFICANCE CRITERIA

Under the CEQA Guidelines, a project would normally have a significant effect on the environment if it would encourage activities that resulted in the use of large amounts of fuel or energy, or use fuel or energy in a wasteful manner. There are no specific state or federal standards that indicate what is to be considered a “large amount” of fuel or energy. Therefore, significant energy impacts are generally associated with projects or development that would require substantial expansion of energy supply infrastructure or would use energy in a wasteful manner. If adoption of the Land Use and Transportation Element resulted in levels of energy demand that exceeded the capacity of Oakland’s existing energy infrastructure, thereby resulting in the need for new transmission or distribution structures, the impact would be considered significant.

## IMPACTS AND MITIGATION MEASURES

### *Increased Energy Demand*

**Impact J.1: Development consistent with the Land Use and Transportation Element would result in a marginal increase in energy consumption. This is a less-than-significant impact due to existing policies in the OSCAR Element.**

The cumulative amount of development that could occur under the proposed Land Use and Transportation Element is not significantly different than the amount that could occur under the existing General Plan. In fact, the proposed Element places a greater emphasis on transit-oriented higher density development than the current Plan. In general, this type of development consumes less energy than the lower density development permitted by the current General Plan.

Nonetheless, policies in the proposed Element emphasize economic growth and Downtown/corridor housing to a much greater extent than the current General Plan. The population and employment projections in the proposed Element reflect higher growth projections for jobs and housing than the Association of Bay Area Governments projections. If the Element’s projections come to fruition, the marginal increase in some types of energy consumption would be higher than would occur under the current Plan. The increase would not be sufficient to require new transmission facilities. However, new distribution facilities and

substations could be required, particularly in targeted growth areas such as the Army Base and Fleet Industrial Supply Center. Energy needs associated with such large-scale redevelopment projects would be analyzed as part of project-level environmental review.

Energy would also be consumed by construction of buildings and roads. Construction is an energy-intensive activity and most of the energy consumed would be from non-renewable sources. Once operational, the increased quantity of development Downtown, at the military bases, and along the shoreline and corridors would result in increased consumption of electricity for heating, cooling, ventilating, water heating, and lighting. Increased employment and business patronage would result in an increase in motor vehicle trips and an increase in the consumption of gasoline and diesel fuel. However, it is important to point out that the number of vehicle trips (and energy consumed) would be even greater if the Element was not adopted, as it would perpetuate the existing pattern of Oakland residents driving to suburban communities for work and shopping. For this reason, the marginal increase in energy consumption is less than significant.

In fact, the Plan's net environmental impact on energy consumption is expected to be positive. Although electric and natural gas consumption may increase, petroleum use (the largest component of energy use in California) should decrease due to the transit-oriented development pattern being promoted and the emphasis on restoring a balance between jobs and housing in Oakland. The Plan endeavors to reduce out-commuting, create transit-served employment nodes, increase live-work development, and shorten trip lengths and auto dependency in the City. In this regard, its energy benefits are positive and are regional rather than local.

Energy conservation is further encouraged by policies in the OSCAR Element, adopted by the City in 1996. The following policies have been adopted:

OSCAR Policy CO-13.1:

Promote a reliable local energy network which meets future needs and long-term economic development objectives at the lowest practical cost.

OSCAR Action CO-13.1.1:

Identify Staff liaisons to PG&E within the Offices of Public Works and Economic Development (CEDA) to help ensure that Oakland's future energy needs are met at the lowest practical cost. These liaisons should keep apprised of changes in utility regulations which could affect the price and availability of gas and electricity for Oakland customers.

OSCAR Policy CO-13.2:

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.

OSCAR Action CO-13.2.1:

Keep apprised of the availability of funds for energy conservation and efficiency programs. Pursue funding if state and federal money becomes available for desirable programs.

OSCAR Policy CO-13.3:

Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency.

OSCAR Action CO-13.3.1:

Maintain building codes, regulations, and procedures which support energy conservation. This includes the State-mandated Title 24 program, which shall continue to be enforced by CEDA.

OSCAR Action CO-13.3.2:

Continue to make Retrofit Right available to the public.

OSCAR Action CO-13.3.3:

Consider developing additional measures to promote energy-efficient building design and construction and energy-efficient site planning.

OSCAR Policy CO-13.4:

Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste and industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements.

OSCAR Action CO-13.4.1:

Review local land development regulations (including zoning, building codes, and the subdivision ordinance) to make sure there are no undue obstacles to the use of solar power and the development of alternative energy sources.

OSCAR Action CO-13.4.2:

Where compatible with surrounding land uses, promote the development of waste to energy facilities within Recycling Enterprise Zones.

**Mitigation Measure J.1:** None required.

## K. GEOLOGY AND SEISMICITY

### SETTING

Setting information on the topography, geology, and seismicity of Oakland has been largely obtained from Technical Report #4, *Earth Resources*, that was prepared for the OSCAR work program (Miller, 1992), except where noted.

### TOPOGRAPHY

Oakland is located on the eastern shore of San Francisco Bay. The city occupies 54.1 square miles and its topography is characterized by flatland areas in the west and Oakland Hills to the east. The flatlands are generally at an elevation of 100 feet or less; the Oakland Hills reach an elevation of 1,760 feet at Grizzly Peak. Several rugged canyons cut through the hills including Strawberry Canyon, Hamilton Gulch, Telegraph Canyon, and Claremont Canyon.

Slopes of 30 percent or more are found along a band of the Oakland Planning Area, predominantly east and south of the Warren and MacArthur freeways (SR 13 and I-580, respectively). In some of these areas, the slope is as great as 75 percent. Slopes of 5 to 30 percent are common from below the Warren Freeway to the flatlands which begin at approximately MacArthur Boulevard. The flatlands generally have slopes of less than 5 percent.

Along Oakland's west and southwest borders, adjacent to the Estuary, much of the existing land surface has been created by filling (i.e., depositing fill materials in the shallow Bay margins). The Bay Bridge approach, the former military depots, and shipping channels are built on land that has been created by filling.

### REGIONAL GEOLOGY

The City of Oakland is located along the eastern margin of the San Francisco Bay within the Coast Range geomorphic province. The planning area is characterized by the East Bay Hills to the east and East Bay Plain to the west. The East Bay Plain was formed by erosion of materials from the hills, resulting in an alluviated area close to the highlands and a marshland area adjacent to the bay. The eastern side of the plain in the Oakland area is marked by the active Hayward Fault, which is located along the base of the Diablo Range Escarpment.

The East Bay Plain is underlain by bedrock of the Franciscan assemblage at a depth of approximately 350 to 500 feet. Surficial geologic units present within the East Bay Plain consist of alluvial deposits, windblown deposits of the Merritt Sand, and young bay mud. The Older Alluvial Fan Deposits near the hills generally grade to the west to the Younger Alluvial Fan Deposits, Younger Fluvial Deposits, and Interfluvial Basin Deposits present throughout much of the East Bay Plain. These deposits generally grade to Merritt Sand and young bay mud (Helley,

1979) along the estuary shoreline. Much of the natural deposits in the flat areas of the Oakland Planning Area are overlain by artificial fill.

### ***SOILS***

In the Oakland Planning Area, there are three types of soil: 1) the bay muds located along the shoreline and in the landfilled areas; 2) the alluvium and sand dune (Merritt Sand) deposits located in the flatland and hills areas; and 3) sandstones and shale fragments of the hill areas. Certain shoreline areas have coarsely textured sand as a result of activity by water, while igneous rock outcrops exist in some hill areas. Most of the soil types within the Oakland Planning Area are classified by the Soil Conservation Service as having "severe" limitations on development based on one or more of the following characteristics: shrink/swell potential,<sup>1</sup> wetness, strength, depth, slope, or flooding potential. Slope is the primary constraining factor for development in the hill areas. Shrink/swell is the primary constraining factor in the flatland areas, with the highest potential for shrink/swell being in areas underlain by young bay mud and fine-grained basin and alluvial deposits, which are largely composed of clay.

### ***EROSION***

Erosion is the wearing away of soil or rock by running water, wind, or other geologic forces. The rate of erosion can be aggravated by development, which typically involves cutting and grading operations, concentrated direction of stormwater flow, and removal of vegetation. As vegetation is removed and impervious surface coverage increases, stormwater runoff flows across the soil in greater volumes and at higher velocities. Until the disturbed areas are revegetated, exposed areas may be subject to rutting, topsoil loss and sedimentation downstream. The secondary impacts of erosion may also be significant. Higher slide areas may result as the land becomes less stable. Along gullies and drainage channels, where increase runoff velocities may cause bank erosion, culverts may fill with silt, channel flows may be blocked, and water clarity may be reduced.

In accordance with the system used by the U.S. Soil Conservation Service, the flat land areas are classified as having a low potential for erosion; the greatest erosion hazard exists along stream banks. Areas of Oakland with slopes of 5 to 30 percent are considered to have a moderate potential for erosion. In these areas, sheet erosion, gulying, stream bank failure, and slumping may occur. There is a high erosion potential in areas where there is steep terrain, rainfall averages 25 inches or more, and where bedrock is deeply weathered and fractured. In these areas, significant gulying can occur where vegetation has been removed, and landslide hazards usually exist. Areas of extreme erosion potential are those underlain by active landslides, with little or no vegetation, and moderate to heavy amounts of rainfall. The Oakland Naval Hospital and the Leona Quarry are located in areas with slopes of 30 to 75 percent with rainfall averages of over 24 inches.

<sup>1</sup> Shrink/swell is the change in volume that occurs in a soil due to the expansion and contraction of clay caused by wetting and drying. This change of volume can cause damage to structures that are not appropriately constructed.

## ***FLOODING***

Flood hazard zones have been mapped to show areas within the City that would be subject to inundation during a "100-year flood".<sup>2</sup> Extensive areas of Oakland would be inundated during a 100-year flood. However, flooding would occur only as sheet flow with depths of several inches in most areas. Few areas would be subject to flood levels greater than one or two feet. Because of this, the greatest danger related to flooding would be potential damage to property rather than a threat to human health (City of Oakland, 1974).

Flooding could also occur as a result of a dam failure at one of the water reservoirs located in the City. The East Bay Municipal Utility District (EBMUD) has eight reservoirs, some of which could cause flooding in the event of failure. The East Bay Regional Park District has one such facility, Lake Temescal. In the event of failure of one of these facilities, flood waters would normally follow existing stream beds or drainage courses. Separate studies have been undertaken by EBMUD and the Park District to estimate potential dangers from flooding due to dam failure (City of Oakland, 1974).

## ***MINERAL RESOURCES***

Oakland's only active quarry, the Leona Quarry, is located on a southwest-facing slope at Edwards Avenue and I-580. The quarry is identified by the State Mining and Geology Board as a "Regionally Significant Construction Aggregate Resource." Areas with this designation are judged to be of prime importance in meeting future mineral needs in the region in which they are located.

The Leona Quarry has been in operation for 87 years and encompasses 125 acres. Elevations range from 300 feet at the quarry base to 1,070 feet at the rim, with slopes averaging 35 to 50 percent. Approximately 750,000 tons of Leona rhyolite are removed from the quarry each year. Current operations consist of ripping and dozing rock from the hillside, with some drilling and blasting. Rhyolite is screened, crushed, sorted, and stockpiled on-site in a plant at the quarry base.

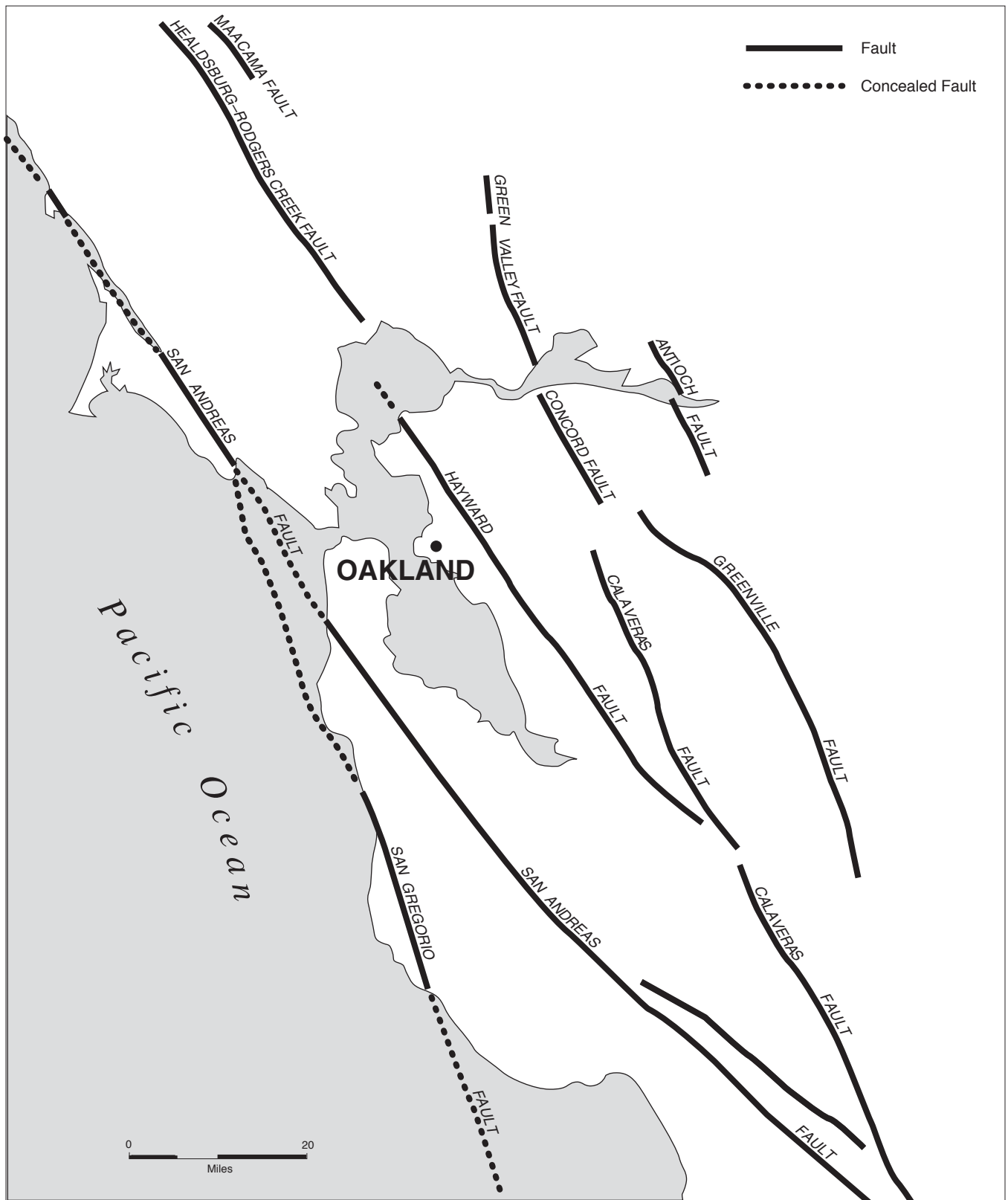
## ***SEISMICITY***

The distribution of earthquakes in northern California is strongly influenced by the major active faults in the region.<sup>3</sup> Figure III.K-1 is a regional fault map showing major faults in the San Francisco Bay region. The active faults considered to have the greatest potential to cause damage in the City of Oakland are the Hayward Fault, San Andreas Fault, and Calaveras Fault. The Hayward Fault runs the entire length of Oakland, generally along the Warren Freeway

<sup>2</sup> A 100-year flood represents an unusually high flood level that would be expected to occur once in 100 years. There would be a one percent chance of reaching this flood level each year.

<sup>3</sup> Faults are considered active based either on historical fault rupture or geologic evidence that clearly demonstrates rupture during Holocene time (approximately within the last 11,000 years).





SOURCE: Environmental Science Associates

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure III.K-1**  
Regional Faults of the  
San Francisco Bay Area

(SR 13), but branching out to include portions of MacArthur Boulevard and Mountain Boulevard; this is the only active fault that crosses the City. Studies by the U.S. Geological Survey indicate that there is a 67 percent chance of an earthquake with a magnitude of 7.0 or greater occurring along one of the three major faults during the next 30 years.

Six major earthquakes have occurred in the San Francisco Bay Area since 1800, four on the San Andreas Fault in 1838, 1865, 1906 (Richter magnitude 8.3), and 1989 (the Loma Prieta earthquake, Richter magnitude 7.1) and two on the Hayward fault, in 1836 and 1868. Surface ruptures were observed from San Pablo to San Jose as a result of the 1836 earthquake, and from Mills College to Fremont as a result of the 1868 earthquake on the Hayward Fault (Richter magnitude 7.0). Tectonic creep<sup>4</sup> has also been observed at several locations along the Hayward Fault. As a result of tectonic creep, the fault has cracked and offset curbs, streets, fences, railroads, pipelines, and buildings.

An earthquake on the Hayward Fault would have the greatest potential to cause extreme damage within Oakland. The Association of Bay Area Governments predicts that in the event of a 7.3 magnitude along the Hayward Fault, moderate to extreme damage would occur throughout the City of Oakland. The most extreme damage would occur along the Warren Freeway (SF 13) and southern portion of Interstate Highway 580 where steep grades exist. Extreme damage would also be expected along the estuary shoreline near Coast Guard Island (underlain by young bay mud), in isolated areas near Lake Merritt, and in southern Oakland in areas underlain by young bay mud (ABAG, 1995).

Damage that occurred as a result of the Loma Prieta earthquake on the San Andreas Fault, with an epicenter more than 50 miles from Oakland, provides evidence that damage can also occur as a result of earthquake on other active faults in the region. As a result of the Loma Prieta earthquake, an elevated portion of Interstate 880 in Oakland, the Cypress Structure, collapsed, killing 41 persons and injuring many others. The portion of freeway that collapsed was located on alluvial materials that are generally loose and susceptible to ground shaking during an earthquake.

Potential effects of a major earthquake along one of the faults include surface rupture, ground shaking, ground failure, and seismically induced water inundation (tsunamis). Surface rupture would occur only in the event of sufficient movement along a fault crossing the City. The Hayward Fault is the only one of the regions major faults which is located within Oakland, therefore, surface rupture could occur within Oakland in the event of an earthquake along this fault. In accordance with the *Alquist Priolo Earthquake Fault Zoning Act*, the California Department of Mines and Geology has established a 600- to 700-foot wide special study zone along the Hayward Fault trace through Oakland.

<sup>4</sup> Tectonic creep is displacement observed a fault as a result of gradual fault movement. Structures built across faults can experience damage if tectonic creep occurs.

The effects of strong ground shaking, liquefaction, landslides, or other ground failures account for approximately 95 percent of the economic losses caused by an earthquake (CDMG, 1997). The degree of ground shaking that would be experienced in the event of an earthquake is a factor of the geologic materials located beneath a site. In general, areas underlain directly by bedrock would be the least susceptible to ground shaking, specifically those areas located to the east of the Hayward Fault. Areas underlain by alluvial materials would be subject to moderate to moderately high ground shaking because these materials are not well consolidated. Areas underlain by Merritt Sand would be subject to very high ground shaking. Areas underlain by young bay mud would be subject to extremely high ground shaking (ABAG, 1995).

Ground failure occurs when the ground loses its cohesive nature and bearing strength due to soil instability. In areas of alluvial deposits or poorly consolidated fill, the soil may be subject to liquefaction or densification. In hill side areas, landslides may be triggered by an earthquake. Each of these phenomena, and their potential consequences are described as follows:

- Liquefaction occurs when a loose saturated cohesionless soil, such as sand, is subjected to a shock and experiences an increase in pore water pressure. The soil loses a substantial amount of strength and may collapse. Potential consequences of liquefaction include the loss of bearing capacity, differential settlement and lateral spreading; these can cause serious building foundation failures and naturally buoyant structures such as underground storage tanks may be raised above ground.
- Densification occurs when dry cohesionless sands above the water table are subjected to ground shaking. Subsidence and differential settlement of the geologic materials could occur as a result of densification.
- Landslides triggered by an earthquake could occur in areas with steep slopes. Such slides could cause structural damage to buildings and underground utilities, and in some cases could result in loss of a complete structure. The USGS has rated the hillside areas to the east of the Hayward fault as having a "high" slide hazard and the hilly areas to the west of the fault as having a "moderate" slide hazard.

Six soil zones have previously been mapped in the City based on their geotechnical properties and susceptibility to groundshaking (City of Oakland, 1974). These zones are described as follows:

- Zone I consists of fill overlying bay mud or former marshland. The bay mud is susceptible to ground cracking,<sup>5</sup> ground lurching,<sup>6</sup> and differential settlement. Hazards related to fill include differential settlement and liquefaction.

<sup>5</sup> Ground cracking usually occurs as a result of differential settlement.

<sup>6</sup> Ground lurching is one possible result of a seismic shock whereby a wave is passed through saturated soft deformable soils such as the bay mud. This wave can cause damage to a structure although this impact can be mitigated through proper foundation design.

- Zone II consists largely of Merritt Sand which is susceptible to liquefaction.
- Zone III consists of Older Alluvial Fan Deposits. These materials may amplify shock waves in the event of an earthquake.
- Zone IV consists of Interfluvial Basin Deposits. No geotechnical or seismic hazards were indicated for these deposits.
- Zone V consists of Younger Fluvial Deposits which may be susceptible to liquefaction.
- Zone VI consists of Younger Alluvial Fan deposits which may experience moderate amplification of shock waves in the event of an earthquake.

In the event of strong ground shaking, older-wood framed and unreinforced masonry buildings would experience the greatest level of damage. Liquefaction could also cause damage to roads, utilities, and existing structures. Landslides in steep hill areas could also be triggered by an earthquake and cause structural damage.

Tsunamis are large ocean waves that can be caused as a result of an earthquake. There have been numerous tsunamis recorded in the Bay Area by the U.S. Coast and Geodetic Survey. The primary hazard associated with tsunamis is damage to boats and marinas, although low-lying near-shore areas could be inundated in the event of a large tsunami. The areas of Oakland that are considered susceptible to tsunamis include the Oakland Army Base, U.S. Naval Supply Center, and small areas of the Oakland Airport (City of Oakland, 1974). Much of the rest of the estuary shoreline is protected by the City of Alameda.

## **REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS**

### **State**

California has adopted laws and regulations to mitigate the hazards related to surface fault rupture and other seismic hazards including strong ground shaking, liquefaction, landslides, or other ground failures. The *Alquist Priolo Earthquake Fault Zoning Act* was adopted to mitigate the hazards related to surface fault rupture and the *Seismic Hazards Mapping Act* was adopted to mitigate other seismic hazards. This section describes these acts and the regulations and guidelines adopted to guide their implementation by cities and counties.

In 1972, the California Legislature passed the *Alquist Priolo Earthquake Fault Zoning Act* (Public Resources Code, Division 2, Chapter 7.5, Sections 2621 et seq.) to prohibit the construction of buildings for human occupancy across the traces of active faults and thereby mitigate the hazard of fault rupture. Accordingly, this Act prohibits construction within 50 feet of an active fault trace unless a geotechnical investigation can demonstrate that a smaller setback is acceptable. Section 2623 of the Act requires the preparation of a geologic report prior to approval of any project within a mapped earthquake zone.

The State Mining and Geology Board provides regulations to guide cities and counties in their implementation of the Act (*California Code of Regulations*, Title 14, Division 2, Sections 3600 et seq.). Section 3603 describes the required qualities of the geologic report, and requires that lead agencies use geologists registered in California to review these reports and advise the lead agency.

The State Mining and Geology Board subsequently adopted guidelines to ensure adequacy of fault investigations used to locate active faults (CDMG, 1996). These guidelines require that the fault investigation be directed at locating existing faults and evaluating their recent activity. Such investigations may include literature review, aerial photograph review, surface observations, subsurface investigations, and geophysical investigations to locate the fault. The report documenting the investigation would include recommendations for setback distances from hazardous faults, the need for additional studies, and an evaluation of risk relative to the proposed development.

In 1990, California adopted the *Seismic Hazards Mapping Act* (Public Resources Code, Division 2, Chapter 7.8, Sections 2690 et seq.) to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failures (including earthquake induced landslides). In accordance with this Act, the State Geologist is required to compile maps of seismic hazard zones throughout the State. Section 2697 of the Act requires that a geotechnical report be prepared prior to City approval of projects located within a seismic hazard zone designated by the State Geologist. Section 2699 of the Act requires that the Safety Element prepared for each city General Plan takes into account the information provided in the seismic hazard zone maps. Seismic hazard zone maps have not been prepared for Oakland, but maps delineating potential liquefaction zones and ground failure zones will be completed when funding becomes available.

The State Mining and Geology Board provides regulations to guide cities and counties in their implementation of the Act and mitigation of seismic hazards (*California Code of Regulations*, Title 14, Division 2, Sections 3720 et seq.). These regulations provide the requirements for mapping seismic hazard zones, review of preliminary seismic hazard zone maps, and geotechnical reports prepared for proposed projects.

The State Mining and Geology Board adopted guidelines for implementation of the Act in 1997 (CDMG, 1997a). These guidelines were adopted to assist in the evaluation and mitigation of earthquake-related hazards within specified seismic hazard zones and to promote uniform and effective state-wide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. Requirements for seismic investigations, estimation of earthquake ground-motion parameters, analysis and mitigation of earthquake induced landslide hazards, analysis and mitigation of liquefaction hazards, and review of seismic investigation reports are included in guidelines.

### **Uniform Building Code**

The Uniform Building Code (UBC) contains engineering and design code requirements that address seismic safety for new construction. In the early 1970's and late 1980's, the UBC underwent substantial changes in seismic design criteria which reduce the risks associated with seismic activity. Code requirements for foundations are also contained in the UBC.

The UBC is updated every three years and will continually be upgraded to provide for additional measures to reduce seismic risks. Currently, Oakland enforces the 1994 UBC; the 1997 UBC is expected to be adopted in January 1999 with the designation of the 1998 California Codes which amend the UBC.

### **Environmental Hazards Element of the Oakland Comprehensive Plan**

The *Environmental Hazards Element* of the *Oakland Comprehensive Plan* was prepared in 1974 and contains a summary of the geologic, seismic, flooding, and fire hazards that exist in Oakland. The City's goals and policies for dealing with these potential hazards are identified, and programs to alleviate hazardous situations are recommended. Subsequent to completion of this element, several laws, regulations, and policies have been adopted as described in this section. The *Environmental Hazards Element* is planned for updating in 1997 or 1998. This updated element will need to take into account new policies as well as information contained in the seismic hazard zone maps that will be prepared by the State under the *Seismic Hazards Mapping Act* (described above).

### **Existing City Policies**

The City has several ordinances as well as adopted goals, objectives, policies, and actions which provide City policy to mitigate potential impacts related to geology and seismicity. This section describes the *Grading Ordinance*, *Sedimentation and Erosion Control Ordinance*, *Unreinforced Masonry Ordinance*, and adopted *Goals, Objectives, Policies, and Actions*.

The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specified conditions of volume of earth to be moved, slope characteristics, areas where "land disturbance" or stability problems have been reported. To obtain a grading permit, a soils report, a grading plan, and an erosion and sedimentation control plan must be submitted to the Department of Public Works and approved.

The *Sedimentation and Erosion Control Ordinance* (Ordinance No. 10446) requires any person who performs grading, clearing, and grubbing or other activities that disturb the existing soil to take appropriate preventative measures to control erosion; prevent sedimentation of eroded materials onto adjacent lands, public streets, or rights-of-way; and prevent carrying of eroded materials to any water course by any route. The Director of Public Works may require that an erosion and sedimentation control plan be approved by the City prior to the issuance of any

building permit on lots where the conditions of lot location, configuration, or contour may result in increased problems of erosion or sedimentation control.

The City has also adopted the *Unreinforced Masonry Ordinance* (Ordinance No. 11613) which requires the upgrading of unreinforced masonry buildings to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on existing buildings of this construction. The City adopted building codes requiring earthquake-resistant design on November 26, 1948. Prior to adoption of these codes, the City allowed construction of unreinforced masonry buildings. The City has subsequently inventoried structures built prior to 1948, and the ordinance requires the City to notify owners in writing that their building has been identified as potentially hazardous and of their obligation to mitigate the potential hazard. The ordinance provides standards and a schedule for analyzing and retrofitting potentially hazardous unreinforced masonry structures. However, the standards are intended as minimum standards to reduce the risk of life loss or injury; they do not meet the standards of the State Uniform Code for Building Conservation. Consequently, even buildings retrofitted in accordance with this ordinance will continue to be construed as a potential hazardous building until they are upgraded to the Uniform Code for Building Conservation.

As part of the OSCAR Element of the General Plan Element, the City has adopted the following *Goals, Objectives, Policies, and Actions*:

Goal CO-1: Natural resources that are conserved and prudently used to sustain life, support urban activities, protect public health and safety, and provide a source of beauty and enjoyment.

Objective CO-1: Soil Conservation

To protect and preserve soil as a resource for healthy plant, animal, and human life.

Policy CO-1.1: Soil Loss in New Development

Regulate new development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction activities to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.

Action CO-1.1.1: Soil-Related Development Controls

Maintain, enforce, and periodically review development controls affecting soil removal, including the Grading Ordinance and the Sedimentation and Erosion Control Ordinance.

Action CO-1.1.2: Public Education on Soil Conservation

On an on-going basis, cooperate with the Alameda County Soil Conservation Service (SCS) and other agencies encouraging soil conservation and education regarding soil resources in Alameda County.

**Action CO-1.1.3: Consideration of Soil Constraints in Development**

Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable base materials and drainage provisions should be incorporated where necessary.

**Objective CO-2: Land Stability**

To minimize safety hazards, environmental impacts, and aesthetic impacts associated with development on hillsides and in seismic high-risk areas.

**Policy CO-2.1: Slide Hazards**

Encourage development practices which minimize the risk of landsliding.

**Action CO-2.1.1: Ordinance Evaluation and Public Information**

Evaluate existing ordinances and regulations to ensure that they contain adequate provisions to mitigate slide-related hazards in new construction areas. If departmental budgets permit, develop public outreach and educational materials for homeowners in hill areas on measures to reduce slide hazards.

**Action CO-2.1.2: Graded Slope and Retaining Wall Maintenance**

For new developments containing commonly owned retaining walls and graded slopes, require provisions for future maintenance and repair of these systems to be established before granting project approval.

**Policy CO-2.2: Unstable Geologic Features**

Retain geologic features known to be unstable, including serpentine rock, areas of known landsliding, and fault lines, as open space. Where feasible, allow such lands to be used for low-intensity recreational activities.

**Action CO-2.2.1: Geotechnical Study Requirements**

Maintain Standard Operating Procedures in the Office of Planning and Building which requires geotechnical studies for major developments in areas with moderate to high ground shaking or liquefaction potential, or other geologically unstable features.

**Action CO-2.2.2: Land Stability Database**

Incorporate known land stability information in the City's permit tracking system and the Measure I geographic information systems (GIS) program.

**Policy CO-2.3: Development on Filled Soils**

Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards.

**Policy CO-2.4: Hillside Cuts and Fills**

Minimize hillside cuts and fills and the removal of desirable vegetation. Limit large scale grading to those areas where it is essential to development. Where hillside grading does



occur, reshape the terrain in smooth, natural appearing contours rather than flat, terraced benches. Immediately replant and reseed graded areas to reduce soil loss.

Action CO-2.4.1: Update Grading Ordinance

Review the grading ordinance every five years and revise it when necessary to keep it current with new knowledge and construction methods.

Action CO-2.4.2: Preparation of Grading Guidelines

Develop illustrated grading guidelines which accompany the City's grading ordinance.

Objective CO-3: Mineral Resources

To conserve mineral resources and minimize the environmental impact of mineral extraction

Policy CO-3.1: Rhyolite Conservation

Support the conservation of the rhyolite deposits in the Oakland Hills, identified by the Surface Mining and Reclamation Act as a Regionally Significant Resource.

Policy CO-3.2: Quarry Operations

Require existing and abandoned mineral extraction activities to mitigate the effects of their operations on surrounding areas, including the clean-up and reclamation of mining sites. Prohibit new quarrying activity in Oakland except upon clear and compelling evidence that the benefits will outweigh the resulting environmental, health, safety, aesthetic, and quality of life costs.

Action CO-3.2.1: Mitigation of Quarry Impacts

Use the following processes to implement this policy: (a) CEQA Environmental Review; (b) conditional use permit (zoning) requirements; and (c) state mandated mine reclamation planning.

## City Permit Approval Process

The City requires a building permit for new construction and renovation. Prior to approval, the permit application and required geotechnical/seismic reports are reviewed for compliance with the above described laws and regulations. This review and approval process ensures that potential hazards related to geology and seismicity will be mitigated. As part of this process, the City also ensures that potential impacts related to excavation safety, dewatering, and settlement of adjacent buildings are addressed and appropriately mitigated during construction.

## SIGNIFICANCE CRITERIA

According to State CEQA *Guidelines Appendix G*, a project would normally have a significant effect on the environment if it would “expose people or structures to major geologic hazards.” A project would also have a significant impact if geologic resources would be damaged, eliminated, or otherwise rendered unusable. These criteria are used for determining program-level impacts of

the proposed Land Use and Transportation Element. For site-specific project development, significance criteria from *Guidelines for Geologic/Seismic Considerations in Environmental Impact Reports* (CDMG, 1985) should be consulted for evaluation of geologic conditions at proposed project sites.

## IMPACTS AND MITIGATION MEASURES

The proposed Land Use and Transportation Element would guide future development and conservation efforts in Oakland and in itself would not result in any geologic impacts. However, the Element would promote and encourage development throughout the City, and the associated construction or rehabilitation of structures could result in the potential to expose people or structures to geologic hazards. The discussion below identifies potential program-level impacts related to major change areas associated with the proposed Element and mitigation measures to reduce each potential impact to a less-than-significant level. Each of the potential impacts is mitigated by existing laws and regulations, described in the setting, and compliance with these laws and regulations would be ensured through the City's building permit review and approval process. Detailed geotechnical and seismic investigations would be conducted as warranted for specific development projects, and environmental review of individual proposed projects could be required to identify project level impacts and site-specific mitigation measures.

A separate environmental review is being completed for the redevelopment of the Leona Quarry and will be documented in a separate EIR. Impacts and mitigation measures for reclamation and redevelopment of the quarry will be identified in that document.

### SOILS IMPACTS

**Impact K.1: Adoption of the Plan could result in development on existing soil conditions at various locations throughout the City that could cause structural damage to new and existing buildings unless properly constructed. This is a less-than-significant impact due to existing policies in the OSCAR Element.**

Subsidence and settling can occur in areas where fill has been emplaced. Settlement of fill has the potential to crack roads, pipes, and building foundations in the flat areas. In the hilly areas, settlement can also occur where slopes have been filled to reduce the gradient. Variations in fill thickness and compaction rates could cause building foundations to crack on contoured hillsides. Fill has been emplaced along the City's south and west sides and in various locations throughout the City during previous development.

There is a high shrink/swell potential in areas underlain by soils with a high clay content, and the change in volume due to the expansion and contraction of wet and dry clay can cause damage to structures. The alluvial deposits of the flatlands commonly contain large quantities of clay at the surface as do the young bay mud deposits. These clays are subject to shrink/swell potential, and

structures built on these deposits would need to be constructed to withstand the effects of shrink/swell.

The Central Business District, Estuary Shoreline, Military Bases, Coliseum Area, Transit Corridors, and BART Transit Villages are located in the flat land areas which are underlain by soils with slopes of 0 to 2 percent with moderate to severe development limitations related to shrink-swell potential. The soils also typically impose moderate development limitations because of their low strength (Miller, 1992). In flood prone areas, wetness and flooding may also pose moderate to severe development limitations.

Soils beneath the Oakland Naval Hospital and the Leona Quarry in the hillside area may also present severe development limitations due to high shrink-swell potential, depending on their clay content.

Because of the relatively minor economic losses resulting from shrink-swell and low strength soil conditions, these problems are not generally considered insurmountable obstacles to development. However, they do require more costly foundations, limited use of basements, and specific construction methods. Building pads may need to be shaped so that runoff drains away from the foundation. Likewise, roads must be designed to withstand cracking and differential settlement. Suitable base materials are needed and interceptor drains may be required in sloped areas. In already-developed areas, ongoing soil management involves such practices as soil enrichment, drainage improvements, and planting of exposed soils to control erosion.

This potential impact is mitigated to a less than significant level by the following OSCAR Element policy and action (each of which is also included in the discussion of Existing City Policies, above):

**Policy CO-2.3:** Development on Filled Soils

Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards.

**Action CO-1.1.3:** Consideration of Soil Constraints in Development

Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable base materials and drainage provisions should be incorporated where necessary.

**Mitigation Measure K.1:** None required.

## ***GEOLOGY HAZARD IMPACTS***

**Impact K.2: Adoption of the Plan could result in development of many areas that are subject to geologic hazards including steep slopes, high erosion potential, and landsliding and mudsliding. This is a less-than-significant impact due to existing policies in the OSCAR Element.**

Slopes are an important factor in determining the suitability of vacant land for development. Steeper slopes are subject to higher erosion and landslide risk and may require more costly construction. However, vacant land in the Oakland Planning Area, which provides the greatest opportunity for development, is largely located in the hill areas with steep slopes. Slopes between 15 and 30 percent are generally considered developable, but may require engineering measures to offset potential drainage and erosion problems. Slopes in the category are found throughout the lower Oakland Hills; in the "triangle" between the Warren, Grove Shafter, and MacArthur Freeways; in the Mills College and Eastmont vicinity; and on the hills around Lake Merritt. Development on slopes of greater than 30 percent is considered difficult and potentially hazardous; these slopes are common in the areas east of the Warren and southern MacArthur Freeways. The Oakland Naval Hospital and the Leona Quarry are located on slopes of 30 to 75 percent.

Landsliding is the rapid downslope movement of soil, rock, and rock debris. Mudslides, the most familiar type of landslide in the Oakland Planning Area, are caused by the shallow movement of earth saturated by water. Landslides are natural occurrences, and can also be exacerbated by improper construction. Development on susceptible slopes can trigger slide activity, thereby increasing the potential for loss of life and property. The risk of landsliding is highest on slopes over 15 percent with weak, unconsolidated, or shallow soil units; formations with a high clay content and water content; extensive grading; and vegetation removal, and on artificial slopes, especially where the soil is underlain by weathered or highly fractured bedrock. There is also a higher probability of landslides on slopes along an earthquake fault. Usually a single factor such as an earthquake, heavy rain, misdirected runoff, or a broken water pipe triggers the landslide.

The city's Office of Public Works maintains a series of detailed maps (called "grade sheets") that show the locations of reported land stability problems. Hundreds of problem areas are shown, ranging from very destructive slides to minor slides in residential yards and along streams. The slides have generally occurred within a mile-wide band along the Hayward Fault, typically within hillside residential areas. The USGS has also mapped the locations of potential future landslides in Oakland. In general, the hilly areas to the east of the Hayward Fault have "high" slide hazards, and the hilly areas west of the fault have "moderate" slide hazards.

Land stability is a particular concern in the area damaged by the 1991 firestorm. Much of the surface vegetation in the area was burned off, leaving loose soil, ash, and debris. Although interim measures were taken immediately after the catastrophe, there is still concern about shallow and deep landslides that could occur under heavy rainfall.

The Oakland Naval Hospital and the Leona Quarry are located in areas with a high slopes, high erosion potential, and high landslide potential because of their slope, rainfall, the depth to bedrock, and proximity to the Hayward fault. These areas would be considered difficult and potentially hazardous to develop. The Central Business District, Estuary Shoreline, Military Bases, Coliseum Area, Transit Corridors, and BART Transit Villages are located in the flat land areas and would not be subject to high erosion or landslide potentials.

This potential impact is mitigated to a less than significant level by the following OSCAR Element policies and actions (each of which is also included in the discussion of Existing City Policies, above):

Policy CO-1.1: Soil Loss in New Development

Regulate new development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction activities to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.

Action CO-1.1.1: Soil-Related Development Controls

Maintain, enforce, and periodically review development controls affecting soil removal, including the Grading Ordinance and the Sedimentation and Erosion Control Ordinance.

Action CO-1.1.2: Public Education on Soil Conservation

On an on-going basis, cooperate with the Alameda County Soil Conservation Service (SCS) and other agencies encouraging soil conservation and education regarding soil resources in Alameda County.

Policy CO-2.1: Slide Hazards

Encourage development practices which minimize the risk of landsliding.

Action CO-2.1.1: Ordinance Evaluation and Public Information

Evaluate existing ordinances and regulations to ensure that they contain adequate provisions to mitigate slide-related hazards in new construction areas. If departmental budgets permit, develop public outreach and educational materials for homeowners in hill areas on measures to reduce slide hazards.

Action CO-2.1.2: Graded Slope and Retaining Wall Maintenance

For new developments containing commonly owned retaining walls and graded slopes, require provisions for future maintenance and repair of these systems to be established before granting project approval.

Action CO-2.2.2: Land Stability Database

Incorporate known land stability information in the City's permit tracking system and the Measure I geographic information systems (GIS) program.

**Mitigation Measure K.2:** None required.

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### ***EROSION IMPACTS***

**Impact K.3: Adoption of the Plan would result in development that requires grading and earthmoving activities. Grading during construction of individual projects in hillside areas could increase the potential for erosion. This could cause clogging of local culverts, decrease downstream channel capacity, and degrade water quality. This is a less-than-significant impact due to existing policies in the OSCAR Element.**

Hillside construction usually requires the extensive movement of earth to ensure that roads, utilities, and structures are stabilized. On steeper sites, grading may require major cutting and filling. Such grading can decrease slope stability and increase the potential for erosion by the removal of vegetation. These activities are subject to the provisions of the city's Grading Ordinance (Ordinance No. 10312) and Sedimentation and Erosion Control Ordinance (Ordinance No. 10446) which require a permit for most earth movements of greater than 50 cubic yards of soil and preparation of a sedimentation and erosion control plan where appropriate.

This potential impact is mitigated to a less than significant level by the following OSCAR Element policies and actions (each of which is also included in the discussion of Existing City Policies, above):

Policy CO-2.4: Hillside Cuts and Fills

Minimize hillside cuts and fills and the removal of desirable vegetation. Limit large scale grading to those areas where it is essential to development. Where hillside grading does occur, reshape the terrain in smooth, natural appearing contours rather than flat, terraced benches. Immediately replant and reseed graded areas to reduce soil loss.

Action CO-2.4.1: Update Grading Ordinance

Review the grading ordinance every five years and revise it when necessary to keep it current with new knowledge and construction methods.

Action CO-2.4.2: Preparation of Grading Guidelines

Develop illustrated grading guidelines which accompany the City's grading ordinance.

**Mitigation Measure K.3:** None required.

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### ***SURFACE FAULT RUPTURE IMPACTS***

**Impact K.4: In the event of an earthquake, damage from surface fault rupture could affect structures, foundations, and underground utilities that could be developed as a result of Plan adoption. This is a less-than-significant impact due to existing laws and regulations and existing policies in the OSCAR Element.**

In the event of an earthquake, movement on the Hayward Fault could create horizontal displacement along the fault line of up to 5 feet. This would disrupt roads and utilities crossing the fault, including waterlines used for fire fighting. Structures built on the fault could also experience structural damage.

The Alquist Priolo Earthquake Zoning Act required the California Department of Mines and Geology to establish a special study zone along the Hayward fault to ensure that impacts related to potential surface fault rupture are considered in construction of a specific project. The special study zone along the Hayward fault runs the entire length of Oakland, generally along the Warren Freeway, but branching out to include portions of MacArthur Boulevard and Mountain Boulevard.

Within this zone, the Act recommends that a 50-foot setback be maintained from an active fault trace, unless detailed studies indicate that a smaller setback is acceptable. This Act also applies to structures located within the special studies zone if improvements valued at 50 percent or more of the value of the structure are constructed. Single family wood-frame and steel-frame dwellings up to two stories that are not part of a development of up to four units or more are exempt from this act.

The Oakland Naval Hospital is located adjacent to the Hayward Fault, and some portions of the Leona Quarry may also be located within the special studies zone. Consequently, new structures subject to the Alquist Priolo Earthquake Zoning Act could not be built in these areas without appropriate seismic investigations to demonstrate whether a smaller setback would be appropriate.

This potential impact is mitigated to a less than significant level by compliance with the Alquist Priolo Earthquake Fault Zoning Act and related regulations contained in Title 24 of the California Code of Regulations.

In addition, the following OSCAR Element policy (also included in the discussion of Existing City Policies, above) would mitigate this potential impact:

**Policy CO-2.2: Unstable Geologic Features**

Retain geologic features known to be unstable, including serpentine rock, areas of known landsliding, and fault lines, as open space. Where feasible, allow such lands to be used for low-intensity recreational activities.

**Mitigation Measure K.4:** None required.

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***GROUND SHAKING AND GROUND FAILURE IMPACTS***

**Impact K.5: In the event of an earthquake, damage from strong ground shaking or ground failure (liquefaction, densification, or landsliding) could affect structures, foundations, and underground utilities that could be developed as a result of Plan adoption. Human injury and life also could be risked. This is a less-than-significant impact due to existing regulations and existing policies in the OSCAR Element.**

Oakland does not currently have maps delineating these potential earthquake hazard zones, although they will be prepared by the State when funding becomes available (CDMG, 1997b). At the present, potential seismic hazards for a specific project are addressed in site specific geologic reports prepared for the project on the basis of the types of geologic materials present.

New construction would be required to comply with the requirements of the Seismic Mapping Act of 1990. Accordingly, construction located within liquefaction and landslide hazard zones would be required to conduct a seismic investigation and recommend construction methods to mitigate potential seismic hazards identified. This new construction would also be required to comply with the current version of the Uniform Building Code which contains more stringent seismic design requirements than previous versions.

Existing buildings that are the most susceptible to earthquake damage are of unreinforced masonry construction, many of which are located in the Central Business District. Separate from adoption of the Proposed Land Use and Transportation Element, the City implements the unreinforced masonry program which requires upgrading of these buildings to reduce potential seismic hazards as discussed in the Setting.

This potential impact is mitigated to a less-than-significant level by compliance with the Seismic Hazards Mapping Act and related regulations contained in Title 24 of the *California Code of Regulations*; the Uniform Building Code; and the Unreinforced Masonry Program.

In addition, the following OSCAR Element policy and action (each of which is also included in the discussion of Existing City Policies, above) would mitigate this potential impact:

**Policy CO-2.3: Development on Filled Soils**

Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards.



Action CO-2.2.1: Geotechnical Study Requirements

Maintain Standard Operating Procedures in the Office of Planning and Building which requires geotechnical studies for major developments in areas with moderate to high ground shaking or liquefaction potential, or other geologically unstable features.

**Mitigation Measure K.5:** None required.

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## L. NOISE

### SETTING

#### *NOISE DESCRIPTORS*

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound or noise can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called "A-weighting", written as "dBA".

Environmental noise is measured in units of dBA. The dBA, or A-weighted decibel, refers to a scale of noise measurement which approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about zero dBA to about 140 dBA. A ten-dBA increase in the level of a continuous noise represents a perceived doubling of loudness; a five-dBA increase is readily noticeable while a three-dBA increase is barely noticeable to most people.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level (called Leq) which represents the acoustical energy of a given measurement. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). CNEL adds a 5-dB penalty during the evening hours (7:00 p.m. to 10:00 p.m.) and a 10-dB penalty during the night hours (10:00 p.m. to 7:00 a.m.). Another 24-hour noise descriptor, called the day-night noise level (Ldn), is similar to CNEL. While both add a 10-dB penalty to all nighttime noise events between 10:00 p.m. and 7:00 a.m., Ldn does not add the evening 5-dB penalty. In practice, Ldn and CNEL usually differ by less than one dBA at any given location for transportation noise sources.

Human response to noise varies from individual to individual and is dependent upon the ambient environment in which the noise is perceived. The same noise that would be highly intrusive to a sleeping person or in a quiet park might be barely perceptible at an athletic event or in the middle of the freeway at rush hour. Therefore, planning for an acceptable noise exposure must take into account the types of activities and corresponding noise sensitivity of any particular set of land

uses. For example, sleep disturbance may occur at less than 50 dB, interference with human speech begins at around 60 dB, and hearing damage may result from prolonged exposure to noise levels in excess of 90 dB.

### ***EXISTING NOISE SOURCES***

The City's Noise Element identifies the major transportation facilities as the primary noise generators within the City (City of Oakland, 1974). Major transportation facilities in the City include the following freeways: Interstate 880 (I-880), Interstate 980 (I-980), Interstate 580 (I-580), State Highway 24, and State Highway 13.

In addition to traffic noise, other major sources of noise include aircraft noise associated with the operation of Metropolitan Oakland International Airport, as well as train noise associated with the operation of Bay Area Rapid Transit (BART) facilities and railroad facilities of Union Pacific Railroad. Elevated BART facilities traverse the North Oakland, West Oakland, San Antonio/Fruitvale, and East Oakland planning areas, while BART facilities are located underground through the Chinatown/Central planning area. Railroad tracks of the Union Pacific Railroad (which also includes former Southern Pacific facilities) extend through Oakland, generally following Oakland's waterfront from West Oakland on the north to East Oakland on the south.

Although transportation facilities are the main sources of noise, industrial uses are also sources of noise within the City. While industrial uses are located throughout the City, these noise sources are generally only a concern where they are located near sensitive receptors.

### ***EXISTING NOISE LEVELS***

In order to characterize the current noise environment throughout the City, available noise data from other land use and development studies were assembled and representative data are presented in Table III.L-1. Noise data include short- and long-term noise measurements and measurement locations are indicated on Figure III.L-1.

These measurements indicate that noise levels in the City are generally high along the I-880, I-580, I-980, State Highway 24, and State Highway 13 freeways, arterial streets, BART tracks, and railroad tracks. Arterial streets where noise levels generally exceed 70 dBA within 50 feet of the roadway centerline include (but are not limited to) the following: 3rd Street, 7th Street, San Pablo Avenue, Broadway, Fruitvale Avenue, International Boulevard (East 14th Street), San Leandro Street, Oakport Street, Hegenberger Road, Doolittle Drive (SR 61), and 98th Avenue.

Noise levels associated with the Metropolitan Oakland International Airport (MOIA) are monitored on a quarterly basis and the CNEL noise contours are updated on an annual basis. The noise contours indicate that 1,039 residences are currently located within areas that

**TABLE III.L-1  
EXISTING NOISE LEVELS**

Roadways/Locations by Planning Area	Measured Noise Level		Distance to Centerline or Noise Source
	Leq	CNEL or Ldn	
<u>West Oakland/Harbor</u>			
3rd St. (at Amtrak Station) <sup>1</sup>	--	72 dBA	n/a
Jack London Square (at Water & Washington Sts.) <sup>1</sup>	66 dBA	--	n/a
Jack London Square (Waterfront Hotel) <sup>1</sup>	55 dBA	--	n/a
Jack London Square (Oakland Fire Station #2) <sup>1</sup>	61 dBA	--	n/a
7th St. (Bet. Jefferson St. & Adeline St.) <sup>1</sup>	70-72 dBA	--	n/a
7th St. (at Seventh St. Ext.) <sup>3</sup>	74 dBA		40 ft.
West Oakland Streets Along I-880 Cypress Corridor <sup>2</sup>	61-74 dBA	--	n/a
San Pablo Ave. (at Adeline St.) <sup>3</sup>	--	76 dBA	40 ft.
<u>North Oakland</u>			
Martin Luther King Jr. Way (at 58th St.) <sup>4</sup>	69-70 dBA	--	120 ft.
Dover St. (at 58th St.) <sup>4</sup>	53-57 dBA	--	50 ft.
<u>Central/Chinatown</u>			
16th St. (at Oak Grove Plaza Square Res.) <sup>5</sup>	65 dBA	67 dBA	30 ft.
Jefferson St. (at 15th St.) <sup>5</sup>	64 dBA	68 dBA	40 ft.
Clay St. (at 15th St.) <sup>5</sup>	64 dBA	--	35 ft.
Broadway (at 14th St. in City Hall Plaza) <sup>3</sup>	--	71 dBA	300 ft.
<u>San Antonio/Fruitvale/Lower Hills</u>			
Fruitvale Ave. (west of E. 14th St.) <sup>6</sup>	68 dBA	71 dBA	50 ft.
Fruitvale Ave. (at BART station) <sup>6</sup>	67 dBA	70 dBA	50 ft.
East 12th St. (north of 37th Ave.) <sup>6</sup>	64 dBA	64-67 dBA	
Fruitvale BART station (adj. to BART tracks) <sup>7</sup>	--	71-72 dBA <sup>7</sup>	55 ft.
Union Pacific Railroad Tracks (north of 33rd Ave.) <sup>8</sup>	--	71 dBA <sup>8</sup>	30 ft.
San Leandro St. (north of 33rd Ave.) <sup>6</sup>	--	71 dBA	45 ft.
San Leandro St. (south of 38th Ave.) <sup>6</sup>	--	70 dBA	75 ft.
San Leandro St. (at 53rd Ave.) <sup>6</sup>	--	69 dBA	70 ft.
<u>East Oakland</u>			
San Leandro St. (south of 66th Ave.) <sup>6</sup>	76 dBA <sup>7</sup>	79 dBA	50 ft.
66th Ave. (east of San Leandro St.) <sup>6</sup>	66 dBA	69 dBA	45 ft.
Oakport St. (north of Hegenberger Rd.) <sup>6</sup>	63 dBA	65 dBA	40 ft.
Oakport St. (north of Hassler Wy.) <sup>6</sup>	66 dBA	71 dBA	100 ft.
Oakport St. (south of 66th Ave./Damon Slough) <sup>6</sup>	61 dBA	60 dBA	525 ft.
Hegenberger Rd. (east of Doolittle Dr.) <sup>6</sup>	71 dBA	74 dBA	55 ft.
Doolittle Dr. (south of Airport Dr.) <sup>6</sup>	68 dBA	71 dBA	115 ft.
Doolittle Dr. (north of Hegenberger Rd.) <sup>9</sup>	70 dBA	--	n/a
98th Ave. (east of I-880) <sup>6</sup>	73 dBA	76 dBA	50 ft.

(Continued)

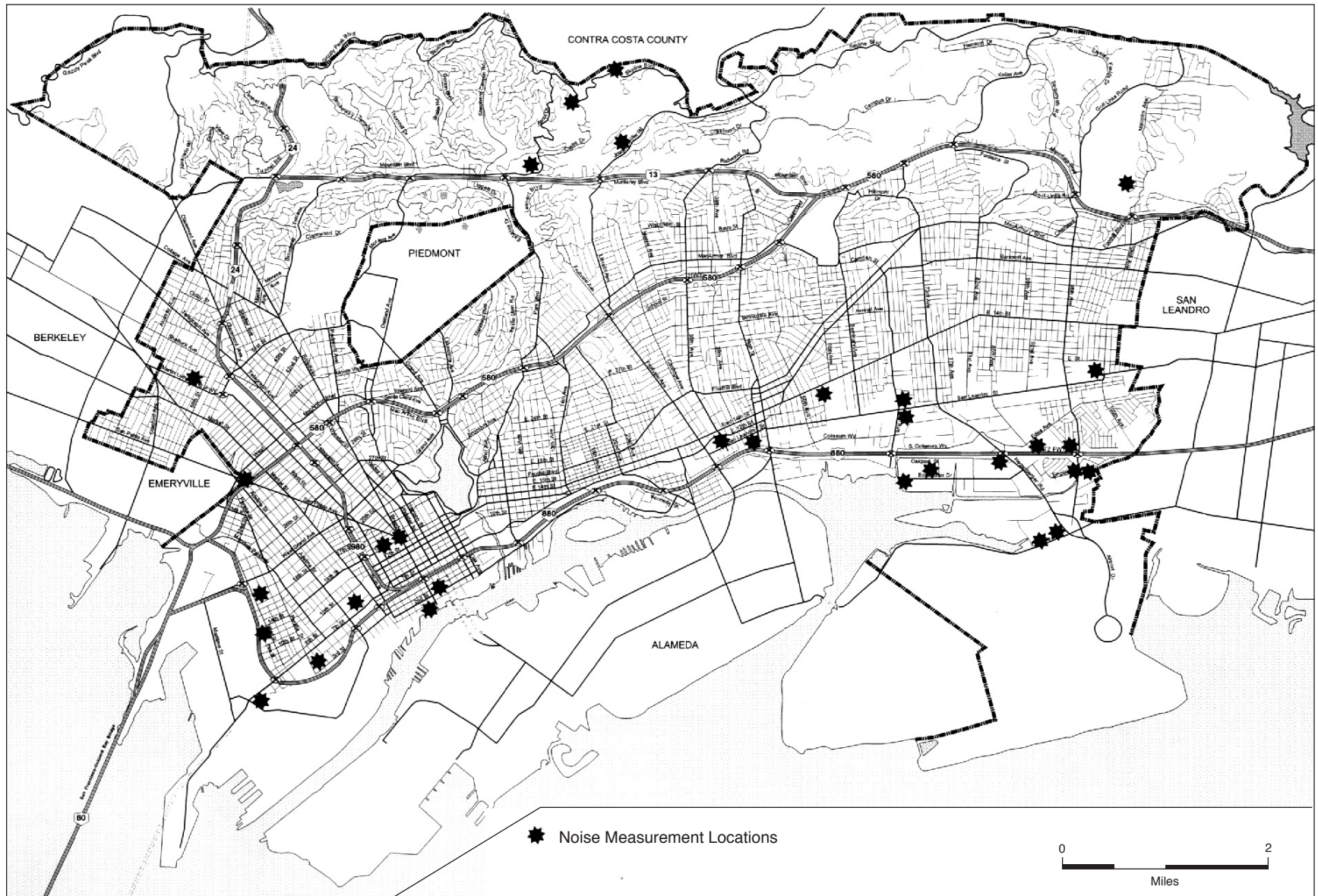
**TABLE III.L-1 (Continued)**  
**EXISTING NOISE LEVELS**

Roadways/Locations by Planning Area	Measured Noise Level		Distance to Centerline or Noise Source
	Leq	CNEL or Ldn	
98th Ave. (west of I-880) <sup>6</sup>	75 dBA	78 dBA	30 ft.
98th Ave. (at Empire Rd. in residential backyard) <sup>9</sup>	62-66 dBA	67-68 dBA	n/a
Edes Ave. (north of 98th Ave.) <sup>6</sup>	65 dBA	65 dBA	40 ft.
105th Ave. (east of San Leandro St.) <sup>6</sup>	70 dBA	70 dBA	40 ft.
<b>North and South Hills</b>			
State Route 13 (at Oakland Zoo) <sup>10</sup>	53-56 dBA	60 dBA	1,550 ft.
Skyline Blvd. (Bet. Castle Dr. & Joaquin Miller Rd.) <sup>11</sup>	- -	46-50 dBA	250 ft.
Skyline Blvd. (north of Castle Dr.) <sup>11</sup>	53 dBA	- -	50 ft.
Montera Junior High School (adj. to Ascot Dr.) <sup>11</sup>	52 dBA	- -	200 ft.
Woodminster Amphitheatre (adj. to Joaquin Miller Rd.) <sup>11</sup>	52 dBA	- -	300 ft.
Castle Dr. (west of Skyline Blvd.) <sup>11</sup>	50 dBA	- -	30 ft.

NOTE: In general, Leq represents short-term measurements (15- or 30-minute) while CNEL or Ldn represent long-term measurements (24-hour).

- <sup>1</sup> Measurements from various sources presented in the FISCO/Vision 2000 Disposal and Reuse Final EIS/EIR.
- <sup>2</sup> Measurements taken in 1990 and indicated noise levels along the I-880 Cypress corridor were 61 to 74 dBA (Leq). Projected levels at these locations once this freeway segment is completed and fully operational (1998) range between 66 to 78 dBA (Leq) and required noise barriers would reduce noise levels to less than 67 dBA in all areas except at the Goss/9th Street and I-580/I-880 vicinities where projected mitigated noise levels would be 68-69 dBA at residential receptors.
- <sup>3</sup> Measurements collected by Orion Environmental Associates on August 5, 1992 for the Oakland Enterprise Zone EIR.
- <sup>4</sup> Measurements collected by Orion Environmental Associates on March 5, 1993 for the Martin Luther King Jr. Shopping Center EIR/EIS.
- <sup>5</sup> Measurements collected by Geier & Geier Consulting, Inc. on June 16, 1994 for the Elihu Harris State Office Building EIR.
- <sup>6</sup> Measurements collected by Orion Environmental Associates on May 5, 1994 for the Coliseum Area Redevelopment Plan EIR.
- <sup>7</sup> Measurements collected by Orion Environmental Associates on June 27, 1996 and adjusted to remove UPRR train operations to reflect future conditions. Current noise levels (with train operations) are 4 to 5 dBA higher.
- <sup>8</sup> Measurement reflects existing train operations on the UPRR tracks, and this track is planned to be abandoned.
- <sup>9</sup> Measurements collected by Woodward-Clyde Consultants on March 11, 1993 for the Airport Roadway Project.
- <sup>10</sup> Measurements collected by Geier & Geier Consulting, Inc. on September 21, 1996, and distance is from the east edge of the SR 13 freeway.
- <sup>11</sup> Measurements collected by Orion Environmental Associates on November 22, 1993 for the Chabot Science Center EIR.

SOURCE: Orion Environmental Associates (1997)



SOURCE: CEDA

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**Figure III.L-1**  
Noise Measurement Locations

experience noise levels above 65 dBA CNEL. Nearly all of these residences (1,011) are on Bay Farm Island in the City of Alameda, while the remaining 28 are in the City of San Leandro. No residences in the City of Oakland are currently subject to aircraft noise levels above 65 dBA CNEL (U.S. Department of Transportation, 1996).

When these noise levels are compared to City noise and land use compatibility guidelines, they indicate that the existing noise environments in the vicinity of the I-880 freeway, adjacent to arterials (particularly those listed above), along BART and UPRR railroad lines, and in the airport vicinity (west of Doolittle Drive) are generally incompatible with residential and other noise-sensitive uses.

### ***EXISTING SENSITIVE RECEPTORS***

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication; physiological and psychological stress; and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools (which can include child care centers), hospitals, and nursing homes are considered to be the most sensitive to noise. In addition, the City of Oakland's Noise Element contains noise guidelines for extensive natural recreation areas. Such recreational areas are considered to be sensitive to noise since some degree of quiet is usually desired for passive recreational uses such as birdwatching or picnicking. Golf courses and neighborhood parks are not considered to be noise-sensitive.

With respect to residential sensitive receptors, the City's Noise Element identifies nine areas, Areas A through I, that were considered to be "critical noise impact areas" in 1974. The Noise Element identifies these areas as areas that are "noisier than is desirable," when compared to noise compatibility criteria developed by U.S. Department of Housing and Urban Development and U.S. Environmental Protection Agency. Such areas primarily involve residential uses abutting freeways (State Route 24, I-580 [generally west of Grand Avenue], and I-880), heavily traveled streets (International Boulevard [East 14th Street], between Adeline and High streets), MacArthur Boulevard and Broadway (in the vicinity of their intersection), railroad facilities, BART, and industrial plants in East Oakland (generally along San Leandro Street where there are also truck routes, railroad and BART facilities). However, they also include parks, trails, hospitals in the "Pill Hill" vicinity and Laney College which are located near freeways or heavily-traveled streets. It is noted in the Noise Element that these identified areas were areas that were having the "most serious" noise problems in 1974, and identification of these areas is not intended to imply a lack of problems elsewhere.

### ***NOISE STANDARDS AND PLANNING GUIDELINES***

Noise exposure standards generally fall into two categories: (1) receiver-based noise compatibility guidelines for various land uses; and (2) ordinance limits for non-transportation-

related noise. Since local jurisdictions are preempted from regulating noise generation from noise sources such as cars, trucks, trains, airplanes, etc., the City of Oakland implements noise controls through receiver-based noise compatibility guidelines (contained in the Noise Element of the General Plan) and its Noise Ordinance. The adopted noise compatibility guidelines identify allowable noise exposures for various land uses from such sources, even if the source itself cannot be regulated. The City's Noise Ordinance regulates activities that may include such sources as mechanical equipment, amplified sounds, or hours of heavy equipment operation. Standards in local noise ordinances may be in the form of quantitative noise performance levels (as they are in the Oakland Noise Ordinance), or they may simply be in the form of a qualitative prohibition against creating a nuisance. Numerical standards are generally preferred because compliance is easier to document rather than relying on a judgment decision on the interpretation of "nuisance."

### **City of Oakland Noise Compatibility Guidelines**

The City of Oakland, in its noise guidelines, recognizes the variable sensitivity of certain activities to noise and thus, established noise exposure criteria defining acceptable noise levels. The City uses land use compatibility noise guidelines by the State of California and they are presented in Figure III.L-2. For residential and transient lodging uses, State guidelines indicate that noise levels up to 60 to 65 dBA (Ldn or CNEL) are normally acceptable depending on the type of residential use. For office/commercial uses as well as schools, libraries, churches, hospitals and nursing homes, State guidelines indicate that noise levels up to 70 dBA (Ldn or CNEL) are considered normally acceptable. For golf courses, water recreation, and industrial uses, noise levels up to 75 dBA are considered normally acceptable.

"Normally acceptable" is defined as satisfactory for the specified land use, assuming that normal conventional construction is used in buildings. Under most of these land use categories, overlapping ranges of acceptability and unacceptability are presented, leaving some ambiguity in areas where noise levels fall within the overlapping range. For purposes of this analysis, the most conservative interpretation is followed where noise levels fall within this range (i.e., if a noise level falls within the overlapping range for normally and conditionally acceptable, it is identified as conditionally acceptable).

Although there are no State guidelines for extensive natural recreation areas, noise guidelines contained in the City's Noise Element include land use compatibility noise guidelines by the U.S. Department of Housing and Urban Development that define the maximum acceptable noise levels for extensive natural recreation areas. Noise levels up to 60 dBA (CNEL) are considered clearly acceptable for extensive natural recreation areas. Noise levels between 60 and 75 dBA



LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE					
	L dn or CNEL, db					
	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes						
Residential - Multi Family						
Transient Lodging- Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business Commercial and Professional						
Industrial, Manufacturing Utilities, Agriculture						

#### INTERPRETATION



##### **Normally Acceptable**

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



##### **Conditionally Acceptable**

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



##### **Normally Unacceptable**

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



##### **Clearly Unacceptable**

New construction or development should generally not be undertaken.

SOURCE: California Office of Planning and Research.  
1990, *General Plan Guidelines*.

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**Figure III.L-2**  
Recommended Land Use Compatibility  
Guidelines for Community Noise

(CNEL) are defined as normally acceptable for natural recreation areas. “Normally acceptable” is defined by City guidelines as levels where noise exposure is of some concern, but common building construction would be considered adequate to provide an acceptable indoor environment. Since there is no indoor environment with such recreational uses, the City’s definition of normally acceptable for this use indicates some concern with compatibility where noise levels are above 60 dBA.

### **City of Oakland Noise Ordinance**

Section 7710 of the Oakland Planning Code specifies maximum allowable noise levels at various land uses and these standards are presented in Table III.L-2. The first set of standards apply to long-term noise exposure at specific land uses, while the second set of standards apply to temporary exposure to short- and long-term construction noise. Standards also indicate that in areas where the measured ambient noise level exceeds the applicable noise level standard, the ambient noise level becomes the applicable standard.

### **California Noise Insulation Standards**

Title 24, Part 2 of the *California Code of Regulations* contains requirements for construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as California Noise Insulation Standards. For limiting noise transmitted between adjacent dwelling units, the Standards specify the extent to which walls, doors, and floor ceiling assemblies must block or absorb sound. For limiting noise from exterior sources, the Standards set forth an interior standard of 45 dBA (CNEL or Ldn) in any habitable room with all doors and windows closed and require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA (CNEL or Ldn).

## **SIGNIFICANCE CRITERIA**

According to State CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would “increase substantially the ambient noise levels for adjoining areas.” For the City of Oakland, a “substantial” noise increase is defined by comparing existing and projected noise levels with the following criteria:

- compliance with City-adopted State land use compatibility noise guidelines for all specified uses and City guidelines for extensive natural recreation areas (land use compatibility guidelines are presented in Figure III.L-2);
- compliance with the City Noise Ordinance;
- compliance with California Noise Insulation Standards (Title 24) for new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings; and

**TABLE III.L-2  
CITY OF OAKLAND MAXIMUM ALLOWABLE RECEIVING NOISE STANDARDS**

NOISE LEVEL STANDARD FOR SPECIFIED LAND USES			
Receiving Land Use	Cumulative Number of Minutes in One-hour Time Period	Maximum Allowable Noise Level Standard, dBA	
		Daytime 7 am to 10 pm	Nighttime 10 pm to 7 am
Residential, School, Child Care, Health Care Or Nursing Home, and Public Open Space	20 (L <sub>33</sub> )	60	45
	10 (L <sub>16.7</sub> )	65	50
	5 (L <sub>8.3</sub> )	70	55
	1 (L <sub>1.7</sub> )	75	60
	0 (L <sub>max</sub> )	80	65
Commercial	20 (L <sub>33</sub> )	65	65
	10 (L <sub>16.7</sub> )	70	70
	5 (L <sub>8.3</sub> )	75	75
	1 (L <sub>1.7</sub> )	80	80
	0 (L <sub>max</sub> )	85	85
Manufacturing, Mining, and Quarrying	20 (L <sub>33</sub> )	70	70
	10 (L <sub>16.7</sub> )	75	75
	5 (L <sub>8.3</sub> )	80	80
	1 (L <sub>1.7</sub> )	85	85
	0 (L <sub>max</sub> )	90	90

**NOISE LEVEL STANDARDS FOR TEMPORARY CONSTRUCTION OR DEMOLITION ACTIVITIES**

Operation/Receiving Land Use	Daily 7 am to 7 pm	Weekends 9 am to 8 pm
Short Term Operation (less than 10 days)		
Residential	80	65
Commercial, Industrial	85	70
Long Term Operation (more than 10 days)		
Residential	65	55
Commercial, Industrial	70	60

NOTE: L<sub>max</sub> is the maximum noise level; L<sub>33</sub> is the noise level exceeded 33 percent of time, etc.

SOURCE: City of Oakland (1996)

- a determination of whether the incremental noise increase would be noticeable to most people. A 10-dBA incremental noise increase is perceived by most people to be a doubling in the loudness of a sound. A 5-dBA increase is readily noticed by most people, while a 3-dBA increase is barely noticeable to most people.

## IMPACTS AND MITIGATION MEASURES

The noise impact analysis focuses on the following specific issues:

General Plan Program-level Impacts: This section addresses the consistency of proposed land use designations with City noise compatibility guidelines as well as City and State noise standards. In addition, this section addresses the potential traffic-related noise increases that could occur along major roadways throughout the City as a result of implementation of the proposed Land Use and Transportation Element.

Downtown and Coliseum Showcase District Project Impacts: This analysis addresses the long-term noise increases on roadways within these districts due to cumulative traffic increases associated with specific development projects in the Downtown and Coliseum Showcase Districts. In addition, short-term construction noise impacts associated with the construction of these projects is also assessed.

### *GENERAL PLAN IMPACTS (PROGRAM-LEVEL)*

#### *Plan-Related Traffic Noise Increases*

**Impact L.1: Implementation of the proposed Land Use and Transportation Element would increase noise levels along streets throughout the City. This is a less-than-significant impact.**

Plan-related traffic increases are based on anticipated growth rates for the City overall. Noise increases associated with this traffic growth would be 2 decibels (dBA) or less on selected street segments throughout the City. Increases of less than 3 dBA are generally not perceptible to most people and therefore, future increases of 2 dBA or less would not be significant.

**Mitigation Measure L.1:** None required.

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#### *Changes in Map Designations*

**Impact L.2: Proposed General Plan map changes would redesignate some segments of major transportation corridors from commercial to urban density residential uses, which could pose noise compatibility problems for residential uses. This is a less-than-significant impact due to existing regulations and proposed policies in the Land Use and Transportation Element.**

Tables III.A-2 through III.A-7 identify areas where proposed map changes would allow development of high density residential uses along arterial streets. The Strategy Diagram also indicates areas where changes would occur (Reuse and Intensify areas), while the Land use Diagram indicates where residential uses would be allowed along arterial streets. Together, these two diagrams and Tables III.A-2 through III.A-7 indicate that the proposed map changes would encourage high-density residential uses along segments of a number of arterial streets including: San Pablo Avenue, Martin Luther King Jr. Way, Telegraph Avenue, Piedmont Avenue, Mandela Parkway, International Boulevard, Foothill Boulevard, and MacArthur Boulevard.

Noise measurements collected (Table III.L-1) and noise modeling completed along some of these streets (Table III.L-3) indicate that existing and future noise levels along most of these streets would not be consistent with the City's noise compatibility guidelines for new development. For residential uses, the maximum acceptable noise level is 60 dBA (CNEL or Ldn). Between 60 and 75 dBA, guidelines indicate that noise attenuation measures will need to be incorporated into the design, although above 70 dBA, residential uses are generally discouraged. Above 75 dBA, guidelines recommend that new residential development should not be undertaken. In general, on roads where noise levels are projected to exceed 70 dBA at 50 feet, residential setbacks are also generally greater than 50 feet because these roads are wider. Therefore, proposed residential uses along roadways listed in Table III.L-3 where projected noise levels are greater than 70 dBA at 50 feet could be feasible depending on building setbacks and design.

Proposed General Plan map changes emphasize the development of high density residential development, and such development would be subject to the California Noise Insulation Standards (Title 24). Since these standards require noise mitigation in areas where exterior noise levels exceed 60 dBA (CNEL or Ldn), it is likely that future residential development along arterial streets would need to incorporate noise attenuation measures in order to meet these standards. Implementation of the City's noise compatibility guidelines and State Noise Insulation Standards would mitigate potential traffic noise impacts to a less than significant level.

The policies set forth below are intended to address noise impacts associated with development of residential uses along transportation corridors. Although implementation of the Oakland Noise Ordinance would mitigate the potential impacts to a less-than-significant level at residential receptors, there are policies proposed as part of the Land Use and Transportation Element that would help reduce the potential for noise impacts from traffic noise increases along these corridors. They are included in the project as follows and shall be adopted and implemented by the City:

**TABLE III.L-3  
FUTURE NOISE LEVELS ALONG SELECTED ROADWAYS**

<i>Streets where noise levels could exceed 70 dBA (CNEL) and where residential uses could be developed</i>			
Street Segment	Assumed % Trucks	Future Noise Level (CNEL @ 50 Feet From Roadway Centerline)	
		2005	2015
Hegenberger Rd. - I-880 to E. 14th St.	8%	75.1	75.3
73rd Ave. - E. 14th St. to MacArthur Blvd.	5%	73.7	73.9
MacArthur Blvd. - Broadway to Emeryville City Limit	5%	70.1	70.8
E. 14th St. - High St. to Hegenberger Rd.	5%	71.3	71.6
98th Ave. - I-880 to E. 14th St.	8%	70.6	71.2
Market St. - 7th St. to 14th St.	8%	71.8	72.3
Market St. - I-580 to 40th St.	5%	70.2	70.5
San Pablo Ave. - I-580 to Grand Ave.	5%	71.9	71.5
Grand Ave. - Harrison St. to I-580	5%	73.5	74.6
High St. - I-880 to E. 14th St.	8%	70.7	71.4
<i>Streets where noise levels could exceed 60 dBA (CNEL) and where residential uses could be developed</i>			
Redwood Rd. - S.R. 13 to MacArthur Blvd.	2%	67.6	67.7
Seminary Ave. - I-580 to Camden St.	2%	66.5	67.3
MacArthur Blvd.-73rd Ave. to San Leandro City Limit	5%	69.8	70.0
Fruitvale Ave. - I-880 to E. 14th St.	8%	68.5	68.9
Fruitvale Ave. - E. 14th St. to I-580	2%	65.2	65.6
98th Ave. - E. 14th St. to I-580	2%	67.3	67.9
Foothill Blvd. - Seminary Ave. to MacArthur Blvd.	2%	63.2	64.1
Telegraph Ave. - 40th St. to Claremont Ave.	5%	67.3	67.8
College Ave. - Broadway to Claremont Ave.	5%	68.3	68.2
High St. - E. 14th St. to I-580	2%	67.4	68.1

SOURCE: Orion Environmental Associates (1997)

Policy T1.6:

An adequate system of roads connecting port terminals, warehouses, freeways and regional arterials, and other important truck destinations should be designated. This system should rely upon arterial streets away from residential neighborhoods.

Policy I/C4.2:

The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through efficient and appropriate implementation and monitoring of environmental and development controls.

**Mitigation Measure L.2:** None required.

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***Mixed Use Development***

**Impact L.3: Proposed General Plan map changes to allow a mix of commercial and residential uses (Urban Residential, Neighborhood Center Commercial, and Community Commercial designations) could pose noise compatibility problems between residential and commercial uses. This is a less-than-significant impact due to proposed policies in the Land Use and Transportation Element and additional measures identified in this EIR.**

Sources of noise typically associated with commercial uses typically include loading/unloading activities, delivery trucks, parking cars, garbage trucks and refuse bins. Stationary sources of noise could include refrigeration, air conditioning and heating units as well as compressors, transformers, and/or trash compactors. In addition, depending on the type of commercial activities (e.g., restaurants, bars, etc.), noise generated in the evening or nighttime hours could result in noise conflicts between residential and commercial uses. The Oakland Noise Ordinance sets limits on the level of noise that commercial uses could generate at residential uses, and this would reduce the potential for noise impacts to a less than significant level.

The policies set forth below are intended to address noise impacts associated with development of commercial uses in proximity to residential uses. Although implementation of the Oakland Noise Ordinance would mitigate the potential impacts to a less than significant level at residential receptors, there are policies proposed as part of the Land Use and Transportation Element which would help reduce the potential for noise conflicts between commercial and residential uses. They are included in the project and shall be adopted and implemented by the City:

Policy I/C4.1:

Existing industrial, residential, and commercial activities and areas which are consistent with long-term land use plans for the City should be protected from the intrusion of potentially incompatible uses.

Policy I/C4.2:

The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through efficient and appropriate implementation and monitoring of environmental and development controls.

Policy N1.5:

Commercial development should be designed in a manner that is sensitive to surrounding uses.

The policies listed above may not fully mitigate Impact L.3 to a less-than-significant level. The following additional mitigation measures are proposed to ensure that the impacts are less than significant.

**Mitigation Measure L.3a:** Establish design requirements for large-scale commercial development that requires adequate buffers from residential uses. Use of open space, recreation space, or transit installations as buffers should be encouraged. (Neighborhood Working Group)

**Mitigation Measure L.3b:** Mixed residential/ non-residential neighborhoods should be rezoned after determining which should be used for residential, mixed, or non-residential uses. Some of the factors that should be considered when rezoning mixed use areas include the future intentions of the existing residents or businesses, natural features, or health hazards. (Neighborhood Working Group)

**Impact L.3 Level of Significance After Mitigation:** Less Than Significant

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*Noise Compatibility Within Residential Areas*

**Impact L.4: Proposed General Plan map changes to allow higher residential densities could pose noise compatibility problems between future residential development and existing, lower density residential uses within the same land use category. This is a less-than-significant impact due to the additional measure identified in this EIR.**

In areas where proposed map changes would allow higher residential densities than are currently allowed, noise compatibility problems could arise since higher densities can generate higher levels of traffic and residential activity. Areas where such effects could occur are listed in Tables III.A-2 through III.A-7. Noise from residential activities would be similar in nature to noise already generated by existing residential uses, and therefore would be less than significant. The potential for significant noise increases from increased traffic would depend on the size and type of development. City ordinance and State standards do not specifically apply to traffic noise increases.



**Mitigation Measure L.4:** Where high density residential development would be located adjacent to existing lower density residential development, new development shall be designed to minimize noise impacts on any existing residential uses due to increased traffic on local roadways and increased parking activities.

**Impact L.4 Level of Significance After Mitigation:** Less Than Significant

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***Live-Work Noise Compatibility Impacts***

**Impact L.5: Proposed General Plan map changes to allow live-work and other forms of housing in transitional industrial areas could pose future noise compatibility problems. This is a less-than-significant impact due to proposed policies in the Land Use and Transportation Element and additional measures identified in this EIR.**

The Oakland Noise Ordinance specifies lower noise limits in residential areas than in industrial areas. Location of residential uses adjacent to or near existing industrial uses could result in existing industrial uses being subject to these more stringent noise limits, and violations of the Ordinance could occur. In addition, future development of industrial uses in areas adjacent to or near any residential uses could become infeasible since they would be subject to more stringent noise limits. Tables III.A-2 through III.A-7 identify areas where proposed map changes would allow development of various types of residential uses in industrial areas. In general, these areas occur along segments of Adeline Street, Market Street, Martin Luther King Jr. Way, and East 12th Street, and also include the following areas: the area bounded by 12th Street-16th Street-Mandela Parkway-Union Street; Jack London Waterfront; and the area bounded by East 12th Street-Southern Pacific Railroad-2nd Avenue-14th Avenue.

The policies set forth below and in the Plan are intended to address noise impacts associated with development of residential uses in industrial areas. Although implementation of the Oakland Noise Ordinance would mitigate the potential impacts to a less-than-significant level at residential receptors, there are policies which would help reduce the potential for noise conflicts between residential uses and existing/future industrial uses. They are included in the Plan as follows and shall be adopted and implemented by the City:

Policy D10.7:

Locational and performance criteria should be developed for live-work developments.

Policy W1.2:

Land uses and impacts generated from such activities should be sensitive to one another and appropriate buffering should minimize the incompatibility of uses.

Policy W2.2:

Appropriate buffering measures for heavy industrial uses and transportation uses on adjacent residential neighborhoods should be developed.

Policy T1.6:

An adequate system of roads connecting port terminals, warehouses, freeways, and regional arterials, and other important truck designations, should be designated. This system should rely upon arterial streets away from neighborhoods.

The policies listed above may not fully mitigate this impact to a less-than-significant level. The following additional mitigation measures shall be adopted to ensure that this impact is less than significant.

**Mitigation Measure L.5a:** The City should develop distinct definitions for home occupation, live/work and work/live operations; define appropriate locations for these activities and performance criteria for their establishment; and create permitting procedures and fees that facilitate the establishment of those activities which meet the performance criteria. (Neighborhood Working Group)

**Mitigation Measure L.5b:** Avoid proliferation of existing incompatible uses by eliminating, through appropriate rezoning actions, pockets of residential zoning within predominantly industrial areas. (Neighborhood Working Group)

**Mitigation Measure L.5c:** Establish performance-based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas. (Neighborhood Working Group)

**Mitigation Measure L.5d:** Develop performance zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby uses. (Neighborhood Working Group)

**Impact L.5 Level of Significance After Mitigation:** Less Than Significant

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***Housing Business Mix Noise Impacts***

**Impact L.6: Proposed General Plan map changes could allow development of light manufacturing, wholesale, business, commercial or mixed uses in areas designated for "Housing Business Mix," posing potential future noise compatibility problems. This is a less-than-significant impact due to existing regulations.**

Tables III.A-2 through III.A-7 indicate areas where the land use designation would change from "residential" to "Housing Business Mix." Development of light manufacturing, wholesale,

business, or commercial uses adjacent to residential areas would be subject to requirements of the Oakland Noise Ordinance. The Ordinance would limit noise generation by any future non-residential uses at existing residential uses.

**Mitigation Measure L.6:** None required.

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*Noise Impacts of Transportation Improvements*

**Impact L.7: Implementation of the proposed Land Use and Transportation Element could result in future transportation improvements that could create or aggravate noise compatibility problems with sensitive receptors. This is a less-than-significant impact due to existing regulations and additional measures identified in this EIR.**

Designation of “Regional Transit Streets” along certain arterial streets could result in future changes in traffic noise characteristics along these streets, particularly if light rail or electric trolley bus service is ultimately developed. Traffic noise levels along these streets could ultimately be higher than would occur without regional transit improvements. Future development along these streets would be subject to applicable City and State noise compatibility guidelines and standards, and required noise analyses will need to consider future noise levels (including noise from any planned regional transit improvements) along these streets to determine appropriate noise reduction requirements.

Development of transit centers and shopper shuttle services near BART stations could pose potential noise compatibility problems with future development depending on the proximity of noise-sensitive uses (e.g., residential, schools, child care, senior centers, etc.) to transit facilities. Future development would be subject to noise generated by BART trains as well as increases in bus traffic noise at BART stations and transit centers. Potential noise compatibility problems would be mitigated to a less-than-significant level assuming appropriate noise attenuation measures are incorporated into future designs as required by the City Noise Ordinance, the City’s noise compatibility guidelines, and State Noise Insulation Standards. In addition, some future development could also be subject to noise guidelines specified by the U.S. Federal Transit Administration (FTA) or Department of Housing and Urban Development (HUD), depending on funding sources.

Transportation improvements identified in the Element for the I-880 Corridor, 73rd Avenue Corridor, and Oakland-Alameda corridors could alter the distribution of future traffic in these areas. Noise levels could increase along affected local roadways as a result of interchange and roadway improvements. Potential traffic noise increases that would result from such improvements have been (or will be) addressed in separate environmental analyses completed for specific improvements.

**Mitigation Measure L.7:** Future transit improvements shall be designed sufficiently so that future noise levels along these streets can be adequately estimated and considered in the design of future residential or other noise-sensitive developments.

**Impact L.7 Level of Significance After Mitigation:** Less Than Significant.

## **Downtown Showcase District Impacts (Project-Level)**

### ***Construction Noise Impacts***

**Impact L.8: Development of the downtown projects would generate short-term increases in noise and vibration due to construction. This is a significant impact.**

During construction of the downtown projects, temporary noise increases would result from the operation of heavy equipment. Construction is anticipated to occur at various times over the next eight years with completion by 2005. Construction noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between noise source and receptor. Typical construction noise sources range from about 76 to 85 dBA at 50 feet for most types of construction equipment with slightly higher levels of about 88 to 89 dBA for certain types of earthmoving (e.g., scrapers, pavers). The highest noise levels would be generated by rock drills and pile drivers, which can generate noise peaks of approximately 98 and 101 dBA at 50 feet, respectively. The rate of attenuation is about 6 dBA for every doubling of distance from a point source. Typical noise levels at 50 feet from the noise source for several types of construction equipment and potential noise attenuation with feasible noise controls are shown in Table III.L-4.

The Oakland Noise Ordinance would limit construction noise levels to certain maximum levels during certain hours. The noise limits vary depending on the affected land use. Given the scale of the downtown projects, long-term noise limits would likely be applied, and they require construction noise levels to be limited to 65 dBA at the nearest residence during the weekdays (7:00 a.m. to 7:00 p.m.) and 55 dBA on weekends (9:00 a.m. to 8:00 p.m.). Except for emergencies or in cases where nighttime roadway construction is carried out to minimize congestion, construction is not allowed during the nighttime hours. In general, studies have shown the speech interference can occur if the noise level in the interior of the building exceeds 45 to 50 dBA, which is equivalent to an exterior noise limit of approximately 70 dBA (assuming windows are kept closed). Compliance with the City Noise Ordinance would maintain noise levels below the level which could cause speech interference, and therefore, the Ordinance would mitigate potential construction noise levels to a less-than-significant level.

**TABLE III.L-4  
TYPICAL CONSTRUCTION NOISE LEVELS**

<b>Equipment</b>	<b>Noise Level (dBA) @ 50 Feet</b>	<b>With Feasible Noise Control<sup>1</sup></b>
<u>Earthmoving:</u>		
Front Loader	79	75
Backhoe	85	75
Dozer	80	75
Tractor	80	75
Scraper	88	80
Grader	85	75
Paver	89	80
<u>Materials Handling:</u>		
Concrete Mixer	85	75
Concrete Pump	82	75
Crane	83	75
<u>Stationary:</u>		
Pump	76	75
Generator	78	75
	81	75
<u>Impact:</u>		
Pile Driver	101	95
Jack Hammer	88	75
Rock Drill	98	80
Pneumatic Tools	86	80
<u>Other:</u>		
Saw	78	75
Vibrator	76	75

<sup>1</sup> Estimated levels obtainable by selecting quieter procedures or machines and implementing noise -control features requiring no major redesign or extreme cost.

SOURCE: U.S. Environmental Protection Agency (1971)

For downtown projects, pile driving could be required as part of foundation construction. Conventional unmuffled, unshielded pile drivers generate noise peaks of 101 dBA at 50 feet each time the driver strikes the pile. Depending on the proximity of pile driving to the adjacent sensitive receptors, noise levels could exceed short-term (less than 10 days) and long-term noise limits specified in the Noise Ordinance. Implementation of feasible noise controls (which could provide a 6-dBA reduction) or vibratory pile drivers (which are 15 dBA quieter than impact drivers) could help reduce noise levels at sensitive receptors to acceptable levels depending on their proximity. Implementation of such measures would be required as necessary to reduce these

potential impacts to a less-than-significant level in most cases. However, in portions of the downtown where residential uses are nearby, these measures may not be adequate to mitigate the short-term construction noise impact to a less-than-significant level.

Pile driving is known to cause vibrations in adjacent structures. The nature and extent of vibration would depend on a number of factors, including: the type of equipment used (such as impact or vibratory tools); the type of activity, the depth of construction, and the type and conditions of geologic materials. While the potential for structural damage cannot be specifically predicted in the vicinities of downtown sites, vibration can be maintained at levels which would not cause structural damage if vibratory pile drivers are used. Pre-drilling of pile holes would also reduce the potential adverse vibration effects of pile driving. With such measures, vibration effects would be noticeable but would not be expected to result in structural damage to buildings if pile driving occurs as part of construction of downtown projects.

Compliance with the City Noise Ordinance would reduce short-term construction noise at many noise-sensitive receptors (i.e., residential uses, hotels, parks) in the downtown area. However, some noise-sensitive receptors are in such close proximity to project sites in the Downtown Showcase District that compliance with the City Noise Ordinance may not reduce this impact to a level of less-than-significant.

**Mitigation Measure L.8:** The City shall require the project sponsors to implement noise control techniques to minimize disturbance to adjacent or nearby sensitive noise receptors during project construction.

1. Specific noise control measures shall include, but not necessarily be limited to, the following:
  - 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 and necessary) in order to minimize construction noise impacts. Construction equipment shall not generate noise levels above 75-80 dBA at 50 feet as listed in Table 12, or as required by City ordinance, in order to provide acceptable interior noise levels at uses located beyond 100 feet from the site.
  - b. 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 where feasible, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used such as drilling rather than impact equipment whenever feasible.
  - c. During project construction, truck operations shall be prohibited during the nighttime hours (8 p.m. to 7 a.m.) and the operation of heavy equipment shall be limited to the

7:30 a.m. to 7:30 p.m., Monday through Saturday, to minimize potential disturbance of occupants of adjacent hotels/residential hotels.

- d. Stationary noise sources shall be located as far from sensitive receptors as possible. If they must be located near existing receptors, they shall be muffled to the extent feasible and enclosed within temporary sheds.
  - e. Plywood barriers shall be erected along project boundaries, if feasible, to shield pedestrians from construction-related noise.
2. If pile driving is required, the following measures shall be implemented to minimize potentially significant noise and vibration impacts on adjacent uses due to pile driving:
- a. Pile driving shall be limited to the daytime working hours as specified under Measure #1c above.
  - b. Engine and pneumatic exhaust controls on pile drivers shall be required as necessary to ensure that exhaust noise from pile driver engines are minimized to the extent feasible.
  - c. Pile holes shall be pre-drilled to reduce potential noise and vibration impacts, where feasible.
  - d. Enclosures shall be provided to the extent possible. Since ground level barriers would likely be installed along the site perimeter for safety, they should be constructed of plywood (or solid material) to help reduce noise impacts at adjacent ground floor uses. However, residential and office uses located above the barrier would not experience any noise reduction from these barriers.

**Impact L.8 Level of Significance After Mitigation:** Significant and Unavoidable

Some noise-sensitive receptors would be subject to mitigated construction noise levels above the 70-dBA criterion due to their proximity to development sites in the Downtown Showcase District. Since some buildings are too high for temporary noise barriers to be effective, no mitigation is possible and temporarily significant construction noise impacts at these receptors would be unavoidable. However, it should be noted that noise levels would only exceed the 70-dBA criterion when noisy construction activities were to occur within 150 feet of these receptors, which would not be the entire construction period. In addition, the above measures would help to substantially reduce potential construction noise impacts.

Because the use of sonic or vibratory pile drivers is not feasible and impact pile drivers would likely be used, the above measures would not reduce pile driving noise to a less-than-significant level at adjacent receptors. However, it should be noted that implementation of the above measures would substantially reduce potential noise impacts if pile driving is required.

### *Noise on Downtown Roadways*

**Impact L.9: Implementation of the downtown projects would result in noise increases along local roadways serving the proposed project. This would be a less-than-significant impact.**

Implementation of the downtown projects would result in traffic increases along local roadways in the project vicinity. Noise increases associated with these traffic increases are summarized in Table III.L-5. This table indicates traffic generated by these projects would result in noise increases of 0 to 3 dBA over existing levels on downtown roadway segments that would be subject to the greatest traffic increases. Increases of approximately 3 dBA would occur on road segments east of Castro Street that provide access to the I-980 freeway (12th, 17th, and 18th streets) from downtown. Since increases of 3 dBA are barely perceptible, project-related noise increases along local roadways would be less than significant. A slightly greater noise increase of almost 4 dBA would occur on 5th Street (east of Broadway). The noise environment along this roadway segment is dominated by freeway noise and there are no noise-sensitive uses along this roadway segment. Therefore, this slightly noticeable increase would have a less-than-significant impact on adjacent uses.

**Mitigation Measure L.9:** None required.

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### *Cumulative Noise in Downtown*

**Impact L.10: Future cumulative noise levels along downtown streets could increase to levels that are considered conditionally acceptable for retail commercial, office, and residential uses. This would be a less-than-significant impact.**

Existing development is generally located as close as approximately 40 to 50 feet from the roadway centerlines, depending on the roadway width. It is anticipated that the downtown projects would have similar setbacks from roadways. At 50 feet, future noise levels along selected downtown roadway segments would range between 60 and 70 dBA (CNEL) except on two segments of Castro Street (the blocks north of 12th Street and 18th Street) where noise levels could reach 72 dBA. Noise levels between 67 and 77 dBA are considered conditionally acceptable for office and commercial uses, where conventional construction (but with closed windows and fresh air supply systems or air conditioning) would be adequate to reduce future noise levels to acceptable levels. It should be noted that the I-980 freeway is located adjacent to Brush and Castro streets (but below grade), and actual ambient noise levels along these streets may be higher than modeled noise levels due to the proximity of this major noise source. In general, future noise levels along selected downtown streets would be considered normally or conditionally acceptable for office and commercial uses.



**TABLE III.L-5  
TRAFFIC NOISE INCREASES ALONG LOCAL ROADWAYS - DOWNTOWN AREA**

Street Segment	CNEL Noise Level at 50 Feet From Roadway Centerline						
	Existing + Change fr.		Future		Change fr.		Future + Change fr.
	Existing	Project	Existing	(2005)	Existing	Project	Existing
West Grand Ave.							
- West of Broadway	69.9	69.4	-0.5	69.6	-0.3	69.6	-0.3
- East of Broadway	67.9	68.6	+0.7	69.0	+1.1	68.8	+0.9
18th St.							
- West of Brush St.	61.1	61.1	0	61.2	+0.1	61.3	+0.2
- East of Brush St.	62.0	64.1	+2.1	62.2	+0.2	64.2	+2.2
- West of Castro St.	61.7	64.0	+2.3	61.9	+0.2	64.1	+2.4
- East of Castro St.	65.9	68.9	+3.0	66.1	+0.2	69.0	+3.1
17th St.							
- West of Brush St.	62.1	62.9	+0.8	63.0	+0.9	63.4	+1.3
- East of Brush St.	64.7	64.5	-0.2	64.8	+0.1	66.8	+2.1
- West of Castro St.	64.2	66.4	+2.2	64.4	+0.2	66.5	+2.3
- East of Castro St.	62.9	65.7	+2.8	63.2	+0.3	65.8	+2.9
14th St.							
- West of Broadway	67.5	67.5	0	67.2	-0.3	67.5	0
- East of Broadway	66.9	67.2	+0.3	67.1	+0.2	67.4	+0.5
12th St.							
- West of Brush St.	61.1	61.7	+0.6	61.3	+0.2	61.9	+0.8
- East of Brush St.	62.7	64.5	+1.8	62.9	+0.2	64.6	+1.9
- West of Castro St.	64.2	65.5	+1.3	64.4	+0.2	65.6	+1.4
- East of Castro St.	66.9	69.5	+2.6	67.1	+0.2	69.4	+2.5
- West of Broadway	65.1	66.0	+0.9	65.3	+0.2	66.1	+1.0
- East of Broadway	65.6	66.4	+0.8	65.8	+0.2	66.6	+1.0
11th St.							
- West of Brush St.	62.6	62.7	+0.1	63.9	+1.3	62.9	+0.3
- East of Brush St.	63.7	65.3	+1.6	62.8	-0.9	65.4	+1.7
- West of Castro St.	64.3	65.3	+1.0	63.9	-0.4	65.4	+1.1
- East of Castro St.	62.8	64.7	+1.9	63.3	+0.5	64.9	+2.1
- West of Broadway	65.6	66.4	+0.8	65.8	+0.2	66.6	+1.0
- East of Broadway	64.6	66.5	+1.9	64.8	+0.2	65.7	+1.1
6th St.							
- West of Broadway	66.1	62.9	-3.2	62.9	-3.2	63.0	-3.1
- East of Broadway	67.5	67.5	0	67.7	+0.2	67.7	+0.2
5th St.							
- West of Broadway	68.5	68.6	+0.1	68.5	0	70.3	+1.8
- East of Broadway	70.0	70.0	0	70.1	+0.1	70.2	+0.2

(Continued)

**TABLE III.L-5 (Continued)**  
**TRAFFIC NOISE INCREASES ALONG LOCAL ROADWAYS - DOWNTOWN AREA**

Street Segment	CNEL Noise Level at 50 Feet From Roadway Centerline					
	Existing	Existing	Change fr.	Future	Change fr.	Future
	Existing	Project	Existing	(2005)	Existing	Project
<b>Brush St.</b>						
- North of 18th St.	67.0	68.9	+1.9	67.1	+0.1	68.9
- South of 18th St.	67.2	69.5	+2.3	67.4	+0.2	69.7
- North of 17th St.	67.2	69.5	+2.3	67.4	+0.2	69.7
- South of 17th St.	66.0	67.8	+1.8	66.5	+0.5	68.1
- North of 12th St.	68.3	69.1	+0.8	68.5	+0.2	69.3
- South of 12th St.	68.6	69.8	+1.2	68.8	+0.2	69.9
- North of 11th St.	68.5	69.7	+1.2	68.7	+0.2	69.8
- South of 11th St.	67.9	68.7	+0.8	68.1	+0.2	68.9
<b>Castro St.</b>						
- North of 18th St.	70.5	71.7	+1.2	69.4	-1.1	71.9
- South of 18th St.	69.4	69.8	+0.4	69.6	+0.2	70.0
- North of 17th St.	68.4	70.1	+1.7	69.8	+1.4	71.1
- South of 17th St.	69.2	69.9	+0.7	69.4	+0.2	70.9
- North of 12th St.	70.7	71.7	+1.0	70.9	+0.2	71.9
- South of 12th St.	69.7	70.9	+1.2	69.9	+0.2	70.0
- North of 11th St.	69.2	69.4	+0.2	69.3	+0.1	69.8
- South of 11th St.	69.0	69.2	+0.2	69.0	0	66.9
<b>Broadway</b>						
- North of W. Grand Ave.	68.6	68.8	+0.2	68.8	+0.2	69.0
- South of W. Grand Ave.	67.8	68.0	+0.2	68.0	+0.2	68.2
- North of 14th St.	68.5	68.5	0	68.6	+0.1	68.7
- South of 14th St.	68.6	68.6	0	68.8	+0.2	68.8
- North of 12th St.	67.7	67.7	0	67.8	+0.1	67.9
- South of 12th St.	67.4	67.7	+0.3	67.9	+0.5	67.6
- North of 11th St.	67.6	67.7	+0.1	67.8	+0.2	67.9
- South of 11th St.	67.9	67.7	-0.2	67.9	0	67.9
- North of 6th St.	69.1	69.1	0	69.3	+0.2	69.3
- South of 6th St.	67.2	67.2	0	67.4	+0.2	67.4
- North of 5th St.	67.2	67.2	0	67.4	+0.2	67.5
- South of 5th St.	66.8	66.8	0	67.0	+0.2	67.0

SOURCE: Orion Environmental Associates (1997)

For any residential uses, noise levels up to 70 dBA are considered conditionally acceptable, where conventional construction (but with closed windows and fresh air supply systems or air conditioning) would be adequate to reduce future noise levels to acceptable levels. In general, future noise levels along selected downtown streets would be considered conditionally acceptable for residential uses. Since Castro Street is proposed to be designated as Central Business District,

noise compatibility of residential uses on this street (where noise levels would exceed 70 dBA) would not be an issue.

**Mitigation Measure L.10:** None required.

### Coliseum Showcase District Impacts (Project-Level)

#### *Construction Noise Impacts*

**Impact L.11: Construction of projects in the Coliseum Showcase District would generate short-term increases in noise and vibration, and potential noise increases would be the same as described under Impact L.8 above for the Downtown Showcase District. This is a significant impact.**

During construction of the projects in the Coliseum Showcase District, temporary noise increases would result from the operation of heavy equipment. Potential noise increases are presented in Table III.L-4 and the potential for impacts would depend on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between noise source and receptor. The potential for construction noise impacts in the Coliseum Showcase District would be less than in the Downtown Showcase District because there are no residential receptors near the two development sites. The only potential sensitive receptors in the project vicinity would be persons using the portion of the Martin Luther King Jr. Regional Shoreline near the two development project sites.

The Oakland Noise Ordinance does not specifically limit construction noise in recreational areas. However, the Ordinance does acknowledge the noise sensitivity of public open space in its noise standards for long-term operational noise exposure by applying the same standards as those specified for residential uses. Therefore, if the same construction noise standards that apply to residential uses are applied to open space recreational areas, weekday daytime (7:00 a.m. to 7:00 p.m.) construction-related noise would be limited to 80 dBA for activities occurring less than 10 days and 65 dBA for those occurring more than 10 days. Compliance with the City Noise Ordinance would maintain noise levels below the level which could cause speech interference, and therefore, the Ordinance would mitigate potential construction noise levels to a less-than-significant level. Depending on whether pile driving would occur as part of project construction and the proximity of such activity to the recreational area, pile driving noise peaks could exceed the 80-dBA noise limit. Implementation of feasible noise controls (which could provide a 6-dBA reduction) or use of vibratory pile drivers (which are 15 dBA quieter than impact drivers) would help reduce noise levels at nearby recreational areas to acceptable levels. Implementation of such measures will be required as necessary to comply with the Noise Ordinance, reducing these potential impacts to a less-than-significant level.

Compliance with the City Noise Ordinance would reduce short-term construction noise but this reduction may not be at a less-than-significant level.

**Mitigation Measure L.11:** The City shall require the project sponsors to implement noise control techniques to minimize disturbance to adjacent or nearby sensitive noise receptors during project construction.

The measures to be implemented are the same as those described under Mitigation Measure L.8.

**Impact L.11 Level of Significance After Mitigation:** Significant and Unavoidable.

Some noise-sensitive receptors would be subject to mitigated construction noise levels above the 70-dBA criterion due to their proximity to development sites in the Coliseum Showcase District. Since some buildings are too high for temporary noise barriers to be effective, no mitigation is possible and temporarily significant construction noise impacts at these receptors would be unavoidable. However, it should be noted that noise levels would only exceed the 70-dBA criterion when noisy construction activities were to occur within 150 feet of these receptors, which would not be the entire construction period. In addition, the above measures would help to substantially reduce potential construction noise impacts.

Because the use of sonic or vibratory pile drivers is not feasible and impact pile drivers would likely be used, the above measures would not reduce pile driving noise to a less-than-significant level at adjacent receptors. However, it should be noted that implementation of the above measures would substantially reduce potential noise impacts if pile driving is required.

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### ***Noise on Roadways in Coliseum Area***

**Impact L.12: Development of projects in the Coliseum Showcase District would result in noise increases along local roadways serving the proposed project. This would be a less-than-significant impact.**

Implementation of the anticipated projects in the Coliseum area would result in traffic increases along local roadways in the project vicinity. Noise increases associated with these traffic increases are summarized in Table III.L-6. This table indicates traffic generated by these projects would result in noise increases of 3 dBA or less over existing levels on all selected roadway segments except in the vicinity of 66th and Oakport streets near I-880. Since increases of 3 dBA are barely perceptible, project-related noise increases along all selected roadway segments (except on 66th and Oakport streets) would be less than significant. Increases of approximately 4 to 8 dBA would occur on four segments of 66th Avenue, two segments of Oakport Street, and the I-880 Southbound Off-ramp at 66th Avenue. While such increases would be noticeable, these road segments are immediately adjacent to or near the I-880 freeway,

**TABLE III.L-6  
TRAFFIC NOISE INCREASES ALONG LOCAL ROADWAYS - COLISEUM AREA**

Street Segment	CNEL Noise Level at 50 Feet From Roadway Centerline					
	Existing	Existing + Change fr. Project	Change fr. Existing	Future (2005)	Change fr. Existing	Future + Change fr. Project
High St.						
- West of Oakport St.	72.3	72.2	-0.1	72.4	+0.1	72.4
- East of Oakport St.	70.9	71.3	+0.4	71.4	+0.5	71.5
- West of Coliseum Wy.	70.8	71.2	+0.4	70.2	-0.6	71.4
- East of Coliseum Wy.	68.5	69.5	+1.0	68.7	+0.2	69.6
66th Ave..						
- East of Oakport St.	67.1	73.3	+6.2	69.9	+2.8	73.4
- West of I-880 SB Ramps	65.4	73.3	+7.9	67.2	+1.8	71.0
- East of I-880 SB Ramps	67.6	72.3	+4.7	68.3	+0.7	71.4
- West of I-880 NB Ramps	69.1	72.7	+3.6	69.0	-0.1	72.8
- East of I-880 NB Ramps	70.7	71.5	+0.8	71.3	+0.6	71.7
- West of San Leandro St.	68.5	69.5	+1.0	68.3	-0.2	69.6
- East of San Leandro St.	66.2	68.1	+1.9	66.4	+0.2	68.8
Coliseum Wy.						
- North of High St.	68.3	68.3	0	68.5	+0.2	68.5
- South of High St.	69.8	71.0	+1.2	70.0	+0.2	70.4
- North of 66th Ave.	61.6	61.0	-0.4	61.8	+0.2	63.3
- South of 66th Ave.	56.5	56.5	0	56.7	+0.2	56.7
- West of Hegenberger Rd.	71.0	71.6	+0.6	71.6	+0.6	71.8
- East of Hegenberger Rd.	71.6	71.8	+0.2	71.8	+0.2	72.0
Edgewater Dr.						
- West of Hegenberger Rd.	72.1	72.5	+0.4	72.3	+0.2	72.7
- East of Hegenberger Rd.	73.8	73.9	+0.1	74.0	+0.2	74.1
Oakport St.						
- North of High St.	68.1	68.1	0	68.3	+0.2	68.3
- South of High St.	68.2	68.9	+0.7	68.5	+0.3	69.0
- North of 66th Ave.	61.7	66.6	+4.9	62.0	+0.3	66.6
- South of 66th Ave.	67.5	73.0	+5.5	67.7	+0.2	73.1
I-880 SB Ramp						
- North of 66th Ave.	66.5	70.2	+3.7	66.8	+0.3	70.2
I-880 NB Ramp						
- South of 66th Ave.	63.8	66.4	+2.6	64.1	+0.3	66.5
San Leandro St.						
- North of 66th Ave.	69.3	69.3	0	69.1	-0.2	69.1
- South of 66th Ave.	69.3	69.3	0	69.5	+0.2	69.5
Hegenberger Rd.						
- West of Edgewater Dr.	69.1	68.1	-1.0	69.4	+0.3	70.3
- East of Edgewater Dr.	63.7	63.7	0	63.4	-0.3	63.9
- West of Coliseum Wy.	66.8	66.8	0	67.3	+0.5	67.0
- East of Coliseum Wy.	68.2	68.2	0	68.8	+0.6	68.5
66th St.						
- West of Coliseum Wy.	69.1	70.2	+1.1	69.3	+0.2	70.3
- East of Coliseum Wy.	68.5	69.8	+1.3	68.7	+0.2	69.9

SOURCE: Orion Environmental Associates (1997)

and the noise environment in these areas are dominated by freeway noise. In addition, areas adjacent to these road segments are either undeveloped or developed with industrial uses, or designated for business or waterfront mixed uses. Such existing/future uses are not considered noise-sensitive and therefore, such noise increases are not expected to result in any significant adverse noise impacts on existing or planned land uses. Since ambient noise levels in this area are already high due to the freeway, the design of future uses in this area will need to consider the high noise levels generated by the freeway, Oakport Street, and 66th Avenue.

**Mitigation Measure L.12:** None required.

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### *Noise Impacts on Future Projects*

**Impact L.13: Depending on proximity of future development to I-880 and selected roadways in the Coliseum area, noise levels could be conditionally acceptable for retail commercial or office uses. This would be a less-than-significant impact.**

Future noise levels within approximately 200 feet of the west edge of I-880 could exceed 68 dBA (CNEL), and such noise levels would be considered *conditionally* acceptable for commercial and office uses. Noise levels in areas adjacent to the freeway could be further increased by projected noise increases along Oakport Street (south of 66th Avenue). Additionally, noise levels along many of the selected roadways listed in Table III.L-6 (specific segments of High Street, 66th Avenue, Coliseum Way, Edgewater Drive, and San Leandro Street) could range between 67 and 74 dBA (CNEL) in the future. Between 67 and 77 dBA, conventional construction (but assuming closed windows and fresh air supply systems or air conditioning) would normally be adequate to maintain acceptable interior noise levels.

To minimize potential noise effects on future commercial and office development, a detailed project specific noise analysis could be required if any commercial or office uses are proposed adjacent to I-880 or selected roadway segments listed in Table III.L-6 where noise levels are estimated to exceed 67 dBA (CNEL). This analysis should determine the extent of noise attenuation measures required to maintain acceptable interior noise levels as defined by City Noise Compatibility Guidelines and Noise Ordinance.

**Mitigation Measure L.13:** None required.

## REFERENCES - Noise

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- U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Condensed Version)*, 1974.
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- U.S. Department of Transportation, Federal Highway Administration and California Department of Transportation, *Proposed Route I-880 Replacement Project from I-980 Interchange to I-80/I-580/I-880 Distribution Structure in the City of Oakland, Alameda County, California, Draft Environmental Impact Statement*, November 1990.

## **M. HAZARDOUS MATERIALS**

### **SETTING**

To provide an assessment of the potential presence of hazardous substances within Oakland, this section includes a general review of the hazardous materials regulatory framework and worker health and safety requirements; a discussion of the types of existing businesses that generate hazardous wastes; identification of known or suspected sites where contamination of soils or groundwater by hazardous substances may exist; and a discussion of the potential presence of hazardous building materials within the city. The information is not intended to provide detailed site-specific information regarding contaminated sites or remediation efforts. Instead, the information serves as a basis for determining potential program-level impacts associated with adopting the proposed Land Use and Transportation Element.

The analysis in this section focuses on the major change areas including the Central Business District, Coliseum Area, Estuary Shoreline, Military Bases and Leona Quarry. Separate environmental review and documentation has been prepared for the Coliseum Redevelopment Area, Coliseum Shoreline Project, and Fruitvale Transit Village, which addresses potential hazardous materials impacts and mitigation measures for these projects; and those reports are incorporated by reference.

### ***ISSUES OF CONCERN***

Hazardous materials and hazardous wastes, collectively referred to as hazardous substances, are defined in Title 22 of the *California Code of Regulations*, Sections 66260 through 66261.10. As defined in Title 22 of the *California Code of Regulations*, hazardous substances are grouped into four general categories based on their properties. They can be classified as one or more of the following: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage materials), or reactive (causes explosions or generates toxic gases). Federal regulations regarding the classification of hazardous wastes are contained in Title 40 Code of Federal Regulations, Part 264. They are similar to the California regulations. However, the California regulations are generally more stringent.

Hazardous substances may pose a substantial present or future hazard to human health or the environment when improperly handled, stored, disposed or otherwise managed; they are commonly used in commercial, agricultural, and industrial applications as well as to a limited extent in residential areas. If improperly handled, they can result in public health hazards through contamination of soils or groundwater or through airborne releases in vapors, fumes or dust. There is also the potential for accidental or unauthorized releases of hazardous materials that can pose a public health concern. In general, discarded or inherently waste-like hazardous substances are referred to as hazardous wastes.



If present within a redevelopment area, hazardous substances could characterize a site as a blighted area as defined by AB 1290. The presence of hazardous substances could pose restrictions on the types of land use that would be appropriate for development. If soil or groundwater contamination has occurred at a site, hazardous substances in the soil or groundwater could pose health concerns to construction workers and the public during construction. They could also pose health concerns to future occupants of the property if left in place.

In some cases, at sites that have been remediated, regulatory agencies may have allowed residual contamination to be left in place or may have approved health-based clean up levels that are based on current land use. These clean up levels would typically be higher for an industrial site than a residential site (i.e. higher concentrations of residual contaminant would be allowed to be left in place at an industrial site than a residential site). If hazardous substances have been permitted to be left in place at a site, this may restrict the type of future development that could occur. Also, the hazardous substances may not pose a threat to human health or the environment if left in place but could later pose a threat if contaminated materials become airborne or otherwise released during future construction activities. The contaminated material may also require special handling and disposal requirements if removed from the site.

### ***POTENTIAL SOURCES OF HAZARDOUS MATERIALS***

Potential sources of hazardous materials within Oakland include sites with historic or existing use of hazardous materials as well as potential and confirmed hazardous waste sites. When handled properly and when used in compliance with permitting and other regulatory requirements, hazardous materials do not necessarily pose a human health concern or a threat to the environment. Nevertheless, the nature of hazardous materials by definition implies that there is an inherent risk to human health or the environment. The potential for accidents, earthquakes, unauthorized releases or other mishaps beyond the control of normal operating procedures exists, albeit within acceptable standards, with associated potential for public health and environmental effects.

The potential for contamination would depend upon numerous factors, such as the type of business, type(s) and quantities of hazardous substances, handling and management practices, control and spill containment systems, adequacy of accident prevention and safety programs, training programs and emergency response plans, adjacent land uses, etc.

For sites that have documented contamination or a historic use of hazardous materials, it would be necessary to complete a Phase I environmental site assessment to identify potential hazardous materials prior to construction of a proposed project. Depending on the results of the Phase I assessment, it may be necessary to include a Phase II assessment including soil and/or groundwater sampling to investigate the potential occurrence of hazardous substances at the property.

### Existing and Historic Land Uses

Hazardous substances are likely to be present within Oakland due to existing or historical land uses. Historical uses of hazardous substances were not subject to the current level of regulation, and previous handling, storage and management practices may have resulted in the contamination of soils or groundwater that has been previously unidentified. Current chemical handling/storage practices are subject to more stringent regulation and pose less environmental risk than historical practices. The discussion below focuses on the most common types of hazardous substances that likely occur within Oakland, primarily associated with industrial or commercial land uses.

Hazardous substances associated with agricultural uses, such as pesticides, would generally not be expected.

The types of hazardous substances commonly used in industrial and commercial areas include solvents, degreasers, and industrial process chemicals. These can be toxic to human health and the environment even at low concentrations due to their persistence and bioaccumulative properties. Storage and handling of these chemicals over extended periods increases the likelihood of spillage or accidents, which can build up over time without proper clean-up and management procedures. Prior to regulation, industrial discharges -- whether intentional, inadvertent or accidental -- were common sources of water and soil pollutants.

Mechanical accidents and inadvertent or accidental spillage during transport and handling could also expose worker or the community to these hazardous substances during normal site operations. These incidents could also potentially release hazardous substances to the soil or groundwater. In addition to toxic hazards, public health and safety concerns relate to potentials for fire and explosive hazards and transportation-related accidents (Harte, 1991; Parmeggiani, 1983).

Leaking underground storage tanks are a common source of soil and groundwater contamination. Underground storage tanks have been used in a wide variety of industries for storage of gasoline, diesel, waste oils, solvents, and other chemicals. Prior to regulation in the 1980s, underground tanks were typically not subject to monitoring or provided with secondary containment. If a tank leaked, the contents could migrate to the soil, and if undetected, could then also contaminate the groundwater. Contaminated groundwater plumes can migrate large distances and affect adjacent land uses.

Unpermitted underground storage tanks may be present at sites where the use of the tank was discontinued before monitoring requirements were implemented in the 1980s. Soil and/or groundwater contamination could also occur at these sites, however there is no agency tracking of these sites. It would be necessary to perform a detailed review of the site history to identify whether there is an unpermitted underground storage tank at a specific site.

### **Permitted Handling of Hazardous Substances**

Sites that currently handle hazardous substances are well regulated to ensure safe handling of these materials. However, these sites are potential sources of hazardous substances to the soil and/or groundwater because of incidental leakage or spillage that may have gone undetected. Computerized database searches (NATEC, 1997) were conducted to identify sites with currently permitted underground storage tanks and sites permitted to handle hazardous wastes under the Resource Conservation and Recovery Act (RCRA) within the Central Business District, Estuary Shoreline, Military Bases, and Leona Quarry. These sites are identified in Table 1 in Appendix 2. The agency lists reviewed to identify these sites are also described in Appendix 2.

Identification of a site with a permitted underground storage tank or as a RCRA permitted hazardous waste handler does not indicate that contamination has occurred, only that there is the potential for hazardous substances to be present. Current requirements for underground storage tanks include monitoring and tightness testing on a regular basis to monitor for leakage. These requirements reduce the potential for undetected leakage from these underground storage tanks. Any soil or groundwater contamination at a site with a permitted underground storage tank would typically be identified when agency required samples are collected during tank repairs or replacement. Similarly, RCRA contains provisions for enforcing clean up actions at a site where RCRA violations have occurred.

### **Potential and Confirmed Hazardous Waste Sites**

Computerized searches of regulatory agency lists were conducted to identify sites within the Central Business District, Estuary Shoreline, Military Bases, and Leona Quarry that are potentially contaminated with hazardous substances (NATEC, 1997). Sites within a 1/2-mile radius of the Downtown Showcase District and the Coliseum Showcase District also were identified. These lists include sites where contamination is either suspected or confirmed by the regulatory agencies. The agency lists reviewed to identify these sites are described in Appendix 2. The specific sites identified are summarized in Table 2 in Appendix 2 and further discussed in that appendix. The number of sites identified in each area is summarized in Table III.M-1.

Sites identified on the regulatory lists also represent only those sites that are suspected of being contaminated or have had cause for hazardous materials investigations. This is generally due to site disturbance activities such as removal of an underground storage tank, a spill of hazardous substances, or excavation for construction.

Due to the extensive history of urbanization and use of hazardous substances in Oakland, it is likely that additional sites could exist that have not yet been identified or reported to regulatory agencies. These sites may be identified through future construction activities or other site disturbances associated with implementation of the Proposed Land Use and Transportation Element.

**TABLE III.M-1  
SUMMARY OF IDENTIFIED POTENTIAL HAZARDOUS WASTE SITES  
IN OAKLAND PLANNING AREAS**

<b>Area</b>	<b>No. and Type of Site Identified</b>
Central Business District	1 - CERCLIS 1 - CAL - SITES 24 - CORTESE 39 - LUST
Estuary Shoreline	5 - SARA 7 - CAL-SITES 2 - BEP 2 - CORTESE 48 - LUST
Military Bases	1 - CERCLIS 2 - CAL-SITES 11 - CORTESE 15 - LUST
Leona Quarry	1 - LUST
Downtown Showcase District	1 - CERCLIS 4 - CAL-SITES 50 - CORTESE 89 - LUST
Coliseum Showcase District	5 - CERCLIS 1 - CAL-SITES 1 - BEP 11 - CORTESE 25 - LUST

NOTE: See Appendix 2 for definition of acronym, description of databases, and more information on results of the computerized record search.

SOURCE: Orion Environmental Associates, NATEC Environmental Reporting Service, 1997.

### **Hazardous Building Materials**

Some building materials commonly used in older buildings could present a public health risk if disturbed during an accident or during demolition of an existing building. These materials include asbestos, electrical equipment such as transformers and fluorescent light ballasts that contain polychlorinated biphenyls (PCBs), fluorescent lights containing mercury vapors and lead-based

paints. Asbestos and lead-based paint may also present a health risk to existing building occupants if they are in a deteriorated condition. If removed during demolition of a building, these materials would also require special disposal procedures.

During the past 50 years, asbestos has been used as a common building material, including use as insulation material, shingles and siding, roofing felt, floor tiles, brake linings, and acoustical ceiling material (Allegri, 1986). Asbestos is a known carcinogen, and the primary pathway of exposure is through inhalation; if asbestos is present in "friable" form, then asbestos fibers can be inhaled. Depending on the conditions of the building materials, there is a potential for airborne asbestos fibers to be present in many existing structures.

PCBs were commonly manufactured and used in the United States between 1929 and 1977 for uses such as electrical transformers and capacitors and fluorescent light ballasts (Allegri, 1986). PCBs belong to a highly toxic group of substances that remains persistent in the environment, accumulates in biological systems, interferes with reproduction and acts as an immuno-suppressant. Under the Toxic Substances Control Act, Congress specifically regulated the use of PCBs. The manufacture, processing, and commercial distribution or use of any PCB was prohibited in January 1978, except when completely enclosed manner. As of January 1979, the manufacture of PCBs was banned, while the distribution of PCBs in commerce was prohibited in July 1979. However, utilities and other owners of PCB-filled electric transformers and capacitors were allowed to maintain the equipment for its working life, if it did not leak. The EPA Spill Cleanup Policy dictates that spills of materials containing PCBs at concentrations of 50 parts per million (ppm) or greater be cleaned up within 48 hours after the spill.

In response to these regulations, PG&E has replaced all capacitors throughout the City of Oakland. In the downtown area, all network transformers were replaced in 1985. Other transformers are replaced if they fail or leak. If the transformer has leaked, the oil is tested to determine the level of PCB and the subsequent cleanup requirements. New transformers (installed after 1983) contain a name plate that specifies the PCB content level, which is less than one ppm. If a member of the public requests that a transformer be tested, there is a charge for the test, which varies on the size of the shutdown and the size of the transformer. If the transformer exceeds a PCB concentration of 50 ppm, the fee is refunded (Allegri, 1986).

Most fluorescent light ballasts manufactured prior to 1978 contain approximately 0.5 ounces of PCBs in a small capacitor (CalEPA, 1992); the quantity can be up to two ounces. In 1978, the U.S. EPA estimated that there were approximately 850 million of these capacitors in use in the United States (CalEPA, 1992). Disposal of more than one pound of PCBs, or approximately 16 capacitors, to a landfill would require notification of the U.S. EPA under CERCLA. Ballasts manufactured after January 1, 1978 do not contain PCBs and should be labeled as such on the ballast.

Spent fluorescent light tubes commonly contain mercury vapors at levels high enough to be considered a hazardous waste under California law; depending on the levels of mercury present, the light tubes may also be classified as hazardous under federal law (Cal EPA, 1992). When disposed of at a municipal landfill, the mercury can leach into the soil and groundwater. Existing regulations allows a generator to dispose of up to 25 fluorescent light tubes per day at a municipal landfill if the light tubes are not considered hazardous under federal law. Disposal as a hazardous waste would be required if a larger quantity of lights is generated during replacement of existing lights or during a building demolition.

Lead-based paint was commonly used prior to 1960, and these paints are present within the City of Oakland. Lead is toxic to humans, particularly young children, and can cause a range of human health effects depending on the level of exposure. When adhered to the surface of the material to which they are applied, lead-based paints pose little health risk. Where the paint is delaminated or chipping, it can pose a potential threat to the health of young children or others who may ingest the paint. Lead dusts could also present public health risks during demolition of a structure with lead based paint. Lead-based paint that has separated from a structure may also contaminate nearby soil.

### ***REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS***

#### **Hazardous Substances Regulations**

Hazardous substances are extensively regulated by federal, state, regional, and local regulations, with the major objective of protecting public health and the environment. In general, these regulations provide definitions of hazardous substances; establish reporting requirements; set guidelines for handling, storage, transport, remediation and disposal of hazardous wastes; and require health and safety provisions for both workers and the public. Regulatory agencies also maintain lists, or databases, of sites that are classified as hazardous waste generators or that store hazardous substances in underground storage tanks as well as sites where soil or groundwater quality may have been affected by hazardous substances.

The major agencies enforcing these regulations include: the U.S. Environmental Protection Agency (federal); the Department of Toxic Substances Control and the California Regional Water Quality Control Board of the California Environmental Protection Agency (state); the Bay Area Air Quality Management District (regional); the Alameda County Environmental Health Services Agency, Department of Environmental Health (local); and the Oakland Fire Department (local). Appendix 2 presents a description of the major hazardous materials regulations and the agencies implementing them. Workplace safety regulations are enforced by the Federal Occupational Health and Safety Administration (federal) and the California Occupational Health and Safety Administration (state); these regulations are also summarized in Appendix 2. Some pertinent requirements relating to the use of hazardous substances are summarized below.

- State law (SB 14), requires new businesses that handle enough hazardous materials to generate wastes in reportable quantities (12,000 kilograms per year of hazardous waste or 12 kilograms per year of extremely hazardous waste) to have an approved *Source Reduction Evaluation and Review Plans* on file. The plans are required to include a description of waste streams and quantities generated; an evaluation of feasible source reduction strategies; a rationale for rejecting any source reduction alternatives; an evaluation of the effects of the methods chosen; a timetable for making reasonable and measurable progress towards source reduction; certification by the generator or a registered professional; and a stated percentage reduction goal for each waste stream.
- Businesses that handle specified quantities of hazardous materials must obtain a permit from the Oakland Fire Department Fire Prevention Bureau and prepare a *Hazardous Materials Management Plan* (HMMP, or Business Plan) that details hazardous substance inventories, site layouts, training and monitoring procedures, and emergency response plans, all in compliance with State law.
- Businesses that handle specified amounts of acutely hazardous materials must implement a *Risk Management and Prevention Program* and file it with the County. The plan must include information on the submitting facility, reference to the facility's business plan, process designation, identification of acutely hazardous materials handled and their quantity, a general description of processes and principal equipment, and an acknowledgment.

## Planning Considerations Related to Hazardous Materials

### *State and County*

The *Alameda County Hazardous Waste Management Plan* contains goals, objectives and implementation guidelines for hazardous waste reduction, hazardous waste facility siting, public education and involvement, and program coordination with regulatory requirements. State regulations also provide guidelines for establishing adequate separation between sensitive receptors and hazardous materials/waste sources. The California Department of Toxic Substances Control (DTSC) may also place deed restrictions on a property and/or its vicinity after remediation has been completed.

### *City Policies*

As part of the Open Space, Conservation and Recreation (OSCAR) Element of the General Plan, the City has adopted the following *Policy and Actions* regarding site contamination:

#### Policy CO-1.2: Soil Contamination Hazards

Minimize hazards associated with soil contamination through appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.

Action CO-1.2.1: Further Study of Soil Contamination

Conduct further study of soil contamination and toxics during the update of the Oakland General Plan Safety Element.

Action CO-1.2.2: Monitoring of Dredge Spoils Disposal

Monitor the Galbraith Dredge Spoils Disposal Project to ensure that there are no negative impacts on soil, wetlands, and adjacent waters. Ensure community representation on any task force created to monitor future dredge spoils disposal projects, including the Galbraith Disposal Project.

## SIGNIFICANCE CRITERIA

Hazardous Materials impacts would be considered significant, based on CEQA Guidelines, if they were to create a potential public health hazard or involve the use, production or disposal of materials that pose a hazard to people or animal or plant populations in the affected area. Impacts would also be considered significant if it would interfere with emergency response plans or emergency evacuation plans.

Definition, identification, and determination of threshold levels of hazardous materials are provided in the *Code of Federal Regulations* (40 CFR) and in the *California Code of Regulations*, Titles 22 and 26. Hazardous material means a substance or combination of substances which because of its quantity, concentration or physical, chemical or infectious characteristics may pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (Harte, 1991). Determination of "substantial" hazard or "significant" levels of hazardous materials is performed on a case-by-case basis, although generally there are regulatory guidelines for determining acceptable levels and/or public health risks associated with exposure to hazardous materials.

## IMPACTS AND MITIGATION MEASURES

The proposed Land Use and Transportation Element would stimulate economic activity and encourage commercial and industrial development in the change areas. With proper planning, the adoption of the Element itself would not result in any change in the public health impacts associated with hazardous substances, although future development or expansion of existing businesses could increase the potential for the use of hazardous substances, depending on the specific location and nature of the development or expansion.



### *Land Use Impacts*

**Impact M.1: Proposed land use changes for the Central Business District, Military Bases, Coliseum Area, and BART Transit Villages include a change to mixed uses that may allow housing as well as commercial operations that may use of hazardous materials. In addition, land use changes within the transit corridors would allow commercial land uses transitioning to urban residential uses. This is a less-than-significant impact due to existing laws and proposed policies in the Land Use and Transportation Element.**

Business and commercial operations commonly use hazardous materials that could be accidentally released to the environment. The proximity of housing to land uses that use hazardous materials could increase the potential for public exposure to hazardous substances through accidental releases. However, in accordance with recent regulations, businesses that handle hazardous materials are required to have a Hazardous Materials Business Plan, and businesses that handle acutely hazardous materials are required to have a Risk Management and Prevention Program. Implementation of these plans requires the safe handling of hazardous materials, provides the City with an inventory hazardous materials used throughout the City, and allows the City to improve its emergency response to hazardous materials incidents. These measures reduce the potential for public or environmental exposure to hazardous materials. In addition, potential rezoning and improved separation of residential and industrial land uses would reduce the potential for community exposure to hazardous substances and would be a long term beneficial impact of adopting the Element.

This potential impact would mitigated to a less-than-significant level by compliance with the following regulatory requirements enforced by the Oakland Fire Department and the Alameda County Department of Environmental Health:

- Preparation of Business Plans
- Preparation of Risk Management and Prevention Programs

In addition, the following measures are included in the Plan and shall be adopted and implemented by the City.

#### Policy I/C4.2:

The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through efficient and appropriate implementation and monitoring of environmental and developmental controls.

#### Policy N5.1:

Residential areas should be buffered from conflicting uses through the establishment of performance based regulations, the removal of nonconforming uses, and other tools.

Policy W1.2: Land Use Compatibility

Land uses and impacts generated from such activities should be sensitive to one another, and appropriate buffering (e.g., landscaping, fencing, transitional uses, etc.) should minimize the incompatibility of uses.

Policy W6.2: Buffering of Heavy Industrial Uses

Appropriate buffering measures for heavy industrial uses and transportation uses on adjacent residential neighborhoods should be developed.

**Mitigation Measure M.1:** None required.

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***Operational Impacts***

**Impact M.2: Adoption of the proposed Land Use and Transportation Element could encourage new business and expansion of existing businesses within the areas designated for change, with associated potential increases in the quantities of hazardous substances used, stored and transported, increasing the potential for accidents or spills and increasing the potential for exposure to workers, the public and the environment. This is a less-than-significant impact due to existing laws and regulations.**

It is difficult to predict the extent of growth, if any, of individual businesses, and whether or not the growth or expansion would affect the status of hazardous substance handling. When handled properly and when used in compliance with permitting and other regulatory requirements, hazardous substances do not necessarily pose a human health concern or a threat to the environment. However, greater use of hazardous substances is generally associated with increased threats to public health or to the environment - though not necessarily proportionate grown - because there may be an increased potential for an accidental spill or unauthorized release of hazardous substances.

At a minimum, the status quo would be expected to occur (i.e., no loss in existing businesses), and the risk of accidents or spillage would be unchanged from the existing conditions. If an industry were to increase handling or storage of hazardous substances, it would be expected that newer machinery or equipment (which may qualify for tax credits) could be acquired to accommodate the increased volumes of materials. Newer types of equipment or newer facilities generally have more and improved safety features due to recent regulations and growing awareness of worker health and safety requirements.

As discussed above, in accordance with recent regulations, businesses that handle hazardous materials are required to have a Hazardous Materials Business Plan and businesses that handle acutely hazardous materials are required to have a Risk Management and Prevention Program. Implementation of these plans requires the safe handling of hazardous materials, provides the City with an inventory hazardous materials used throughout the City, and allows the City to

improve its emergency response to hazardous materials incidents. In addition, hazardous waste generators are being forced to consider source reduction as an option to off-site treatment or disposal of hazardous wastes in accordance with the *Hazardous Waste Source Reduction and Management Review Act of 1989*. This would reduce the quantity of hazardous materials or wastes generated at a specific site. Combined, these measures reduce the potential for public or environmental exposure to hazardous materials through potential accidental releases associated with growth and expansion of existing businesses.

This potential impact is mitigated to a less-than-significant level by compliance with the following regulatory requirements enforced by the Oakland Fire Department and the Alameda County Department of Environmental Health:

- Preparation of Business Plans
- Preparation of Risk Management and Prevention Programs
- Preparation of Source Reduction Evaluation and Review Plans

**Mitigation Measure M.2:** None required.

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### ***Construction Impacts - Building Materials***

**Impact M.3: Adoption of the proposed Land Use and Transportation Element would increase the potential for demolition and renovation activities within the areas designated for change. Many of these buildings could contain hazardous building materials and demolition or renovation could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns. This is a less-than-significant impact due to existing laws and regulations and proposed policies in the Land Use and Transportation Element.**

The extent of any demolition or renovation activity within Oakland is unknown at this time and would depend upon specific development or expansion projects that may occur. It is also unknown how extensively hazardous building materials occur within the city. If demolition or renovation activities were to occur, it is likely that many of the structures to be demolished or renovated were constructed during the period when asbestos, lead and PCBs were used extensively in building materials. Fluorescent lights containing mercury vapors are still commonly used in many buildings.

If a building contains friable or non-friable asbestos, there is a potential for release of airborne asbestos fibers when the structures are demolished, moved, or altered, unless proper asbestos abatement precautions are taken. Such a release could expose the public and construction workers to airborne asbestos fibers. Similarly, if lead-based paint is present and has delaminated or chipped from the surfaces of the building materials, there is the potential for the release of airborne lead particles unless proper lead abatement procedures are followed. If PCBs are present

in the building to be demolished, any leakage could potentially expose workers to unacceptable levels of PCBs (greater than 5 parts per million, based on Title 22, CCR). Removal of fluorescent light tubes could result in exposure to mercury vapors if the lights are broken.

Structures with asbestos containing materials or lead containing materials require abatement to prevent public exposure to asbestos fibers or lead particles. All structures designated for renovation or demolition should be inspected by a qualified inspector. If any friable asbestos-containing materials or lead containing substances are identified, adequate abatement practices such as containment and/or removal should be implemented prior to renovation or demolition. In addition, proper removal and disposal procedures should be followed for any PCB containing equipment and fluorescent light tubes.

Because the extent of demolition or renovation that will take place is unknown, and the location and quantity of hazardous building materials within Oakland is also unknown, the potential for worker and public exposure to hazardous building materials as a result of redevelopment can not be evaluated at this time. Potential exposure to hazardous materials should be evaluated on a case-by-case basis as individual development projects arise.

In accordance with applicable laws, all structures designated to have building materials removed during renovation or demolition must be inspected by a qualified inspector. If any friable asbestos-containing materials or lead containing materials are identified, adequate asbestos or lead abatement practices such as containment and/or removal must be implemented prior to demolition or renovation. Any PCB containing equipment or fluorescent lights containing mercury vapors shall also be removed and properly disposed of.

In addition, the following policy is included in the Plan and shall be adopted by the City:

Policy I/C2.2:

The reuse of abandoned industrial buildings by non-traditional activities should be encouraged where the uses are consistent with, and will assist in the attainment of the objectives of the Plan.

**Mitigation Measure M.3:** None required.

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***Construction Impacts - Soils***

**Impact M.4:** Adoption of the proposed Land Use and Transportation Element would increase the potential for construction activities within the areas designated for change, which could increase the likelihood of encountering contaminated soil or groundwater and potentially expose workers and the community to hazardous substances. This is a less-than-

**significant impact due to existing laws and regulations and proposed policies in the Land Use and Transportation Element.**

The extent of any construction activity within Oakland is unknown at this time and would depend upon specific development or expansion projects that may occur. However, it is assumed that adoption of the Proposed Land Use and Transportation Element would increase the potential for construction activity.

Based on the nature and extent of identified hazardous waste sites as well as historical and current land uses within Oakland, there is the potential to encounter hazardous substances in subsurface materials during any excavation and grading activities. Construction activities at or near an identified hazardous waste site that has not yet been completely remediated would have a high likelihood of encountering hazardous substances. At sites that have been remediated, regulatory agencies may have allowed residual contamination to be left in place or may have approved health-based clean up levels that are based on current land use. These clean-up levels would typically be higher for an industrial site than a residential site. If hazardous substances have been left in place at a site, they may restrict the type of development that could occur. Also, the hazardous substances may not pose a threat to human health or the environment if left in place but could pose a threat if contaminated materials become airborne or otherwise released during construction activities. The contaminated material may also require special handling and disposal requirements if removed from the site.

At sites where hazardous substances were previously stored or used, there would be a potential for encountering previously undetected releases. At locations where existing businesses handle or store hazardous substances, there may be potential for encountering hazardous materials, depending on current and past management practices. However it would be unlikely that extensive excavation would be required for renovation at existing businesses. At some sites, additional efforts such as removal of underground storage tanks may be required to remove potential sources of hazardous substances prior to development.

If hazardous substances are encountered during redevelopment, the need for site investigations would be determined on a case-by-case basis by the appropriate regulatory agency. The site investigations would then identify the nature and extent of contamination and whether or not the contaminants occur at levels considered hazardous or "significant." If threshold levels are exceeded, remediation would be required. During the site investigation, there would be potential for exposure of workers and the community to hazardous substances, typically through inhalation of vapors, fumes or contaminated dust; possibly through dermal contact with contaminated materials; and possibly through direct or indirect ingestion.

At sites where there has been a release of materials from an underground storage tank or associated piping, a site investigation would be required in accordance with the *Leaking Underground Fuel Tank Field Manual* (Leaking Underground Fuel Tank Task Force, October

1989) and the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites* (San Francisco Bay Region of the Regional Water Quality Control Board, August 10, 1990). In accordance with these guidelines a soil and/or groundwater investigation would be required at sites where there has been a confirmed release from an underground storage tank or associated piping. The Regional Water Quality Control Board has assigned oversight authority for these cases to the Alameda County Health Care Services Agency, Department of Environmental Health.

At other sites, the Department of Toxic Substances Control would require a Preliminary Endangerment Assessment (PEA) as part of the site mitigation process "to determine whether current or past waste management practices have resulted in the release or threatened release of hazardous substances which pose a threat to public health or the environment" (CalEPA, 1994). The PEA was designed as a standard approach for evaluating site contaminated or potentially contaminated with hazardous substances to determine if a removal or remedial action is required to protect public health and the environment. It is the initial step in the overall site mitigation process to abate health or environmental threats posed by a site where hazardous substances have been release or have a significant potential to be released.

The Department of Toxic Substances Control (DTSC) provides oversight for the PEA process, including scheduling and fee requirements. The PEA process consists of an initial site evaluation and preparation of a PEA report, followed by an evaluation and approval of the PEA report by DTSC. Depending on the results of the PEA, a Remedial Investigation/Feasibility Study (RI/FS) and a Remedial Action Plan (RAP) may eventually be needed for the site clean up.

The PEA report should include the following information: a site description and site history, including a description of past and current site activities and a description of handling procedures for hazardous substances associated with the site business activities; a description of the apparent problem such as documentation of spills or releases, and the results of any sampling and analysis that has been completed to characterize these; a description of potential pathways for exposure to chemicals (such as soil, water and air); a description of any sampling and analysis performed to evaluate the extent of chemicals identified in the soil and/or groundwater; an assessment of the threat to the public health and the environment, an identification of possible remediation strategies; and conclusions and recommendations. Specific details to be included in the PEA are described in the *Preliminary Endangerment Assessment Guidance Manual* (Department of Toxic Substances Control, January 1994).

As part of site investigation efforts, regulatory agencies would require a site safety plan to ensure safety of workers and the community. The plan would include identification of contaminants, potential hazards, personal protection clothing and devices, and emergency response procedures. If soils containing hazardous substances are remediated, the Bay Area Air Quality Management

District may impose specific requirements to protect ambient air quality from dust, lead, hydrocarbon vapors or other airborne contaminants.

Construction activities in utility alignments or public right-of ways may also encounter hazardous substances near a site where contamination extends off-site. The contamination could be encountered in soil that is excavated or in groundwater during dewatering activities. Dewatering could also draw in contaminated groundwater from nearby sites. The presence of hazardous substances would not necessarily require a site investigation, but health and safety measures to protect the workers and the public and special handling procedures for the materials produced during construction would be required.

Adoption of the Proposed Land Use and Transportation Element may provide incentive for some degree of increased construction activities, although most construction would be expected to be associated with upgrade or expansion of existing businesses. Reconstruction would most likely occur on already graded land, and excavation activities would likely be limited in extent.

Reuse of the military bases is subject to site investigations and clean up actions performed under the Base Realignment and Closure (BRAC) Environmental Process which is affected by a myriad of federal real property and environmental laws and regulations. Conceptually, this process is conducted in three phases including base-wide reuse planning, disposal decision making, and parcel-by-parcel decision implementation. Investigations and remediation conducted as part of this process would be overseen by the Department of Defense and required state and federal agencies involved in environmental oversight to ensure that each parcel intended for reuse is remediated to levels appropriate for the new land use prior to transition to the new use.

The following measures are legally required and would serve to mitigate construction-related impacts:

- If abandoned or no longer used underground storage tanks are identified at a site proposed for development, tank closure shall be conducted in accordance with the Regional Water Quality Control Board and local City and County regulations. Reports of tank closure shall be submitted to the Alameda County Health Care Services Agency, Department of Environmental Health; the Regional Water Quality Control Board; and the Oakland Fire Department.
- Detailed site investigations to determine the potential presence of hazardous substances shall be performed on any proposed development site where hazardous substances are suspected. The site investigation shall include the collection of soil and groundwater samples for appropriate laboratory analyses, depending on the historical uses at the site. Sampling would extend to depths expected for excavation at a minimum. Reports of all sampling and analyses shall be provided to the Alameda County Health Care Services Agency, Department of Environmental Health and the Regional Water Quality Control Board. If remediation is necessary, it shall be conducted in accordance with agency guidance.

- If levels of hazardous substances are found to pose a threat to human health or the environment, a Site Mitigation Plan shall be prepared to address the site remediation and submitted to the Regional Water Quality Control Board and the Alameda County of Department of Environmental Health for approval. If groundwater contamination is involved, permits will be required from the Regional Water Quality Control Board for discharge of the treated waters to the Bay, or from the East Bay Municipal Utilities District and the Oakland Department of Public Works for extracted waters to be discharged to the public sewers. If soils containing hazardous materials are excavated, the Bay Area Air Quality Management District may impose specific requirements to protect ambient air quality from dust or other airborne contaminants. The Site Mitigation Plan and reports should be added to the administrative record.

This potential impact is mitigated to a level of less than significant by compliance with existing City policy and actions and other well-established regulations. The following OSCAR Element policy and action (also included in the setting, above) would further serve to mitigate construction-related impacts:

Policy CO-1.2: Soil Contamination Hazards

Minimize hazards associated with soil contamination through appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.

Action CO-1.2.1: Further Study of Soil Contamination

Conduct further study of soil contamination and toxics during the update of the Oakland General Plan Safety Element.

The following measures are part of the proposed Land Use and Transportation Element and shall be adopted and implemented by the City:

Policy I/C2.1:

The environmental cleanup of contaminated industrial properties should be actively pursued to attract new users in targeted industrial and commercial areas.

Policy I/C.3:

Development in older industrial areas should be encouraged through the provision of an adequate number of vacant or buildable sites designated for future development.

**Mitigation Measure M.4:** None required.



### *Construction Impacts - Safety*

**Impact M.5: Remediation efforts at an identified hazardous waste site could expose workers and the public to hazardous substances. This is a less-than-significant impact due to existing laws and regulations and the additional measure identified in this EIR.**

If hazardous substances are encountered during construction activities, either in subsurface soils or groundwater, the contamination must be characterized before appropriate remediation measures can be designed to mitigate potential impacts to construction workers, project employees or residents, the community or the environment. Agencies may require remediation efforts to clean-up, dispose, treat, or remove from public exposure the identified contaminant. Agencies would require a site safety plan to ensure the safety of the workers and the community.

Soil remediation methods could include excavation and on-site treatment, excavation and off-site treatment and disposal, or treatment without excavation. Landfill space for hazardous waste is limited. The Resource Conservation and Recovery Act, Hazardous and Solid Waste Amendments of 1984 prohibit the land disposal of untreated wastes as of May 1990. The California Hazardous Waste Management Act of 1986 requires that hazardous wastes must be treated to adopted standards for disposal within the state.

Remediation alternatives for contaminated groundwater could include extraction and on-site treatment or extraction and off-site treatment and disposal. Discharge of treated groundwater directly to the San Francisco Bay would require a permit from the Regional Water Quality Control Board. If extracted groundwater were to be discharged to public sewers, approval must be obtained from the East Bay Municipal Utilities District and the Oakland Department of Public Works.

Excavation and dewatering of contaminated areas could directly or indirectly expose workers, the public, or the environment to potential health hazards. Routes of exposure would primarily through inhalation of vapors, fumes or contaminated dusts which could be on-site or blown off-site to the public or the environment; through dermal contact with materials that are being excavated or as they become airborne and are deposited on surrounding soil and structures; or through direct or indirect ingestion. In previously developed sites, such impacts occur primarily when the site is disturbed and soils, soil gases or groundwater contaminated with hazardous substances are exposed.

In addition, if site remediation is required due to redevelopment within Oakland, the City should comply with Assembly Bill 3193 (Polanco Bill), effective January 1, 1991. This bill modified the Health and Safety Code to add requirements applicable to site clean up actions carried out by redevelopment agencies. In accordance with the Polanco Bill, redevelopment agencies may conduct site clean-up actions with written approval from the Regional Water Quality Control Board, and if determined necessary, complete a PEA as described above. If the clean-up plan for a site is submitted to the Department of Toxic Substances Control or the Regional Water Quality

Control Board, and the clean up is performed to the satisfaction of the responsible agency, redevelopment agencies can receive a liability waiver under this legislation (CalEPA, 1991).

Although remediation efforts are currently underway at many identified known or suspected hazardous waste sites in the study area, the extent of additional remediation that will be required as a result of development subsequent to adoption of the proposed Land Use and Transportation Element cannot be determined at this time. These efforts would depend upon specific development and expansion projects that may occur, whether construction activities are required, and whether hazardous materials encountered during that process require remediation. Thus, it is premature to determine the significance of potential impacts of individual development projects associated with the Element.

**Mitigation Measure M.5: Hazards to construction workers and the general public during demolition and construction shall be mitigated by the preparation and implementation of site-specific health and safety plans, as recommended by the Occupational Safety and Health Administration.**

The health and safety plans would be prepared by a Certified Industrial Hygienist and meet the requirements of federal, state and local environmental and worker safety laws. Specific information to be provided in the plans includes identification of contaminants, potential hazards, material handling procedures, dust suppression methods, personal protection clothing and devices, controlled access to the site, health and safety training requirements, monitoring equipment to be used during construction to verify health and safety of the workers and the public, measures to protect public health and safety, and emergency response procedures.

**Impact M.5 Level of Significance After Mitigation:** Less than Significant

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## **N. WIND**

### **INTRODUCTION**

The proposed Land Use and Transportation Element encourages some high rise development in downtown Oakland. Adoption of the Element would facilitate specific development projects in the Downtown Showcase District that could have wind-related impacts. The analysis that has been completed provides a general overview of the types of wind-related impacts that could occur. Final design and siting of specific development projects in the Downtown Showcase District would determine the actual wind-related impacts. These impacts would be detailed in future project-specific environmental review documentation.

Data collected at the U.S. Naval Air Station at Alameda show that winds from the west and north-northwest are the most frequent and strongest winds during all seasons in the Oakland area. Of the 16 wind directions measured at the naval base, nine directions, centered on the west, north-northwest and south-southeast comprise the greatest frequency of occurrence, accounting for about 75 percent of all winds. Calm conditions occur about eight percent of the time.

Average wind speeds are highest during summer and lowest during winter months. Strongest peak winds, however, occur in winter, when speeds of over 50 miles per hour have been recorded. Except during storms, the highest wind speeds are in the mid-afternoon and the lowest are in the early morning. At night, especially in the winter, cooling temperatures on land result in light offshore (northeasterly and easterly) winds from the Oakland Hills toward San Francisco Bay.

### ***PEDESTRIAN COMFORT AND WIND SPEED***

In cities, groups of buildings, as well as large trees, tend to slow the winds near ground level, due to the friction and drag of the structures themselves. Tall buildings can strongly affect the wind environment for pedestrians. Buildings that are much taller than surrounding buildings intercept and redirect winds that might otherwise flow overhead and bring them down to ground level. These redirected winds can be relatively strong and also relatively turbulent. Thus, they can be incompatible with the intended uses of the spaces around buildings, and even can prove to be hazardous to pedestrians.

The comfort of pedestrians in the vicinity of any tall buildings proposed would be partly determined by the general wind conditions that exist and would partly depend upon the types of activities in those areas.

This analysis considers winds as represented by an "equivalent wind speed" (a measure that includes contributions of both wind speed and wind turbulence).

For each location of interest, the equivalent wind speed recorded is the wind speed that is or would be exceeded 10 percent of the time. In other words, winds would be at or below this speed

90 percent of the time. Based on a body of prior work, as well as the City of San Francisco's planning code, an equivalent wind speed of 11 mph is considered to be a suitable upper threshold level of pedestrian comfort. An equivalent wind speed of 36 mph is considered to be a hazardous wind.<sup>1</sup>

### **Model and Wind Testing Protocols**

A wind-tunnel test was performed using bulk models of the four City Center high-rise buildings, in order to determine the pedestrian wind environment that could exist around the proposed buildings. Pedestrian-level wind speeds were measured at selected points for the four sites as they presently exist, and with the four generic City Center high-rises in place.

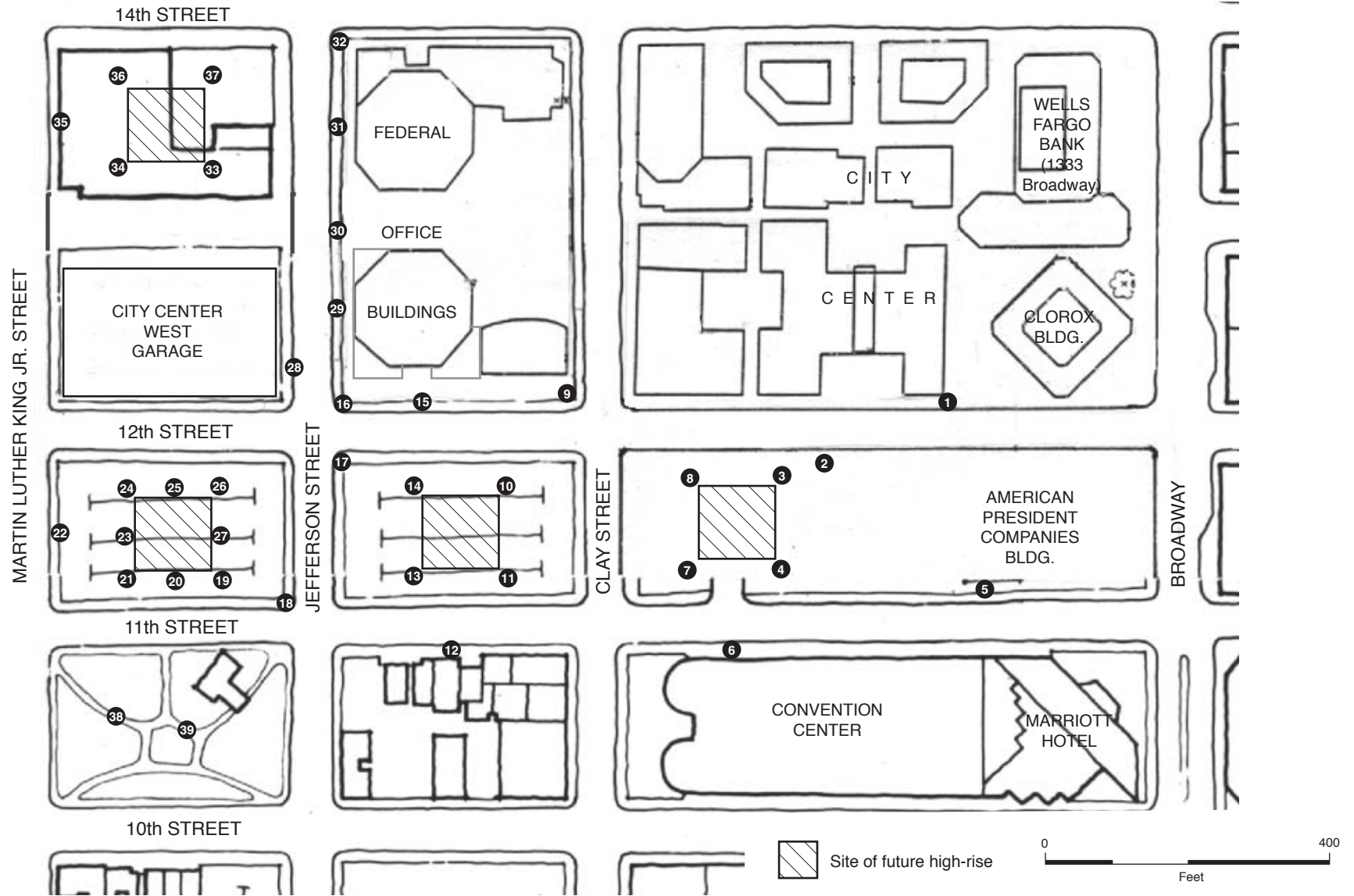
The wind study was based on rough bulk shapes for each of the four buildings and photogrammetry data dimensions for other buildings in the vicinity. As analyzed, each of the proposed buildings had a maximum height to the parapet of 425 feet, and a square base 135 feet on a side. Each model was centered in its full-block site, leaving only open space between the tower and the sidewalk. The wind-tunnel testing assumed completion of the UC Presidents Office, the City Administration Buildings and the Elihu M. Harris State Office Building by the time the project would be completed.

Wind-tunnel testing of the project simulated winds from the north-northwest, west, and south-southeast wind directions. These directions were selected for testing because they represent the major wind regimes, or are relatively frequent or particularly strong, or were judged likely to result in the worst case with respect to pedestrian level effects for this project.

Measurements of the mean wind speed and the wind's turbulence intensity were made at each of 39 selected pedestrian level locations on and around the four project sites (see Figure III.N-1). The test locations were sited to measure wind conditions at typical ground-level locations used by pedestrians and to indicate winds that could exist at the bases of each new tower. Test locations included a total of 20 selected points sited at the bases of the four bulk towers, as well as a total of 19 selected points located on sidewalks and public open spaces in the vicinity. The purpose of the testing was to establish and measure "worst-case" wind conditions. The test points sited next to the towers were intended to identify conditions that could result if no mitigations were incorporated in the design. Actual designs of such towers would be expected to incorporate setbacks and other design features that would decrease the ground-level wind effects of the four buildings.

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<sup>1</sup> The 11-mph pedestrian criterion and the 36-mph hazard criterion are fundamentally the same as the City of San Francisco's planning requirements, which generally discourage downtown structures that would cause winds in areas of substantial pedestrian use to exceed 11 mph more than 10 percent of the time and that prohibit construction of structures that would cause hazardous winds to occur for a single full hour of the year or more.



SOURCE: Environmental Science Associates

City of Oakland General Plan Land Use and Transportation Element EIR / 970224 ■

**Figure III.N-1**  
Downtown Showcase District  
Wind Measurement Locations

## SETTING

The existing wind environment within downtown Oakland is very windy, with 35 of the 39 wind speed test locations exceeding the 11-mph pedestrian comfort criterion. The winds in the site vicinity are strongly influenced by the presence of the nearby downtown core of high-rise buildings, and in particular the Marriott Hotel, and Clorox Building, and the twin towers of the Federal Building. Winds are diverted and accelerated around the high-rise buildings and are also diverted downward into open spaces around the bases of those high-rise buildings. Wind speeds range from 7 to 17 mph at the 39 locations, with an average wind speed of 14 mph. The highest existing wind speeds occur in the two city blocks between 11th, 12th, Broadway and Jefferson Streets.

Winds are only slightly lower in the block bounded by 11th, 12th, Jefferson and Martin Luther King and in the Cesar Chavez Park. Winds are noticeably lower in the northernmost site block, between 13th, 14th, Jefferson and Martin Luther King Way.

## IMPACTS AND MITIGATION MEASURES

### *SIGNIFICANCE CRITERIA*

There are no criteria in the state CEQA *Guidelines* or in City of Oakland regulations that define a significant effect on the environment related to wind. As noted previously, quantitative criteria have been established by ordinance in the City of San Francisco. Those criteria use an "equivalent" wind speed, which involves a speed adjustment to account for turbulence in the wind. Those equivalent wind speed criteria are 11 miles per hour (mph) for areas of substantial pedestrian use, not be exceeded more than 10 percent of the time, and 36 mph as the threshold for hazardous wind conditions, one hour of the year or more during daylight hours, however for CEQA purposes, only an exceedance of the hazard criterion is considered to be a significant impact.

For purposes of this analysis, the four City Center sites high-rises would be considered to have a significant effect if they would cause wind speeds in areas of substantial public use to result in hazardous conditions (represented by wind speeds of 36 mph) for one hour or more during daylight hours over the course of a year. Discussion of lesser wind speeds is included for informational purposes.

### *IMPACTS*

**Impact N.1: Adoption of the Element could result in development that would change wind speeds at locations in the Downtown Showcase District. This is a significant impact.**

Generally, wind speeds in the vicinity of the four City Center sites that are exceeded 10 percent of the time would increase by an average of slightly more than two miles per hour (mph) as a

result of the project, with changes at individual locations ranging from a decrease of 4 mph to an increase of 8 mph. The size and scale of the four high-rises would be sufficient to influence winds in a several-block area immediately surrounding the City Center site. Effects beyond that distance would be due to the combined effects of the new buildings together with the other buildings. Notably, the "wall" of existing highrise buildings on the west side of Broadway, including the Marriott Hotel, the APC Building, the Clorox Building, the Wells Fargo Building, and the Federal Buildings, together have a relatively strong effect on winds near the City Center sites. The addition of four tall high-rise towers near them would extend those effects.

The total number of hours per year during which the hazard criterion would be exceeded at the 39 points tested would increase from 25 hours for existing wind conditions to a total of 257 hours with the four high-rises under the tested "worst-case" conditions. The hazard criterion would be exceeded at a total of 14 new locations, while four of the existing exceedances would be eliminated, including one existing exceedance in Lafayette Square Park.

It should be noted that there are uncertainties in the results of the wind analysis that result from the relatively limited sample of data (five years' worth) on which the testing is based. This is particularly true for higher wind speeds, which occur less frequently than lower wind speeds. Thus, for an individual location, an increase or decrease of one to three hours per year in winds that exceed the hazard criterion may not be meaningful.

High winds, including those affected by the proposed buildings, would generally be predictable, in that they would most often accompany wind storm conditions. Nevertheless, any occurrence of winds of greater than 36 mph could be a safety hazard to pedestrians, particularly the elderly, the infirm and small children. Persons carrying large parcels and umbrellas could have difficulty walking under these conditions. Because the four high-rises could result in 14 new locations where the 36-mph hazard criterion would be exceeded, and because it would increase the incidence of hazardous winds at pedestrian-oriented locations along 11th, 12th, and Jefferson Streets, the project could have a significant effect on wind speeds. It should also be noted that there may be other locations in the vicinity that currently, or in the future would, experience hazardous winds. The wind-tunnel tests reveal that, in the vicinity, winds from certain directions are relatively strongly magnified at ground level, and when the wind blows from those directions, ground-level winds are particularly high.

Further cumulative development of more mid-rise and high-rise buildings in the Downtown and construction in the area surrounding the City Center sites with mid-rise buildings would reduce overall winds in the vicinity of the sites and eventually shield some tested locations from high winds.

**Mitigation Measure N.1:** The City shall require the project sponsors to incorporate specific design elements in the final siting and designs for the high rises that could reduce ground-level winds within the Downtown Showcase District.



**Impact N.1 - Level of Significance After Mitigation:** Significant and Unavoidable.

It is expected that the final designs of the buildings would incorporate design elements, such as building set-backs and the placement of the towers on podiums of 40 feet to 60 feet high. These elements would be expected to reduce the strong winds measured at the bases of the building masses that were tested. Substantial reductions in wind speed, and elimination of hazardous wind conditions can be achieved by such measures. Although it is feasible that most of the new hazard exceedances could be eliminated by careful attention to wind effects in design of the buildings, it is possible that significant wind-related impacts would occur after completion of the most wind-reducing building design. Therefore, this impact is considered to be significant and unavoidable.

## **O. CONSISTENCY WITH ADOPTED POLICIES AND PROGRAMS**

### **INTRODUCTION**

This section of the EIR examines the relationship of the proposed Land Use and Transportation Element with the adopted policies and plans of potentially impacted federal, state, regional, and local jurisdictions. It also examines the consistency of the proposed Element with City of Oakland plans, policies and planning programs. The analysis includes a summary of existing policies and programs, a description of the Element's consistency with these policies and programs, and measures to mitigate any potential inconsistencies. Since there are five distinct sub-topics covered in this section, the format is similar to that used in the Public Services Section of the EIR. Setting, Impacts, and Mitigation Measures are presented sequentially for each topic.

### **O.1 FEDERAL POLICIES AND PLANS**

#### **SETTING**

##### ***CLEAN AIR ACT***

The federal Clean Air Act was adopted in 1970 and included ambient air quality standards for various pollutants. "Primary" air quality standards were created to protect public health, while "secondary" standards were created to abate nuisances that were not immediately life threatening (such as visibility reduction). Certain provisions of the Act are administered by the U.S. Environmental Protection Agency (EPA). The EPA requires every state to prepare "state implementation plans" (SIPs) that show how the federal standards will be attained.

##### ***CLEAN WATER ACT***

The Federal Water Pollution Control Act (FWPCA) of 1972 and the Clean Water Act of 1977, along with various amendments, contain comprehensive provisions to "restore and maintain the chemical, physical, and biological integrity" of the nation's water resources. The Acts are administered by the EPA but their implementation also involves other federal, state, and regional agencies. Most of the responsibility for implementing the Acts has been delegated to the Regional Water Quality Control Board. The Board defines the beneficial use of Bay waters, establishes water quality and discharge standards to protect these waters, and formulates plans, implementation strategies, and control measures to enhance water quality. The Board also is responsible for enforcing water quality standards and discharge regulations. Federal clean water legislation requires municipalities to upgrade to secondary sewage treatment, establishes discharge standards for more than 125 pollutants and permit requirements for point and non-point discharges into surface water, and mandates the use of "best available technology" by private industry.

***NATIONAL PERMIT DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM***

This program requires the owner or operator of any facility or activity that discharges waste into any surface water of the United States to obtain a NPDES permit. Permitting is managed by the Regional Water Quality Control Board. In Oakland, the NPDES permit is handled at the Countywide level and is implemented through a County clean water program. NPDES requirements apply to municipal stormwater discharges and also apply to construction activities on sites larger than 5 acres. A series of “Best Management Practices” must be followed to prevent water pollution from construction sites.

***WETLANDS POLICIES***

Various policies and programs at the federal level protect wetlands and require mitigation in the event of adverse impacts. Executive Order 11990 provides direction to minimize the destruction, loss, and degradation of wetlands, including both short-term and long-term impacts. New construction in wetlands is discouraged, unless no other practical alternative exists.

***FEDERAL ENDANGERED SPECIES ACT***

The Endangered Species Act was passed in 1973 to provide a process for listing species as either endangered or threatened, and to outline methods to protect listed species. The Act also identified “candidate” species that were likely to become endangered or threatened in the foreseeable future. The Act is administered by the U.S. Department of Fish and Wildlife.

***FEDERAL AVIATION ADMINISTRATION (FAA) GUIDELINES***

The FAA regulates development around civilian and military airports. Part 77 Regulations, Objects Affecting Navigable Airspace, establish standards for identifying obstructions in navigable airspace and requirements for notifying the FAA. The FAA reviews applications for development adjacent to Metropolitan Oakland International Airport (MOIA) and the former Alameda Naval Air Station.

**SIGNIFICANCE CRITERIA**

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes federal policies and programs guiding or regulating local land use and conservation decisions.

## IMPACTS AND MITIGATION MEASURES

**Impact O.1: The proposed Land Use and Transportation Element would be consistent with federal policies and programs. This would be a less-than-significant impact.**

### **Clear Air Act**

The proposed Land Use and Transportation Element cross-references the Open Space, Conservation, and Recreation (OSCAR) Element as the source of policies and programs pertaining to air quality. Both the OSCAR and Land Use and Transportation Elements are consistent with federal air quality policies in that they emphasize transit-oriented development, use of cleaner burning fuels, and improved provisions for transit and non-motorized transportation. In the Land Use and Transportation Element, Objective T7 calls for reduced air pollution from motor vehicles. The Element also strives to reduce vehicle miles traveled by providing additional local job opportunities for Oakland residents and encouraging redevelopment of built-up areas rather than urban sprawl in eastern Alameda and Contra Costa Counties. In the OSCAR Element, Objective CO-12 addresses air quality. Seven policies and twelve programs addressing air quality improvements are included.

### **Clean Water Act**

Policies and programs in the Draft Land Use and Transportation Element speak to the need for implementing environmental controls and maintaining environmental quality (Policy I/C4.2). The overall land use and transportation pattern depicted by the Element is consistent with federal water quality policies in that it emphasizes clean-up of contaminated sites and redevelopment of older areas rather than urban sprawl and creation of large new impervious surfaces. Implementation of federal clean water policy is addressed directly in the OSCAR Element. Objective CO-5 addresses water quality. Four policies and 16 programs establish an aggressive strategy to improve water quality in Oakland. Consistent with federal policies, the OSCAR Element's emphasis is on urban runoff.

### **National Permit Discharge Elimination System (NPDES) Program**

There are no conflicts between the proposed Element and the NPDES requirements. Most NPDES requirements are addressed in the OSCAR Element, which has already been adopted. OSCAR Element Policy CO-5.3 calls for a broad range of strategies to reduce pollution from urban runoff. Related programs being implemented through the Countywide Clean Water Program are described in the OSCAR Element.

### **Wetlands Policies**

The proposed Land Use and Transportation Element identifies wetlands along San Francisco Bay as "Resource Conservation Areas." A number of wetland areas within Oakland International

Airport's boundaries are designated for "General Industry and Transportation" on the Land Use Diagram, raising the potential for future conflicts. However, policies and programs in the OSCAR Element strongly discourage development in such wetland areas and require mitigation of impacts. The OSCAR specifically addresses mitigation of impacts associated with airport expansion and calls for buffers on upland sites adjacent to wetlands where development is allowed.

### **Federal Endangered Species Act**

The Land Use and Transportation Element identifies the City's most environmentally sensitive lands (including wetlands) as "Resource Conservation Areas" and acknowledges that native plant and animal communities should be protected along the waterfront and on developable hillside properties. Most of the policy guidance on endangered species is provided in the OSCAR Element. That Element implements the Act at the local level through one policy and four implementation programs. Consistent with federal policy, the OSCAR calls for pre-development plant and wildlife surveys in environmentally sensitive areas, and standardized mitigation measures for development in areas that could potentially impact listed species.

### **Federal Aviation Administration (FAA Guidelines)**

Proposed land use designations in the portions of Oakland around MOIA are consistent with FAA regulations. High-rise development is generally discouraged in areas outside Downtown Oakland. Any structures constructed Downtown would need to comply with FAA regulations. Noise levels (associated with the airport) are not addressed in the proposed Land Use and Transportation Element and will be addressed separately in a General Plan Noise Element programmed for completion in 1998.

**Mitigation Measure O.1:** None required.

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## **O.2 STATE POLICIES AND PLANS**

### **SETTING**

#### ***STATE CLEAN AIR ACT***

In 1989, California adopted standards for air quality and set forth a schedule and program for their achievement. Provisions are administered by the California Air Resources Board (CARB). The CARB has the responsibility for developing the State Implementation Plan and controlling stationary and mobile pollution sources throughout the State. They have divided the state into air basins and regularly determine which basins do not meet ambient air quality standards.

***CALIFORNIA ENDANGERED SPECIES ACT***

The California Endangered Species Act was enacted in 1984 to protect rare, threatened, and endangered species in California. The Act strongly discourages State agencies from approving development that would jeopardize listed species or cause the destruction of their habitat.

***CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG) POLICY***

The CDFG has jurisdiction over construction activities that may result in the modification of stream channels, including the removal of riparian vegetation along streams. A Stream Alteration Permit must be obtained prior to such activity.

***STATE SOLID WASTE AND HAZARDOUS MATERIAL POLICY***

State policies affecting Oakland include AB 939 (the Integrated Waste Management Act), the Tanner Bill (AB 2948), the Hazardous Waste Control Act (HCWA), the Sher and Cortese Acts, and a variety of legislation related to recycling and toxic substances. AB 939 requires cities and counties in California to reduce their solid waste stream by 50 percent by the year 2000 through waste reduction and recycling. The Act required each county to prepare an Integrated Waste Management Plan, implemented through Source Reduction and Recycling Elements for each city. AB 2948 applies to new commercial off-site hazardous waste management facilities or expansions of existing facilities. It requires counties to develop Hazardous Waste Management Plans for State review and approval. The HCWA contains primary provisions governing hazardous waste management and sets requirements for the State Department of Health Services. The Sher and Cortese Acts establish regulations and standards for underground storage tanks.

**SIGNIFICANCE CRITERIA**

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes State policies and programs that guide or regulate local land use and conservation decisions.

**IMPACTS AND MITIGATION MEASURES**

**Impact O.2: The proposed Land Use and Transportation Element would be consistent with state policies and programs. This would be a less-than-significant impact.**

**State Clean Air Act and California Endangered Species Act**

See the consistency discussion above for Federal Clean Air Act and Endangered Species Act.

### **California Department of Fish and Game (CDFG) Policy**

Most of the creeks and streams in Oakland have already been modified by development and flood control projects and those that have not are predominantly on private land. The already-adopted OSCAR Element of the General Plan includes policies and programs protecting Oakland's remaining creeks and riparian areas and the proposed Land Use and Transportation Plan is consistent with the OSCAR Element. There are no conflicts between proposed Land Use and Transportation policies and CDFG policy.

### **State Solid Waste and Hazardous Material Policy**

The proposed Land Use and Transportation Element is consistent with state solid waste and hazardous material policies. The Element supports the clean-up of contaminated sites and establishment of recycling businesses within Oakland. Policies and programs in the adopted OSCAR Element are similarly consistent.

**Mitigation Measure O.2:** None required.

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## **O.3 REGIONAL POLICIES AND PLANS**

### **SETTING**

#### ***BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) AIR QUALITY PLAN***

The 1994 Bay Area Air Quality Plan addresses the air quality impacts of new development through transportation control measures, land use strategies, and mobile and stationary source controls. A variety of trip reduction and travel demand management measures are included. The Plan also explores ways to contain emissions from various chemical and industrial processes, including not only refineries, power plants, and the like but also such uses as gas stations and dry cleaning establishments. The Plan requires the air quality effects of various projects to be addressed through the CEQA process and establishes thresholds of significance for evaluating project-level air quality impacts. A 1997 update of the 1994 Plan has been prepared and will be released for adoption later this year. The Draft Plan will identify a number of new stationary and mobile source control measures and transportation control measures (TCMs). The proposed new TCMs promote pedestrian travel and traffic calming.

#### ***SAN FRANCISCO BAY BASIN PLAN/COUNTYWIDE CLEAN WATER PROGRAM***

The 1995 San Francisco Bay Basin Water Quality Control Plan contains policies to manage urban runoff and control point and non-point source pollution within the watershed of San Francisco Bay. The 1995 Plan updated a 1986 Plan and incorporated changes and amendments made during the late 1980s and early 1990s. The Plan includes provisions for managing stormwater

discharges in Oakland and other communities around the Bay through NPDES permits that are administered at the County level. The RQWCB has also developed a variety of Best Management Practice guidelines to reduce water pollution from non-point sources, including more regular street cleaning, storm drain stenciling, oil and grease separators, and pre-treatment of runoff. The Alameda County Flood Control and Water Conservation District, along with a management team consisting of representatives from each City in the County, are administering these practices through the Alameda Countywide Clean Water Program.

### ***BAY CONSERVATION AND DEVELOPMENT COMMISSION***

Any development along the shoreline of San Francisco Bay, including the Oakland Estuary, Tidal Channel, and San Leandro Bay, must comply with the provisions of the McAteer-Petris Act. The Act was passed by voters in 1965 to protect and guide the future use of the Bay and its shoreline. The San Francisco Bay Plan, prepared pursuant to the act, addresses protection and development of the Bay, marshes, wetlands, salt ponds, and shoreline areas. The Bay Conservation and Development Commission (BCDC) was designated as the agency responsible to carry out the provisions of the Plan. Development proposals within 100 feet landward or parallel to the Bay shoreline fall under the jurisdiction of the BCDC for review and comment.

Projects falling under BCDC jurisdiction include the placement of fill, extraction of materials (including dredge spoils), and changes in land use or transportation facilities either on the water or along the shoreline. Staff evaluates projects based on a variety of criteria. Impacts on fish and wildlife habitat, air and water quality, public access, and security and safety, are documented and presented to the Commission in public hearings. The Commission then approves, modifies, or denies the project.

### ***ALAMEDA COUNTY CONGESTION MANAGEMENT PROGRAM***

Pursuant to State requirements (Proposition 111), Alameda County has adopted a Congestion Management Program (CMP) identifying a regional transportation network and establishing level of service standards for this network. The CMP also promotes trip reduction and travel demand management, establishes a network data base and travel model, includes a capital improvements program, and establishes a program for review of local land use decisions, including General Plan amendments. The current CMP was completed in 1995; a 1997 Draft update has been prepared and was recently released.

The CMP identifies interstate highways, State Routes 13 and 24, Martin Luther King Junior Way, San Pablo Avenue, International Boulevard (East 14th Street), Hegenberger Road, Doolittle Drive, and parts of 42nd Avenue, 23rd and 29th Avenues, and the Posey/Webster tubes as components of the designated Countywide road system. This system is further supplemented by roads designated by MTC as critical to the movement of people and freight (Oakland roads in the latter system include Grand Avenue, Fruitvale Avenue, Broadway, Park Boulevard, Claremont



Avenue, Grizzly Peak/Skyline Boulevard, MacArthur Boulevard, High Street, and 98th Avenue/Golf Links Road. Several of these roads are noted as operating at Level of Service “F.”

#### ***EAST BAY REGIONAL PARK DISTRICT MASTER PLAN***

The East Bay Regional Park District (EBRPD) recently adopted an updated master plan for its service area, including most of Alameda and Contra Costa Counties. The Plan strives to increase access to regional open space from urban areas such as Oakland and to improve service levels to inner city populations. A number of the Park District’s facilities are within or adjacent to Oakland, and the Plan pledges to continue investment in these areas. Acquisition of new open space is focused primarily in outlying portions of the service area, where growth is more rapid. In addition to the regional plan, the EBRPD maintains park plans for its individual holdings, such as Lake Temescal and Redwood Regional Park. The Claremont Canyon and Martin Luther King Junior Shoreline Plans are outdated and require updating.

#### ***LOCAL AGENCY FORMATION COMMISSION (LAFCO) POLICIES***

The Alameda County LAFCO is responsible for the review of sphere of influence amendment requests by cities. LAFCO’s purpose is to encourage orderly growth, consistent with county policies.

#### ***ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG) REGIONAL PLANS AND POLICIES***

ABAG prepared a Regional Plan in 1980 identifying housing and economic development policies and guidelines for regional growth. The Plan emphasized the importance of maintaining a supply of affordable housing in accordance with regional needs, promoting infill development, and balancing job and housing growth within the region. The Plan has not been comprehensively updated since 1980. In 1990, ABAG adopted a “Proposed Land Use Policy Framework for the San Francisco Bay Area.” The framework emphasizes a city-centered concept of urban development with growth guided into existing communities as a means of preserving open space. ABAG also prepared an Environmental Management Plan in the 1980s to address problems of air and water quality, water supply, solid waste, and other issues that cross jurisdictional boundaries in the Bay Area. Finally, ABAG prepared the Regional Housing Needs Plan in 1989, assigning housing needs by income level to each jurisdiction in the Bay Area. The housing needs allocations are the basis for local governments’ Housing Elements.

#### ***ALAMEDA COUNTY AIRPORT LAND USE POLICY PLAN***

The Alameda County Airport Land Use Commission (ALUC) was established to protect public safety in and around the County’s airports and to provide for the orderly expansion of these airports. The ALUC adopted a Plan in 1986 that contains a set of policies and standards applicable to all airports as well as land use plans and policies applicable to specific airports. The

primary objectives of the Plan are to prevent obstacles that would affect navigation and to reduce the exposure of persons on the ground to accident hazards. The ALUC reviews all actions referred by local public agencies--including General Plan amendments--for consistency with the Airport Policy Plan. Land use, noise, and height restrictions in various zones around the runways are applied to determine consistency.

### SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes regional policies and programs that guide or regulate local land use and conservation decisions.

### IMPACTS AND MITIGATION MEASURES

**Impact O.3: The proposed Land Use and Transportation Element would be consistent with regional policies and programs except for the Clean Air Plan. This would be a significant impact.**

#### **Bay Area Air Quality Management District (BAAQMD) Air Quality Plan**

The proposed Element is generally consistent with the regional air quality plan and incorporates many of the transportation control measures and land use strategies identified in the Plan. However, the Element proposes higher levels of population and employment for Oakland than were assumed in the air quality plan's projections. Any potential adverse effects associated with the higher projections should be balanced by the positive impacts of a more concentrated, transit-oriented growth pattern in Oakland. The Element emphasizes a development pattern that is less dependent on single occupant vehicles than the current pattern. Most of Oakland's projected growth areas are adjacent to BART stations or along designated "transit arterials." Most of these areas are proposed for higher density residential and employment uses. The proposed Element incorporates a pedestrian and bicycle plan, encourages traffic calming on local streets, and cross-references the already-adopted OSCAR Element (1996) as the source of additional policies and programs on air quality.

Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections is also an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, the proposed Land Use and Transportation Element would not be consistent with air quality planning.

Additional discussion of air quality is included in the Air Quality Impacts section of this EIR. Air quality impacts associated with specific construction projects will be assessed on a case by case in the future as projects are proposed.

### **San Francisco Bay Basin Plan/Countywide Clean Water Program**

The already-adopted Oakland OSCAR Element contains a policy and program framework designed to implement the 1995 Water Quality Control Plan (and Countywide Clean Water Program) at the local level and the proposed Land Use and Transportation Element is consistent with this Plan. Twelve programs for reducing pollution from urban runoff are included in the OSCAR Element. This EIR identifies these programs and includes further discussion of the impacts of the proposed Land Use and Transportation Element on water quality. Future development in Oakland would be required to conform to the NPDES municipal stormwater discharge permit requirements and would implement the specific stormwater management requirements outlined by the RWQCB and Countywide Clean Water Program.

### **Bay Conservation and Development Commission**

One of the major and recurrent themes of Oakland's General Plan is to increase public access to the waterfront and eliminate the barriers dividing the City from the shoreline. The "Waterfront" section of the proposed Land Use and Transportation Element establishes a policy framework consistent with BCDC requirements and the San Francisco Bay Plan. Policy W2.1 calls for linear access along the waterfront, Policy W2.3 calls for public access improvements, and Policies W2.5 through 2.11 recommend additional provisions for public access. Policies W8.6, W9.5, and W10.6 further address public access in the Jack London, Embarcadero Cove, and Fruitvale waterfront areas. Other policies in the proposed Element emphasize the importance of maintaining the Oakland Harbor for maritime use, consistent with the Bay Plan. The OSCAR Element includes additional discussion of waterfront access, including requirements to follow BCDC programs and procedures.

### **Alameda County Congestion Management Program**

The proposed Land Use and Transportation Element recognizes Oakland's historic and current role as a transportation hub. Consistent with the CMP, it supports an integrated transportation network and promotes alternative means of travel, particularly by transit, bicycles, and on foot. The very nature of the Element (a combined land use and transportation plan) is consistent with the CMP's call for integrated land use and transportation planning. The Element incorporates the specific transportation improvements identified in the CMP, including the I-880 corridor modernization and I-880 carpool lanes. Additional projects have been identified in the Element and these will need to be added to the CMP over time. The road designations in the proposed Element are generally consistent with those in the CMP, although the Element identifies Telegraph Avenue/Foothill Boulevard as a regional transit arterial while the CMP does not.

The traffic analysis for the proposed Element used the transportation model developed by the Alameda County Congestion Management Authority and has identified projected levels of service consistently with the methodology recommended in the CMP. An analysis of the model results and their consistency with the CMP is included in the Transportation Impacts section of this EIR. Future land use decisions in Oakland will need to conform to the CMP and the CMA model will be used for future development projects to ensure that local land use decisions do not degrade traffic conditions below the adopted standards. Similarly, the Oakland transportation projects submitted to the CMA for funding should be consistent with the projects and priorities established by the Land Use and Transportation Element.

### **East Bay Regional Park District Master Plan**

The proposed Land Use and Transportation Element designates most of the regional parks in Oakland as “Resource Conservation Areas.” This is consistent with the overall Regional Parks Plan as well as the plans for the EBRPD parks within Oakland (developed areas within the parks are shown as “Urban Parks”). Although regional parks are not addressed in the proposed Element, they are the subject of numerous policies and programs in the adopted OSCAR Element. The OSCAR includes specific policies to improve access to regional parkland for underserved Oakland neighborhoods, and provides strong support for increased EBRPD investment in Oakland. Its proposals are consistent with the Regional Parks Plan and help implement that plan at the local level.

### **Local Agency Formation Commission (LAFCO) Policies**

The proposed Land Use and Transportation Element does not propose any revision to Oakland’s sphere of influence boundaries and does not depict land use designations for territory beyond the Oakland City limits. Clarification of Oakland’s sphere boundary is recommended. The Element calls for continued coordination with LAFCO on development and annexation decisions in the Oakland area.

### **Association of Bay Area Governments (ABAG) Regional Plans and Policies**

The proposed Element is consistent with the ABAG Regional Plan in that it emphasizes more efficient land use patterns, redevelopment of underutilized land, transit-oriented development, additional housing capacity, and a balance between job and housing growth. In concert with the already adopted OSCAR Element, the Land Use and Transportation Element emphasizes the importance of a regional perspective in addressing air and water quality issues, transportation and water supply issues, and housing issues. The Element accommodates the ABAG Housing Needs Determination for Oakland and identifies large parts of the City where new housing opportunities will be created.

### **Alameda County Airport Land Use Policy Plan**

Proposed land uses within the ALUC safety zones are consistent with the Airport Land Use Policy Plan. Much of the landing and take-off areas at Oakland International Airport are over water or adjoining cities and the portions within Oakland are Port-controlled properties designated for “General Industry/ Transportation.” No residential development is shown within the restricted noise contour lines. The “height referral zone” around the Airport encompasses most of Elmhurst and Central East Oakland and extends as far west as Embarcadero Cove. Proposed Land Use and Transportation Element policies discourage tall buildings in these areas and land use designations establish floor area ratio limits that should reduce the potential for structures exceeding the allowable height. The height referral zone for NAS Alameda includes Downtown Oakland, where additional high-rise development is encouraged by the Plan. The potential for future conflict depends in part on the future use of the facility for aviation. Although the Naval Air Station itself has closed, use of the runways for non-military purposes could continue. In any event, Downtown buildings would be required to comply with all applicable FAA height restrictions. The restricted safety and noise zones around NAS Alameda extend into industrial areas under Port jurisdiction and would not be affected by proposed policies or land use designations in the Draft Element.

**Mitigation Measure O.3:** Implement Mitigation Measures E.1 and E.6.

**Impact O.3 Level of Significance After Mitigation:** Significant and Unavoidable.

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## **O.4 ADJOINING JURISDICTIONS**

### **SETTING**

#### ***ALAMEDA COUNTY***

Unincorporated Alameda County is Oakland’s neighbor to the east from Joaquin Miller Park south to San Leandro. The General Plan for Alameda County consists of two sub-area plans. The East County Plan encompasses Livermore, Pleasanton, and Dublin and surrounding hill and agricultural lands. The Plan for the Central Metropolitan, Eden, and Washington areas covers the remaining 324 square miles of the County, including the urbanized East Bay shore. The land use and policy emphasis is on unincorporated areas with development potential, including San Lorenzo, Ashland, Cherryland, and Castro Valley. The Plan anticipates continued infilling of vacant and underutilized land in these areas and directs the County to preserve most of the hillsides and farm areas for recreational, watershed, and agricultural use. Land to the east of Oakland is designated for agricultural and open space uses.

***CONTRA COSTA COUNTY GENERAL PLAN***

Oakland's shares its eastern boundary with Contra Costa County from Joaquin Miller Park north to the Berkeley line. Virtually all of the land in the County that borders Oakland is publicly owned, primarily by EBMUD, the Regional Park District, and the University of California. The County General Plan was last updated in 1991. Areas adjacent to Oakland are designated for open space uses.

***CITY OF ALAMEDA GENERAL PLAN***

Alameda's General Plan was adopted in 1990. The Plan anticipates construction of more than 3,100 housing units by 2010 and addition of 18,600 new jobs by 2005, mostly on Bay Farm Island (additional employment growth could occur as the Naval Air Station is re-used, but this is not reflected in the Plan). To accommodate the increased level of development on the island, the General Plan proposes a number of transportation improvements, including a 66th Avenue crossing of San Leandro Bay and a Cross-Airport roadway. Re-use plans for the Naval Air Station have also raised the possibility of new connections to Oakland on the western end of the island. The Plan's land use policies encourage mixed use development and expanded commercial and recreational opportunities along the waterfront facing Oakland.

***CITY OF BERKELEY GENERAL PLAN***

Berkeley is in the process of updating its General Plan. The City has developed a "Concept Plan" that identifies a vision for the future in the areas of community design, economic development, and community services. At this point, the vision statements are very broad. However, they do target West Berkeley and the Ashby/ San Pablo area for potential change and revitalization. Elsewhere along the Oakland border, policies generally encourage the maintenance and enhancement of existing residential neighborhoods and the revitalization of commercial streets like Shattuck Avenue and Telegraph Avenue.

***CITY OF SAN LEANDRO GENERAL PLAN***

San Leandro's General Plan was adopted in 1989. It identifies a number of sites for adaptive re-use or more intense development, including one site on San Leandro Boulevard just south of the Oakland city limits. Another site identified for potential change is located on the west end of Davis Street near Metropolitan Oakland International Airport. In addition, public street beautification is proposed at various city entrance points (most of these projects have since been completed). Elsewhere along the Oakland border, policies call for maintaining the quality of existing residential neighborhoods and minimizing future land use conflicts.

***CITY OF EMERYVILLE GENERAL PLAN***

Emeryville updated its General Plan in 1993. The City expects modest population growth and substantial job growth by 2005, with several specific projects identified along the Oakland

border. The City's policies support continued economic expansion, emphasizing re-use of underutilized industrial land for commercial, live-work, and high technology development.

***CITY OF PIEDMONT GENERAL PLAN***

The City's General Plan was updated in 1995. As Piedmont is largely built-out with stable, single family residential uses, no changes in land use are proposed.

***CITY AND COUNTY OF SAN FRANCISCO GENERAL PLAN***

This document was developed in stages from 1978 to 1993 and includes policies relating to housing, commerce and industry, recreation and open space, transportation, urban design, environmental protection, community facilities, and community safety. It is supplemented by area plans for various districts of the City, such as Downtown, South of Market, and the Van Ness corridor.

**SIGNIFICANCE CRITERIA**

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This could include the policies and programs of adjoining jurisdictions that influence local land use and conservation decisions.

**IMPACTS AND MITIGATION MEASURES**

**Impact O.4: The proposed Land Use and Transportation Element would be consistent with the policies and programs of adjacent jurisdictions. This would be a less-than-significant impact.**

**Alameda County**

The Oakland General Plan is consistent with the Alameda County General Plan in its emphasis on infill and reuse within the urban area and conservation of hillsides in the more rural areas, including those unincorporated areas east of the city. The Oakland Land Use and Transportation Diagram defers land use designations on the properties east of the City limits to the County. The County Plan designates these areas for agricultural and open space uses. Most of the land is owned by EBMUD or the Regional Park District, and there is very little potential for annexation or development. The City's Plan helps achieve County Plan objectives by accommodating development within an already urbanized area, thereby reducing the pressure to urbanize hillsides and farmland in the more remote parts of the County.

### **Contra Costa County General Plan**

Although the County Plan's policies do not directly affect Oakland, the Plan allows considerable development in the Dougherty and Tassajara Valleys and in the Oakley area of eastern Contra Costa County. Such development will affect the transportation system in Oakland and could affect the City's ability to achieve the level of employment growth envisioned by the proposed Land Use and Transportation Element. Although the City and County Plan are generally consistent, Oakland should continue to keep close watch on County development decisions and General Plan amendments to ensure that they do not interfere with the achievement of local objectives.

### **City of Alameda General Plan**

The proposed Land Use and Transportation Element is generally consistent with Alameda's General Plan, although there are potential areas of conflict at 66th Avenue. Oakland's Draft Element does not indicate a future crossing at this location, and Oakland has generally opposed a bridge here due to its impacts on San Leandro Bay. The OSCAR Element indicates that a tunnel crossing may be acceptable. The Draft Land Use and Transportation Element does incorporate the Cross-Airport Roadway Project to Harbor Bay Island.

The proposed Land Use and Transportation Element identifies the need for close coordination with Alameda in the improvement of transportation between the two cities, with particular focus on improving the Webster/ Posey Tubes and providing access to the proposed seaport on the former Naval Air Station. Proposed land use designations along the Estuary are consistent with designations on the Alameda side; the transition from industrial to mixed uses along the Oakland shoreline could reduce some of the land use conflicts (particularly noise and aesthetics) associated with the residential uses on the Alameda shore. Nonetheless, future land use decisions along the Oakland shoreline will need to be closely coordinated with Alameda to ensure that any potential adverse impacts are adequately mitigated.

### **City of Berkeley General Plan**

The proposed Element is consistent with the existing and emerging Berkeley General Plan. The two cities share many common issues along their border and are pursuing many of the same objectives. Although land use category and map changes have not yet been made in Berkeley, these changes should be relatively compatible with those proposed by Oakland. Areas of potential conflict could emerge along the corridors, since Oakland has specifically targeted San Pablo Avenue, MLK Jr Way, and Telegraph Avenue for more intense development. It is conceivable that the allowable densities and intensities along these corridors (125 units per acre and 4.0 FAR) may be higher in Oakland than in Berkeley. Coordination between the two cities will be required as individual projects are proposed.



### **City of San Leandro General Plan**

The proposed Land Use and Transportation Element is consistent with the San Leandro General Plan. The proposed Element calls for maintaining and enhancing the residential neighborhoods along the common border and revitalizing MacArthur and International Boulevards from the San Leandro gateways to the west into Oakland. Additional development near the end of Davis Street could affect Doolittle Drive and other Oakland transportation routes. Coordination between the two cities will be required as this area develops and as Oakland pursues some of the transportation improvements identified in the Element (including I-880 improvements and the Airport expansion).

### **City of Emeryville General Plan**

While the land use designations in the Emeryville Plan are consistent with those proposed across the border in Oakland, the individual developments identified in the Plan have the potential to cause additional traffic congestion on Oakland roadways. Moreover, Emeryville's aggressive economic development initiatives could affect Oakland's ability to capture some of the retail, service, and high technology jobs it has targeted in its Element. On the other hand, Emeryville's success could have positive spinoff effects on Oakland's efforts to revitalize San Pablo Avenue in North and West Oakland. Continued coordination between the two cities will be essential as each implements its General Plan.

### **City of Piedmont General Plan**

The proposed Land Use and Transportation Element designates those areas that adjoin the Piedmont border for lower density residential land uses. Policies and land use designations are consistent with adjacent policies and designations in Piedmont. As in other cities, coordination on transportation issues in particular will continue to be important in the future.

### **City and County of San Francisco General Plan**

While most of the policies in the San Francisco Plan are of a local nature, they could have implications for Oakland's future. The Plan shares the same philosophy as Oakland's Plan in its emphasis on maintaining and enhancing the qualities that make neighborhoods unique. Both Plans emphasize a transit-oriented development pattern and focus urban growth onto underutilized land. However, San Francisco's policies encourage only modest growth in the San Francisco Central Business District while Oakland is more ambitious. Growth restrictions in San Francisco could have positive economic effects on Oakland. Oakland's proposed Element anticipates such effects and includes policies and land use designations to capitalize on prospective opportunities.

**Mitigation Measure O.4:** None required.

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## **O.5 INTERNAL CONSISTENCY**

### ***OTHER GENERAL PLAN ELEMENTS***

The other elements of the Oakland General Plan include the Open Space, Conservation, and Recreation (OSCAR) Element, adopted in 1996; the Historic Preservation Element, adopted in 1994; the Housing Element, adopted in 1992; and the Safety and Noise Elements, adopted in 1974. The Housing Element is current but because it has a seven year horizon, it will be updated in 1999. The 1974 Safety and Noise Elements are outdated and are scheduled for revision in 1998.

### ***PORT OF OAKLAND PLANS***

Although the Port of Oakland does not have a single “master plan” per se, they have prepared individual plans for various sites within the Oakland Planning Area, including Metropolitan Oakland International Airport and the Fleet Industrial Supply Center. The Port is also a partner in the Estuary Plan, now being prepared jointly with the City.

### ***OAKLAND STRATEGIC PLAN (“SHARING THE VISION”)***

The Oakland Strategic Plan was completed in 1994 with input from more than 2,000 residents and business people. The Plan presents a strategy for revitalizing Oakland and addresses social service and human resource issues as well as conventional city planning issues. Portions of the Plan address the built environment, with specific direction provided to update the Land Use and Transportation Elements as a vehicle for achieving the “vision” described in the document.

### **Adopted Zoning, Subdivision, and Redevelopment Plans and Regulations**

The Oakland Zoning Ordinance regulates activities and facilities on land within the City of Oakland through more than 40 zoning districts. The Zoning Map indicates the Zoning designation for each parcel in the City. Permitted and conditionally permitted uses are identified for each District along with requirements for yards, height, parking, and other development parameters. Administrative procedures are also defined in the ordinance. The Subdivision Ordinance establishes procedural requirements for the division of land and engineering standards for development. Redevelopment plans and regulations apply within the Central District (downtown) and Coliseum Areas. These plans provide further guidance on the use of land and the locations targeted by the City for public investment during the coming years.

## **SIGNIFICANCE CRITERIA**

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes policies and programs in the local General Plan, redevelopment plans, and other plans that influence local land use and conservation decisions.

## IMPACTS AND MITIGATION MEASURES

**Impact O.5: Adoption of the proposed Land Use and Transportation Element could lead to short-term inconsistencies between individual General Plan Elements and between the General Plan and zoning ordinance. This impact will be addressed by updating the Safety, Noise, and Housing Elements, and the zoning ordinance, making it less-than-significant.**

### Other General Plan Elements

The proposed Land Use and Transportation Element is consistent with the OSCAR and Historic Preservation Elements. The proposed Element proposes redevelopment of underutilized sites and intensification of uses adjacent to transit stations and corridors. Policies in the OSCAR and Historic Preservation Elements address potential development impacts on open space, natural resources, and historic sites and buildings.

Policies in the 1974 Safety and Noise Elements are based on outdated assumptions about land use along the waterfront and on military bases (as well as different assumptions about Oakland's transportation network). However, due to the very general nature of policies in these elements, conflicts between their policies and those in the updated Land Use and Transportation Element are unlikely. The Safety and Noise Elements will need to be updated shortly after the Land Use and Transportation Element is adopted. Similarly, the Housing Element will need to be updated to address the new housing opportunities to be created Downtown, along the shoreline, and along the transit corridors. Until these Elements are updated, policies in the Land Use and Transportation Element will supersede in the event of a conflict.

### Port of Oakland Plans

All aspects of the City's Land Use and Transportation Element have been coordinated with the Port. All land use designations and policy directives in the document are consistent with the adopted master plans for properties under Port jurisdiction.

### Oakland Strategic Plan ("Sharing the Vision")

The Strategic Plan goals were used as a foundation for the Land Use and Transportation Element and established the initial direction for the Element in 1994. The Element is consistent with the Strategic Plan and the land use designations and policy revisions it incorporates are intended to carry out Strategic Plan initiatives.

### Adopted Zoning, Subdivision, and Redevelopment Plans and Regulations

The Oakland Zoning ordinance is programmed for revision during 1998 and 1999 to achieve consistency with the revised Land Use and Transportation Element. The update will include revisions to the Oakland Zoning Map and creation of new districts which implement the Element's recommendations. Until the time a new ordinance and map are approved, there may be

conflicts between designations in particular areas designated for change (such as the corridors or waterfront). Administrative procedures to guide decisions in the event of a conflict are recommended. The proposed Element is consistent with the Subdivision Ordinance and with Redevelopment Plans and Regulations. Consistent with the Redevelopment Plans, the Element identifies the Central Business District and Coliseum areas as Oakland “showcases” and encourages significant public and private reinvestment in these areas.

**Mitigation Measure O.5a:** Initiate the update of the Safety and Noise Elements no later than 1998, and the Housing Element no later than 1999. The updates should reflect the policy changes recommended by the Land Use and Transportation Element and the adopted OSCAR and Historic Preservation Elements.

**Mitigation Measure O.5b:** Until the Safety, Noise, and Housing Elements are updated, the policies of the Land Use and Transportation Element (and the already adopted OSCAR and Historic Preservation Elements) shall take precedence in the event of any conflict between Plan policies or programs.

**Mitigation Measure O.5c:** Initiate the update of the Zoning Ordinance no more than 12 months after the Draft Land Use and Transportation Element has been adopted.

**Mitigation Measure O.5d:** Within 90 days of adoption of the Land Use and Transportation Element, issue an Administrative Instruction which provides direction in the event of a conflict between the Land Use and Transportation Diagram and the Zoning Map.

**Impact O.5 Level of Significance after Mitigation:** Less than significant.

# **CHAPTER IV**

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## **ALTERNATIVES ANALYSIS**

### **INTRODUCTION**

Section 15126 (d) of the California Environmental Quality Act requires that every EIR contain an evaluation of alternatives to a proposed project. Each alternative should be capable of achieving the objectives of the project. The range may be limited to those necessary to permit a reasoned choice. The merits of each alternative must be assessed and an explanation as to why each was rejected must be provided. If the project has significant adverse effects, this usually means that an alternative which is “environmentally superior” to the project must be addressed. A “no project” alternative also must be analyzed. In the case of a General Plan update, the “no project” alternative is interpreted as retaining the existing General Plan.

### **APPROACH**

The four-year process used to develop the Oakland Land Use and Transportation Element Update involved a six-month phase during which alternatives were developed and evaluated. The General Plan Congress -- the 35 member advisory committee steering the update -- was convened a number of times during this process and a series of community workshops were held to obtain community feedback. A Workbook summarizing the City’s options was prepared. The workbook described policy options, land use category options, and map options. Each of these is summarized below:

### **POLICY OPTIONS**

Policy options consisted of different approaches to addressing citywide transportation and development issues. For instance, a menu of potential policies was considered regarding the development of steep slopes in the Oakland Hills. One alternative was to base the allowable density on the degree of slope; another was to use other factors such as infrastructure to determine how densely a site could be developed. In another case, one policy would have relocated “Broadway Auto Row” to a freeway-oriented location, another policy proposed keeping it in its current place. Yet another policy choice was whether to focus high-rise office development downtown or whether to allow such development to take place in “satellite” business districts around the City. Such policy-level alternatives were considered for a wide range of topics.

## LAND USE CATEGORY OPTIONS

The 15 categories used to classify land in the proposed Element were derived after screening a number of alternatives, including other categories that would have allowed different land use mixes or densities and intensities than the ones ultimately selected. For instance, one alternative would have defined the commercial categories with more restrictive floor area ratio limits. Another alternative would have limited the development of hotels, retail, and entertainment uses within areas designated “Business Mix.” The merits of each choice were debated by the General Plan Congress before developing the categories and definitions that ultimately were included in the proposed Element.

## MAP OPTIONS

The final category of options were those that involved different designations for various sites in the City. For instance, one alternative would have placed the edge of the Central Business District at 27th Street; the Proposed Element placed it at Grand Avenue. One alternative would have designated portions of Leona Quarry for housing; the Proposed Element designated it for regional commercial uses. One alternative would have designated Montclair Village as “Community Commercial”; the Proposed Element designated it as “Neighborhood Center Mixed Use.” Similar choices were weighed for most of the areas on the Land Use Diagram where re-use and intensification is designated. In some cases, the map alternatives for individual sites were quantified (i.e., the number of housing units or jobs was calculated). However, in most cases, the selection of a “preferred” alternative was based on a qualitative assessment of land use compatibility, neighborhood acceptance, and the designation that would best achieve the Citywide goals and objectives.

The Alternatives analysis did not include vastly different scenarios for Oakland’s future. For example, an alternative which emphasized housing over jobs, or which emphasized the waterfront over the hills, was not prepared. Each map alternative was evaluated on its own merit, with the goal of achieving the Citywide vision articulated by the General Plan Congress. The map designations that were selected are considered to be the most reasonable and feasible, given the City’s goals.

## DESCRIPTION OF ALTERNATIVES

In addition to the Proposed Element, the following alternatives are considered here:

- The “No Project” alternative. This alternative would leave the existing 1980 General Plan in place.
- The “Alternative Designations” alternative. This is a composite alternative which considers the choices that were presented but not selected for the various sites analyzed during the Element update.

- The “Environmentally Superior” alternative. This alternative identifies lower levels of development in those areas with environmental constraints, including the hills, and requires mitigation of the adverse impacts identified in this EIR to the point where they would be less than significant.

The proposed Element and the other three alternatives are described below.

## PROPOSED ELEMENT

The proposed Element is specifically intended to guide growth and development decisions in Oakland through the year 2015. In addition to being more current than the 1980 Plan, it takes a more regional perspective than that plan did. The proposed Element emphasizes the concept of environmental sustainability. The Plan reduces the potential for adverse environmental impacts by presenting a vision in which Oakland reasserts itself as the central city of the East Bay region. Neighborhoods are protected from incompatible uses and more intense development is encouraged in non-residential areas and in transit-served locations. The outcome would be a more efficient development pattern, more viable transit systems, and air quality improvements as trip lengths became shorter and more transportation alternatives were provided. A secondary outcome could be that less open space and farmland in the Bay Area would be converted to urban uses, since development would be concentrated on currently underutilized urban land.

The proposed Element anticipates the addition of 42,000 jobs and 12,000 households by the year 2015. This change would be focused in a handful of locations, with about half of the job growth occurring Downtown and the rest occurring around the Coliseum, at the Harbor and Airport, and along transit corridors. Housing growth would be more evenly distributed geographically than it has been in the past 30 years, with more housing constructed Downtown and along the shoreline and corridors.

The proposed Element specifically identifies areas of the City where land use change is desired and areas of the City where the existing land use pattern is to be maintained and enhanced. The former areas are limited to about 15 percent of the City and are primarily redevelopment sites. The Element emphasizes mixed use development in these areas. Mixed use designations provide greater flexibility for the private sector, promote a more vibrant cityscape, and respond to trends such as live-work development and loft housing.

The Element designates about 53 percent of Oakland’s land area for residential uses (two-thirds of this area is designated for single family housing), 18 percent for open space and institutional uses, 13 percent for industry and transportation, 4 percent for commercial use, and 12 percent for mixed use. Mixed use areas include Downtown, the waterfront, and many of Oakland’s neighborhood centers and employment centers.

## ***NO PROJECT ALTERNATIVE***

### **Description**

This alternative presumes that the existing Land Use and Transportation Element would remain in effect. The current (1980) General Plan Map would continue to guide growth and development decisions. Due to the current state of Oakland's 1974 Circulation Element, transportation decisions would continue to be made in the absence of a strong policy framework supporting transit, transit-based development, and neighborhood traffic control.

The 1980 Plan calls for continued separation of land uses into commercial, residential, and manufacturing areas, despite changing attitudes towards mixed use and the fact that much of what exists on the ground is already mixed use. The waterfront would remain almost entirely industrial. Downtown would remain almost exclusively commercial, with residential enclaves only in areas where housing already exists. The corridors would remain undifferentiated commercial strips. No effort would be accommodate more intense levels of development at the transit corridors or transit stations. The military bases would continue to be designated for industrial or institutional uses. Most of the hills would remain designated for residential development, including about 1,000 acres that were acquired for parkland during the 1980s and 1990s.

Under this alternative, the ABAG projections for Oakland would be presumed accurate, since they are based on current planning policy and land use designations. The number of households in the City would increase by about 9,000 by 2015, and the number of jobs would increase by about 22,000. Much of this growth would be accommodated in the hills, and very little of it would be accommodated at the waterfront or Downtown. Increases along the corridors would be negligible. About 55 percent of the City would be designated for residential use, about 15 percent would be designated open space or institutional. Fifteen percent would be designated for transportation, 10 percent for manufacturing, and 5 percent for commerce.

### **Environmental Impacts**

The environmental impacts of the No Project Alternative relative to the preferred project are summarized as follows:

- Land use impacts, including compatibility problems, would be more significant if this alternative was selected since it does not consider the changing land use mix of many Oakland neighborhoods and the emergence of live-work and other forms of housing. Existing conflicts would persist, with no pro-active solution to address them.
- Population, housing, and employment impacts, would be less significant since the rate of growth presumably would be lower. A jobs-housing imbalance would persist in Oakland, with a large number of residents commuting elsewhere for work.



- The impacts on visual resources would be greater in some areas and less in others. The No Project Alternative would tend to have a lesser impact within the “change areas” since it does not specifically encourage their redevelopment. It would have a greater impact within residential neighborhoods and open space lands, since it depicts more intense development levels in these areas.
- Impacts on biotic resources would be greater with the No Project Alternative, since it allows more development and higher densities in environmentally sensitive areas. By contrast, the Proposed Element emphasizes redevelopment of land that is already urbanized.
- In some regards, the No Project Alternative would use less energy than the Proposed Element and in other regards, it would use more. The lower level of growth anticipated by the No Project Alternative suggests less gas and electricity would be consumed. Conversely, the lower densities and lack of a transit-emphasis suggests that more gasoline would be used.
- The No Project Alternative would not have a significantly different impact on cultural resources than the Proposed Element.
- The No Project Alternative would have a lesser impact on most public services than the Proposed Element because it anticipates less job and housing growth. Its impacts on drainage would be greater, since it would result in a higher level of impervious surface coverage as the hills are developed.
- Impacts on water quality would be similar under the No Project Alternative and the Proposed Element, particularly for urban runoff. The continued emphasis on manufacturing along the waterfront in the No Project Alternative could cause localized water quality problems.
- Geologic impacts would generally be more serious under the No Project Alternative than the Proposed Element, since the No Project Alternative identifies higher levels of development in steeply sloped areas and does not include explicit policies limiting densities in hazardous areas. Conversely, the Proposed Element encourages redevelopment on filled soils (at the Oakland Army Base and along the shoreline), potentially exposing a larger population to liquefaction.
- Transportation impacts associated with the No Project Alternative would be less significant in some cases and more significant in others. The lower level of population and housing growth would generate fewer trips. However, the No Project Alternative entails an obsolete circulation plan that does not aggressively promote transit or transit-oriented development.
- Compared to the Proposed Element, noise impacts would be less if the No Project Alternative was selected, since the lower level of development would generate less traffic and since it does not explicitly target transportation corridors for redevelopment.
- Compared to the Proposed Element, hazardous material impacts would be less if the No Project Alternative was selected since it does not encourage redevelopment of the waterfront and other areas with potential contamination problems. On the other hand, the Preferred Plan encourages remediation while the No Project Alternative does not.

### **Reasons for Rejecting This Alternative**

The No Project Alternative is infeasible because it does not reflect existing land use and transportation conditions in the City of Oakland and disregards the policy initiatives that have been launched during the past decade and legal obligations to have a current general plan. The existing General Plan is more than 17 years old and is widely regarded as inadequate to guide the City's development into the 21st century. If the Plan remains in effect, it could represent an obstacle to achieving the goals and visions articulated by Oakland residents during the past three years. This Alternative would forego economic development opportunities, perpetuate an auto-oriented development pattern, and ignore the trends that have helped revive many older urban centers around the United States during the last 20 years.

### ***ALTERNATIVE DESIGNATIONS ALTERNATIVE***

#### **Description**

This alternative is a composite of the options that were considered and “rejected” during the alternatives phase of the Element Update. Under this alternative, the following designations would be made on the Land Use and Transportation Diagram:

- (1) Major roadway improvements would be included, namely a six-lane extension of 73rd Avenue to I-580 and a six-lane Embarcadero heavy haul truck roadway parallel to the Nimitz Freeway.
- (2) The Oakland Army Base would be designated for a mix of uses, including heavy industry and maritime support.
- (3) The Leona Quarry would be mapped with Community Commercial.
- (4) Broadway Auto Row would be relocated to a new location and other commercial uses would be encouraged along Broadway
- (5) The “corridors” would be retained as commercial strips without differentiating some areas as “centers” and other areas as housing
- (6) More land in the Oakland Hills would be classified for housing.
- (7) Most of the area “below” MacArthur would be uniformly designated for Mixed Housing Type, without differentiating Detached Unit Residential areas.
- (8) More housing would be allowed in the Business Mix land use classification.
- (9) Land in the Edgewater and Airport Business Parks and their vicinity would be designated for commercial uses rather than Business Mix uses.

Under this alternative, housing growth would probably be higher than under the Proposed Element. More housing would be built on redevelopment sites such as MacArthur Broadway

Center and the Army Base. Employment figures would probably be somewhat lower than those under the Proposed Element.

### **Environmental Impacts**

The environmental impacts of this alternative relative to the Proposed Element are summarized as follows:

- Land use impacts would be greater than those described for the Proposed Element if this alternative were implemented. More disruption of existing neighborhoods would occur. The 73rd Avenue and Embarcadero extensions would displace existing uses.
- Population, housing, and employment impacts would be greater than those described for the Proposed Element. Additional housing would be built at a number of sites that are now non-residential. Shopping center and office development would occur in different locations.
- Visual impacts would be greater under this alternative than the Proposed Element, since the extent of proposed land use change is more significant.
- Biotic, geologic, and cultural impacts would be greater under this alternative compared to those described for the Proposed Element. The construction of an Embarcadero Roadway could affect wetlands.
- Energy impacts would be greater under this alternative than those described for the Proposed Element, since additional highway construction would be included and additional auto travel would be accommodated.
- Most public service impacts would be greater under this alternative than those described for the Proposed Element. With additional housing, higher demand for police, fire, school, library, and park services would result. Water, wastewater, and drainage impacts would be comparable to the Proposed Element.
- Water quality impacts would likely be greater under this alternative compared to those under the proposed Element, since two major roadway projects are proposed. Each of these projects could have significant construction impacts.
- Transportation impacts would be greater under this alternative compared to the Proposed Element. This is primarily because of the 73rd Avenue and Embarcadero Roadway projects within this alternative. Some congestion reduction might be achieved through these roadways, but transit could become less viable.
- Noise and air quality impacts would be greater under this alternative compared to the Proposed Element due to the construction of new roadways, including one roadway (73rd Avenue) through a residential area.
- Hazardous material impacts could be greater under this alternative compared to those described for the Proposed Element if a new truck route were developed along the waterfront.

### **Reasons for Rejecting This Alternative**

The components making up this alternative were individually rejected because they did not respond as well to neighborhood goals and visions as the Proposed Element. Many components of this alternative were unacceptable to neighborhood groups and would have been disruptive to the established pattern of uses in Oakland. Other aspects of this alternative would have introduced new uses with the potential for land use compatibility problems. Furthermore, this alternative lacks the more positively regarded elements of the Proposed Element, including the revitalization of specific activity centers along the transit corridors.

### ***ENVIRONMENTALLY SUPERIOR ALTERNATIVE***

#### **Description**

This alternative would mitigate the “Proposed Element” by adding stronger policies regarding impacts on air quality, transportation, fire protection, and other adverse impacts of the proposed Plan. For those factors within the City’s control, policies would specify that development could not proceed until impacts could be mitigated to a less than significant level. Development permit exactions would be higher and a comprehensive solution to storm drainage, fire-fighting water supply needs, and evacuation constraints would be required before further development was permitted in the hills.

This alternative would reduce the potential for new housing and employment development in all areas except those that are served by transit. It would reduce allowable densities on undeveloped private land in the Oakland Hills to limit the potential for future impacts on vegetation and wildlife, visual and aesthetic conditions, storm drainage problems, and exposure to hazards (including wildfires, landslides, and earthquakes). It would propose extensive retention and restoration along parts of the shoreline, contain more aggressive policies discouraging single-occupant auto use, and more ambitious proposals to facilitate bicycle and pedestrian circulation. Acquisition of sensitive lands, congestion pricing of roads, and a variety of regulatory measures might be included to achieve local and regional environmental goals.

#### **Environmental Impacts**

The impacts of this alternative relative to the Proposed Element are described below:

- Land use impacts under this alternative would be less substantial than those described for the Proposed Element, since less development would occur. Localized land use impacts could be greater around transit stations, where more intense activity would be encouraged.
- Population, housing, and employment impacts under this alternative would be less substantial than those described for the Proposed Element, since fewer jobs and households would be added. Indirect adverse housing impacts could occur as the cost of mitigation was passed on to home buyers and renters in the form of higher prices.

- Visual, biotic, geologic, and water quality impacts under this alternative would be less intensive compared to those described for the Proposed Element, since hillsides would be conserved, and geologically hazardous and biologically sensitive areas would be designated as open space or as very low density development areas.
- Cultural resource impacts under this alternative would be comparable to those of the Proposed Element.
- Public service impacts would be fully mitigated under this alternative. This would theoretically result in a lesser impact than the Proposed Element. However, the result could be adverse if the mitigation requirements were so onerous that development went elsewhere and local revenues declined.
- The impacts on transportation, energy, and air quality would be less substantial than those for the Proposed Element, since the amount of development accommodated would be smaller. However, the result could be adverse if development simply went elsewhere in the region. Longer trip lengths would result.
- Hazardous material impacts would be less under this alternative compared to the Proposed Element since there would be fewer disturbances of contaminated sites. On the other hand, in the absence of development there would be no incentive to clean-up contaminated sites, and a larger number might remain by the Plan's horizon year.

### **Reasons for Rejecting This Alternative**

This alternative was rejected because of the economic hardships it would impose, and because it might inadvertently create more adverse impacts than positive impacts. If future development in Oakland were constrained or became much more costly to undertake, there is a strong likelihood that growth would simply move elsewhere in the region resulting in continued urban sprawl throughout the greater Bay Area. This could trigger even greater congestion on Oakland's freeways, with attendant air quality impacts that would be detrimental for the whole Bay area. Higher development costs and economic stagnation could ultimately have physical impacts, such as increased blight and abandonment of structures. If the tax base were to decline, local revenues would decrease and City services could be reduced. The only way this alternative would truly be "environmentally superior" is if it were imposed regionally, or at least if similar restrictions and fees were placed on development in other Bay Area communities.

# CHAPTER V

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## IMPACT OVERVIEW

### **SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED**

According to CEQA Guidelines Section 15126(b), an EIR should contain a discussion of significant environmental effects that cannot be mitigated to a level of insignificance if the proposed project is implemented. This discussion should include a description of the implications related to each impact and why the project is being proposed.

Implementation of the Oakland Land Use and Transportation Element may result in unavoidable significant or potentially significant environmental effects in the following areas:

- transportation;
- public services;
- air quality;
- noise;
- wind; and
- policy consistency.

### TRANSPORTATION

Development pursuant to the updated Land Use and Transportation Element would result in degradation of level of service on several roadway links. In 2015, traffic that would be generated by land uses anticipated to develop under the proposed Element would result in poor service levels at the following locations:

- Embarcadero - Oak Street to 5<sup>th</sup> Avenue (AM/PM)
- Hegenberger Road - I-880 to Doolittle Drive (AM/PM)
- Hegenberger Road - I-580 to I-880 (AM/PM)
- International (E. 14<sup>th</sup>) Boulevard - High Street to Hegenberger Road (AM/PM)
- San Pablo Avenue - I-580 to Grand Avenue (PM)
- Grand Avenue - Harrison Street to I-580 (AM/PM)

Although mitigation has been identified for some of the above roadways, some impacts could not be feasibly mitigated. Impacts on the Embarcadero segment could be mitigated through improvements planned for the Estuary area. The other roadway segments are all designated as Regional or Local Transit Streets. Improvements to transit service could result in substantially improved traffic conditions. However, there is no certainty that these improvements will be made due to the uncertainty of the availability of state and federal road improvement funds. In the

interest of a conservative assessment of environmental impacts, these impacts are considered significant and unavoidable.

## PUBLIC SERVICES

Implementation of the proposed Element would result in additional development in areas where road widths, water supply and fire flows, and vegetation management provisions may be insufficient to prevent future urban wildfires. Given the combination of terrain, vegetation, urban development, climate, and earthquake hazards, future wildfires are likely. Narrow winding roads, an emergency water supply that is vulnerable to disruption, and the loss of a funding source for vegetation management mean that the potential for property damage and loss of life will remain a risk in the hill neighborhoods. This risk will become greater as additional development consistent with the Land Use and Transportation Element occurs in this area.

## AIR QUALITY

The projected total population resulting from the implementation of the proposed Element may exceed ABAG's 2015 population by 7,815 persons. Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections also is an exceedance of the population values used in the CAP. With a greater population projection under the proposed Element, the population-based emissions would be greater than that assumed in the CAP. Consequently, attainment of State air quality standards would be delayed. Therefore, the proposed Element is not consistent with regional air quality planning.

Cumulative development of projects in the Downtown Showcase District and the Coliseum Showcase District would exceed Bay Area Air Quality Management District (BAAQMD) significance thresholds. Although Transportation Control Measures (TCMs) could be adopted to reduce the pollutant emissions associated with these projects, the amount of pollutant emissions would continue to exceed BAAQMD significance thresholds.

## NOISE

Construction of projects in the Downtown Showcase District and the Coliseum Showcase District would generate short-term increases in noise and vibration. Although compliance with the City Noise Ordinance and implementation of noise reduction techniques would reduce these impacts, it is still possible that some noise-sensitive receptors in the immediate vicinity of specific projects in the Downtown Showcase District or the Coliseum Showcase District would experience short-term noise levels exceeding 70 dBA.

## WIND

Development of high rises in the Downtown Showcase District would change wind speeds at various locations and winds would exceed the hazard criterion. Although wind speeds could be

reduced through the final siting and design of these high rises in the Downtown Showcase District, the wind-related impacts could still exceed the significance threshold.

### CONSISTENCY WITH ADOPTED PLANS AND POLICIES

As described above under Air Quality, the proposed Element is not consistent with regional air quality planning (Clean Air Plan) since the population projections under the proposed Element exceed the ABAG population projections.

### **SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IF THE PROPOSED ACTION IS IMPLEMENTED**

Development facilitated by the proposed Land Use and Transportation Element would require an irreversible commitment of material or natural resources for building construction, such as wood, metal, petroleum, and stone. It would result in the irretrievable commitment of energy and water to support planned land uses. Development permitted by the Element would result in changes to traffic flow patterns and impacts to circulation. Additional vehicle trips due to implementation of the Element would contribute to future cumulative air quality impacts from increases in nitrogen dioxides and particulate matter.

### **GROWTH-INDUCING IMPACTS**

Section 21100(g) of CEQA requires that an EIR assess the growth-inducing impacts of a proposed project. According to the CEQA Guidelines, the discussion should focus on 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.”

As mentioned throughout this EIR, adoption of the Land Use and Transportation Element would induce higher levels of population and housing growth than are forecast by Association of Bay Area Governments (ABAG). The Element would serve to facilitate redevelopment Downtown, along the waterfront, at the military bases, and along transit corridors and around transit stations. Adoption of “mixed use categories” and application of these categories to more than 4,300 acres of land will provide greater flexibility for the private sector and could thereby induce development. Adoption of policies which aggressively court private investment in Oakland and state a clear commitment to Downtown and Waterfront revitalization could directly induce growth in these areas.

Up to 12,000 new households and 42,000 new jobs would be accommodated through the proposed Element. The employment growth in particular would create economic benefits for Oakland and would increase the tax base in a manner that could positively affect City services. Short-term increases in construction employment would create economic benefits and job opportunities for Oakland residents.



Although growth would occur throughout the City of Oakland, most development would occur within the roughly 5,300 acres of “change areas” designated in the Element. These areas are already urbanized and the infrastructure that serves them is largely viewed as underutilized. Some local street improvement and infrastructure (water, sewer, storm drain) replacement would be undertaken in these areas, and investment in street trees and landscaping could serve to induce additional growth. This would be considered a desirable outcome of the proposed Element, and is fully consistent with its objectives.

Many of the transportation improvements envisioned by the Element would be growth-inducing. For instance, construction of light-rail along the San Pablo Avenue/International Boulevard and Telegraph Avenue/Foothill Boulevard corridors could induce higher density housing development along these corridors. This is precisely the outcome desired by the Element, as reflected by the land use designations along the corridors. Construction of any of the transportation improvements described in the Element along I-880, the Oakland Estuary, and International Boulevard could induce growth in these areas. The benefit of preparing the Land Use Plan and Transportation Plan concurrently is that the land use designations in these areas anticipate and respond to the transportation improvements, and vice versa.

Secondary impacts associated with higher population and employment growth could result. It is conceivable that less growth could occur in Emeryville, Berkeley, San Leandro, and other nearby communities as Oakland captures a larger share of the region’s growth. Similarly, a faster growth rate in Oakland could also have “spillover” effects into neighboring communities. Secondary impacts also could include the displacement of manufacturing jobs in formerly industrial areas, and increased pressure for new housing as more jobs are created within the City. Oakland’s proposed policies direct most new housing into higher density units Downtown and along the transit corridors. Since these areas are not “traditional” residential neighborhoods, it is conceivable that there would be increased pressure to allow more housing and higher densities in the more established residential areas, in spite of the fact that the Plan recommends “maintaining and enhancing” these areas. Future land use conflicts could result as Oakland’s appeal becomes broader and the demand for residential land in established neighborhoods becomes higher.

Increased employment and shopping opportunities in Oakland and increased recognition of the waterfront as a recreational attraction and tourist amenity could increase Oakland’s appeal to visitors. This could further attract new residents to the area, and could increase traffic in and around Downtown and the Estuary. Attendant increases in the demand for City services could result.

## **CUMULATIVE EFFECTS**

Section 15130 of the CEQA Guidelines requires the EIR to discuss significant cumulative impacts associated with the project. These include impacts that would result from the project when considered in conjunction with other projects already occurring or planned in the vicinity.

In Oakland, most cumulative impacts would be related to increases in traffic and the overall efficiency of the transportation system. As individual projects are proposed in Oakland, the City should remain cognizant of their impacts on adjacent cities and counties. Likewise, as development is proposed in adjacent jurisdictions, Oakland should remain apprised of potential impacts on its own environment and its ability to implement its General Plan.

According to the CEQA Guidelines, an analysis of cumulative impacts requires a list of past, present, and anticipated projects, or a summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional conditions. The analysis in this EIR is based on growth projections for the City of Oakland derived from the policy language in the draft Land Use and Transportation Element, as well as ABAG projections of growth for other East Bay and Bay Area communities. In this regard, the entire analysis is cumulative, in that no one specific project is analyzed in detail. Thus, cumulative impacts been considered throughout this EIR and are summarized below.

## LAND USE

Cumulative land use impacts of the Element would be limited, since the Element emphasizes infill and redevelopment of already urbanized land, rather than development of open space or farmland. When viewed in a regional context, the cumulative land use impacts would be positive. By encouraging a more compact, transit-oriented development pattern, and by focusing development on underutilized land, less land would be required for urban development within the Bay Area. The Element would contribute to regional efforts to promote “sustainable” development and is generally consistent with the general plans of neighboring communities in its emphasis on revitalization, transit-oriented development, and conservation of open space.

## TRANSPORTATION

Increased population and employment in Oakland would contribute to traffic volumes on local and regional roadways and would contribute to degradation of levels of service on roadway segments and at key intersections. The development contemplated under the Land Use and Transportation Element would primarily be urban infill and would, in general, generate relatively less vehicle traffic and relatively greater use of transit and other alternative travel means than would comparable development in less dense regions of the Bay Area. Nevertheless, the higher-intensity land use that would occur under the proposed Element in many of the “change areas” would contribute to increased traffic congestion and delay.

## POPULATION, HOUSING, AND EMPLOYMENT

The Plan could have a significant cumulative impact on population, housing, and employment, but the magnitude of this impact is difficult to predict. ABAG’s Year 2015 projections currently indicate that Oakland will capture 6.4 percent of the 350,000 jobs to be added in the East Bay

between 1995 and 2015. As a result of the policies in the proposed Element, Oakland could capture a greater share of the East Bay's population and employment growth, or the East Bay could add more people and jobs because of Oakland's growth, or the entire region could grow faster than expected, with other communities also growing faster than ABAG projected. Under the proposed Element, Oakland's job capture rate could rise to 12 percent, or the total number of jobs could rise to 372,000 (with Oakland capturing 42,000 jobs) or more. Similar impacts could occur for housing, although the difference between the ABAG projections and Oakland's projections is much smaller.

## PUBLIC SERVICES

Oakland's growth represents a portion of the growth anticipated within the East Bay Municipal Utility District (EBMUD) water and sewer service area and the Alameda County Waste Management Authority solid waste service area. Oakland's plans to add jobs and housing must be considered in the context of other communities' plans within these service areas. The impact of the proposed Element and other plans would be cumulatively significant if they presented population and employment forecasts that were greater than EBMUD's or Alameda County's projected capacity. Based on the analysis contained in the EIR text, this does not appear to be the case. However, water conservation and solid waste recycling are essential if projected service demand is to be met.

Other services analyzed in the EIR, including drainage, police, fire, schools, libraries, and parks are provided at the local level. Cumulative impacts could result if, in addition to the proposed Element, other plans and programs draw an increasing number of residents, workers, and visitors to Oakland. Mitigation measures for such plans and programs would need to consider the projections established by this EIR and determine whether they fall within the assumed increment of growth. Although extensive mitigation measures are called for in this EIR, additional and more specific measures may be needed as projects are proposed.

## AIR QUALITY

Because of the increase in the number of vehicle trips expected as a result of development under the proposed Element, the amount of vehicular emissions of criteria air pollutants also would increase. In conjunction with other development in the Bay Area, development pursuant to the Land Use and Transportation Element would contribute to increases in criteria air pollutants within the air basin. This could impede attainment of state and federal air quality standards. Cumulatively, the projects within the Downtown Showcase District would contribute to increases in emissions of criteria air pollutants in downtown Oakland. This is considered to be a significant impact of the proposed Element.

## VISUAL AND AESTHETIC CONDITIONS

The cumulative impact of the proposed Element and other plans in the region would be that Oakland would be visually perceived as a more urban place. Its skyline would be more pronounced, its waterfront would be more visually distinctive, and its gateways would be more memorable. With high-density development, its corridors would take on a visual character that would more clearly distinguish Oakland from other cities in the East Bay. Even with these changes, because Oakland is largely built out, the changes in visual quality would be incremental. Because the Plan does not proposed urbanization of large open space areas, there would not be cumulative impacts associated with urban sprawl. The impacts would be related to increasing density rather than urbanization of open land.

## CULTURAL AND HISTORIC RESOURCES

Impacts to historic and archaeological resources are occurring throughout the region and would continue to occur as long as growth and redevelopment occur within the Bay Area. Oakland contains a large share of the region's historic resources, and the loss of these resources could be regarded as significant within a regional as well as local context. The City's plans and policies emphasize the preservation and restoration of historic resources.

## VEGETATION AND WILDLIFE

Development consistent with the Land Use and Transportation Element would occur concurrently with development throughout the Bay Area. The cumulative effect of this development on vegetation and wildlife would be to reduce the amount of habitat and increase the potential for the loss of rare, threatened, and endangered species. Mitigation measures in this EIR emphasize a regional approach to habitat management, including coordination with other jurisdictions on habitat conservation. Because Oakland is already substantially built out, the City's contribution to regional effects on vegetation and wildlife would be relatively small.

## HYDROLOGY AND WATER QUALITY

Water quality impacts can be regional in nature, particularly concerning water quality of San Francisco Bay and other "receiving" waters that receive storm water runoff. Runoff from Oakland would contribute to effects on the Bay.

## ENERGY

Implementation of the Element would contribute to the cumulative use of energy in the Bay Area and the depletion of non-renewable resources. Although the patterns of development encouraged by the Plan are relatively energy-efficient, compared to suburban development that is less well-served by transit, population and employment growth will inevitably result in larger amounts of overall energy consumed.

## GEOLOGY AND SEISMICITY

Geologic concerns are largely site- or area-specific. The primary regional effect would be the increased population (both resident and employee) that would be subject to earthquake hazards, particularly those associated with the Hayward Fault. Regional growth, with or without implementation of the Land Use and Transportation Element, will continue to increase the number of persons in the Bay Area who could be subject to earthquake-induced property damage, injury, and death.

## NOISE

Urban noise effects are generally relatively localized, resulting from traffic and from particular land uses, such as industrial facilities. Development that would occur under the Land Use and Transportation Element would increase traffic noise on key roadways within Oakland, and would contribute, albeit in a relatively incremental manner, to vehicle noise on regional roadways and freeways.

## HAZARDOUS MATERIALS

Enhanced business activity under the Land Use and Transportation Element could increase both the use and disposal of hazardous materials. This would incrementally increase potential for accidental exposure, and would also incrementally increase demand for disposal sites, particularly for construction debris such as asbestos-containing materials.

## EFFECTS FOUND NOT TO BE SIGNIFICANT

The following impacts were determined to be less than significant, based on the analysis contained in this EIR. The chapters referenced below provide the reasons and discuss the determination:

- Mixed use development could create a greater likelihood for conflicting uses within projects or between projects and adjacent uses (A.3);
- Future transportation improvements could have land use impacts (A.4);
- Development consistent with the proposed Element would increase transit demand (B.2);
- Development consistent with the proposed Element will result in a higher number of households than are projected by ABAG (C.1)
- Redesignation of 45 acres to Housing-Business Mix could result in displacing some housing units (C.3);
- Development consistent with the proposed Element would increase the demand for water in Oakland (D.1-1);

- Implementation of the Element would increase flows to the wastewater treatment plant (D.2-1);
- Implementation of the Element would require drainage improvements within already developed flatland neighborhoods (D.3-1);
- Development consistent with the proposed Element would increase the demand for park services (D.9-1);
- Implementation of the Element would be consistent with *Clean Air Plan* Transportation Control Measures (E.2);
- Implementation of the Element would result in traffic increases along roadways in the City which could result in localized air quality impacts (E.3);
- Cumulative development of projects in the Downtown Showcase District would result in traffic increases that could result in long-term, localized air quality impacts (E.7);
- Cumulative development of downtown projects would result in increased stationary source emissions associated with heating and electricity consumption (E.8);
- Cumulative development of projects in the Coliseum Showcase District would result in traffic increases that could result in long-term, localized air quality impacts (E.11);
- Cumulative development of Coliseum projects would result in stationary source emissions associated with heating and electricity consumption (E.12);
- The proposed Element allows development that could alter existing scenic resources (F.1);
- Development facilitated by the Element could affect paleontologic resources (G.1);
- The proposed Element could result in development that has an indirect affect on historic buildings (G.4);
- Live-work development encouraged by the Element could impact historic structures (G.5);
- Development consistent with the Element could damage or remove potential habitat for special status animal species (H.1);
- Development consistent with the Element could result in greater levels of noise, traffic, lighting, urban runoff, and human activity on lands adjacent to areas that have wildlife habitat (H.2);
- Development consistent with the Element could damage or remove potential habitat for special status plant species as well as mature trees (H.3);
- The proposed Element would result in increased development activity at various locations throughout the City, including locations adjacent to creeks and waterways, which could result in water quality impacts during construction (I.1);
- The proposed Element would result in increased development activity that could alter drainage patterns, could increase impermeable surfaces leading to increased volume of runoff, and could potentially affect quality of stormwater runoff (I.2);

- Development consistent with the Element would result in a marginal increase in energy consumption (J.1);
- Existing soil conditions at various locations throughout the City could cause structural damage to new and existing buildings unless properly constructed (K.1);
- Development consistent with the Element would occur in areas subject to geologic hazards including steep slopes, high erosion potential, and landsliding and mudsliding (K.2);
- Grading during construction of individual projects in hillside areas could increase the potential for erosion and could cause clogging of local culverts, decrease downstream channel capacity, and degrade water quality (K.3);
- In the event of an earthquake, damage could occur to structures, foundations, and underground utilities from surface fault rupture (K.4);
- In the event of an earthquake, damage could occur to structures, foundations, and underground utilities as a result of strong ground shaking or ground failure (liquefaction, densification, or landsliding) (K.5);
- Implementation of the proposed Element would increase noise levels along streets throughout the City (L.1);
- Redesignation of some segments of major transportation corridors from commercial to urban density residential uses could pose noise compatibility problems for residential uses (L.2);
- Proposed General Plan map changes could allow development of light manufacturing, wholesale, business, commercial or mixed uses in areas designated for "Housing Business Mix," posing potential future noise compatibility problems (L.6);
- Implementation of the downtown projects would result in noise increases along local roadways serving the proposed project (L.9);
- Future (2005) cumulative noise levels along downtown streets could increase to levels that are considered conditionally acceptable for retail commercial, office, and residential uses (L.10);
- Development of projects in the Coliseum Showcase District would result in noise increases along local roadways serving the proposed project (L.12);
- Depending on proximity of future development to I-880 and selected roadways in the Coliseum area, noise levels could be conditionally acceptable for retail commercial or office uses (L.13);
- Proposed land use changes include a change to mixed uses that would allow housing as well as commercial operations that may use of hazardous materials (M.1);
- Development under the proposed Element could result in an increase in the quantities of hazardous substances used, stored, and transported (M.2);
- The proposed Element would increase the potential for demolition and renovation activities of buildings that could contain hazardous building materials and demolition or renovation

could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns (M.3);

- The proposed Element could result in construction activities that encounter contaminated soil or groundwater (M.4);
- The proposed Element would be consistent with federal policies and programs (O.1);
- The proposed Element would be consistent with state policies and programs (O.2); and
- The proposed Element would be consistent with policies and programs of adjoining jurisdictions (O.4).

The following impacts were determined to be less than significant, based on the City's Initial Study (see Appendix 1):

- major changes in topography or ground surface relief features (2);
- changes in deposition or erosion that change siltation (7);
- change in climate (11);
- change in groundwater quality (12);
- introduce new species of plants and animals (15);
- deteriorate existing aquatic habitat (16); and
- produce new light and glare (19).



# CHAPTER VI

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# **APPENDICES**

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APPENDIX 1: NOTICE OF PREPARATION AND INITIAL STUDY

APPENDIX 2: HAZARDOUS MATERIALS SUPPORTING DOCUMENTATION

# **APPENDIX 1**

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## **NOTICE OF PREPARATION AND INITIAL STUDY**

## APPENDIX 2

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### HAZARDOUS MATERIALS SUPPORTING DOCUMENTATION

#### HAZARDOUS SUBSTANCES REGULATORY FRAMEWORK

Hazardous materials and hazardous wastes are extensively regulated by various federal, state, regional, and local regulations, with the major objective of protecting public health and the environment. The major regulations are presented below. This appendix also presents a summary of the agency lists that were reviewed to identify sites that are permitted to generate hazardous wastes or store hazardous materials in underground storage tanks as well as sites where soil or groundwater quality may have been degraded by hazardous substances. The date of each agency list reviewed is identified in Table 1. A summary of confirmed and potential hazardous waste sites identified within each major change area is also provided in this appendix.

#### FEDERAL REGULATIONS

The U.S. Environmental Protection Agency (U.S. EPA) is the lead agency responsible for enforcing federal regulations that affect public health or the environment. The primary federal laws and regulations include: the Resource Conservation and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA); and the Superfund Act and Reauthorization Act of 1986 (SARA). Federal statutes pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (40 CFR).

These laws require that responsible parties report any known hazardous waste contamination of soil or groundwater as defined in 40 CFR to the USEPA. State and local agencies must also be informed. Any contamination that threatens the public health or environment must be remediated by the responsible party according to standards set by the USEPA. RCRA also contains regulations for the safe storage, transportation and disposal of hazardous wastes.

The federally published lists of sites which trace the status of suspected hazardous materials sites or identify sites permitted to generate hazardous wastes include:

- the National Priority List (NPL), which prioritizes sites with significant risk to human health and the environment;
- the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), which tracks contaminated properties identified under CERCLA and SARA;

**TABLE 1**  
**SUMMARY OF DATABASES REVIEWED**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

<b>Name of List</b>	<b>Responsible Agency</b>	<b>Acronym</b>	<b>Date of List</b>
National Priority List	USEPA	NPL	Feb. 1997
Potentially Contaminated Sites	USEPA	CERCLIS	Jan. 1996
Toxic Chemical Release Inventory	USEPA	SARA	Oct. 1996
Federal Superfund Liens	USEPA	LIENS	Nov. 1992
USEPA Hazardous Waste Generators	USEPA	RCRA	Nov. 1996
Emergency Response Notification System	US Coast Guard	ERNS	Aug. 1995
Abandoned Sites Program	DTSC	CAL-SITES	Mar. 1996
California Bond Expenditure Plan	DTSC	BEP	Jan. 1990
Hazardous Waste and Substances Site List	CA Office of Planning and Research	CORTESE	Nov. 1990
Leaking Underground Storage Tanks	Regional Water Quality Control Board	LUST	Nov. 1996
Waste Management Unit Discharge Systems	Regional Water Quality Control Board	WMUDS	Oct. 1996
Solid Waste Information System	CA Integrated Waste Management Board	SWIS	Oct. 1996/ Apr. 1997
Waste Discharge System	CA Environmental Affairs Agency	WDS	Aug. 1995
Underground Storage Tanks	State Water Resources Control Board	UST	Aug. 1994

- the toxic chemical release inventory which identifies sites which have reported a chemical release to the air, water, or land as required by Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA);
- the Federal Superfund Liens list (LIENS) which identifies properties where the USEPA has placed a lien because the USEPA has spent money for remedial action or notified the

potential of liability for remedial action. This list is compiled by the Office of Enforcement and Compliance Monitoring of the USEPA;

- the list of facilities permitted to handle hazardous wastes under RCRA, including, but not limited to transporters, conditionally exempt small quantity generators, small quantity generators, large quantity generators, treatment/storage/disposal (TSD) facilities, burners/blenders, transporters, and handler violations; and
- the Emergency Response Notification System (ERNS) which identifies spills of oil or hazardous substances reported pursuant to Section 103 of CERCLA as amended, section 311 of the Clean Water Act, and sections 300.51 and 300.65 of the National Oil and Hazardous Substances Contingency Plan.

## STATE AND REGIONAL REGULATIONS

The USEPA has delegated much of its regulatory authority to the individual states. The Department of Toxic Substance Control (DTSC) of the California Environmental Protection Agency (Cal EPA), formerly a division of the Department of Health Services, enforces hazardous materials and waste regulations in California, in conjunction with the USEPA. The DTSC is responsible for regulating the management of hazardous substances including the remediation of sites contaminated by hazardous substances. California hazardous materials laws incorporated federal standards, but are often more strict than federal laws. The primary state laws include: the California Hazardous Waste Control Law (HWCL), the state equivalent of RCRA; and the California Hazardous Substance Account Act, the state equivalent of CERCLA. State hazardous materials and waste laws are contained in the California Code of Regulations, Titles 22 and 26.

The published lists of sites which trace remediation progress within the state include:

- CALSITES, which was previously referred to as the Abandoned Sites Program Information System (ASPIS), and identifies potential hazardous waste sites, which are then screened by the DTSC. Sites on this list which are designated for no further action by the DTSC were not identified by the database review;
- the Annual Work Plan, formerly known as the Bond Expenditure Plan (BEP), which is a site-specific expenditure plan for the appropriation of California Hazardous Substance Cleanup Bond Act of 1984 funds. This list is no longer updated; and
- the CORTESE List, which is a compilation of information from various sources listing potential and confirmed hazardous waste and hazardous substance sites, previously maintained by the State Office of Planning and Research. This list is no longer updated.

The Regional Water Quality Control Board (RWQCB) is authorized by the State Water Resources Control Board to enforce provisions of the Porter - Cologne Water Quality Control Act of 1969. This act gives the RWQCB authority to require groundwater investigations when the quality of groundwater or surface waters of the state are threatened and to require remediation of the site, if necessary. Both of these agencies are part of the Cal EPA.

The RWQCB maintains the following lists identifying hazardous waste sites that were reviewed:

- the Leaking Underground Storage Tanks (LUST) list, which is required by the Health and Safety Code and tracks remediation status of known leaking underground tanks;
- the Waste Management Unit Discharge System (WMUDS) list of sites which tracks waste management units. The list contains sites identified on the Toxic Pits List, which is required by the Toxic Pits Cleanup Act (Katz Bill), and places relatively strict limitations on the discharge of hazardous wastes into surface impoundments, toxic ponds, pits and lagoons (the RWQCB is required to inspect all surface impoundments annually). The WMUDS list also identifies sites targeted by the Solid Waste Assessment Program where there is a possible risk of solid waste disposal sites (landfills) discharging hazardous wastes, threatening either water or air quality.

The RWQCB also maintains North Bay County Toxic List - Region 2 which was not reviewed as part of this program level EIR. This list should be reviewed to identify potential hazardous waste sites before development of a specific area.

The Bay Area Air Quality Management District (BAAQMD) may impose specific requirements on remediation activities to protect ambient air quality from dust or other airborne contaminants.

The California Waste Management Board maintains a list of active, inactive or closed solid waste disposal sites and transfer facilities, as legislated under the Solid Waste Management and Resource Recovery Act of 1972. The list is referred to as the Solid Waste Information System (SWIS).

The California Environmental Affairs Agency Office of Hazardous Material Data Management produces a database containing information on sites which have been issued waste discharge requirements. These sites are allowed to discharge specified levels of chemicals under their waste discharge requirements. This list is referred to as the Waste Discharge Systems (WDS).

The State Water Resources Control Board (SWRCB) also requires permitting of all underground storage tanks (USTs) containing hazardous substances. The California laws regulating USTs are primarily found in the Health and Safety Code; combined with regulations adopted by the State Water Board, these laws comprise the requirements of the state UST program. The laws contain requirements for UST permitting, construction, installation, leak detection monitoring, repairs and upgrades, corrective actions and closures. In accordance with state laws, counties are required to implement a UST program and in some cases, the county requirements are more stringent than those of the State. Cities are also given the option to implement a UST program. The Regional Water Quality Control Board may also oversee corrective actions.



## LOCAL REGULATIONS

The Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH) is the county agency responsible for implementing the UST program in the City of Oakland. They are responsible for issuing operating and closure permits for USTs and overseeing such tasks as UST design plans, construction, monitoring, leak reporting and UST closure. They also oversee remediation of contaminated soil and groundwater at leaking underground storage tank sites and hazardous waste sites in coordination with Cal EPA. The Oakland Fire Department, Office of Emergency Services (OES) is the administering agency for the Certified Uniform Program Agency (CUPA) regulations for Oakland.

The Oakland Fire Department also responds to hazardous materials incidents. The Oakland Office of Public Works is apprised of hazardous materials sites and remediation activities on properties owned by the City of Oakland, but defers oversight to the state and county agencies.

## HAZARDOUS MATERIALS MANAGEMENT

### HAZARDOUS MATERIALS BUSINESS PLANS AND INVENTORIES

California requires submission of a Business Plan to the local administering agency (in this case the ACDEH) for businesses that handle hazardous materials over certain threshold quantities. This document is used by the city and county for chemical emergency planning. The Business Plan includes an inventory of hazardous materials used at the site. However, the state definition of a hazardous material includes many chemicals that are common and not very hazardous. The Business Plan is required to include:

- specific details on the business such as name and address
- an inventory of hazardous materials used and stored
- a site and facility layout
- emergency response procedures
- procedures for immediate notification of the administering agency in the event of an emergency
- evacuation plans in the event of an emergency
- a description of the training employees have received in the evacuation and safety procedures
- identification of local emergency medical assistance

## ACUTELY HAZARDOUS MATERIALS REQUIREMENTS

California requires businesses which handle greater than threshold quantities of acutely hazardous materials to file an acutely hazardous materials registration form and submit a Risk Management and Prevention Plan (RMPP) to the local administering agency (in this case the ACDEH). These items are required in addition to a submission of a business plan. The acutely hazardous materials registration form includes:

- information on the submitting facility
- reference to the facility's business plan
- process designation
- identity of acutely hazardous materials handled and their quantity
- a general description of processes and principal equipment
- acknowledgment.

RMPPs must include:

- a description of each accident involving acutely hazardous materials in the last three years prior to the request for the RMPP
- a report specifying the nature, age, and condition of the equipment used to handle acutely hazardous materials
- design, operating, and maintenance controls that minimize the risk of an accident involving acutely hazardous materials
- detection, monitoring, or automatic control systems to minimize potential acutely hazardous materials accidents
- a schedule for implementing additional steps to reduce the risk of an accident.

## HAZARDOUS MATERIALS WORKER SAFETY REQUIREMENTS

The Federal Occupational Safety and Health Administration (Fed/OSHA) and the California Safety and Health Administration (Cal/OSHA) are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. The federal regulations pertaining to worker safety are contained in the Code of Federal Regulations, Title 29 (29 CFR) as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards relating to hazardous materials handling. In California, Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations; Cal/OSHA standards are generally more stringent than federal regulations.

The state regulations concerning the use of hazardous materials in the workplace are included in Title 8 of the California Code of Regulations, which contain requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA also enforces hazard communication program regulations, which contain worker safety training and

hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information relating to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites.

## ASBESTOS ABATEMENT REGULATIONS

Where demolition or renovation work will involve 100 square feet or more of asbestos-containing materials, the State law requires that the contractor be certified and that certain procedures be followed.<sup>1</sup> Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition permits until an applicant has demonstrated compliance notification requirements under applicable Federal regulations regarding hazardous air pollutants, including asbestos.

The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement. They are to be notified ten days in advance of any proposed demolition. Notification includes the names, addresses and phone numbers of operations and persons responsible, including the contractor; description and location of the structure to be renovated/demolished including size, age and prior use, and the approximate amount of friable asbestos scheduled starting and completion dates of demolition nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used.

According to the BAAQMD Regulation 11, Rule 2, if a structure is to be demolished, friable and potentially friable asbestos must be removed and disposed of properly. Workers and the public could become exposed to asbestos fibers as they become airborne during removal.<sup>2</sup>

The local office of Cal/OSHA must be notified of asbestos abatement to be carried out. Asbestos contractors must follow the State regulations contained in Title 8 of the California Code of Regulations, Sections 1529 and 341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos-containing materials. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. Pursuant to California law, the required permit would not be issued until the applicant has complied with the notice requirements above as well as requirements for proper waste disposal (described below).

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<sup>1</sup> Assembly Bill 2040, Asbestos 1985, Added Section 24223 and Chapter 25 to Division 20 of the Health and Safety Code.

<sup>2</sup> Bay Area Air Quality Management District, Rules and Regulations, Regulation 11, Rule 2, *Asbestos Demolition, Renovation and Manufacturing*, adopted May 1981.

## LEAD-BASED PAINT ABATEMENT REGULATIONS

In accordance with regulatory guidance, lead-based paint waste that has been separated from building materials (such as delaminated or chipping paint) must be evaluated separately from other building materials for waste disposal purposes during building demolition. Accordingly, any chipping or delaminated paint would need to be removed before any renovation or demolition activities. Depending on the level of lead identified in the paint, it may require disposal as a hazardous waste. Building materials which still have the paint adhered to them may generally be disposed of as regular construction debris, regardless of the lead level in the paint.

The Lead in Construction Standard contained in Title 29 of the Code of Federal Regulations, Section 1926.62 applies to the removal of chipping or delaminated lead-based paint. In accordance with this standard, it will be necessary for workers to wear respiratory protection until the work is completed or until an employee exposure assessment can demonstrate that air lead levels during scraping are below the permissible exposure limit (PEL). Other applicable requirements of the standard include worker awareness training, use of protective clothing, provisions for change areas and hand washing facilities, biological monitoring, and development of a site specific compliance program. California regulations (Title 8 of the California Code of Regulations, Section 1532.1) relating to the abatement of lead-based paint are similar to the Federal regulations.

## WASTE DISPOSAL REGULATIONS

All California landfills have been segregated by regulatory authority into the categories of Class I, Class II and Class III facilities. Class I facilities can accept hazardous wastes with chemical levels below the federal land disposal restriction (land ban) treatment standards. Class II and III facilities can accept non-hazardous wastes that meet acceptance criteria determined by the State for organic and inorganic compounds; each landfill has an individual acceptance criteria.

The disposal of soil is regulated by the RWQCB and will be predicated on the concentrations of the chemical constituents that are present. Soil with total petroleum hydrocarbon or organic compound concentrations above the detection limit must be disposed of at an appropriately landfill facility or treated to reduce the levels of chemicals in the soil; the concentration of the compounds present will determine the appropriate type of disposal facility. In general, soil with total petroleum hydrocarbon levels up to 100 milligrams per kilogram can be disposed of at a Class III disposal facility. If the concentration is between 100 and 1,000 milligrams per kilogram and be disposed of at a Class II disposal facility and if the concentration is greater than 1,000 milligrams per kilogram, Class I disposal would be required.

The disposal alternative is also predicated on the total and soluble concentrations of metals. Soil with total metal concentrations that are above the Total Threshold Limit Concentration (TTL) and soluble metal concentrations that are above the Soluble Threshold Limit Concentration

(STLC) must be disposed of at a Class I disposal facility or treated.<sup>3</sup> The Class II and III landfills in the Bay Area have acceptance criteria for lead that are lower than the STLC.

Soil with no concentrations of organic chemicals above detection limit and total and soluble metal concentrations that are below the TTLC and STLC may be used on-site or transported off-site as unrestricted waste.

Lead-based paint would be considered a hazardous waste because the total lead concentration would be greater than the TTLC of 1,000 milligrams per kilogram. It would be necessary to dispose of the paint at a Class I facility.

The California Department of Toxic Substances Control has classified friable, finely divided and powdered wastes containing greater than one percent asbestos as a hazardous waste.<sup>4</sup> A friable waste is one which can be reduced to powder or dust under hand pressure when dry. Non-friable asbestos-containing wastes are not considered hazardous and are not subject to regulation under Title 22, Division 4.5 of the California Code of Regulations. The management of these wastes would still be subject to any requirements or restrictions which may be imposed by other regulatory agencies. The State standard for classification of asbestos wastes is contained in Section 66261.24 of Title 22 of the California Code of Regulations. Asbestos is not currently regulated as a hazardous waste under the RCRA; because of this it is considered a non-RCRA waste. Asbestos wastes totaling more than 50 pounds must be transported by a registered waste hauler to an approved treatment, storage or disposal facility.

Wastes containing asbestos may be disposed of at any landfill which has waste discharge requirements issued by the RWQCB which allow disposal of asbestos-containing materials, provided that the wastes are handled and disposed of in accordance with the Toxic Substances Control Act, the Clean Air Act's National emission Standards for Hazardous Air Pollutants, and Title 22 of the Code of California Regulations (Division 4.5). The Department of Toxic Substances Control also has treatment standards for asbestos-containing wastes which require submittal of a notification and certification form to the land disposal facility as well as wetting and containment of the asbestos-containing materials.

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<sup>3</sup> The total threshold limit concentration (TTLC) and the soluble threshold limit concentration (STLC) are criteria used for waste classification purposes. If the waste contains a total concentration of a constituent and a concentration greater than the TTLC, it is considered a hazardous waste. If the total concentration is greater than ten times the STLC, then it would be necessary to perform a waste extraction test to determine the soluble concentration. If the soluble concentration is greater than the STLC, the waste would be considered hazardous. The waste extraction test involves a ten times dilution of the sample; because of this, it would be impossible for the soluble concentration to exceed the STLC unless the total concentration exceeded ten times the STLC.

<sup>4</sup> California Department of Toxic Substances Control, *Fact Sheet, Asbestos Handling, Transport and Disposal*, October 1993.

The owner of properties where hazardous waste are produced or abatement would occur must have a Hazardous Waste Generator Number assigned by and Registered with, the California Department of Toxic Substances Control in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of the material.

## **POTENTIAL SOURCES OF HAZARDOUS MATERIALS**

This section presents a description of potential sources of hazardous materials identified within Oakland by the computerized database search (NATEC, 1997). The types of site identified include those permitted to handle hazardous substances and potential and confirmed hazardous waste sites.

## **PERMITTED HANDLING OF HAZARDOUS SUBSTANCES**

Sites which currently handle hazardous substances are well regulated to ensure safe handling of these materials. However, these sites are potential sources of hazardous substances to the soil and/or groundwater because of incidental leakage or spillage that may have gone undetected. The computerized database searches identified sites with currently permitted underground storage tanks and sites permitted to handle hazardous wastes under the Resource Conservation and Recovery Act (RCRA). These sites that are located within the Central Business District, Estuary Shoreline, Military Bases, and Leona Quarry are identified in Table 2.

## **POTENTIAL AND CONFIRMED HAZARDOUS WASTE SITES**

Potential and confirmed hazardous waste sites are sites where contamination is either suspected or confirmed by the regulatory agencies. The presence of hazardous substances in the soil and/or groundwater at or near a project location increases the potential to encounter hazardous substances during construction and potentially after development. The presence of hazardous substances may also require special construction and/or handling procedures of waste materials produced. The computerized database searches identified potential and confirmed hazardous waste sites included on the regulatory databases discussed earlier in this Appendix.

The potential and confirmed hazardous waste sites identified within the Central Business District, Estuary Shoreline, Military Bases, and Leona Quarry change areas are identified in Table 3 and further discussed below.

### ***CENTRAL BUSINESS DISTRICT***

One site within this district was identified on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list which includes sites designated for investigation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); this is Francis Plating of Oakland (Site C46). The need for

**TABLE 2**  
**SITES WITH PERMITTED UNDERGROUND STORAGE**  
**PERMITTED TO HANDLE HAZARDOUS WASTES**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Site Name	Site	Address	RCRA	UST
<b><u>Estuary Shoreline</u></b>				
Port of Oakland (Future Amtrak Station)	245	2nd Street		x
BART Oakland Store Room	25	4th Street	x	
Alameda County Warehouse	39	4th Street	x	
Controlco, Inc.	70	4th Street		x
Port of Oakland	251	5th Avenue	x	
AM/PM Service Co	251	5th Avenue		x
American Can Packaging Inc	3801	E. 8th Street	x	
California Washington Can	3100	E. 9th Street	x	
Norton B W Manufacturing	3100	E. 10th Street	x	x
T-Gas	3132	E. 12th Street		x
Kallista Inc.	4218	E. 12th Street	x	
Melrose Ford	3050	E. 14th Street	x	x
Tonys Express Auto Service	3609	E. 14th Street		x
East 14th Street Auto Cli	3750	E. 14th Street		x
Trans-matic Transmissions	3905	E. 14th Street		x
Automotive Engineering	4028	E. 14th Street		x
Continental Volvo Inc.	4030	E. 14th Street		x
F H Dailey Motor Co	4117	E. 14th Street	x	x
Sagittarian Press	1022	22nd Avenue	x	
Childrens Hospital	1050	22nd Avenue		x
Exchange Linen Service	527	23rd Avenue	x	x
Vacant Lot	534	23rd Avenue		x
Del Monte USA Oakland	1100	29th Avenue	x	
Oakland Plant #37	1100	29th Avenue		x
Caltrans District 4	1112	29th Avenue	x	
Oakland So. Special Assig	1112	29th Avenue		x
New Genico Corp	1237	40th Avenue	x	
Owens-Illinois Inc. Oakland	3600	Alameda Avenue	x	x
United States Cold Storage	3925	Alameda Avenue		x
Intercoastal Oil Corp	4200	Alameda Avenue	x	
Express Auto Service	333	Broadway		x
Probation Center	400	Broadway		x
N.V. Heathorn Inc.	2846	Chapman Street		x
Service Brass and Aluminum	2870	Chapman Street		x

**TABLE 2 (Continued)**  
**SITES WITH PERMITTED UNDERGROUND STORAGE**  
**PERMITTED TO HANDLE HAZARDOUS WASTES**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Site Name	Site	Address	RCRA	UST
Esposito Plating & Polish	2904	Chapman Street	x	
Vulcan Steel Foundry	2909	Chapman Street		x
Seatco Office Services	2921	Chapman Street	x	
Oakland Police Station		Clay & 5th Street		x
City of Oakland #2 Engine		Clay Street		x
Oakland Port of Monsanto		Dennison & Embarcadero	x	
Steam Valve Machine Co. Inc.	1899	Dennison Street	x	
Bytech Chemical Corporation	1905	Dennison Street		x
Haslett Company	1991	Dennison Street	x	
Shell Oil Co Oakland Plant	315	Derby Avenue	x	
Simmons Terminal Corp	315	Derby Avenue	x	
Petro-Stop, Inc.	315	Derby Avenue		x
F&F Surface Grinding	510	Derby Avenue	x	
Pacific Dry Dock & Repair	321	Embarcadero	x	x
Port of Oakland	351	Embarcadero	x	
Golden State Diesel	351	Embarcadero		x
Oakland Ready Mix Co	401	Embarcadero		x
Insight Designs	475	Embarcadero	x	
Boardworks The	499	Embarcadero Bldg 2	x	
Midland Ross Corp Metal F	845	Embarcadero	x	
Liquid Carbonic Spec Gas	901	Embarcadero	x	
Liquid Carbonic Corporation	901	Embarcadero	x	x
Majesty Yachts	1363	Embarcadero		x
Pacific Dry Dockand Repairs	1441	Embarcadero		x
Lani Kai	1755	Embarcadero	x	
Bldg. P-323	1755	Embarcadero		x
Laney College	900	Fallon Street		x
Analysts Inc.	2910	Ford Street	x	x
Gilro Stamping Co.	2915	Ford Street	x	
Industrial Steam	2985	Ford Street		x
States Shingle Company	880	Fruitvale Avenue		x
KTVU-TV	2	Jack London Square	x	x
Salty Dog (Gas Dock)	53	Jack London Square		x
Hydrant Fueling System	66	Jack London Square		x
United Beverage Distribution	105	Jackson Street		x



**TABLE 2 (Continued)**  
**SITES WITH PERMITTED UNDERGROUND STORAGE**  
**PERMITTED TO HANDLE HAZARDOUS WASTES**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Site Name	Site	Address	RCRA	UST
East Bay Packing Company	208	Jackson Street		x
Right Away Ready Mix, Inc.	401	Kennedy Street		x
Moore and Sons Trucking	410	Kennedy Street	x	
Fidelity Packaging Corp	646	Kennedy Street	x	
Empire Paper Co	655	Kennedy Street	x	
Saroni TFI	727	Kennedy Street		x
Holt Graphic Arts Inc.	800	Kennedy Street		x
Kilpatrick's Bakeries Inc.	955	Kennedy Street	x	x
U C Household Shipping Co.	333	Lancaster Street	x	
Del Monte-Plant #26	400	Lancaster Street		x
Johnson Propeller Co.	603	Lancaster Street	x	
Chevron	609	Oak Street		x
American Contracting Serv	3229	San Leandro Street	x	x
East Bay Generator Co.	3740	San Leandro Street	x	
Guy's Service	3820	San Leandro Street		x
Macy Movers	200	Victory Court		x
The Salvation Army	601	Webster Street		x
<b><u>Central Business District</u></b>				
Cochran & Celli	301	12th Street	x	x
Lee Assoc.	387	12th Street		x
Oakland Tribune Inc.	409	13th Street	x	
1330 Broadway Garage	420	13th Street		x
Broadway Motors	437	25th Street	x	
Broadway Motors Ford	437	25th Street	x	
Val Strough Lexus	447	25th Street	x	
United Glass Company	477	25th Street		x
Keep on Trucking Co Inc.	370	8th Avenue	x	
American President Lines	1111	Broadway 6th Floor	x	
Clorox	1221	Broadway	x	
Regional Offices	1924	Broadway		x
East Bay Camera Exchange	1936	Broadway	x	
The Hertz Corporation	2251	Broadway		x
Negherbon Auto Center	2345	Broadway	x	
Val Strough Lexus	2355	Broadway	x	

**TABLE 2 (Continued)**  
**SITES WITH PERMITTED UNDERGROUND STORAGE**  
**PERMITTED TO HANDLE HAZARDOUS WASTES**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Site Name	Site	Address	RCRA	UST
All Pro Transmissions	2424	Broadway	x	
Chevron #2506	2630	Broadway		x
Jack Tracy Buick	2735	Broadway	x	x
Broadway VW	2740	Broadway	x	
Oakland Federal Building	1301	Clay Street		x
Stitch in Time	1611	Clay Street	x	
Bill Louie's Texaco	800	Franklin Street		x
Pacific Bell	1519	Franklin Street	x	x
AT&T Oakland Main	1587	Franklin Street	x	
Pacific Bell	1587	Franklin Street	x	x
I D G Architects	1730	Franklin Street Rm 300	x	
Kaiser FNDN Hlth Plan Ofc	1950	Franklin Street	x	
Blue Cross Building	1950	Franklin Street		x
B P S Oakland	1700	Jefferson Street	x	x
Chevron #93600	2200	Telegraph Avenue		x
Exxon Service Station #7	2225	Telegraph Avenue		x
Tony's Beacon Station	2250	Telegraph Avenue		x
Custom Care Cleaners	2430	Telegraph Avenue	x	
Johnson Plating Plant	2526	Telegraph Avenue	x	
Pill Hill Shell	2800	Telegraph Avenue		x
Medical Center Magnetic I	3000	Telegraph Avenue	x	
Antony Cleaners	1417	Webster Street	x	
Alameda Olympic	1435	Webster Street		x
Jiffy Lube	1435	Webster Street		x
John E. Farrar	1435	Webster Street		x
Grand Auto, Inc.	1440	Webster Street	x	
Bank of America	1528	Webster Street		x
Kin Shell	1601	Webster Street		x
Pump & Run #735	1628	Webster Street		x
Unocal SS #0843	1629	Webster Street		x
Vacant Store	1701	Webster Street		x
Tosco Northwest Co No 111	1716	Webster Street	x	
BP Oil Co Facility No #111	1716	Webster Street		x
Douglas Parking Co	1721	Webster Street		x
Chevron #0290	1802	Webster Street		x

**TABLE 2 (Continued)**  
**SITES WITH PERMITTED UNDERGROUND STORAGE**  
**PERMITTED TO HANDLE HAZARDOUS WASTES**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Site Name	Site	Address	RCRA	UST
PG&E Regional Headquarters	1919	Webster Street		x
Kaiser Foundation Health	1935	Webster Street		x
<b><u>Military Bases</u></b>				
ANR Freight	2225	7th Street		x
Shippers Imperial, Inc.	2277	7th Street	x	
Port of Oakland	2277	7th Street		x
Powerine Oil Co	2701	7th Street	x	
Kaiser Yard	2801	7th Street		x
WPX Freight Systems, Inc.	1700	Ferro Street	x	
Western Pacific Transport	1700	Ferro Street		x
Trans Bay Container Terminal	707	Ferry Street		x
Maersk Line	909	Ferry Street		x
Western Container Transpo	801	Maritime Street		x
Instrumag AG	1195	Maritime Street	x	
Port of Oakland	1195	Maritime Street		x
Sea Land Service Inc.	1425	Maritime Street	x	
Sealand Corp	1425	Maritime Street		x
Patrick Medin Group	1601	Maritime Street		x
Bryans Lift Service Inc.	1625	Maritime Street	x	
American President	1579	Middle Harbor Road		x
Union Pacific Railroad	1717	Middle Harbor Road		x
Pacific Motor Transport Co.	1726	Middle Harbor Road		x
Pacific Motor Trucking Co.	1776	Middle Harbor Road	x	
Exxon Service Station	8008	Mountain Boulevard		x
US Navy Oakland Naval Hospital	8750	Mountain Boulevard	x	x
<b><u>Leona Quarry</u></b>				
Gallagher and Burk Leona	7100	Mountain Boulevard	x	
Gallagher & Burk Inc.	7100	Mountain Boulevard		x

NOTES: RCRA = Resource Conservation and Recovery Act ; UST = Underground Storage Tank

SOURCES: Orion Environmental Associates; NATEC Environmental Reporting Service, April 7, 1997; April 9, 1997; April 21, 1997.

**TABLE 3**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
<b><u>Central Business District</u></b>								
C44	Shell	7 <sup>th</sup> & Broadway					X	
C46	BART Corp Yard	540 7 <sup>th</sup> Street E					X	
C46	Francis Plating of Oakland	785 7 <sup>th</sup> Street	x					
C44	Shell	461 8 <sup>th</sup> Street					X	X
22	Pacific Renaissance Plaza	9 <sup>th</sup> & Webster					X	
C31	Chinatown Redevelopment Project	11 <sup>th</sup> & Webster			x		X	
C43	Bramalea Pacific	12 <sup>th</sup> & Clay					X	
C28	Lee Family Assoc Property	387 12 <sup>th</sup> Street						X
C33	Zimmerman Investments	420 13 <sup>th</sup> Street						X
C33	Tune-up Masters #325	450 14 <sup>th</sup> Street						X
C37	Shell	510 14 <sup>th</sup> Street						X
31	Oakland Community Development	690 15 <sup>th</sup> Street					X	
20	Emporium Capwell	20 <sup>th</sup> & Broadway						X
17	United Glass	477 25 <sup>th</sup> Street						X
C39	Bramalea Pacific	1111 Broadway					X	X
C33	Zimmerman Investments	1330 Broadway						X
15	Negherbon Lincoln Mercury	2345 Broadway						X
C12	Tracy Buick	2735 Broadway					X	X
C12	Broadway Volkswagon	2740 Broadway					X	X
C37	Oakland City Hall	1 City Hall Plaza					X	X
C43	Five City Center	1300 Clay Street					X	
C43	Oakland Federal Building	1305 Clay Street						X
C37	City of Oakland	1417 Clay Street					X	X
C38	Alex Shaw & Associates	800 Franklin Street					X	X
23	Pacific Renaissance Plaza	1000 Franklin Street						X

**TABLE 3 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
C25	Pacific Bell	1587 Franklin Street						X
C25	Toothman Development	1736 Franklin Street						X
18	Kaiser Regional Parking	1901 Franklin Street					X	
C41	Blue Print Service Company	1700 Jefferson Street					X	X
C42	Greyhound Bus Lines Terminal	2103 San Pablo Avenue					X	X
C29	Chevron	1911 Telegraph Avenue					X	X
21	Goodyear Service Station	2025 Telegraph Avenue						X
C27	Texaco/Exxon	2225 Telegraph Avenue					X	X
19	Sears Automotive Center	2630 Telegraph Avenue						X
C22	Shell	2800 Telegraph Avenue					X	X
C28	Right Parking Lot	1225 Webster Street						X
94	Jiffy Lube	1435 Webster Street						X
93	Bank of America	1528 Webster Street						X
C101	Shell	1601 Webster Street					X	X
C101	Pacific Properties	1628 Webster Street					X	X
C101	Duffy Dinner	1700 Webster Street						X
C101	Bernita Leskowski Property	1701 Webster Street						X
C101	PB Oil	1716 Webster Street						X
C64	Douglas Motor Service	1721 Webster Street						X
C100	Chevron	1802 Webster Street						X
C100	Taco Bell	1900 Webster Street						X
C100	Alameda Housing Authority	1916 Webster Street					X	X
C19	PG&E	1919 Webster Street					X	
C19	Mobil	1975 Webster Street						X

**TABLE 3 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
<b><u>Estuary Shoreline</u></b>								
C32	Miller Packing	206 2 <sup>nd</sup> Street						X
C32	Future Amtrak Station	245 2 <sup>nd</sup> Street						X
26	Meyer Plumbing Supply	311 2 <sup>nd</sup> Street						X
38	Union Machine Works	534 2 <sup>nd</sup> Street						X
C36	UC	4 <sup>th</sup> & Harrison					X	
C17	Balco Properties	55 4 <sup>th</sup> Street						X
C36	P.E. O'Hare Co.	309 4 <sup>th</sup> Street					X	X
30	Health Headquarters	499 5 <sup>th</sup> Street						X
C35	Con Agra	2201 7 <sup>th</sup> Street E					X	
C19	American National Can Co.	3801 8 <sup>th</sup> Street E					X	X
22	Del Monte Plant #37	2980 9 <sup>th</sup> Street E					X	
C26	Del Monte Plant #37	3100 9 <sup>th</sup> Street E						X
26	California/Washington Can	3100 9 <sup>th</sup> Street E		X				
19	Pahlmeyer Property	3132 12 <sup>th</sup> Street E						X
C9	Pressure Cast Products Co.	4210 12 <sup>th</sup> Street E		X				
41	Goodwill Industries	1301 13 <sup>th</sup> Avenue						X
38	Lee Property	1515 14 <sup>th</sup> Avenue						X
17	Melrose Ford	3050 14 <sup>th</sup> Street E						X
15	Tony's Express Auto Service	3609 14 <sup>th</sup> Street E						X
C14	Shell	3750 14 <sup>th</sup> Street E					X	X
10	Continental Volvo	4030 14 <sup>th</sup> Street E					X	
16	Dougco	1073 34 <sup>th</sup> Street						X
33	Childrens Hospital Warehouse	1050 22 <sup>nd</sup> Avenue						X
C34	Exchange Linen Service	527 23 <sup>rd</sup> Avenue						X
C34	Fillmore Marks Property	534 23 <sup>rd</sup> Avenue						X

**TABLE 3 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
21	Caltrans	1112 29 <sup>th</sup> Avenue						X
13	Motor Partners	1234 40 <sup>th</sup> Avenue						X
C9	Motor Partners	1236 & 41 <sup>st</sup> Avenue 1238						X
C25	Owens-Illinois	3600 Alameda Avenue		X			X	
C25	Learner Co.	3675 Alameda Avenue					X	
C22	US Cold Storage	3925 Alameda Avenue					X	X
C20	Eko-Tek Lube	4200 Alameda Avenue			X	X	X	X
29	Express Auto	333 Broadway						X
C30	Esposito Plating	2904 Chapman Street			X		X	
C44	Port of Oakland	Dennison & Embarcadero			X	X	X	
36	City of Oakland	Clay Street						X
C27	Simons Oil Corporation	315 Derby Avenue					X	
C26	An Fo Manufacturing	3129 Elmwood		X				
C23	Bedford Property Site	54 Embarcadero			X			
C23	Unknown	54 Embarcadero					X	
C23	Sunset Wholesale Co	105 Embarcadero						X
9	Capitol Supply Co.	351 Embarcadero			X			
C4	Liquid Carbonic	901 Embarcadero			X		X	X
2	Schnitzer Steel Products Co	1101 Embarcadero						X
40	Pacific Dry Dock	1441 Embarcadero						X
37	Port of Oakland	1755 Embarcadero East					X	
C16	Peerless Coffee	225 Fallon Street						X
C15	Laney College	600 Fallon Street					X	
12	Laney College	900 Fallon Street						X
C27	Industrial Steam	2985 Ford Street					X	

**TABLE 3 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
C23	State Shingle Co.	880	Fruitvale Avenue					X
23	Glascock Street Warehouse	2901	Glascock Street					X
C51	Port of Oakland		Jack London Square				X	
C51	KTVU	2	Jack London Square					X
C32	East Bay Packing Company	208	Jackson Street				X	X
C34	Rhodes-Jamieson Batch Plant	333	Kennedy Street				X	
26	Right Away Ready Mix	401	Kennedy Street					X
C35	Fidelity Packaging Co.	646	Kennedy Street					X
C35	Saroni Total Food Ingredient	727	Kennedy Street					X
29	Holt Graphic Arts	800	Kennedy Street					X
30	Kilpatrick's Bakeries, Inc.	955	Kennedy Street					X
20	Del Monte Plant 26	400	Lancaster Street					X
34	Kilpatrick's Bakeries Inc.	2100	Livingston Street					X
C24	Lakeside Non-Ferrous	412	Madison		X		X	
C17	Post Tool	400	Oak Street					X
C20	Chevron	609	Oak Street				X	X
C15	T & T Auto (Former)	610	Oak Street					X
20	SKS Die Casting & Machining	1849	Oak Street	X				
C23	American Contracting Service	3229	San Leandro Street				X	
C18	Chevron	3616	San Leandro Street				X	X
C16	Macys Movers	200	Victory Ct					X
27	City's Auto Repair	330	Webster Street				X	



**TABLE 3 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
<b><u>Military Bases</u></b>								
C166	Nations Way Transport	2225 7 <sup>th</sup> Street						X
C166	Port of Oakland-Bldg C-401	2277 7 <sup>th</sup> Street						X
C169	Port of Oakland	2700 7 <sup>th</sup> Street					X	
C169	C-103 Yard	2700 7 <sup>th</sup> Street					X	
C169	Port of Oakland-Old Kaiser	2801 7 <sup>th</sup> Street						X
154	Port of Oakland Transbay It	707 Ferry Street						X
C168	Port of Oakland-Mobil Bulk	909 Ferry Street						X
C161	Union Pacific Motor Freight	1750 Ferry Street					X	X
C168	Ashland Oil	Ferry & Petroleum					X	X
C167	Port of Oakland-Parker WRHR	801 Maritime Street					X	X
C165	Maritime Terminal	1195 Maritime Street					X	X
C164	Sea-Land Service Inc.	1425 Maritime Street					X	X
C164	Patrick Media Group	1601 Maritime Street						X
149	American President Lines	1579 Middle Harbor Road						X
C158	Union Pacific Railroad	1717 Middle Harbor Road						X
C158	Southern Pacific	1726 Middle Harbor Road					X	
C168	Mobil	Petroleum Street					X	
C6	Exxon	8008 Mountain Boulevard					X	X
C4	Oakland Naval Hospital	8750 Mountain Boulevard	X		X			
C4	Naval Hospital	8750 Mountain Boulevard					X	X
C4	U.S. Navy, Regional Hospital	8750 Mountain Boulevard			X			

**TABLE 3 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**MAJOR CHANGE AREAS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	SARA	CAL-SITES	BEP	CORTESE	LUST
<b><u>Leona Quarry</u></b>								
4	Leona Quarry	7100 Mountain Boulevard						x

Abbreviations:

CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System

SARA = Toxic Chemical Release Inventory of Title III of the Superfund Amendments and Reauthorization Act

CAL-SITES = Listing of potential hazardous waste sites maintained by the Department of Toxic Substances Control

BEP = Site specific expenditure plan for appropriation of funds from the California Hazardous Substance Cleanup Bond Act

CORTESE = Listing of potential and confirmed hazardous waste sites, previously maintained by the Office of Planning and Research

LUST = Leaking Underground Storage Tank List

NOTES: See text of Appendix HM-1 for explanation of each database identified

SOURCES: Orion Environmental Associates; NATEC Environmental Reporting Service, April 7, 1997; April 9, 1997; April 21, 1997.

investigation of this site would be determined on the basis of a preliminary assessment or site inspection.<sup>5</sup> The status of this site was not available in the information included with the records search.

One site, the Chinatown Redevelopment Project (Site C31), was identified on the Cal-Sites list which includes sites that have been identified by the Historical Abandoned Site Survey Program and researched by the California Department of Health Services (currently known as the Department of Toxic Substances Control or DTSC). This site has been identified by the agency as a potential hazardous waste site, but sampling has not necessarily been conducted to evaluate the potential for contamination. Based on the database review the site has been referred to the DHS for follow up.

Thirty-nine sites were identified in the Leaking Underground Storage Tank database. This database includes sites that have reported leaks from underground storage tanks which are common sources of soil and/or groundwater contamination. Limited information is available in the database regarding the current status of these sites; it would be necessary to review regulatory agency files to determine the current status.

Twenty-four sites were identified on the CORTESE List, which includes both potential and confirmed hazardous waste sites as of November 1990. This list was originally maintained as a compilation of potential hazardous waste sites identified in many regulatory databases. Fifteen of these sites were also identified on the Leaking Underground Storage Tank (LUST) list which includes sites with confirmed leaking underground storage tanks indicating that they were on the CORTESE List because of a confirmed leak. No information was provided in the database to indicate why the remaining sites were included.

### ***ESTUARY SHORELINE***

Two sites were identified on the Bond Expenditure Plan list which identifies sites where a site specific expenditure plan has been developed for appropriation of funds under the Bond Expenditure Plan. These sites pose the greatest potential public health and environmental risks in the Estuary Shoreline change area. They are described as follows:

- Ekotek Lube (Site C20) is a waste oil recovery and recycling facility that previously stored waste oil and Stoddard solvent. Based on the database review, this site is securely fenced and posted, but no cleanup completion dates had been established.
- The Port of Oakland site at Embarcadero Cove (Site C44) comprises 1.3 acres that was leased to industrial tenants, including oil companies and formulators of pesticides and wood preservatives for the last 60 to 70 years. The site is now a vacant lot.

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<sup>5</sup> A preliminary assessment and site inspection are the first two steps of investigation under CERCLA to identify whether a site is potentially contaminated. A preliminary assessment generally includes a review of site information and a site visit. If the potential for contamination is indicated, then a site inspection is generally conducted to review the site in more detail and samples are usually collected from areas that are suspected to be contaminated.

Pentachlorophenol, organochlorine pesticides, solvents, dioxins, and furans have been identified in the soil and groundwater. It is estimated that about 8,000 cubic yards of soil and an unknown amount of groundwater are contaminated. Based on the database review, certification of clean up initiation was anticipated by 1992 and it was expected to take 10 to 15 years to complete the remediation. However, no information was available to indicate whether a remedial action had been implemented.

Five sites were identified in the Toxic Chemical Release Inventory database (SARA). These are sites that were required to file an annual toxic chemical release inventory form with the U.S. EPA and the California Environmental Affairs Agency. Facilities are required to report releases to air, water, and land under Section 313 of the Emergency Planning and Community Right to Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986).

California/Washington Can Corporation (Site C26) reported air releases of xylene and an unknown compound. Owens Illinois (Site C25) reported air releases of ammonia and chromium. An-Fo Manufacturing Company (Site C26) reported air releases of isopropyl alcohol, sulfuric acid, nitric acid, and phosphoric acid. Pressure Cast Products (Site C9) reported an air release of copper. SKS Die Casting and Manufacturing (Site 20) reported an air release of 1,1,1-trichloroethane.

Seven sites were identified on the Cal-Sites list. Based on the database review, the Port of Oakland Embarcadero Cove site is an active Annual Work Plan site undergoing remediation (described above). Liquid Carbonic Corporation (Site C4) has been referred to the DHS for follow up; the Bedford Property Site (Site C69) and Ekotek Lube (Site C20) are being mitigated under the lead of the RWQCB (Ekotek Lube is also described above); Capitol Supply Company (Site 9) has been referred for mitigation under RCRA; and there was no information provided regarding the status of Lakeside Non-Ferrous (Site C24) or Eposito Plating Company (Site C30).

Twenty-seven sites were identified on the CORTESE List. Nine of these sites were also identified on the Leaking Underground Storage Tank (LUST) list which includes sites with confirmed leaking underground storage tanks indicating that they were on the CORTESE List because of a confirmed leak. The reason for the listing of the remaining sites is not identified in the database review.

Forty-eight sites were identified in the Leaking Underground Storage Tank database. It would be necessary to review regulatory agency files to determine the status of each of these sites.

### ***MILITARY BASES***

The Oakland Naval Hospital (Site C4) was identified on the CERCLIS list. No further information regarding this site was available in the information included with the database review. This site was also identified on the Cal-Sites list. Information provided by the database review indicates that this site has been remediated.

Eleven sites were identified on the CORTESE List, including the Oakland Naval Hospital. Seven of these sites were also identified on the LUST list, indicating that they were on the CORTESE List because of a confirmed leak. The reason for the listing of the remaining sites is not identified in the database review.

Fifteen sites were identified in the LUST database, including the Oakland Naval Hospital. It would be necessary to review regulatory agency files to determine the status of each of these sites.

### ***LEONA QUARRY***

The Leona Quarry was identified in LUST database. Information contained in the database review indicates that this site has been remediated or that it was determined that no remediation was required.

### ***DOWNTOWN SHOWCASE DISTRICT***

The potential and confirmed hazardous waste sites located within a one-half mile radius of the Downtown Showcase District are identified in Table 4. These sites include all of those identified within the Central Business District (discussed above) and some of the sites identified within the Estuary Shoreline change area as well as additional sites that are located outside of these change areas. The sites identified are summarized as follows:

- One site was identified in the CERCLIS database (Francis Plating, Site C46 described above under Central Business District);
- Four sites were identified on the Cal-Sites list. The Chinatown Redevelopment Project (Site C31) is discussed above under Central Business District. There was no information provided regarding the status of Lakeside Non-Ferrous (Site C24), Micronesian Cargo International (Site C58), or Chang's Automotive (Site C58).
- Fifty sites were identified on the CORTESE List, including the Oakland Naval Hospital. Thirty-one of these sites were also identified on the LUST list, indicating that they were on the CORTESE List because of a confirmed leak. The reason for the listing of the remaining sites is not identified in the database review.
- Eighty-nine sites were identified in the LUST database. It would be necessary to review regulatory agency files to determine the status of each of these sites.

### ***COLISEUM***

The potential and confirmed hazardous waste sites located within a one-half mile radius of the Coliseum Showcase District were identified as part of the Coliseum Redevelopment EIR (NATEC, 1994) and are listed in Table 5. The sites identified are summarized as follows:

**TABLE 4**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**DOWNTOWN PROJECTS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	CORTESE	LUST
C32	Miller Packing	206 2 <sup>nd</sup> Street				X
C32	Future Amtrak Station	245 2 <sup>nd</sup> Street				X
26	Meyer Plumbing Supply	311 2 <sup>nd</sup> Street				X
38	Union Machine Works	534 2 <sup>nd</sup> Street				X
C56	Johnston & Sons	801 3 <sup>rd</sup> Street			X	X
C17	Balco Properties	55 4 <sup>th</sup> Street				X
C36	P.E. O'Hare Co.	309 4 <sup>th</sup> Street			X	X
C54	Guarantee Forklift	699 4 <sup>th</sup> Street				X
30	Health Headquarters	499 5 <sup>th</sup> Street				X
C44	Shell	7 <sup>th</sup> & Broadway			X	
C46	BART Corp Yard	540 7 <sup>th</sup> Street E			X	
C46	Francis Plating of Oakland	785 7 <sup>th</sup> Street	X			
C58	Micronesia Cargo International	955 7 <sup>th</sup> Street		X		
C58	Chang's Automotive	1009 7 <sup>th</sup> Street		X		
C26	Vic's Automotive Service	245 8 <sup>th</sup> Street				X
C26	Exxon	250 8 <sup>th</sup> Street				X
C44	Shell	461 8 <sup>th</sup> Street			X	X
C50	BART	601 8 <sup>th</sup> Street			X	X
22	Pacific Renaissance Plaza	9 <sup>th</sup> & Webster			X	
C31	Chinatown Redevelopment Project	11 <sup>th</sup> & Webster		X	X	
C43	Bramalea Pacific	12 <sup>th</sup> & Clay			X	
14	Western Union	125 12 <sup>th</sup> Street				X
C28	Lee Family Assoc Property	387 12 <sup>th</sup> Street				X
43	Cakebread Property	802 12 <sup>th</sup> Street				X
C14	Alcopark Garage	165 13 <sup>th</sup> Street			X	X
C33	Zimmerman Investments	420 13 <sup>th</sup> Street				X

**TABLE 4 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**DOWNTOWN PROJECTS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	CORTESE	LUST
C14	Mobil	160	14 <sup>th</sup> Street		x	
16	Quality Tune Up	246	14 <sup>th</sup> Street			x
C21	Chevron	301	14 <sup>th</sup> Street			x
C33	Tune-up Masters #325	450	14 <sup>th</sup> Street			x
C37	Shell	510	14 <sup>th</sup> Street			x
31	Oakland Community Development	690	15 <sup>th</sup> Street		x	
C18	Chevron		17 <sup>th</sup> & Harrison		x	
20	Emporium Capwell		20 <sup>th</sup> & Broadway			x
C45	Harrison & Olson	769	22 <sup>nd</sup> Street			x
17	United Glass	477	25 <sup>th</sup> Street			x
C8	Oakland Acura	255	27 <sup>th</sup> Street		x	
C8	Oakland Acura (former)	294	27 <sup>th</sup> Street			x
C26	Oakland Fire Station #12	822	Alice Street		x	x
C7	Bill Cox Cadillac	230	Bay Place		x	x
C39	Bramalea Pacific	1111	Broadway		x	x
C33	Zimmerman Investments	1330	Broadway			x
15	Negherbon Lincoln Mercury	2345	Broadway			x
C12	Tracy Buick	2735	Broadway		x	x
C12	Broadway Volkswagon	2740	Broadway		x	x
C37	Oakland City Hall	1	City Hall Plaza		x	x
36	City of Oakland		Clay Street			x
C43	Five City Center	1300	Clay Street		x	
C43	Oakland Federal Building	1305	Clay Street			x
C37	City of Oakland	1417	Clay Street		x	x
C15	Laney College	600	Fallon Street		x	
C61	East Bay Ford Truck	333	Filbert Street		x	x

**TABLE 4 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**DOWNTOWN PROJECTS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	CORTESE	LUST
C38	Alex Shaw & Associates	800 Franklin Street			X	X
23	Pacific Renaissance Plaza	1000 Franklin Street				X
C25	Pacific Bell	1587 Franklin Street				X
C25	Toothman Development	1736 Franklin Street				X
18	Kaiser Regional Parking	1901 Franklin Street			X	
10	Lake Merritt Towers II	155 Grand Avenue				X
C7	Chevron	210 Grand Avenue			X	X
C45	Fyne Property	744 Grand Avenue, West			X	
C45	Meaders Dry Cleaning	800 Grand Avenue				X
C52	Chevron	850 Grand Avenue, West			X	X
C52	Arco	889 Grand Avenue, West			X	
C30	Oakland Auto Parts & Tires	706 Harrison Street				X
C30	Unocal	800 Harrison Street				X
C21	Harrison Street Garage	1432 Harrison Street				X
C18	Chevron	1633 Harrison Street				X
C7	Lake Merritt Lodge	2332 Harrison Street				X
C51	KTVU	2 Jack London Square				X
C32	East Bay Packing Company	208 Jackson Street			X	X
C50	Bramalea USA, Inc.	901-999 Jefferson Street				X
C41	Blue Print Service Company	1700 Jefferson Street			X	X
13	Ordway Building	1 Kaiser Plaza				X
C9	Regillus Condominiums	200 Lakeshore Drive			X	
C9	Kaiser Center Inc.	300 Lakeside Drive				X
C24	Lakeside Non-Ferrous	412 Madison		X	X	
C56	Marine Terminals Corporation	333 Market Street			X	



**TABLE 4 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**DOWNTOWN PROJECTS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	CORTESE	LUST
C56	Safety-Kleen Corporation	404	Market Street		X	X
40	Scott Company	1919	Market Street			X
45	Oakland Power Plant	50	Martin Luther King Jr. Way			X
C54	Texaco	424	Martin Luther King Jr. Way		X	X
C48	City of Oakland Redevelopment Agency	1330	Martin Luther King Jr. Way		X	X
C35	Mostly Mustangs	2576	Martin Luther King Jr. Way		X	X
C34	Auto Tech West	2703	Martin Luther King Jr. Way			X
C17	Post Tool	400	Oak Street			X
C20	Chevron	609	Oak Street		X	X
C15	T & T Auto (former)	610	Oak Street			X
11	Fire Alarm Station	1310	Oak Street			X
C42	Greyhound Bus Lines Terminal	2103	San Pablo Avenue		X	X
C35	Quality Auto Body and Fender	633	Sycamore Street			X
C29	Chevron	1911	Telegraph Avenue		X	X
21	Goodyear Service Station	2025	Telegraph Avenue			X
C27	Texaco/Exxon	2225	Telegraph Avenue		X	X
19	Sears Automotive Center	2630	Telegraph Avenue			X
C22	Shell	2800	Telegraph Avenue		X	X
C13	Oakland Tribune (old)	2302	Valdez Street		X	X
27	City's Auto Repair	330	Webster Street		X	
C28	Right Parking Lot	1225	Webster Street			X
94	Jiffy Lube	1435	Webster Street			X
93	Bank of America	1528	Webster Street			X
C101	Shell	1601	Webster Street		X	X
C101	Pacific Properties	1628	Webster Street		X	X

**TABLE 4 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**DOWNTOWN PROJECTS**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	CORTESE	LUST
C101	Duffy Dinner	1700 Webster Street				X
C101	Bernita Leskowski Property	1701 Webster Street				X
C101	PB Oil	1716 Webster Street				X
C64	Douglas Motor Service	1721 Webster Street				X
C100	Chevron	1802 Webster Street				X
C100	Taco Bell	1900 Webster Street				X
C100	Alameda Housing Authority	1916 Webster Street			X	X
C19	PG&E	1919 Webster Street			X	
C19	Mobil	1975 Webster Street				X

Abbreviations:

CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System

CAL-SITES = Listing of potential hazardous waste sites maintained by the Department of Toxic Substances Control

CORTESE = Listing of potential and confirmed hazardous waste sites, previously maintained by the Office of Planning and Research

LUST = Leaking Underground Storage Tank List

NOTES: See text of Appendix HM-1 for explanation of each database identified

SOURCES: Orion Environmental Associates; NATEC Environmental Reporting Service, April 9, 1997.

**TABLE 5**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**OAKPORT PROJECT**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	BEP	CORTESE	LUST
C55	AAA Equipment Co.	745 50th Avenue				X	X
C50	L & M Plating Co.	920 & 54th Avenue 930	X	X	X	X	
C47	Ferro Enameling Co.	1100 57th Avenue	X				
C47	Sinclair & Valentine	1104 57th Avenue	X				
C47	Armor Equipment Sales	1137 57th Avenue					X
C43	Peck and Hills Co.	701 66th Avenue					X
C43	Allied Crane Maintenance	727 66th Avenue	X				X
C41	McGuire & Hester	796 66th Avenue				X	X
C40	UNOCAL	845 66th Avenue				X	X
C55/27	PG&E Encon Gas	4930 Coliseum Way				X	X
C55	Volvo White Truck	5050 Coliseum Way	X				
C55	White GMC Trucks of Oakland	5050 Coliseum Way					X
23	Independent Construction Co.	5900 Coliseum Way					X
C48	Schwartz Property	6345 Coliseum Way				X	X
19	Mauk Sheet Metal	755 Independent Road					X
24	Yandell Trucking	563 Julie Ann Way					X
C49	Penske Leasing	725 Julie Ann Way				X	X
C49	Independent Construction Co.	740 Julie Ann Way					X
20	Western Union Corp.	732 Kevin Court					X
C58	PG&E	4801 Oakport Street				X	X
C50	Campanella Demolition	5401 San Leandro Street				X	X
21	Pamco	5601 San Leandro Street					X
C40	Economy Lumber	6233 San Leandro Street					X

**TABLE 5 (Continued)**  
**SITES IDENTIFIED BY DATABASE SEARCH**  
**OAKPORT PROJECT**  
**OAKLAND GENERAL PLAN LAND USE AND TRANSPORTATION ELEMENT EIR**

Map No.	Site Name	Site Address	CERCLIS	CAL-SITES	BEP	CORTESE	LUST
C40	7-Up	6505 San Leandro Street					X
17	Frank Collins	6701 San Leandro Street					X
C46	AC Transit	1100 Seminary Avenue				X	X
32	White Brothers	4801 Tidewater Avenue					X
C62	Reliable Roofing Co.	4905 Tidewater Avenue					X
C62	Disalvo Trucking	4919 Tidewater Avenue				X	X

Abbreviations:

CERCLIS = Comprehensive Environmental Response, Compensation, and Liability Information System

CORTESE = Listing of potential and confirmed hazardous waste sites, previously maintained by the Office of Planning and Research

CAL-SITES = Listing of potential hazardous waste sites maintained by the Department of Toxic Substances Control

LUST = Leaking Underground Storage Tank List

BEP = Site specific expenditure plan for appropriation of funds from the California Hazardous Substance Cleanup Bond Act

NOTES: See text of Appendix HM-1 for explanation of each database identified

SOURCE: Orion Environmental Associates; NATEC Environmental Reporting Service, March 14, 1994.

- Five sites were identified in the CERCLIS database including L&M Plating (Site C50), Ferro Enameling (Site C47), Sinclair and Valentine (Site C47), Allied Crane Maintenance (Site C43), and Volvo White Truck (Site C55);
- One site, L & M Plating (Site C50) was identified on the Cal-Sites list and the Bond Expenditure Plan list. This site was also identified in the CERCLIS database;
- Eleven sites were identified on the CORTESE List; ten of these sites were also identified on the LUST list, indicating that they were on the CORTESE List because of a confirmed leak. The reason for the listing of the remaining sites is not identified in the database review.
- Twenty-five sites were identified in the LUST database. It would be necessary to review regulatory agency files to determine the status of each of these sites.

This database review was performed in 1994, and it would be necessary to complete a new database review and conduct a regulatory agency file review to identify all of the sites in the vicinity of the Oakport project site and their potential to affect soil and groundwater quality at this site.

## REFERENCES

NATEC Environmental Reporting Service, March 14, 1994.

NATEC Environmental Reporting Service, April 7, 1997; April 9, 1997; April 21, 1997.